



**RACQ COMMENTS ON
TRANSPORT GREEN PAPER:
SMART TRAVEL CHOICES FOR
SOUTH EAST QUEENSLAND**

The Royal Automobile Club of Queensland Limited

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1. Introduction

On 1 December 2005, the Queensland Government released *Smart Travel Choices for South East Queensland: A Transport Green Paper (Smart Travel Choices for SEQ or Green Paper)*. The document canvassed various “policy initiatives” to complement other policies proposed or adopted earlier in 2005. The earlier strategies comprised:

- public transport proposals in the *Draft TransLink Network Plan for South East Queensland*;¹
- transport infrastructure policies and plans included in the *South East Queensland Infrastructure Plan and Program (SEQIPP)*;² and
- urban/regional planning policies in the *South East Queensland Regional Plan*.³

The *Green Paper* explained:

“*Smart Travel Choices for SEQ* does not canvass all possible transport initiatives. Its key role is to get feedback from the community on the range of policy initiatives that are considered to be high priorities Once we receive your feedback, we will develop a White Paper. The White Paper will detail the Queensland Government’s commitment to transport policy initiatives supported by the community.”⁴

As requested, RACQ has provided feedback and recommended high priority initiatives in this submission on behalf of its one million members.

RACQ has assessed various elements of the package of transport strategies proposed or adopted in the four documents outlining the Queensland Government’s transport policy for south-east Queensland. Important policy instruments neglected by the documents have also been evaluated. RACQ has proposed a package of workable policy initiatives that satisfy widely accepted economic efficiency and equity criteria.

The scope of RACQ’s analysis extended beyond the policy initiatives in the *Green Paper* because it was considered appropriate to:

- assess those initiatives in the context of the full package of transport policy instruments proposed or adopted during 2005;
- assess the earlier measures in the context of the policy initiatives canvassed in the *Green Paper*;
- compare the government’s strategies with practical, economically sensible alternatives, rather than to scrutinise them in isolation.

¹ Queensland, *Draft TransLink Network Plan South East Queensland, 10 Year Plan, 3 Year Program 2004-05 to 2006-07*, Brisbane: Queensland Transport, 23 March 2005.

² Queensland, *South East Queensland Infrastructure Plan and Program 2005-2026*, Brisbane: Office of Urban Management, April 2005.

³ Queensland, *South East Queensland Regional Plan 2005-2026*, Brisbane: Office of Urban Management, June 2005.

⁴ Queensland, *Smart Travel Choices for South East Queensland: A Transport Green Paper*, Brisbane: Queensland Transport, December 2005, p. 18.

2. The Context

The authors of the *Green Paper* expected continuation of rapid growth of population and economic activity in south-east Queensland. They observed that vehicle ownership rates were rising with incomes. They predicted vehicle kilometres would continue to grow faster than population, and freight movements would grow faster still. The *Green Paper* revealed that, since 1992, the proportion of trips made in cars in the region had risen from 52 to 56 per cent, public transport's share was up from 7 to 8 per cent, and journeys walked or cycled had fallen from 15 to 13 per cent of total trips. They pointed out that about 54 per cent of all trips to school are made by car compared to 39 per cent in 1986.⁵

The authors of the *Green Paper* observed that, without appropriate action now, these trends would lead to:⁶

- increasing traffic congestion, adversely affecting the well-being of the community and prospects for economic growth;
- worsening pollution, exacerbated by congestion;
- health problems caused by pollution and inactivity attributable to car-use;
- rising transport infrastructure costs; and
- limited access for people without a private vehicle.

RACQ does not agree with the last of these predictions. The trends in rates of car ownership show that an increasing proportion of households has access to a car. This should improve the mobility of members of those households, as well as mobility of close friends and relatives. Also, there has been a small improvement in public transport's mode-share. So, access to transport seems to be improving, not diminishing.

“Except for walking, travelling by car is the most democratic and socially equitable form of transport ever seen in history as it allows more than 90 per cent of adults to go where and whenever they want to travel.....In particular, because the car allows chained or multi-purpose trips to work, schools, shopping and friends, it has been a potent force in the struggle for gender equality. The car has allowed women the freedom to do what they want to do in today's society and is the reason why surveys have found that women are more pro-car than men nowadays.”⁷

John Cox (2003), transport economist

With regard to health problems related to inactivity, there are multiple causes for disturbingly high inactivity levels. These might include television, a rising proportion of sedentary jobs, an increasing prevalence of computer-based leisure, declining

⁵ Ibid, pp. 21, 24-25, 28-30.

⁶ Ibid, pp. 31-34.

⁷ Cox, John, “Labor stops ‘common people’ people from moving around”, *The Australian Financial Review*, 20 June 2003, p. 83.

emphasis on sport and physical activity in schools, and rising concerns about dangers associated with walking and cycling.

It is unreasonable to single out car-use for special attention. Public transport-use also involves inactivity. While people may walk to public transport, they may not walk any further than a driver walks from a parking space to work or another event.

The problem of inactivity is not going to be solved by punishing car-use and subsidising public transport. It is naïve to imply that it would be.

The *Green Paper* correctly emphasised, "... congestion will need to be better managed." Otherwise, the economy and lifestyles would be seriously affected.⁸

*"The big question is: shall Brisbane's rapidly increasing traffic develop from a tangle to a strangle? In other words, shall Brisbane choke itself to death?"*⁹

RACQ (1954), *The Road Ahead*

It is encouraging that the Queensland Government has at last acknowledged explicitly that congestion is a potentially serious problem that needs to be better managed than in the past. *SEQIPP* and the *SEQ Regional Plan* did not do so.

The *Green Paper* argued that while government must continue to enhance the existing transport network, the **key** to managing worsening congestion and environmental/health issues and ballooning transport infrastructure costs was to induce users of different transport modes to recognise the full community costs of their travel behaviour. The *Green Paper* described the outcomes of using this key as "smart travel choices".¹⁰

RACQ supports the application of these prescriptions in tandem. RACQ notes that, if these remedies were properly formulated, they would be efficient tools for managing traffic congestion and vehicle pollution and for ensuring better use of existing and new transport infrastructure. They would advance pursuit of the widely accepted economic objective of improving the efficiency of resource use/allocation. They could also improve equity.

3. Summary of Queensland Government's Strategies for Tackling Congestion and Other Problems Identified in the *Green Paper*

The Queensland Government's transport policies, as set out in *Smart Travel Choices for SEQ*, the *SEQ Regional Plan*, *SEQIPP* and the *Draft TransLink Network Plan*, are focused on reducing numbers of single occupant cars on radial roads serving major

⁸ Queensland, *Smart Travel Choices for SEQ*, op cit, pp. 12, 14-15, 32.

⁹ RACQ, "Will Brisbane Continue to Suffer Traffic Strangulation?", *The Road Ahead*, August 1954, p.14.

¹⁰ Queensland, *Smart Travel Choices for SEQ*, op cit, pp. 12-13.

activity centres, particularly the Brisbane central business district (cbd), and shifting car occupants to public transport, cycling or walking.¹¹

“There is little wrong with the roads in Sydney or Brisbane – it is just that there are too many cars on them.”¹²

Barnaby Joyce (2005), Queensland Senator

A key strategy of the Queensland Government is deliberate restriction of capacity of radial roads to frustrate motorists into switching to other modes. The strategy has two elements:

- not building more radial road capacity;¹³ and
- conversion of general traffic lanes to transit lanes on radial roads, particularly after provision of by-pass road capacity.¹⁴

The Queensland Government said it favoured provision of by-pass and ring roads to divert cross-city traffic from radial roads to and from major activity centres like the Brisbane central business district (cbd).¹⁵ However, the Government planned to deliver very little in this respect. Moreover, the limited number of by-pass or ring-roads proposed the Queensland Government (except for the Tugun By-Pass) or the Brisbane City Council (BCC) will be tolled.

Tolls and avoidance of improvements to roads serving major activity centres facilitate Queensland Government’s allocation of government funds to provision of heavy public transport subsidies, which they consider essential for combating congestion. Indeed, public transport subsidies constitute the centrepiece of the Queensland Government’s anti-congestion policy. Toll-funding of parts of the National Network (like the Gateway Motorway or the Toowoomba Range By-Pass) also allows the Commonwealth Government to allocate more of its funds, including its \$14 million fuel tax revenue each year, to programs other than roads.

Figures extracted from *SEQIPP* and state budget papers indicate that public transport’s share of government (federal, state and local) allocations for arterial transport in the Brisbane Metropolitan area over the next 20 years could be about 80 per cent of the total. The Queensland Government described this as a “balanced program of investment between transport modes.”¹⁶

The *SEQ Regional Plan* proposed to support public transport not only with higher subsidies, but also through urban planning measures:

¹¹ “*Smart Travel Choices for SEQ* is about replacing some of our car journeys with walking, cycling or public transport.” - Ibid, p. 5.

¹² Joyce, Barnaby, “First Speech to Senate of the Commonwealth of Australia”, *Hansard*, 16 August 2005, p. 50.

¹³ This is clearly evident from the content of *SEQIPP*. This position has been carried over from Queensland, *Integrated Regional Transport Plan for South East Queensland*, Brisbane: Queensland Transport, 1997, pp. ix, 58, 60-61, 103 and Queensland, *Transport 2007: An Action Plan for South East Queensland*, Brisbane: Queensland Transport, April 2001, pp. 6, 13, 20, 24, 74.

¹⁴ Queensland, *Draft TransLink Plan*, op cit, pp. 39, 85.

¹⁵ Queensland, *SEQIPP*, op cit, p. 13, 40-41; Queensland, *SEQ Regional Plan*, op cit, pp. 109, 115-117.

¹⁶ Queensland, *SEQIPP*, op cit, p. 9.

- concentration of major employment and other trip generating activities around existing and new “regional activity centres”;
- higher residential densities involving infill and redevelopment in existing urban areas around existing “regional activity centres” and public transport nodes and along public transport corridors, facilitating “transit oriented development”;
- development of new residential areas at densities that support public transport services.¹⁷

The Queensland Government already supports information programmes to induce car drivers to change transport modes. It proposes to do more in this area.¹⁸

The Queensland Government has proposed a “scrap and ride” scheme to encourage people to dispose of pre-1987 cars because it considered these to be “polluting”. “Discounts of up to \$500 on a new bicycle” or free registration on a “smaller, cheaper car” or “money to use on public transport” would be provided.¹⁹

The *Green Paper* suggested “encouraging developers to contribute to state provided cycling and public transport infrastructure that supports urban growth.”²⁰

The *Green Paper* proposed parking levies and restrictions in “areas well-served by public transport”. Proceeds would subsidise public transport.²¹

In formulating its package of strategies, the Queensland Government largely ignored the *Green Paper’s* important insight that while government must continue to enhance the existing transport network, the *key to managing transport issues arising from growth* in south-east Queensland was to induce users of different transport modes to recognise the full community costs of their travel behaviour.

With regard to transport network enhancement, the Queensland Government has focused mainly on public transport. Roads to major activity centres have been deliberately neglected and the few proposed segments of by-pass or ring-road will be subject to tolls, which will encourage potential users to stay on existing clogged roads serving major activity centres.

“An iron law of economics states that demand always expands beyond supply of free goods to cause congestion and queues. Drivers caught in traffic jams on the freeways in and around major cities of the world regularly run afoul of this law.”²²

Gary Becker (1998), Nobel Laureate in Economic Sciences

¹⁷ Queensland, *SEQ Regional Plan*, op cit, pp.12, 65, 71, 75, 107-108.

¹⁸ Queensland, *Smart Travel Choices for SEQ*, op cit, pp. 65-70.

¹⁹ Ibid, p. 48; Beattie, Peter, *State Government Launches Transport Green Paper*, Brisbane: Queensland Premier’s Office, 1 December 2005.

²⁰ Queensland, *Smart Travel Choices for SEQ*, op cit, p. 58.

²¹ Ibid, pp. 62-63.

²² Becker, Gary, “Good-Bye Tollbooths and Traffic Jams”, *Business Week*, Industrial/Technology Edition, 18 May 1998, p. 26.

With regard to inducing transport-users to recognise the full community costs of their travel behaviour, the Government ignored the fact that this would require a full set of charges targeting specific community costs, particularly congestion, road damage, pollution and accident costs not covered by insurance. Ideally, these charges would displace fuel taxation, which does a very poor job of requiring road-users to take into account the costs they impose on the community. Also, congestion charges should displace public transport subsidies that have not required passengers to bear the full social costs of their patronage, and have been ineffective in dealing with congestion.

Instead of a full set of targeted charges, the state government has proposed taking just two small, faltering steps.

First, it proposed to encourage developers to contribute to state-provided cycling and public transport infrastructure that supports urban growth. Exclusion of contributions towards arterial road improvements is a glaring omission, apparently based on anti-car ideology. In addition, it would make sense to make developer contributions mandatory. Some of these contributions would be shifted to occupants of the land developments, who would use existing and new transport infrastructure. However, there is little likelihood that developer contributions would be borne by occupants in accordance with usage of infrastructure, particularly peak-period use.

A second step, albeit a highly imperfect one, was a proposal to deploy measures to push up the cost of parking in areas well-served by public transport. But such measures are not suited to inducing road-users to recognise the full community costs of their travel decisions. It is very difficult to design parking measures to discriminate appropriately between peak and off-peak travel. Unfortunately, they discriminate inappropriately between road-users, completely ignoring the high proportion of transient and through traffic on roads to major activity centres. For example, recent traffic surveys by Brisbane City Council and Queensland Government agencies indicated that about two-thirds of vehicles on roads to the Brisbane central business district are going elsewhere.²³

In contrast to these highly imperfect anti-congestion measures, a properly designed, network-wide congestion-pricing regime would require road-users to recognise fully the congestion costs they impose on others in the community. However, this measure was not discussed in the *Green Paper*. This is surprising because, the Queensland Government acknowledged nine and five years ago that congestion charges would be an effective anti-congestion device.²⁴ However, the government shied away from adoption of this measure because of concerns about it being unacceptable to the community. Further consideration was deferred to ascertain the effectiveness of existing strategies.²⁵

In the meantime, congestion has worsened significantly, indicating that strategies like deliberate neglect of radial roads and heavy public transport subsidies have been ineffective. In these circumstances, the Queensland Government should be planning

²³ Brisbane City Council, *TransApex Pre-feasibility Report*, Brisbane, March 2005, pp. viii, 1, 7, 16.

²⁴ Queensland, *IRTP*, op cit, p. 55; Queensland, *Transport 2007*, op cit, pp. 42-43.

²⁵ Ibid.

how to use the *key* to managing south-east Queensland's transport problems that it identified in the *Green Paper*.

Proposals to increase already large capital and operating subsidies for public transport certainly would not require users to recognise the full community costs of their travel behaviour. Taxpayers and car owners (through re-allocation of government funds from roads to public transport and worsening congestion), not public transport-users, would bear those costs.

The Queensland Government has not presented strategies to deal with the problem of road damage caused by heavy vehicles. However, a notional heavy road-vehicle pricing scheme based on state registration fees and Commonwealth diesel fuel excise/customs duty (less heavy vehicle rebates) has been operating nationally for about ten years. This scheme provides the states with approximately 30 per cent of the two-part charges, while the Commonwealth Government collects about 70 per cent.²⁶ At the most recent Council of Australian Governments meeting in February 2006, federal and state governments agreed to ask the Productivity Commission to develop proposals for efficient pricing of road and rail freight infrastructure by the end of 2006.²⁷ Terms of Reference for the study include investigation of the option of moving to mass, distance and location charge of freight transport.²⁸

While pollution and associated health issues were identified as major problems in the *Green Paper*, no counter-measures were proposed, other than the Government's anti-congestion strategies and the trivial "scrap and ride" proposal. In the case of pollution/health issues, as for other community costs associated with road-use, the *Green Paper* failed to use the *key* nominated for managing these problems, viz, to induce users of different transport modes to recognise the full community costs of their travel behaviour.

The Queensland Government's strategies have been assessed in detail in subsequent sub-sections.

4. Strategy of Not Increasing Radial Capacity

The Queensland Government is opposed to increases in road capacity serving major activity centres, particularly the Brisbane cbd. On the basis of the "induced demand" theory, the state government has formed the view that increasing radial road capacity would not alleviate congestion.²⁹

The induced demand theory indicates that adding road capacity to serve major activity centres would induce greater use of that capacity, quickly restoring congestion, suggesting that such investment is futile, self-defeating and wasteful. The induced

²⁶ Commonwealth of Australia, National Transport Commission, *2005 Annual Report*, p. 18.

²⁷ Council of Australian Governments, *Communique following Meeting of 10 February 2006*, p. 6, Attachment B, p. 3

²⁸ *Ibid*, Appendix B.

²⁹ Queensland, *IRTP*, *op cit*, pp. ix, 58, 60-61, 103; Queensland, *Transport 2007*, *op cit*, pp. 6, 13, 20, 24, 74; Queensland, *Smart Travel Choices for SEQ*, *op cit*, p. 13.

demand theory has spawned oft-repeated clichés such as, “You can’t build your way out of congestion” and “Build it and they will come”.

The Queensland Government has not only accepted this theory, but also has jumped to the conclusion that the converse applies, that is, not increasing capacity will help tackle congestion.³⁰

The induced demand theory and the conclusions the Queensland Government has derived from it are seriously flawed. The result has been poor urban transport policy, with which the government intends to persist.

The induced demand theory neglects benefits provided by additional capacity. Greater use of an expanded road means that benefits have accrued to users responding to the increase in capacity, other drivers representing population increases, and travellers remaining on other routes and modes that have become less crowded. Consequently, restoration of congestion levels should not be interpreted as failure.³¹

The induced demand theory fails to recognise the distinction between redistribution of travel movements within an area in the short term, and increases in travel demand in the area in the long-term, such as those arising from attraction of businesses and people to the area. Road users attracted to an expanded road from an alternative route, other travel times, and other transport modes represent redistribution of existing demand in the short term, not additional regional demand. Therefore, users of the expanded road at peak times and those persisting with other routes, times and modes must all be better-off or at least no worse-off than before the road was improved.³²

Only attraction of people and businesses to the area and perhaps extra travel by existing residents as a result of increased mobility facilitated by the road expansion can properly be described as “induced demand”. Only such long-term effects could conceivably lead to congestion on the expanded road or network congestion as bad as or worse than before the addition to road capacity.³³ However, the most recent available research indicates that this is highly unlikely.

Robert Cervero analysed effects of 24 freeway expansion projects in California between 1980 and 1994. He found that 6-8 years after motorway expansion 20 per cent of the added capacity had been preserved, 40 per cent had been absorbed by traffic growth arising from population and income growth, 31 per cent had been taken-up as a result of behavioural shifts (redistribution of demand), and 9 per cent because of land-use shifts (genuine “induced demand”).³⁴

³⁰ Queensland, *Transport 2007*, op cit, p. 6.

³¹ Harvey, Mark and Martin, Lyn, *Road Pricing, Tolls and Anti-Congestion Strategies*, Canberra: Bureau of Transport and Regional Economics, paper to Australian Roads Summit, Sydney, 25 February 2004, fn 1, p. 2; Downs, Anthony, *Still Stuck in Traffic: Coping with Peak-Hour Traffic Congestion*, Washington, DC: Brookings, 2004, pp 106-107; Taylor, Brian, “Rethinking Traffic Congestion”, *Access*, No. 21, Fall 2002, p. 13.

³² Downs, Anthony, op cit, pp.82-84, 104.

³³ *Ibid*, pp.84, 104-107.

³⁴ Cervero, Robert, “Are Induced-Travel Studies Inducing Bad Investments?”, *Access*, No. 22, Spring 2003, pp 22-27.

“Many induced demand studies have suffered from methodological problems that, I believe, have distorted their findings...I contend that most have...typically overstated induced demand effects.”³⁵

Robert Cervero, Professor of City and Regional Planning,
University of California, Berkeley

As well as misrepresenting reality, the induced demand theory ignores the influence of pricing. A properly designed congestion-pricing regime would efficiently ration access to congested roads, offset redistribution and growth of travel following additions to road capacity, and ensure that capital allocated to urban arterial roads and other resources associated with road-use are used efficiently.³⁶

The view that not increasing radial road capacity will relieve congestion is even more flawed than the argument that increasing capacity is wasteful and futile. The apparent rationale is that making driving less attractive by allowing congestion to worsen will induce commuters to switch to public transport.³⁷ Undoubtedly, some will switch from driving on busy roads at peak periods to other times, routes and transport modes. That switching softens the pain to some extent. However, it is naive to suggest that letting congestion worsen will reduce it. Anti-car ideology seems to have prevailed over commonsense.

“Quixotic endeavours by.....governments to delay the building of freeways and limit the mobility of motorists in order to push them onto public transport reminds me of the opposition of the Duke of Wellington to the introduction of railways. He was opposed to railways, he said, because they would ‘only encourage the common people to move around needlessly’.”³⁸

John Cox (2003), transport economist

It is obvious that Queensland Government opposition to increases in road capacity serving major activity centres is based on flawed theory and ideology. While radial road improvements alone cannot solve the congestion problem, improvements to radial road capacity can play an important role in alleviating congestion, as part of part of a package of measures, particularly if a network-wide congestion-pricing regime is included in the package.

³⁵ Ibid, p. 22.

³⁶ Ibid, p. 27; Downs, Anthony, op cit, pp. 86-87, 335-338; Harvey, Mark and Martin, Lyn, op cit, pp. 2-4, 6-9; Hau, Timothy, “Congestion Pricing and Road Investment” in Button, Kenneth and Verhoef, Erik (Eds), *Road Pricing, Traffic Congestion and the Environment*, Cheltenham: Edward Elgar, 1998, p. 41.

³⁷ Queensland, *Transport 2007*, op cit, p. 6.

³⁸ Cox, John, “Labor stops ‘common people’ people from moving around”, op cit, p. 83.

5. By-Pass and Ring Roads

A comprehensive system of inner, intermediate and outer ring-roads and other by-pass capacity is a critically important element of an effective anti-congestion strategy for the Brisbane metropolitan area. RACQ proposed such a system more than 50 years ago.³⁹ In 1997, the Queensland Government recognised the importance of by-pass and ring-roads in the *Integrated Regional Transport Plan*.⁴⁰

A comprehensive network of by-pass and ring-roads would take cross-city traffic off radial roads to the Brisbane cbd and other major activity centres. Through-traffic accounts for about two-thirds of vehicle numbers on radial roads to and from the Brisbane cbd, according to recent Queensland Government and Brisbane City Council (BCC) traffic studies.⁴¹

“The RACQ contends that a system of ‘ring’ roads ranks as one of the most important features of a modern town plan. It is doubted if any city’s network could be adequate without such a system. Although conscious of the attendant difficulties of superimposing a system like that on a city already largely developed, it is emphasised that the necessity and urgency of its provision should be realised before it is too late.”⁴²

RACQ (1954), *The Road Ahead*

A recent professionally conducted survey of RACQ members in Brisbane revealed that 97 per cent of respondents believed that by-pass and ring-roads are important for reducing traffic congestion in Brisbane.⁴³

The Queensland Government said it favoured provision of by-pass and ring roads to divert cross-city traffic from radial roads to and from the cbd. *SEQIPP* identified three “strategic transport needs” for the greater Brisbane area. They included “orbital road networks that link centres outside the inner city, reduce traffic congestion, and provide a sound basis for future traffic management.” *SEQIPP* noted, “by-pass routes for more congested road links and areas are needed.”⁴⁴

The *SEQ Regional Plan* stated, “orbital road networks and new links that connect centres are needed to reduce traffic congestion and manage growth.”⁴⁵ With respect to the greater Brisbane area, the document advocated investigation of “quality orbital

³⁹ RACQ, “Will Brisbane Continue to Suffer Traffic Strangulation?”, *The Road Ahead*, August 1954, p. 14; RACQ, “Brisbane’s Ring Roads of Tomorrow”, *The Road Ahead*, October 1954.

⁴⁰ Queensland, *IRTP*, op cit, pp. ix, 56.

⁴¹ Brisbane City Council, *TransApex Prefeasibility Report*, op cit, pp. viii, 1, 7, 16.

⁴² RACQ, “Will Brisbane Continue to Suffer Traffic Strangulation?”, op cit, p. 14.

⁴³ Market and Communications Research Pty Ltd, *Key Areas of Advocacy Member Feedback*, prepared for RACQ, Brisbane, November 2005.

⁴⁴ Queensland, *SEQIPP*, op cit, p. 13.

⁴⁵ Queensland, *SEQ Regional Plan*, op cit, p. 109.

road systems to bypass major road congestion points” and to “support connectivity” of centres within that urban area.⁴⁶

While the *SEQ Regional Plan* and *SEQIPP* extolled the virtues of orbital and by-pass roads as a means of alleviating congestion, these plans failed to provide for a comprehensive network of inner, intermediate and outer ring-roads and other by-pass roads. This is a major deficiency of the government’s policy for tackling Brisbane’s looming congestion crisis.

The only firm state government proposal for a by-pass road in Brisbane is a partial upgrade of the Gateway Motorway (an eastern outer by-pass). As a segment of the National Network, funding should be forthcoming from the Commonwealth Government, but in the absence of such funding, the facilities will be tolled by the Queensland Government to pay for provision.

The only other firm proposal for a major by-pass road in the Brisbane metropolitan area is the North-South By-Pass inner-suburban tunnel, one of BCC’s *TransApex* links. It will be tolled.

Other references to genuine orbital/by-pass links related to “investigations to improve orbital and by-pass road networks in western Brisbane” and “further *TransApex* investigations.” The former included a western by-pass, which would complete an outer ring-road system, if properly located. The latter related to assessments of BCC’s Airport Link (an extension of the North-South By-Pass) and the Hale Street Link. If decisions are made to proceed with these projects, they will be tolled.

Even if the full *TransApex* package of four inner-suburban tunnels and a bridge is built, it will still not provide Brisbane with a full inner ring-road system, because some of its components double as radial capacity. Another problem is that *TransApex* by-pass roads will have to be accessed from some of the most congested parts of the radial road network, exacerbating congestion on those access roads.

Because the Commonwealth and Queensland Governments are not prepared to provide financial support for construction of a by-pass and ring-road network in the Brisbane metropolitan area, BCC’s *TransApex* links will be tolled by private operators, the Gateway upgrade will be tolled by the state, and a western by-pass will be tolled by somebody to fund construction and operation.

Neither the Queensland Government nor BCC has revealed plans for an intermediate orbital road system for Brisbane.

Not only have Commonwealth and Queensland Governments abrogated their responsibilities to the people of greater Brisbane by refusing to fund construction of any part of a system of by-pass and orbital roads, but also resulting tolling arrangements for the few ring- or by-pass road segments in the area will create serious inequities and economic inefficiencies. This is explained in the next section of this submission.

⁴⁶ Ibid, p. 115.

Unfortunately, it appears that this approach could be extended to other parts of south-east Queensland. For example, the Queensland Government suggested that a proposed by-pass of the Toowoomba Range section of the Warrego Highway be partly funded by private operators under a private tolling arrangement after it became clear that Commonwealth Government funding of work on this section of the National Network was a long way off.

6. Toll-Roads

The trend towards making new by-pass and some radial road capacity in the Brisbane area subject to tolls appears to be based on three things:

- the Commonwealth Government's determination to minimise its responsibility for urban traffic congestion and its consequent advice to state and local governments to fund congestion-alleviating projects from their own revenue sources or to invite private sector provision of toll-roads;
- Queensland Government's and BCC's resolve to reallocate government funds from improvements to arterial road capacity to heavy subsidies for public transport; and
- the notion that tolls allow provision of roads to be brought forward.

The first factor is a genuine problem. State and metropolitan local governments throughout Australia should tackle it via a concerted political campaign, rather than meekly accept it. If they give-up, the Commonwealth Government's policy, which is inconsistent with economic logic and viable fiscal federalism, would prevail.⁴⁷ That is unacceptable.

The second position is based on flawed logic, as demonstrated in the discussion of radial and by-pass road policies above and public transport policy below.

The third point is misleading and naïve. Tolls simply make resources available to provide roads. Resources could be made available in three alternative ways to bring forward economically justifiable road investments.

One option is to re-allocate expenditures from other government programs on the basis of social cost/benefit analysis. Then, roads with high benefit/cost ratios would displace government activities with low benefit/cost ratios with a resulting improvement in the allocation of resources. An obvious starting point would be comparative benefit/cost analysis of by-pass/ring-roads and public transport subsidies, because the latter appear to have been based on suspect logic and/or ideology, rather than on economic analysis.

A second option is tax increases. These would avoid undermining the congestion-alleviating purpose of the roads the way tolls do, but higher tax rates could cause other adverse economic effects.

⁴⁷ For a more detailed discussion of this matter, see Willett, Ken, *The Economics, Ideology and Politics of Anti-Congestion Policy for Brisbane*, paper delivered to *Roads 2005* Conference, Brisbane: RACQ Economics and Public Policy, August 2005, pp. 5-10.

A third option is network-wide, variable congestion-pricing. This would provide the required resources in a much more economically efficient way than taxes or tolls. Governments have chosen to avoid this option even though many prominent transport economists and engineers have presented a very strong economic case for its implementation.

The majority of Queensland motorists have not accepted the arguments advanced by governments and private sector entities interested in building, funding or operating toll-roads. A recent professionally conducted survey of RACQ members revealed that 58 per cent of respondents in Brisbane opposed application of tolls to fund new roads. In the rest of Queensland, 60 per cent were opposed to tolls.⁴⁸

It appears our governments have neglected equity and economic efficiency implications of building toll-roads and re-allocating government funds from roads to provision of substantial public transport subsidies. The toll-roads case is discussed in this section. Public transport subsidies are discussed in the next section.

Tolls are designed to cover costs of new facilities, including an attractive rate of return on investment. Tolls typically vary with vehicle-type, but not traffic volume.

Tolls are often perceived to be inequitable. There are several reasons for this.

Various motoring taxes already more than fully cover the costs of road-provision. Overall, they also cover external costs of road-use, such as congestion and vehicle emissions, although tax revenue is less than adequate to do so in congested areas and excessive in other areas.⁴⁹

Tolls ration access to new premium-service road network segments providing alternatives to existing clogged, free-access roads. This favours wealthier road-users.

Also, tolls are extra imposts on motorists not fortunate to be able to drive in areas with adequate existing road infrastructure. Therefore they discriminate on the basis of geography and history.

A pertinent, important ethical point is that tolls apply to drivers who reduce costs on others by avoiding existing busy roads, and are avoided by those who stay on existing busy roads, adding to congestion and thereby imposing costs on others.

These various equity/ethical objections to tolls could not be easily resolved.

Tolls discourage efficient use of resources. This occurs at peak and off-peak times.

A toll on a new road encourages drivers to stay on existing congested roads. So, the toll undermines the congestion-alleviating potential and efficiency of use of new and existing roads. The higher the toll, the greater is the community welfare loss.

⁴⁸ Market and Communications Research Pty Ltd, op cit, p. 52.

⁴⁹ Cox, John, *Refocusing Road Reform*, Melbourne: Business Council of Australia, 1994, p. 150; Pender, Howard, *Taxing Cars: Fleecing the Fleet or Subsidising Smog?*, Sydney: Australian Tax Research Foundation, 1999, p. 48.

Modelling in respect of BCC's planned North South By-Pass indicated that a toll of \$3.30 (escalated with the Consumer Price Index) would cut usage of the tunnel by about 53 per cent compared to no toll.⁵⁰

Maunsell Australia Pty Ltd (2005)

While a toll helps forestall emerging congestion on the toll-road, it simply shifts the problem to un-tolled roads, exacerbating congestion elsewhere.

At off-peak times, when the social cost of an additional vehicle using a link is zero, a toll will induce some drivers to choose a less convenient alternative. The efficiency of use of the road system is thereby reduced. The higher is the toll, the greater is the resulting welfare loss to the community.⁵¹

Isolated segments of toll-road in major urban areas typically make available a priced premium service as an alternative to competing congested roads on the unpriced network. As several prominent transport economists have explained, a fundamental flaw in this approach to road provision and pricing is that it cannot yield optimal congestion alleviation and won't even get close. For the tolled road or lanes to be attractive to potential payers, a significant speed difference must be maintained between priced and alternative free roads or lanes. This means the free roads/lanes must remain congested. It is only such congestion that creates a market for a priced travel option. If more free lanes or roads were provided to eliminate congestion on existing free lanes, there would be no incentive to pay to use the priced roads/lanes. Toll road projects can "work" only if governments fail to make significant progress towards reducing congestion on the network overall.⁵²

As Anthony Downs explained, isolated segments of toll-road in urban areas are "not designed to eliminate congestion and cannot do so. Rather they are designed to accomplish two other goals. One is to give those commuters who value rapid movement the choice of achieving such movement by paying a toll.....The other is to expand the overall capacity of the road (corridor segment) concerned, thereby making all users - including those in the free lanes better off."⁵³

But, BCC plans to change general traffic lanes to bus/high occupancy vehicle lanes on existing radial roads as *TransApex* links are completed.⁵⁴ Also, the Queensland Government intends to apply the same policy after construction of *TransApex* projects and possibly other orbital roads that might be built.⁵⁵ As a result, there will be no nett

⁵⁰ Maunsell Australia Pty Ltd, *North South Bypass Tunnel Traffic and Transport Technical Paper*, report for Brisbane City Council, January 2005, p. 127.

⁵¹ Walters, Alan, *The Economics of Road User Charges*, World Bank Staff Occasional Paper, No. 5, Baltimore: Johns Hopkins Press 1968, pp. 15-21.

⁵² Small, Kenneth, "The Value of Value Pricing", *Access*, No. 18, Spring 2001, pp. 17-20; Small, Kenneth, and Winston, Clifford, "Making HOT Lanes Sizzle", *The Washington Examiner*, 4 July 2005.

⁵³ Downs, Anthony, op cit, pp. 167-168.

⁵⁴ Brisbane City Council, *TransApex Pre-feasibility Report*, op cit, p. 7.

⁵⁵ Queensland, *Draft TransLink Network Plan*, op cit, pp. 39, 85.

addition of general traffic lanes. This wipes out one of the usual goals of new urban toll-road segments. Tolls on these segments will encourage drivers to stay on facilities with reduced capacity. The only purpose such toll-roads will serve is to provide a premium service to those prepared to pay for it.

Simulation studies by Kenneth Small, Erik Verhoef and Ian Parry have demonstrated, that the benefits from ad hoc toll-road schemes, would yield no more than 24 per cent of the nett community benefits of network wide congestion-pricing. This result was based on the most favourable assumptions to toll-roads, including the tolling strategy being properly designed to target congestion alleviation.⁵⁶

The shortcomings of toll-roads are increased when they are privately owned and operated, as proposed for at least the first three of BCC's *TransApex* links. The causes are misallocation of risk, and conflict between the congestion-alleviation goal of governments and the profit maximising objective of private operators. Both adversely affect the efficiency of resource-use.

The main argument in support of this style of Public Private Partnership (PPP) is that it supposedly allows an optimal allocation of activities and associated risks between the public and private sectors in accordance with capacity to manage them, with resulting social gains. This is assumed to result in shifting of risks from the public to the private sector. This argument is dubious in the case of toll-roads for two reasons.

First, responsibility for road design, construction and resulting performance could be shifted to private groups through a design and construct contract that includes performance guarantees. A PPP is not required.

Second, governments are much better placed than the private sector to manage road demand risk. The reason is that the public sector controls the rest of the road network and the public transport network, and is responsible for land use regulation, all of which critically influence demand.⁵⁷

In any event, private entities will participate in such PPPs only if adequately protected from and/or compensated for risk. Therefore, they demand agreements protecting them from competition and restricting government anti-congestion activities, because toll-road profitability depends on continuing congestion on competing parts of the road system. Consequently, efforts by governments to shift risks to the private sector through road PPPs mean more congestion on existing roads, and higher tolls to improve returns to private investors, as they seek protection from or compensation for risk-bearing.

Motorists pay for the government's risk and responsibility shifting efforts through higher tolls on new roads and greater congestion on existing roads. But, governments

⁵⁶ Parry, Ian, "Comparing the Efficiency of Alternative Policies for Reducing Traffic Congestion", RFF Discussion Paper 00-28, Washington, DC: Resources for the Future, June 2000, subsequently published in *Journal of Public Economics*, Vol. 85, 2002, pp. 333-362; Verhoef, Erik and Small, Kenneth, "Product Differentiation on Roads: Constrained Congestion Pricing with Heterogeneous Users", *Journal of Transport Economics and Policy*, Vol. 38, No. 1, January 2004, pp. 127-156.

⁵⁷ Quiggin, John, "Economic Briefing on Public Private Partnerships: New Rationale, Same Old Problems", *The Australian Financial Review*, 8 August 2005, p. 21.

retain the risk and responsibility of protecting and advancing the public interest. They still have to bear the political odium of the tolls and the effects of “tunnel funnelling” activities designed to protect the private operator, as New South Wales Government politicians learnt to their chagrin recently. Also, they bear the risk of disruption to the network if a private operator fails. In addition, they bear the very high risk that their promises of congestion alleviation through PPP toll-roads will not be realised.

PPP agreements may impede transition to economically efficient congestion charges and infrastructure provision in various ways including:

- specifying long-term tolling rights and systems;
- restricting government anti-congestion activities in various ways; and
- differing arrangements between segments. and operators.

Such impediments are not conducive to establishment of an efficient, network-wide congestion-pricing regime or to provision of new congestion-alleviating infrastructure providing an alternative to PPP roads. The more PPP toll-roads and operators there are in the network, the more difficult the transition. Typical PPP terms of 30 years or more create longstanding impediments to effective congestion-alleviation.

If toll-roads are government-owned, like the Gateway Bridge and its proposed twin, congestion-alleviation could take precedence over high returns on capital. Also, future transition to efficient anti-congestion strategies could be facilitated. But, in the case of PPP toll-roads, such arrangements are inconceivable.

Modelling by Kenneth Small, Erik Verhoef and Ian Parry demonstrated that if tolls/charges were set to maximise profits, as would be expected under a private funding, ownership and tolling (PPP) model, Verhoef and Small found that the community could suffer significant nett losses.⁵⁸ In other words, the community could be better off if the PPP toll road was not built.

Because of conflict between the profit maximising objective of a private operator and the congestion alleviation objective of government, PPP toll-roads and efficient congestion-alleviation are incompatible. It is better to have ad hoc toll-road projects owned by governments or non-profit organisations than by private profit-making entities.⁵⁹

The proponents of road PPPs seem to fall into two categories: those pursuing profit opportunities, and others promoting an ideological position. Their arguments are not supported by economic analysis.

Fifty years ago, William Vickrey argued that applying tolls to roads built to alleviate congestion, while allowing free access to congested roads, was an “outstanding absurdity” of public policy. It still is, particularly when private ownership and tolling (PPPs) are involved. Vickrey explained that applying congestion charges on busy roads at peak times and using the money to provide toll-free by-pass roads was the

⁵⁸ Verhoef and Small, op cit.

⁵⁹ Downs, Anthony, op cit, pp. 168-169.

appropriate policy.⁶⁰ Subsequently, many other highly respected economists, transport engineers and urban planners have endorsed Vickrey's prescription.

*".....in no other area are pricing practices so irrational, so out of date, and so conducive to waste as in urban transportation...In nearly all other operations characterised by peak load problems, at least some attempt is made to differentiate between the rates charged for peak and off-peak service...But in transportation, such differentiation as exists is usually perverse."*⁶¹

William Vickrey, (1963) Nobel Laureate in Economic Sciences

7. Public Transport Subsidies

Public transport subsidies are central to the Queensland Government's anti-congestion policy and an important aspect of BCC's strategy for tackling congestion. The subsidies take three forms:

- operating subsidies for Brisbane Transport and other bus operators servicing the Brisbane metropolitan area;
- capital expenditure on bus-ways, bus lanes, railway lines, buses and railway rolling stock; and
- capital transfers via re-allocation of general road space to buses and other high occupancy vehicles.

The capital items should be treated as subsidies, because the cost is not recovered from users and access is not open. In contrast, motoring taxes fully cover social costs of road-provision and use overall,⁶² and public roads are accessible by all.

Figures extracted from *SEQIPP* indicate that around \$6000 million or 60 per cent of proposed government capital expenditure on land transport in metropolitan Brisbane over the next 20 years would effectively be capital subsidies for public transport. This includes the proportion of government and private sector road spending to be offset by re-allocation of road space "freed-up" by ring and by-pass roads to dedicated lanes for buses and other high occupancy vehicles.

Strangely, the Queensland Government referred to provision of huge capital subsidies for public transport as a "balanced program of investment between transport modes"⁶³

⁶⁰ Vickrey, William, "Some Implications of Marginal Cost Pricing for Public Utilities", *The American Economic Review, Papers and Proceedings*, Vol. 45, No. 2, May 1955, p. 619.

⁶¹ Vickrey, William, "Pricing and Resource Allocation in Transportation and Public Utilities", *The American Economic Review*, Vol. 53, No. 2, Papers and Proceedings, May 1963, p. 452.

⁶² As explained when discussing toll-roads, motoring taxes more than cover the full costs of road-provision, and overall, they also cover external costs of road-use, such as congestion and vehicle emissions. However, tax revenue is less than adequate to do so in congested areas and excessive in other areas. See Cox, John, *Refocusing Road Reform*, op cit, p. 150; Pender, Howard, op cit, p. 48.

⁶³ Queensland, *SEQIPP*, op cit, p. 9.

despite the fact that public transport currently caters for just 8 per cent of trips in the Brisbane metropolitan area.⁶⁴

Capital Subsidies for Public Transport – Two Examples

The capital subsidy per additional peak-period bus passenger carried as a result of construction of the South East Bus-Way is estimated to be around \$103,500.⁶⁵

The capital subsidy per additional peak-period passenger on the Gold Coast-Brisbane railway line as a result of a \$370 million upgrade announced in stages in November 2003 and March 2005 is estimated to be about \$274,000.⁶⁶

Queensland Government and Brisbane City Council budget papers for 2005-06 indicated that operating subsidies for public transport are substantial. The state government alone contributed 31 cents per passenger kilometre to subsidise *Citytrain* operations and 12 cents per passenger kilometre to BCC and private bus operators in the Brisbane metropolitan area. State operating subsidies for public transport totalled \$520-\$730 million per year.⁶⁷

If state operating subsidies for public transport (at the bottom end of the range) are added to capital subsidies for public transport in *SEQIPP*, public transport's share of government (federal, state and local) allocations for arterial transport in the Brisbane Metropolitan area over the next 20 years would be about 80 per cent of the total.

Provision of heavy subsidies to public transport is not unique to greater Brisbane. In most United States and many European cities, public transport fares currently cover less than half of operating costs and make no contribution to capital costs associated with public transport. Government subsidies cover the very large gap.⁶⁸

⁶⁴ Queensland, *Smart Travel Choices for SEQ*, op cit, p. 25.

⁶⁵ The *Green Paper* (pp. 26, 48) claimed that the South East Bus-Way provided by the Queensland Government had generated an extra 2.67 million bus passenger trips per year. Assuming that these trips are by passengers commuting to and from work each day, the capital subsidy per additional peak-period passenger can be estimated as follows. Twice a day ay travel for 5 days a week for 46 weeks (52 weeks less 4 weeks annual leave and 2 weeks of public holidays) indicates 460 trips a year for each commuter and 5804 extra passengers. Dividing the capital cost of the bus-way, \$600 million, by 5804 extra passengers yields a bus-way capital cost per extra passenger of around \$103,500.

⁶⁶ A \$370 million upgrade, including additional rolling stock, was included in *SEQIPP*. According to Queensland Rail it will add an extra 1350 seats in each peak period. See Beattie, Peter and Bredhauer, Steve, *Slashed waiting times and more trains in \$247 million Gold Coast rail upgrade*, media release, 6 November 2003, and Queensland Rail, *Brisbane to Gold Coast Rail Upgrade* at www.citytrain.com.au/about/initiatives/upgrade/overview.asp.

⁶⁷ Queensland, *Ministerial Portfolio Statement: Minister for Transport and Main Roads*, 2005-06 State Budget, Brisbane, May 2005, p. 1-35; Brisbane City Council, *Program 7 – Moving Brisbane, 2005-06 Brisbane City Council Budget*, Brisbane, 8 June 2005, pp. 114, 127-128.

⁶⁸ Gomez-Ibanez, Jose, "Pricing" in Gomez-Ibanez, Jose, Tye, William and Winston, Clifford, *Essays in Transportation Economics and Policy: A Handbook in Honour of John Meyer*, Washington, DC: Brookings Institution, 1999, chapter 4, p. 111; Downs, Anthony, op cit, p. 144.

Are public transport subsidies economically justifiable? A few arguments warrant consideration.

Economies of scale in public transport have been cited as a justification for subsidies. Efficient allocation of resources requires pricing equal to marginal social costs in all markets, but economies of scale mean that marginal cost is lower than average cost, with the result that losses are incurred if marginal cost pricing is adopted. Therefore, subsidies are required to permit marginal cost pricing.⁶⁹

While economies of scale associated with operating a fleet are exhausted with just a few vehicles,⁷⁰ they could derive from large fixed costs and spare capacity associated with lumpy investments in exclusive facilities like railway lines, bus-ways and bus lanes.⁷¹ But, after analysing various studies of bus and passenger-rail systems, Jose Gomez-Ibanez concluded that such economies of scale are insufficient to justify large subsidies to public transport.⁷²

Herbert Mohring identified another source of economies of scale in public transport, which he called “economies of density”. He explained that an increase in demand for service that leads to full capacity induces provision of additional services, which reduces waiting times between services. This reduces the effective marginal cost of public transport use for all passengers. The declining marginal social of public transport use associated with “density economies” justifies subsidies, which according to Herbert Mohring would be “substantial”.⁷³ However, the magnitude of subsidies based on economies of density is subject to debate.⁷⁴

An argument derived from the economic theory of the second-best⁷⁵ has been suggested as a justification for additional subsidies for public transport. It starts with the observation that car-driving in congested conditions is priced below marginal social cost. This occurs because fuel and other motoring taxes are not closely linked to use of busy roads at peak times and associated congestion costs. The argument explains that if it is not possible to implement “first-best” pricing equal to marginal social cost, including congestion costs, the efficiency of resource allocation may still be improved, but to a lesser extent, by subsidising public transport, which is a substitute for driving. The idea is to lower the effective price of public transport patronage relative to car use and thereby induce less road-use at congested locations and times. The size of the “second-best” subsidy would depend on the relative sensitivity of car and public transport use to the effective price of public transport

⁶⁹ Gomez-Ibanez, Jose, op cit, pp. 99-100, 112; Downs, Anthony, op cit, p. 144; Centre for International Economics, *Subsidies and the Social Costs and Benefits of Public Transport*, Canberra: Centre for International Economics, March 2001, pp. 35-36.

⁷⁰ Mohring, Herbert, “Congestion” in Gomez-Ibanez, Jose, Tye, William and Winston, Clifford, *Essays in Transportation Economics and Policy: A Handbook in Honour of John Meyer*, Washington, DC: Brookings Institution, 1999, chapter 6, p. 188.

⁷¹ Gomez-Ibanez, Jose, op cit, pp. 100, 112; Centre for International Economics, op cit, pp. 35-36.

⁷² Gomez-Ibanez, Jose, op cit, pp. 112-113.

⁷³ Mohring, Herbert, op cit, pp. 188-189; Mohring, Herbert, “Optimisation and Scale Economies in Urban Bus Transportation”, *The American Economic Review*, Vol. 62, No. 4, September 1972, pp. 591-604.

⁷⁴ Gomez-Ibanez, Jose, op cit, pp. 113-114.

⁷⁵ Lipsey, Richard and Lancaster, Kelvin, “The General Theory of the Second Best”, *Review of Economic Studies*, Vol. 24, No. 1, 1956-57, pp. 11-32.

services, the extent of underpricing of car use compared to marginal social cost, and the relative magnitude of car and public transport usage.⁷⁶

The available evidence suggests that in a medium-sized metropolitan area, such as Brisbane, where the sensitivity of car-use to the effective price of public transport services appears to be very low, and car use is relatively high, significant subsidies to public transport to compensate for underpricing of car use are not justified by “second-best” considerations.⁷⁷

One reason why subsidising public transport is only “second-best” is that it increases the attraction of public transport relative to all alternatives. Some increase in public transport patronage will be at the expense of walking, cycling, driving off-peak, and driving on less congested routes. Another reason is that subsidies tend to increase the overall demand for travel, including peak period trips. These effects reduce the efficiency of resource-use.

As economic analysis and overseas experience have shown, public transport subsidies are relatively ineffective and expensive anti-congestion devices. Economic modelling at Resources for the Future indicates that subsidising public transport provides only a tenth to a quarter of the gains to the community from a properly designed system of congestion charges.⁷⁸ A detailed study in the United States of capital costs to governments (as distinct from social costs) of moving people by freeway, bus and rail found that freeways on average are 14 times more cost-effective than rail and 8 times more cost-effective than bus transport.⁷⁹ Enormous outlays are required to obtain substantial cuts in the proportion of peak period trips by car.⁸⁰ Indeed, governments may need to cover all of the operating and capital costs of public transport and pay people an appreciable amount to use the service.⁸¹

It seems the oft-repeated cliché used against road-building, “You can’t build your way out of congestion”, applies with great force to provision of public transport facilities. But, its companion anti-road cliché, “Build it and they will come” does not apply to public transport infrastructure. Heavily subsidised public transport facilities have not attracted sufficient numbers from cars to make a significant dent in congestion.

Bigger public transport subsidies mean higher taxes and cuts in government programs. Higher taxes mean greater economic damage from taxation. This varies with the type of tax, but is typically substantial. Cuts in valued government programs mean less efficient use of resources.

In any event, the “second-best” argument for public transport subsidies depends critically on the assumption that it is not possible to implement “first-best” congestion pricing that equates the effective price of car use in congested conditions to marginal

⁷⁶ Gomez-Ibanez, Jose, op cit, p. 114; Centre for International Economics, op cit, pp. 15, 33-34.

⁷⁷ Gomez-Ibanez, Jose, op cit, pp. 114-117.

⁷⁸ Parry, Ian, op cit, pp. 16-17.

⁷⁹ O’Toole, Randall, *Great Rail Disasters: the Impact of Rail Transit on Urban Livability*, Denver: Independence Institute and Reason Public Policy Institute, February 2004, pp. 7, 15.

⁸⁰ Hensher, David, *Urban Public Transport Delivery in Australia: Issues and Challenges in Retaining and Growing Patronage*, Bureau of Transport and Regional Economics Transport Policy Colloquium, Canberra, 3 October 2002, pp.1-3; Downs, Anthony, op cit, pp. 120-122, 138-141, 345-346.

⁸¹ Mohring, Herbert, “Congestion”, op cit, p. 192.

social cost. But, a reasonable approximation to such pricing is now feasible. Therefore, pursuit of “second-best” solutions does not make economic sense.

The influence of the induced demand theory and fear of congestion charges have greatly helped proponents of public transport subsidies, including the Queensland Government, to maintain their zeal for public transport subsidies. But, both the induced demand theory and congestion charges undermine the case for such subsidies.

The induced demand theory, which is such an article of faith for public transport zealots, is just as applicable to public transport subsidies as to increases in road capacity serving major activity centres. Attracting patronage to public transport temporarily eases congestion on radial roads. This could lure passengers back from public transport to driving on these roads, and attract travellers from alternative routes, travel times and modes. So, congestion tends to be restored despite more subsidies to public transport.⁸²

A network-wide congestion-pricing regime would encourage drivers to switch to public transport boosting its market share and viability. Such a pricing regime would also effectively manage induced demand for road space.

“Rather than mass transit (public transport) being the solution to congestion, perhaps congestion pricing – a measure often viewed as an alternative to transit – could be transit’s saviour.”⁸³

Kenneth Small (2005), Professor of Economics, University of California, Irvine (transport, urban and environmental economics specialist)

Public transport subsidies tend to benefit middle and higher income groups. They favour those who can afford to live in close proximity to the better public transport services and work in the cbd. Subsidised improvements to facilities and services deliver windfall gains to residents near train and bus stations.⁸⁴ Others have to pay through higher taxes and fewer government services.

In summary, public transport subsidies perform poorly in respect of economic efficiency and equity criteria. There are simply more efficient and equitable ways of getting people out of cars on busy roads at peak times than through heavy public transport subsidies. It seems that public transport subsidies have been based on misplaced ideology and supported by political “spin”, rather than based on evidence and economic analysis.

But, public transport infrastructure and services, as distinct from subsidies, remain an important component of a complementary package of measures to tackle congestion.

⁸² Downs, Anthony, op cit, p. 121; Taylor, Brian, op cit, p. 13.

⁸³ Small, Kenneth, “Road Pricing and Public Transit: Unnoticed Lessons from London”, *Access*, No. 26, Spring 2005, p. 10.

⁸⁴ Cox, John, Galloping technology drives public transport demand off the rails, *The Age*, 24 January 2006, p. 8; Cox, John, “Labor stops ‘common people’ people from moving around”, *The Australian Financial Review*, 20 June 2003, p. 83; Gomez-Ibanez, Jose, op cit, p. 117; Centre for International Economics, op cit, p. 52.

Just as by-pass and ring-roads provide through-traffic with an alternative to use of radial roads to the major activity centres, public transport services provide an alternative to driving to those centres, particularly the Brisbane cbd.

8. Regulatory Changes to Increase Densities and Support Transit Oriented Development

The *SEQ Regional Plan* placed considerable emphasis on:

- concentration of major employment and other trip generating activities around existing and new “regional activity centres”;
- higher residential densities involving infill and redevelopment in existing urban areas around existing “regional activity centres” and public transport nodes, and along public transport corridors, facilitating “transit oriented development”; and
- additional capital subsidies for public transport.⁸⁵

The plan also proposed development of new residential areas at densities that support public transport services, but this was given much less prominence.⁸⁶

Smart Travel Choices for SEQ confirmed placed similar emphasis on regulatory changes to increase densities and additional public transport subsidies.

The *SEQ Regional Plan* did not adequately explain how the linked strategies of higher density and additional public transport subsidies would improve “sustainability”, which is supposed to be “the overriding intent of the Regional Plan”.⁸⁷ Also, the plan did not indicate how these strategies would address economic efficiency and equity objectives, which underpin the principle of “sustainability”.

It not clear from the *SEQ Regional Plan* whether or not higher residential densities and larger public transport subsidies are expected to alleviate traffic congestion as a by-product of pursuing “sustainability”. Presumably they are meant to do so, but the document does not suggest how effective they might be.

A major justification offered for higher densities was to support public transport. Higher subsidies for public transport seemed to be considered justifiable to support higher densities.⁸⁸ In effect, two potential strategies (means to an end) were converted into objectives (ends) and justified by circular reasoning.

Various studies have confirmed that clustering high-density housing near access points to good public transport services (transit oriented development) and raising the commercial density of central business districts and other major activity centres (regional activity centres) are likely to increase public transport usage. Also, commercial density increases seem to be more important than higher residential

⁸⁵ Queensland, *SEQ Regional Plan*, op cit, pp.12, 65, 71, 75, 107-108.

⁸⁶ Ibid, p. 12.

⁸⁷ Ibid, p. 22.

⁸⁸ Ibid, pp.12, 65, 71, 75, 107-108.

densities. The studies also reveal that improving public transport serving residential areas and major activity centres encourages increases in density in both locations.⁸⁹

Increased demand for public transport arising from higher densities would allow operators to capture economies of scale/density with the result that fares could be lowered or subsidies reduced. Better public transport services would improve the viability of transit oriented developments and regional activity centres.

However, there are important provisos regarding the support and economies that transit oriented developments and public transport facilities can provide to each other.

First, political problems may arise because of local resistance to higher density development in existing residential areas, particularly because density has to be very high to provide a substantial boost to public transport use.⁹⁰

Second, transit oriented developments must include substantial public-access car parking to widen the catchment of the public transport facilities and commercial activities in the development. To avoid detracting from the residential appeal of the development and its attraction to those wishing to walk to the public transport and commercial facilities, car parking has to be provided above or below street-level access to the facilities. But, this would substantially raise the cost of transit oriented developments.⁹¹

Third, the issue of who bears the cost of upgrading infrastructure in existing residential areas to cope with substantial increases in densities at transit oriented development sites will need to be addressed. A related problem is the potentially higher cost of upgrading or replacing established infrastructure than provision of infrastructure in “greenfields” areas.⁹²

These conflicts help explain why few effective transit oriented developments have been built elsewhere.⁹³

Similar problems might be encountered with high-density regional activity centres in established areas.

Even more problematical is the effect of higher densities on traffic congestion. Key issues are the timing of effects and the amount and location of car-use.

Anthony Downs and Brian Taylor explained that significant metropolitan-wide effects will be achievable only in the long-term, because population growth, which underpins housing demand, and new residential development and redevelopment occur only

⁸⁹ Downs, Anthony, op cit, pp. 210-213, 227

⁹⁰ Ibid, pp. 203, 212, 226.

⁹¹ Ibid, pp. 203, 211-212.

⁹² O’Toole, Randall, “The Folly of ‘Smart Growth’”, *Regulation*, Fall 2001, p. 25; Wood, Alan, “We’re urban sprawlers, so don’t cramp our style”, *The Australian*, 27 April 2004; Commonwealth of Australia, Productivity Commission, *First Home Ownership*, Inquiry Report No. 28, 31 March 2004, p. 136.

⁹³ Downs, Anthony, op cit, p. 212.

incrementally.⁹⁴ If governments want significant medium-term effects they will need to force the pace of residential re-development to establish transit oriented developments and expand or establish regional activity centres. Significant short-term effects will not be possible.

“In short, it is extremely difficult to increase substantially the average density of an entire metropolitan area – including existing settlements – through marginal growth or new in-fill development”⁹⁵
Anthony Downs (2004), Senior Fellow, Economic Studies, Brookings Institution, transportation and metropolitan policy specialist

Even if a much higher proportion of those involved in transit oriented developments and regional activity centres choose to use public transport than elsewhere, the high density of these sites could mean the number of private vehicles on the road nearby could increase significantly. Therefore, local traffic congestion could intensify.⁹⁶

Anthony Downs’ analysis and other United States studies surveyed by Downs indicate that the proportion of residents of transit oriented development sites who choose to use public transport is likely to be less than 25 per cent and may be less than 20 per cent. If so, congestion in the vicinity of these sites would certainly intensify.⁹⁷

Intuitively, one would expect an increase in the proportion of public transport usage associated with high density transit oriented developments and regional activity centres to reduce regional congestion. However, Brian Taylor and Anthony Downs said there was doubt.⁹⁸

Moderate density metropolitan-fringe residential developments supported by public transport subsidies could be expected to suffer from higher leakage from public transport to cars, than in the case of transit oriented developments, which are more likely to attract public transport users.

Brian Taylor’s analysis of density and congestion in United States’ cities indicated that higher density, whether in older, central city areas, or in newer outlying areas increases congestion. He explained, “Put simply, vehicle travel decreases more slowly than population density increases, and congestion is the result.”⁹⁹

It is clear that higher densities cannot have a significant effect on metropolitan-wide congestion in the short term or medium term.

It is inevitable that metropolitan-fringe residential developments will need to be supported by good road links to major activity centres and by-pass road capacity.

⁹⁴ Ibid, pp. 201-203; Taylor, Brian, “Rethinking Traffic Congestion”, *Access*, No. 21, Fall 2002, p. 14.

⁹⁵ Downs, Anthony, op cit, p. 203.

⁹⁶ Ibid, pp. 399-401.

⁹⁷ Ibid.

⁹⁸ Ibid, p. 401; Taylor, Brian, “Rethinking Traffic Congestion”, *Access*, No. 21, Fall 2002, p. 14.

⁹⁹ Taylor, Brian, op cit, pp. 14-15.

Key tools for increasing densities - transit oriented developments and regional activity centres - are likely to create local congestion problems that will need to be resolved by strategies other than public transport subsidies, such as road spending or congestion charges. As explained below, congestion charges would not only alleviate these local congestion problems, but also provide incentives that support establishment or expansion of these sites and public transport services associated with them. Instead of teaming such sites with higher public transport subsidies, governments should be linking them with congestion charges, which would support both the high-density sites and better and more viable public transport services.

9. Developer Contributions

The *Green Paper* floated the concept of “encouraging developers to contribute to state-provided cycling and public transport infrastructure that supports urban growth.”¹⁰⁰ Presumably this refers to contributions to provide or improve transport infrastructure in order to relieve the pressure new developments place on existing road and public transport facilities.

The exclusion of contributions towards arterial road improvements is a glaring omission. It seems to be based on anti-car ideology. It certainly is not based on sound economic analysis.

In addition, it would make sense to make developer contributions mandatory, rather than simply “encouraging” them.

Some of these contributions would be shifted, through land prices, to occupants of the new land developments, who would be users of existing and new transport infrastructure. The remaining part would be borne by developers and reflected in lower windfall gains from regulatory approvals to transform bush and cow-paddocks into residential and industrial blocks or to re-develop existing urban areas to increase density.

Of course, it is extremely unlikely that the share of developer contributions borne by each occupant would reflect usage, and more importantly, peak-period usage of transport infrastructure attributable to the corresponding occupant. Nevertheless, mandatory developer contributions for arterial transport infrastructure would be an enormous improvement over current arrangements.

10. Parking Measures

The *Green Paper* proposed parking levies and restrictions in “areas well-served by public transport”. Proceeds would subsidise public transport.¹⁰¹ The Queensland Government floated similar proposals in 1997 and 2001.¹⁰²

¹⁰⁰ Queensland, *Smart Travel Choices for SEQ*, op cit, p. 58.

¹⁰¹ Ibid, pp. 62-63.

¹⁰² Queensland, *IRTP*, op cit, p. 54; Queensland, *Transport 2007*, op cit, pp. 42-43.

These measures are highly imperfect decongestants for several reasons.

First, parking measures would have no effect on through-traffic, which contributes greatly to congestion. Through traffic may actually be encouraged by reduction of traffic parking in inner-city areas.¹⁰³ Recent traffic studies revealed that vehicles travelling across the city represent about two-thirds of traffic on radial roads to and from the cbd.¹⁰⁴

Second, parking measures would not apply to buses and other commercial vehicles delivering and collecting people and goods. These vehicles contribute to congestion.

Third, a vehicle contributing to congestion throughout a long trip would pay the same via parking measures as one contributing to congestion over a short distance.¹⁰⁵

Fourth, the proposed parking measures would not alter the price of parking to reflect the timing of entry to and exit from parking spaces and the consequent effects on timing of traffic volume. Such discriminatory pricing is likely to be possible only in the case of parking spaces owned by the Queensland Government or BCC.

Fifth, measures designed to reduce the future supply of parking spaces in inner-city areas will provide windfall gains to owners of existing parking spaces.

A “second-best” argument for parking measures might be mounted if it is not possible to implement “first-best” congestion-pricing. Then, it may still be possible to improve the efficiency of allocation of resources, but to a substantially lesser extent, by imposing a levy or restricting the supply of parking, which is complementary to car-use.

But, a reasonable approximation to “first-best” congestion pricing that equates the effective price of car use in congested conditions to social marginal cost is now feasible (see below). In that context, “second-best” measures do not make economic sense.

11. Information Programmes to Change Travel Behaviour

The Queensland Government already supports various schemes to improve the flow of information to car drivers to allow them to make more informed choices between transport modes, inducing car drivers to change transport modes. In the *Green Paper*, the Government proposed to do more in this area.¹⁰⁶

Correcting imperfect information regarding economic alternatives would improve the efficiency of resource-use, provided that the social benefits exceed the social costs of the programs.

¹⁰³ Smeed, R.J. and others, *Road Pricing: the Economic and Technical Possibilities*, Report of a Panel set up by UK Ministry of Transport, London: HMSO, 1964, p. 11.

¹⁰⁴ Brisbane City Council, *TransApex Prefeasibility Report*, op cit, pp. viii, 1, 7, 16.

¹⁰⁵ Smeed and others, op cit, p. 11.

¹⁰⁶ Queensland, *Smart Travel Choices for SEQ*, op cit, pp. 65-70.

12. Congestion-Pricing

12.1 Congestion-Pricing Should be Considered

Smart Travel Choices for SEQ called for feedback from the community on the full range of policy initiatives considered high priorities, not just those canvassed in the *Green Paper*.¹⁰⁷ In the preceding pages of this submission, RACQ assessed various elements of the package of transport policy measures proposed or adopted in the four documents outlining the Queensland Government's transport policy for south-east Queensland. In some of these assessments, unfavourable comparisons were made with the alternative of congestion-pricing, and in others, it was noted that congestion-pricing would be an effective complement.

Congestion-pricing was not discussed in the *Green Paper*. This is a major omission.

It is also surprising, because the Queensland Government acknowledged in major transport policy documents in 1997 and 2001 that congestion charges would be an effective anti-congestion device. At that time, the Government avoided congestion-pricing because of concerns about a community backlash. Further consideration was deferred to ascertain the effectiveness of existing strategies.¹⁰⁸

*"The IRTP recognises transport pricing can be an efficient way to restrain travel demand, and an equitable way to fund predicted shortfalls in transport investment needs. As the transport task becomes increasingly difficult to meet, such options must continue to be discussed in the community."*¹⁰⁹

Integrated Regional Transport Plan for South East Queensland (1997)

It is appropriate that the Queensland Government be prepared to reconsider application of congestion-pricing for three reasons.

First, many economists, transport engineers and urban planners have provided a strong case for its adoption of congestion-pricing (see next sub-section).

Second, opinion polling for RACQ and LGAQ indicates that only 31-32 per cent of respondents were opposed to congestion-pricing with recycling of revenues for transport infrastructure.¹¹⁰ These results are discussed in more detail below.

Third, congestion has worsened substantially in parts of south-east Queensland over the past five years and various authorities have predicted the problem will become increasingly severe in the absence of appropriate and decisive action.

¹⁰⁷ Ibid, p. 18.

¹⁰⁸ Queensland, IRTP, op cit, pp. xii, 55; Queensland, *Transport 2007*, op cit, pp. 42-43.

¹⁰⁹ Queensland, IRTP, op cit, p. 55.

¹¹⁰ Market & Communications Research Pty Ltd, op cit, pp. 55-56; Layton, Allan, *Public Inquiry on Mechanisms to Fund Queensland's Roads and Transport Infrastructure*, Final Report, Brisbane: Local Government Association of Queensland, Inc., May 2002, p. 32.

12.2 Congestion-Pricing Outlined

In this submission, congestion-pricing and congestion charges refer to network-wide, variable pricing regimes designed to alleviate congestion by charging for use of roads whenever and wherever they are congested. The charge varies according to the degree of congestion and approximates to the difference between short-run marginal social cost and average variable cost of road-use.

“The theory of marginal cost pricing suggests that taxes (congestion charges) be levied to reduce demand until traffic flow is at a level where private unit cost (with tax) is equal to marginal social cost.”¹¹¹

Sir Alan Walters (1961), prominent British economist,
seminal contributor to theory of congestion pricing

Such a scheme involves considerable price variability. The charge is zero in free flow conditions and rises with congestion. At any particular time, congestion charges vary between locations according to differing degrees of congestion. They change over time at a particular location in accordance with differences in congestion between peak, shoulder and off-peak periods of the day.

This type of pricing regime is much more sophisticated than the simple, inflexible, cordon or area-pricing schemes implemented in London, Singapore and three Norwegian cities. While these operating regimes have been very successful in reducing congestion, despite their crudeness and inflexibility, the more sophisticated regime outlined and called congestion-pricing in this paper should be considerably more efficient in dealing with congestion and improving the efficiency of resource allocation.

Congestion charges are designed to make drivers confront congestion costs they impose on others, inducing them to change their behaviour accordingly. This is entirely consistent with the *Green Paper's* observation that the *key* to managing worsening congestion and environmental/health issues and ballooning transport infrastructure costs was to induce users of different transport modes to recognise the full community costs of their travel behaviour.¹¹²

Behavioural changes induced by congestion-pricing may include alterations to travel times, routes and modes in the short-term. In the longer-term, changes in behaviour may involve workplace and residential re-location. Congestion charges reduce delays, fuel-use, vehicle emissions and crash-risks. They facilitate better road system investments and use, including effective management of “induced demand” generated by new roads in congested areas. As a result, the efficiency of use of human, capital and natural resources is improved.

¹¹¹ Walters, Alan, “The Theory and Measurement of Private and Social Cost of Highway Congestion”, op cit, p. 680.

¹¹² Queensland, *Smart Travel Choices for SEQ*, op cit, pp. 12-13.

A properly designed congestion-pricing regime would not be directed towards eliminating congestion. Instead, it would target reduction of congestion to the optimal level, given the available transport infrastructure. Further reductions would be sub-optimal because the extra social benefits (lower congestion costs) would be less than additional social costs (driving benefits foregone).

“While it may be efficient to have some congestion on the highway, the fact that the motorist is not required to pay for the congestion he causes will induce too many motorists to use the road and there will be too much congestion. These conditions are probably typical of large conurbations throughout the world. Rarely do user charges reflect adequately the congestion in large cities – traffic jams and snail like speeds are the consequence. These are the wastes of user charges that are too low.”¹¹³

Sir Alan Walters (1968), prominent British economist,
seminal contributor to theory of congestion pricing

The better are the alternatives to previously congested roads when congestion-pricing is implemented, the greater is the reduction of congestion, the greater is the nett social gain, and the smaller is the revenue-take. Obvious examples of good alternatives include free-access by-pass and ring roads and quality public transport services. Poor alternatives mean much higher revenues, substantially less behavioural change, and a correspondingly lower nett social gain.¹¹⁴ But, the higher revenues could be used to improve alternatives.

Congestion charges trigger a cycle of higher demand for and better performance of public transport.¹¹⁵ There are short term and longer term aspects of this cycle.

The initial shift to public transport induced by congestion pricing facilitates better spatial coverage of and more frequent public transport services. Less congestion means faster on-road public transport services and lower operating costs. The improved services further increase demand for public transport. This cycle allows increased capture of economies of scale/density, allowing lower fares, which attract further patronage. Improving viability arising from greater patronage and lower unit costs means public transport subsidies can be reduced.

The higher costs of driving in busy locations at peak times resulting from congestion charges increase the attraction of residential and business location in areas that are well-served by public transport. Therefore, land values increase in such areas, density increases (land-use regulations permitting) and demand for public transport rises,

¹¹³ Walters, Alan, *The Economics of Road User Charges*, op cit, pp. 11-12.

¹¹⁴ Poldi, Franzi and Evill, Brett, *Traffic Congestion and User Charges in Australian Capital Cities*, Report 92, Bureau of Transport and Communications Economics, Canberra: AGPS, 1996, p. 28.

¹¹⁵ Small, Kenneth, “Road Pricing and Public Transit: Unnoticed Lessons from London”, op cit, p. 12; Small, Kenneth, *Road Pricing and Public Transport*, Department of Economics, University of California Irvine, September 2003, in Santos, Georgina (ed.), *Road Pricing: Theory and Evidence*, Elsevier, 2004, pp. 133-158, original version p. 2.

triggering a further cycle of higher demand for and better service and financial performance of public transport, with improvements to viability allowing further lowering of subsidies.

“Rather than mass transit (public transport) being the solution to congestion, perhaps congestion pricing – a measure often viewed as an alternative to transit – could be transit’s saviour.”¹¹⁶

Kenneth Small (2005), Professor of Economics, University of California, Irvine (transport, urban and environmental economics specialist)

Revenue from congestion charges and savings from lower public transport subsidies facilitate economic gains additional to those arising from alleviation of congestion. First, cuts could be made to taxes, which adversely affect the efficiency of use of resources. Second, investments should be made in by-pass and ring roads and public transport facilities with high benefit/cost ratios, which would complement inducements to change travel behaviour provided by congestion charges.

12.3 Congestion Pricing and Road Capacity

Economic efficiency would be enhanced by a combination of congestion charges to reduce congestion to the optimal level in the short-term, given existing transport infrastructure, and investment in transport infrastructure over the long-run to provide the optimal level of capacity.

With congestion pricing in place, growing demand for space on existing roads would require rising optimal congestion charges on roads already priced and application of charges on some others previously unpriced. Revenues would rise accordingly.

High revenues relative to the capital invested in existing roads would serve as a surrogate market signal that expansion of capacity may be warranted.¹¹⁷ But, a final decision to invest in expansion of a road subject to congestion charges or in an existing or new unpriced alternative, like by-pass or ring-road capacity, should be based on detailed social cost/benefit analysis. Ideally, this should ensure that the investment would expand or provide the road in question to the optimal capacity at which the incremental (marginal) investment cost matches the marginal external congestion cost (the incremental saving in travel time value and fuel cost).¹¹⁸

Provision of more capacity reduces congestion problems, congestion charges, and revenue initially. Because investment in road capacity expansion is generally, “lumpy”, excess capacity may be provided initially. Then, congestion charges would be zero. But, optimal charges would become positive when traffic growth leads to congestion, and would rise with the degree of congestion.

¹¹⁶ Small, Kenneth, “Road Pricing and Public Transit: Unnoticed Lessons from London”, op cit, p. 10.

¹¹⁷ Hau, Timothy, *Economic Fundamentals of Road Pricing*, op cit, p. 31.

¹¹⁸ Harvey, Mark and Martin, Lyn, op cit, p. 6; Hau, Timothy, *Economic Fundamentals of Road Pricing*, op cit, pp. 28-29, 57.

Intuitively, one would expect that congestion pricing would enable deferment of and lower investment in new capacity.¹¹⁹ However, a complicating factor is that traffic flows more freely under a congestion-pricing regime, with and without the additional investment.

To clarify this matter, the Commonwealth Bureau of Transport and Regional Economics undertook quantitative experiments under a range of realistic assumptions regarding the extent of demand, sensitivity of demand to price, growth of demand, and average variable and social marginal costs. Their findings implied that optimal future investment would be lower and later when congestion pricing was in place, but such a result was not guaranteed. However, even if it was not applicable in some circumstances, congestion pricing remained highly desirable on economic efficiency grounds for other reasons discussed above.¹²⁰

12.4 Political and Ideological Obstacles to Congestion Pricing

There are two major impediments to a congestion-pricing regime. One is political concern regarding acceptability arising from re-distributional effects of congestion charges. The other is bureaucratic opposition based on transport and urban planners' strong ideological preference for "command and control" actions over pricing instruments, and a similarly strong ideological bias against car-use.

The literature on congestion-pricing has demonstrated clearly that congestion pricing yields net social gains. This means that the gains by the net winners are more than large enough to compensate the net losers. The key winner is the government implementing the congestion-pricing regime. The charges, which are the source of any individual disadvantage from the regime, provide the relevant government with the capacity to ensure that adequate compensation is provided. Therefore, if there are unresolved distributional issues, the government cannot validly blame anyone but itself.

Who loses before compensatory steps are taken?

Timothy Hau has demonstrated that when congestion is so severe that extra vehicles actually decrease the number of vehicles per hour that can use a road, congestion charges provide net benefits to all commuters before any recycling of revenues, as well as boosting the government's coffers. He observed that such traffic jams occur fairly often, although they are usually limited to the "peak of the peak-period".¹²¹

In less severe congestion, there are three groups of net losers from congestion charges before any spending of revenues:

- car users who are priced-off to another time, route or mode because their willingness to pay is less than the charge;
- unpriced travellers, who previously used other times, routes or modes to move about, but encounter crowding when joined by some of the priced-off group;

¹¹⁹ Harvey, Mark and Martin, Lyn, op cit, p. 7; Mohring, Herbert, "Congestion", op cit, p. 191.

¹²⁰ Harvey, Mark and Martin, Lyn, op cit, pp. 7-9.

¹²¹ Hau, Timothy, *Economic Fundamentals of Road Pricing*, op cit, pp. 12-13, 16-17, 56.

- those members of the group who pay the charges and stay on the priced roads, the priced category, who pay more to meet congestion charges than they save in time value and fuel.¹²²

The only winners before any spending of congestion pricing revenues are:

- those members of the priced category with high time values who save more in time and fuel than they pay in congestion charges;
- the government that collects the revenue from congestion charges.¹²³

The key to countering political concerns regarding the re-distributional consequences of congestion charges is astute application of revenue. But, it is important to apply it in a way that does not encourage a return to driving on congested roads.

The proceeds of congestion charges should be allocated to servicing loans raised to provide by-pass/ring roads and extra public transport capacity with high benefit/cost ratios that would be available prior to congestion pricing commencing. Provision of these alternatives to driving on previously congested and now priced radials would clearly increase community acceptance of congestion charges in the priced-off and unpriced groups. It would also cut the take from the priced group and further reduce vehicle numbers they encounter on radial roads. Such expenditure measures would discourage commuters from returning to congested radial roads. They would enhance, rather than detract from, the efficiency of resource allocation.

*A survey of Queenslanders regarding transport-funding options, which was undertaken for LGAQ in 2002, revealed, inter alia, that only 31 per cent of respondents and 33 per cent of those in the metropolitan area were opposed to congestion-pricing, assuming the funds obtained were used to improve public transport.*¹²⁴

Market Facts Queensland (2002)

Tax cuts to make room for congestion charges would be an alternative way of compensating various groups adversely affected by congestion charges. But, if state and local governments provide tax cuts, their capacity to provide important complementary transport infrastructure would be diminished, particularly in the context of the serious vertical intergovernmental fiscal imbalance (vifi) problem afflicting the Australian federal system of government.¹²⁵ This would be undesirable on economic efficiency grounds.

Commonwealth Government tax cuts to make room for state/local government congestion charges would avoid this problem. While such a move would not be essential for community acceptance of congestion-pricing, it could be the clincher.

¹²² Ibid, pp. 13-14, 56.

¹²³ Ibid.

¹²⁴ See Layton Allan, op cit, p. 32.

¹²⁵ See Willett, Ken, *The Economics, Ideology and Politics of Anti-Congestion Policy for Brisbane*, op cit, pp.5-10 in relation to vifi.

Lower fuel tax could compensate vehicle owners for payment of congestion charges. This measure would particularly advantage low-income groups. People in these groups are more likely to travel further to work because they can only afford real estate on city fringes. They are also more likely to drive across town rather than to the cbd to work, and to own older, less fuel-efficient cars.

While lower fuel tax could encourage more driving, it would probably not have a significant impact on driving on busy roads at peak times, in the same way that existing high fuel taxes have been ineffective in dealing with congestion. The reason is that there is only a vague and remote link between fuel purchase decisions and choices between driving on busy roads at peak times and the alternatives of other times, routes, and modes.

A survey of RACQ members regarding fuel taxation, fuel subsidy, road pricing and road provision matters in November 2005 revealed that 66 per cent of Brisbane respondents supported application of congestion charges to reduce traffic congestion, provided governments provide new by-pass and ring-roads and upgraded public transport as alternatives to paying to drive on busy roads, and provided the Commonwealth Government reduces fuel tax.¹²⁶

Market & Communications Research Pty Ltd (2005)

Income tax cuts would be an alternative compensatory measure to fuel tax cuts. Reductions in income tax could be oriented to assist those on lower incomes, who are more likely to be priced-off by congestion charges, and less likely to have a high time value. These groups are clearly disadvantaged by congestion pricing prior to any allocation of the revenues.

Commonwealth Government tax cuts to make-room for, and ensure political acceptability of state or local government congestion charges would facilitate improvements to the efficiency of resource-use in four ways. First, congestion-pricing enabled by this measure would directly alleviate congestion. Second, economically damaging, high-rate taxes would be partly displaced by efficiency-improving charges. Third, resources would effectively be transferred from the Commonwealth to other governments for urban transport infrastructure, correcting Commonwealth neglect of urban congestion by underwriting funding of congestion-alleviating facilities to complement congestion charges. Fourth, the effective transfer of revenue raising capacity from the Commonwealth to other governments would help redress vertical fiscal imbalance (and associated inefficiencies) in the Australian federal system of government.

The combination of “enabling” Commonwealth tax cuts and earmarking of state/local government congestion pricing revenues for servicing transport infrastructure loans

¹²⁶ Market & Communications Research Pty Ltd, op cit, p. 55.

might seem like double compensation for congestion charges. However, the benefits of the tax cuts would be widespread, not narrowly focused on major urban areas.

The probability of “enabling” Commonwealth tax cuts is not as remote as some sceptics have suggested.

First, the Commonwealth Government’s 2005-06 budget papers criticised state governments for not implementing congestion pricing.¹²⁷

Second, at the February 2006 of the Council of Australian Governments (COAG), state and federal governments committed to reducing congestion, within current jurisdictional responsibilities, and to a joint review, in co-operation with local government, of the main causes, trends, impacts, and options for managing the impact of traffic congestion in Australia’s major cities. Pricing was one of the options nominated.¹²⁸ The inclusion of these matters within the National Competition Reform framework, means that transfers from the Commonwealth to the states and local governments linked to agreed actions become feasible.¹²⁹

Third, at the same COAG meeting federal and state governments agreed to ask the Productivity Commission to develop proposals for efficient pricing of road and rail freight infrastructure by the end of 2006.¹³⁰ Terms of Reference for the study include investigation of the option of moving to mass, distance and location charge of freight transport.¹³¹ Congestion-pricing would be a logical adjunct to such a pricing for heavy road vehicles.

Bureaucratic opposition to congestion charges appears to be based on the ideological biases of urban and transport planners. They tend to have a strong preference for “command and control” actions over pricing instruments, and an intense ideological bias against car-use (at least by other people). Congestion pricing would leave commuters to choose how, when and on which route they travel, and where they live and work. It would also help guide investment decisions. But, planners prefer to control these choices, starting with two basic premises:

- public transport is “good” and cars are “bad”; and
- high-density living is “desirable” and low-density urban form is “undesirable”.

The keys to overcoming bureaucratic resistance to congestion-pricing are to ease the concerns of bureaucrats’ political masters, and to explain how congestion charges provide strong incentives that are consistent with the preferences of planners. In particular, congestion charges induce commuters to switch from cars to other transport modes in peak periods, improve usage and viability of public transport, and facilitate higher densities in and around regional activity centres.

¹²⁷ Commonwealth of Australia, *Budget Strategy and Outlook 2005-06*, 2005-06 Budget Paper No. 1, Canberra, 10 May 2005, p. 4-15.

¹²⁸ Council of Australian Governments, op cit, pp. 6, Attachment B, p. 4, Appendix D.

¹²⁹ Ibid, p. 9.

¹³⁰ Ibid, p. 6, Attachment B, p. 3

¹³¹ Ibid, Appendix B.

12.5 Practical Issues

When William Vickrey proposed congestion-pricing 50 years ago, it was basically a theoretical concept that would have been very difficult to implement in practice, although it may have been practical to implement crude forms of the concept. Subsequently, technology has been quickly catching up with the theory of congestion pricing. Rapid technological advances continue unabated.

A discussion of the available technologies and their application is beyond the scope of this paper. But, the key point is that a sophisticated version of congestion-pricing is now a practical policy instrument.

Of course, greater technical sophistication yielding precise charging information that changes promptly with changing conditions can mean greater cost, although technological advances are continually reducing these costs. Perhaps more important is the point that the usefulness of greater sophistication can be limited by the capacity of drivers to absorb pricing information that varies quickly with changing conditions. Therefore, compromises are necessary between economic gains yielded by greater sophistication, and economic costs associated with better technologies and information overload for drivers.

The nuts and bolts of practical implementation of congestion pricing are beyond the scope of this paper. However, guidelines on practical issues are available.¹³²

13. An Effective Package of Anti-Congestion Measures

Decisive action is required to tackle serious and worsening traffic congestion in parts of south-east Queensland. All three levels of government recognise this.

What can be done to reduce congestion to the optimal level in Brisbane and other major urban areas in south-east Queensland?

A comprehensive system of inner, intermediate and outer ring-roads and other by-pass capacity is a critically important element of an effective anti-congestion strategy for metropolitan Brisbane, as RACQ has emphasised for many years. By-pass roads have a similar role in other urban areas in south-east Queensland. The Queensland Government's *IRTP*, *SEQIPP*, and *SEQ Regional Plan* recognised this critical point, but did not specify plans to provide a comprehensive by-pass and ring-road network.

Many economists and transport engineers have argued that a properly designed congestion-pricing regime is also a critically important component of an anti-congestion strategy.

Ironically, the Queensland Government acknowledged the effectiveness of congestion-pricing back in 1997 and 2001, but deferred further consideration of this policy instrument because of concerns about its political palatability. This is puzzling

¹³² For example, see Vickrey, William, *Principles of Efficient Congestion Pricing*, Colombia University, June 1992 at <http://www.vtpi.org/vickrey.htm>.

because astute application of revenue from congestion pricing could overcome these concerns and simultaneously improve the effectiveness of this anti-congestion device. This has been borne out by public opinion surveys in 2002 and 2005.

In its 2005 Budget Papers, the Commonwealth Government lectured the states on the desirability of applying congestion pricing, but did not offer to cut its fuel or income taxes to make-room for it and improve its acceptability to the public. This was symptomatic of the low ebb to which fiscal federalism had sunk in Australia.

Recently, however, federal and state governments agreed to undertake a joint study of traffic congestion issues and solutions, including congestion charges, as part of a new national reform agenda. This was a tentative, but encouraging step in the right direction.

“Road (congestion) pricing is increasingly being seen, at least in European cities, as part of an integrated strategy in which individual policy instruments complement one another or overcome the barriers to the implementation of other instruments.....integration can be achieved by reinforcing the benefits, reducing political and financial barriers, and compensating losers. It highlights road (congestion) pricing as being able, uniquely, to reinforce the benefits of all other types of policy instrument, while at the same time generating income to contribute to their costs.....also...other policy instruments can help to reduce its political unacceptability and adverse distributional impacts.”¹³³

Anthony May and Agachai, Sumalee (2005),
Professor and Senior Research Fellow, Transport Engineering,
Institute for Transport Studies, University of Leeds

Congestion-pricing and a by-pass and ring-road network are the critical missing links in the Queensland Government’s transport policy package for south-east Queensland.

There is no single measure that is adequate by itself for the task of tackling south-east Queensland’s congestion problem. The key to efficient alleviation of the problem is a package of complementary measures that are workable and satisfy widely accepted economic efficiency and equity criteria.

A package of measures for tackling congestion in south-east Queensland, which flows logically from the analysis in this submission, would comprise:

- a complete network of un-tolled outer, intermediate and inner ring-roads and by-pass roads for the Brisbane metropolitan area to take through-traffic (about two thirds of the total) off radial roads to major activity centres;

¹³³ May, Anthony and Sumalee, Agachai, *One Step Forward, Two Steps Back? An Overview of Road Pricing Applications and Research Outside the United States*, in Committee for the International Symposium on Road Pricing, *International Perspectives on Road Pricing*, Washington, DC: Transportation Research Board, 2005, p. 87.

- by-pass roads to divert traffic around congested locations in other parts of south-east Queensland;
- selective increases in radial road capacity to major activity centres, including removal of bottlenecks;
- road improvements around transit oriented development sites and regional activity centres to alleviate local congestion associated with such sites;
- increases in road capacity to be funded via government debt and serviced by congestion charges;
- congestion charges applying whenever and wherever roads are congested with charges varying with the degree of congestion;
- congestion charges applicable only after provision of complementary by-pass and ring-roads and better public transport facilities;
- Commonwealth tax cuts to:
 - offset and improve acceptability of congestion charges,
 - reduce inefficiencies in tax and government charging regimes overall, and
 - effectively transfer resources to state and metropolitan local governments for congestion-alleviating transport infrastructure.
- land regulation changes to improve the viability of public transport and improve efficiency of land-use by -
 - allowing substantial increases in residential and commercial densities around access points to major public transport corridors and major activity centres, and
 - requiring moderate increases in density in new land developments;
- selective improvements in public transport infrastructure and services to complement congestion charges and land regulation changes;
- investments in roads and public transport to be subject to comparative social benefit/cost analyses;
- education programs to improve the flow of information to car drivers to allow them to make more informed choices between transport routes, modes, and times on implementation of congestion charges; and
- scaling-down public transport subsidies as congestion charges, land regulation changes, and consequential improvements in public transport services increase viability of the public transport system.

14. Recommended High Priorities

On the basis of the preceding analysis, RACQ recommends that high priority be given to the following actions.

- 1) *SEQIPP* should be revised urgently to incorporate a complete network of un-tolled outer, intermediate and inner ring-roads and by-pass roads for the Brisbane metropolitan area, and by-pass roads for other congested locations in south-east Queensland.
- 2) Selective increases in radial road capacity to the Brisbane cbd and regional activity centres, including removal of bottlenecks, should be included in a revised *SEQIPP*.
- 3) The *SEQ Regional Plan* and *SEQIPP* should be modified to allow for road improvements around regional activity centres and proposed transit oriented developments to alleviate local congestion associated with such sites,
- 4) The Queensland Government's proposed allocation of 80 per cent of the arterial surface transport budgets of the three levels of government for south-east Queensland to capital and operating subsidies for public transport should be re-considered urgently. Allocations to road and public transport facilities should be subject to comparative social benefit/cost analyses.
- 5) The Queensland Government should be prepared to borrow to supplement existing land transport budgets in funding facilities with relatively high social benefit/cost ratios.
- 6) The Queensland Government should commission immediately a detailed investigation of the applicability of a network-wide, variable congestion-pricing regime in south-east Queensland. The investigation should apply widely accepted criteria of equity and economic efficiency.

The investigation should analyse congestion-pricing as:

- an instrument for managing congestion, induced demand and improving efficiency of use of transport infrastructure;
- a source of revenue for complementary transport expenditure programs;
- a device for generating savings in public transport subsidies;
- an alternative to tolling of new arterial road segments and provision of public transport subsidies;
- a complement to various anti-congestion instruments, including by-pass and ring-roads, public transport, cycling and walking infrastructure and land use regulation.

The investigation would run parallel and provide input to the joint federal, state and local government review of the main causes, trends, impacts, and options for managing the impact of traffic congestion in Australia's major cities, which was commissioned by COAG in February 2006.

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