



SUBMISSION

TO

NORTHERN BUSWAY STUDY TEAM

ON THE

DRAFT CONCEPT DESIGN

AND

IMPACT MANAGEMENT PLAN

Prepared By:

External Relations Division, The Royal Automobile Club of Queensland Limited

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RACQ Submission on the Northern Busway Concept Design and Impact Management Plan

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The RACQ welcomes the opportunity to comment on the *Northern Busway – Draft Concept Design and Impact Management Plan Royal Children’s Hospital to Kedron* (CDIMP), October 2006. Our comments are set out below.

1. Economic Analysis

Chapter 11 included a social benefit cost analysis of the Royal Children’s Hospital to Kedron segment of the proposed Northern Busway. The analysis generated a benefit/cost ratio (BCR) of 0.7 and nett present value (NPV) of minus \$176 million at the CDIMP’s preferred discount rate of 5.5 per cent. The benefit/cost ratio rose to 0.9 at a discount rate of 4 per cent. Using a discount rate of 6.8 per cent, the benefit/cost ratio dropped to 0.6.

All of these benefit/cost ratios mean social costs of the busway exceed social benefits. In other words, society’s resources are used wastefully.

The authors of chapter 11 attempted to gloss over this poor result in a number of ways. These efforts are discussed briefly below.

They argued on pp. 11-64 and 11-65:

“As (the) busway is essentially a social transport infrastructure project, the project case’s BCR of 0.7 and NPV of (minus) -\$176 million would reflect the results that are consistent for a project with socio-economic objectives rather than commercial objectives.”

Similar statements appeared on pages 11-38 to 11-39 of chapter 11 and on page 5 of the CDIMP’s Executive Summary.

These statements involve “strategic misrepresentation”. The study purports to be economic in nature, not commercial. It is not an analysis of commercial viability. For example, it takes no account of fares and does not use the cost of capital to a commercial enterprise as the discount rate. If objectives of government were socio-economic, it would not be proposing a public transport project with social costs exceeding benefits, instead of alternative projects, specifically arterial road projects, yielding social benefits greatly in excess of social costs.

The authors argued that some benefits not modelled or monetised would have improved the BCR and NPV of the project. In particular, they nominated benefits from reductions in waiting times and reductions in fleet operating costs.

Waiting time gains derive from higher service frequencies and these necessitate acquisition of more buses. However, the analysis did not include any costs of acquisition of extra buses to allow more frequent services and patronage increases associated with the busway (see p. 11-32).

Reductions in fleet operating costs are likely, but the analysis excluded costs of operation of extra buses required to meet forecast levels of service (see p. 11-32).

The authors of chapter 11 listed various so-called “secondary benefits”. However, these involved double counting or were dubious or trivial.

The capital cost estimate used in the analysis excluded property acquisition costs and resale of surplus property. It suggested that the latter would compensate for the former (see p. 11-31). However, this is incomprehensible because purchases will substantially exceed resales and transaction and land holding costs will be incurred.

The analysis did not include capital costs associated with completion of the Inner Northern Busway, which is extremely important to and effectively part of the Northern Busway. Completed work cost \$135 million. Additional work underway or planned on the Inner Northern Busway was estimated by the government to cost an additional \$490 million.

A key assumption of the analysis in chapter 11 was that 14 per cent of all trips would be diverted from cars to buses. However, the authors explained that “other parties” had provided this figure and had not warranted the accuracy of the data. The context indicates the assumption was provided by a government agency. The authors disclaimed all liability arising from conclusions based on the 14 per cent modal change assumption (see p. 11-34). That assumption is extraordinarily inconsistent with mode share forecasts presented in chapter 20 (Transport and Traffic) of the CDIMP.

Also, the analysis did not assess the effects on the urban rail system of expected significant mode shifts from rail to buses (see pp. 11-43 to 11-44).

So, rather than the calculated BCRs and NPVs being understated, as the authors of chapter 11 argued, it is clear that they were grossly overstated. The extent of that overstatement would be even greater if the discount rate was closer to a social opportunity cost of capital (as some economic analysts argue it should be), rather than close to a social time preference rate.

Finally, the analysis in chapter 11 did not include any comparison with alternative investments. A generous estimate of 0.7 for a benefit/cost ratio for the Northern Busway compares very unfavourably with benefit/cost ratios for major arterial road projects in Brisbane.

A decade ago, the Bureau of Transport and Regional Economics estimated benefit/cost ratios for several arterial road upgrades and new arterial road projects in Brisbane. The average benefit/cost ratio for these projects, weighted by project cost, was 8.0. So, these projects were expected to yield social benefits eight times social costs. The projects included a Western By-pass with a benefit cost ratio of 10.5.

Clearly, investment in the Northern Busway would not only involve waste of society’s resources, but also would mean a gross misallocation of resources compared to sensible transport alternatives.

Also, the Northern Busway would massively redistribute income from taxpayers in general to busway users through capital and operating subsidies, because fares will cover none of the capital costs of the busway and buses, and only part of the operating costs. The subsidies are huge.

The capital subsidy per additional regular two-way public transport passenger in the metropolitan area in 2026 arising from provision of the Northern Busway/Inner Northern Busway is about \$167,000 per person, excluding bus acquisition costs. In 2016, with the Interim Northern Busway and completed Inner Northern Busway in place, the corresponding capital subsidy is about \$295,000 per person. Once again, this figure excludes capital subsidy in the form of bus acquisition costs. These figures were derived from capital cost estimates in chapter 11, previously announced (mid-2006) capital costs for the Inner Northern Busway, and “with and without Northern Busway” daily person trip estimates in table 20-34 of chapter 20 of the CDIMP.

Because the busway is a key component of the government’s anti-congestion strategy, the capital subsidy for each additional peak period passenger is even more pertinent and revealing. The capital subsidy (excluding bus acquisition costs) per extra two-way peak period passenger in the metropolitan area arising from provision of the Northern Busway would be \$532,500 per passenger in 2016 and \$346,000 per person in 2026. These figures are conservative, being based on boardings, rather than trips. They are derived from the same sources as figures in the previous paragraph.

Operating subsidies for buses using the busway presumably would be similar to those indicated in State Budget papers. The range was 12-15 cents per passenger kilometre.

The Northern Busway is part of a very poorly designed approach to tackling traffic congestion in Brisbane. That approach involves transferring government resources from roads to huge public transport subsidies, avoidance of improvements to radial roads within the Brisbane City local government area, provision of limited toll-funded by-pass road capacity, and eschewing congestion pricing.

This approach includes applying 80 per cent of (federal, state, and local) government resources allocated to arterial land transport in metropolitan Brisbane over the next 20 years to capital and operating subsidies for public transport, like those proposed for the Northern Busway. This will increase public transport's trip share in metropolitan Brisbane from 7.5 per cent to 11.1 per cent according to modelling undertaken for the Airport Link Environmental Impact Statement and the CDIMP. This is an extraordinarily poor result in the context of the massive absolute and relative future allocations of government resources to public transport.

The government's strategy package is misconceived, ineffective, fiscally unsustainable and economically irresponsible, for reasons identified above and/or discussed in the attached paper, *Stuck in Traffic and Stuck for Solutions: Brisbane's Congestion Crisis*. Scrutiny of the CDIMP certainly supports that assessment.

The attached paper explains that substantial improvements to public transport facilities and services are an important part of an effective strategy for tackling congestion in Brisbane, but will be ineffective and fiscally unsustainable unless teamed with congestion pricing. Also, the paper explains that the associated neglect of road improvements and tolling of by-pass roads are seriously flawed strategies.

The paper proposes a complementary package of public transport upgrades, radial road improvements, a comprehensive by-pass and ring-road system, and congestion pricing to manage demand for road space, increase demand for and viability of public transport services, and service borrowings for provision of infrastructure in advance of pricing. Ideally, congestion pricing would be offset by fuel tax cuts, providing an effective transfer of resources from the Commonwealth to the states for urban transport facilities. That package is economically sensible and fiscally sustainable.

2. Public Transport Patronage

Public transport patronage figures in CDIMP Chapter 20, Transport and Traffic, Table 20-34, reveal that in 2012, 2016 and 2026, additional public transport trips in the metropolitan as a result of provision of the Northern Busway are predicted to be only 5700, 7400 and 17200 per day, respectively.

The extra 'peak period' bus boardings on routes absorbed by the Northern Busway in 2012, 2016 and 2026, are extraordinarily low at 1000, 1000 and 1600, respectively. These figures would cast serious doubts on the logic of spending so much on a busway supposedly to alleviate congestion, whether or not these figures represent just one peak period or AM and PM peak period boardings added together.

Extra daily boardings at 8300, 8600 and 15900 in those years, respectively, are more respectable, but still low relative to the expected government outlays. It seems that most of the extra bus boardings on routes absorbed by the busway will be off-peak, when congestion is not a serious problem.

Moreover, the extra daily bus boardings each year on routes absorbed by the busway are more than offset by lower daily rail boardings in the metropolitan area because of availability of Northern Busway services. These lower rail boardings substantially offset extra metropolitan public transport boardings estimated to be generated by the Northern Busway.

It is not clear how much of the growth in public transport patronage (bus trips) along the Northern Busway corridor could be achieved with less expensive infrastructure allowing similar increases in service frequency.

The real advantages of the Northern Busway are decreases in travel times and improvements in travel time reliability for peak period public transport patrons along the corridor. However, these factors do not appear to be sufficient to deliver substantial increases in public transport's trip share. Table 20-34 indicates that public transport's share of trips in metropolitan Brisbane would rise from 9.2 to 9.3 per cent in 2012, 9.6 to 9.7 per cent in 2016 and 10.9 to 11.1 per cent in 2016 as a result of provision of the Northern Busway.

3. Alternative Options

It is not clear what alternative infrastructure options and/or demand management measures were considered as part of the Northern Busway investigations. There is no evidence to suggest that investigations were not simply confined to attempts to justify a predetermined approach.

A wide range of infrastructure, demand management and funding options, and combinations thereof should have been considered. It appears that this was not done.

It is interesting to note that page 11-64 of chapter 11 stated:

“A less expensive busway such as a surface or at-grade alternative would result in a better BCR and NPV, but most significantly it may be the wrong infrastructure for that corridor and transport task, thereby generating considerable community concerns and lesser market acceptance.”

The Club questions how surface or at-grade alternatives were arbitrarily dismissed as being “wrong” and what community or market surveys or other analyses were undertaken to support this statement.

With regard to infrastructure provision only, resources to be allocated to the project could have yielded much higher ratios of benefits to costs by providing new road corridors or improving existing road corridors in various ways including localised upgrades involving grade separation at intersections providing poor Levels Of Service (LOS) in peak periods. An indication of the very high benefit/cost ratios achievable by improving road capacity and performance was provided under “Economic Analysis” above. Such corridor improvements could be designed to benefit car and public transport users.

A large proportion of the poor performing intersections in northern Brisbane are to remain at similar LOS (LOS D to LOS F) in 2012 with or without the interim Northern Busway and Airport Link. Examples of poor performing intersections are Gympie Road / Stafford Road, Lutwyche Road / Kedron Park Road and Lutwyche Road / Newmarket Road.

4. Travel Times

Table 10-7 of the Airport Link Environmental Impact Statement – Technical Paper No.1 – Traffic and Transport compares predicted travel times for using the Airport Link versus the surface roads if a combined scenario of the Airport Link and Northern Busway were operational. The Airport Link Environmental Impact Statement in table 5-38 of chapter 5, Traffic and Transport, compares predicted travel times using the Airport Link versus the surface roads if just the Airport Link were operational. A comparison of the tables in respect of travel time savings on the surface roads revealed that the benefits can be directly attributed to Airport Link. The Northern Busway contributes very little to improving travel times along the surface roads in both 2012 and 2022 in the AM peak period.

During the PM peak period, the Northern Busway actually has a negative overall impact on travel times on the surface roads. For the Chermside to Fortitude Valley trip, the travel time benefits on the surface roads in both the AM and PM peak in 2012 and 2022 are expected to remain relatively constant whether or not the Northern Busway is constructed.

5. Reallocation of Road Space

Chapter 20 of the CDIMP (p. 20-89), stated:

“In Section 4, through the Lutwyche shopping and commercial precinct, both daily and peak-period traffic levels are estimated to reduce to less than current traffic volumes. For example, a daily traffic flow of 45,300 vpd in 2012 (compared to almost 60,000 currently) is estimated. This would provide the opportunity to improve traffic conditions at signalised intersections for pedestrian movements to Lutwyche busway station”

This statement alludes to a reallocation of road space supposedly “freed up” by the predicted reduction in traffic volumes due to the Airport Link and Northern Busway. RACQ does not agree with this suggestion as Lutwyche Road is already operating well over capacity during peak hours and remains very unstable for the majority of the working day.

According to RACQ’s 2004 Travel Time survey, the average peak hour inbound speed along the section of Lutwyche between Bradshaw Street and Bowen Street was 19km/h, with a speed as low as 8km/h near Bowen Street, and outbound between Harris Street and Bradshaw Street the average speed was 36km/h, with a speed as low as 26km/h near Albion Rd.

The RACQ does not support any reduction in capacity of roads by reallocation of existing general purpose lanes to bus lanes (e.g., between Northey Street and Stoneleigh Street over interim period 2011 – 2023). There will be very little, if any, reduction in traffic due to the Busway and any predicted reduction in traffic volumes due to Airport Link will be offset by overall growth of travel along the corridor and the tolling-off effect of Airport Link, which in effect would maintain or worsen current congestion levels.

Options to improve traffic conditions for pedestrians should be accommodated within the design of the busway stations, e.g., near Centro Lutwyche Station, after satisfying an identified/warranted need and should not impact on road space and traffic flow.

6. Busway Access to Elevated Structure Off Bowen Bridge Road

The RACQ does not support the introduction of a new signalised intersection between Gregory Terrace and Herston Road and the narrowing of Bowen Bridge Road from three to two outbound lanes to accommodate an inbound right turn pocket without an proper analysis of traffic impacts. Major problems were experienced at this location when an outbound bus lane was introduced in early 2004 soon after the Inner Northern Busway was opened. This was subsequently removed as a result of public uproar and upon request of the Lord Mayor.

7. Bus Lanes on Bowen Bridge Road

As it is expected that the majority of buses will travel along the elevated structure around the Royal Brisbane and Women’s Hospital, the RACQ believes that both existing inbound and outbound bus lanes on Bowen Bridge Road should be removed and reinstated as general purpose traffic lanes to provide more efficient use of road space.

8. Construction Issues

Lane closures of associated works should be kept to a minimum and preferably applied off-peak or during night operations. Road works, diversions and speed restrictions should be clearly signed in accordance with the Manual of Uniform Traffic Control Devices.

9. Conclusion

The Royal Children’s Hospital to Kedron stage of the Northern Busway would generate social benefits that fall far short of the massive social costs associated with the project. Meanwhile, alternative road projects that

would yield very high benefit/cost ratios have been neglected. The government should be pursuing these alternatives with vigour.

The heavily subsidised Northern Busway proposal forms part of a highly flawed, economically unsound, and fiscally unsustainable anti-congestion policy for Brisbane.

Instead, RACQ proposes a complementary package of public transport upgrades, radial road improvements, a comprehensive by-pass and ring-road system, and congestion pricing to manage demand for road space, increase demand for and viability of public transport services, and service borrowings for provision of infrastructure in advance of pricing. Ideally, congestion pricing would be offset by fuel tax cuts, providing an effective transfer of resources from the Commonwealth to the states for urban transport facilities. That package is economically sensible and fiscally sustainable.