Bus Industry Confederation of Australia:

Submission to the Senate Rural and Regional Affairs and Transport Committee Inquiry into the Investment of Commonwealth and State Funds in Public Passenger Transport Infrastructure and Services

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The BIC thanks Professor John Stanley, Institute of Transport and Logistics Studies, University of Sydney for his assistance in preparing this submission and the UITP (International Association of Public Transport) for their support.

Executive Summary

This submission demonstrates an urgent requirement for Commonwealth Government involvement in public transport via funding support for State and Local Governments and a range of measures targeted at reducing over-reliance on cars.

In addressing the terms of the inquiry this submission shows a significant shortfall in capital investment in public transport systems by all levels of Government at a time when public transport is experiencing sharp increases in patronage, and urban congestion and climate change threaten to choke the Australian economy.

The lack of information about Australian public transport systems at operational and policy impact levels, within both Commonwealth and State administrations, and the inhibiting effect this has on the ability of Governments to properly plan and develop public transport systems is discussed at length here and linked to a series of recommendations to redress this problem.

This submission outlines a range of funding options and policy initiatives, by investigating international best practice models, to allow the Commonwealth Government to “buy in” to public transport and take an active role in moving people to achieve the best outcomes at all levels of Government for the Australian environment, economy and commuting public.

Summary of Recommendations

- **BIC recommends that a Commonwealth requirement for providing funding support for public transport infrastructure and services should be the preparation and annual updating of publicly available information on asset stocks and condition, and on service utilisation in an agreed format. This format should be agreed between Governments and system operators, where those operators are not government entities.**

- **BIC recommends that funding flows to States or local government for particular major transport investment projects, flowing from Infrastructure Australia processes, should be accompanied by a requirement that the recipient government establishes and implements a strategic transport planning capability in an on-going manner, producing transport plans at the relevant jurisdictional level at least once every five years, with annual updating. Failure to meet this requirement should result in penalties or cessation of the relevant funding.**

- **BIC recommends that public passenger transport priorities to reduce road congestion costs should be the following:**

a) **Major upgrades to trunk public transport service levels (capacities, frequencies, operating hours and days), both radial and circumferential.**

b) **Given the development patterns of Australian cities and the relatively smaller role now played by Central Business Districts, increased focus should be given to improving trunk public transport service capacity in circumferential corridors, particularly where these corridors are serving suburban activity centres.**

c) **In suburban activity centres, public transport, bicycles and pedestrians should be given priority over motor vehicles along in-centre bus routes. There are also opportunities for buses and bicycles to share bus priority routes along arterial roads.**

d) **Urban rail investments more generally should focus on getting the existing systems running more efficiently, with adequate rolling stock, track (capacity and condition), signalling and control systems and station upgrades receiving investment support.**

e) **In suburban corridors that lack the public transport volumes to justify bus rapid transit, congestion reduction can still be achieved by operating bus services along arterial roads at 15-20 minute frequencies, from about 5.00am to midnight weekdays and with a slightly later start on weekends. Night time headways can stretch out a little (e.g. to 30 minutes).**

f) **High quality information services for customers are also a fundamental requirement if people are to be attracted to public transport, rather than using their cars.**

- **BIC recommends that complementary measures should ensure that public transport is promoted as an alternative travel choice and not "priced" in such a way to act as a disincentive to reduce car usage.**

- **BIC recommends the following policy measures should be adopted to cut land transport GHG emissions according to defined targets:**

  a) **Improvement of fuel efficiency (very large improvements needed, requiring mandatory fuel efficiency targets about in line with European thinking, given the slow rate of impact of Australia's voluntary targets);**

  b) **Comprehensive road pricing (replacing existing charges with charges that better reflect the full costs associated with road travel, including congestion costs, accident costs, health costs, road damage, air pollution and noise). This would deliver benefits of lower GHG emissions but also lower road congestion costs, lower air pollution, reduced road accidents, etc.**

  c) **More compact, walking and cycling friendly urban settlements.**
  d) **Increased investment in public transport (as discussed in this report).**
  e) **Investment in rail freight and inter-modal hubs.**
  f) **Freight efficiency improvements (e.g. accelerated introduction of high productivity vehicles).**
  g) **Reallocation of road space to prioritise low emission modes (e.g. high occupancy vehicle lanes).**
  h) **Behaviour change programs (e.g. Travel Smart).**

- **BIC recommends that the Australian Transport Council adopt national minimum acceptable public passenger transport service levels that recognise major geographical areas. Implementation of such service standards will enhance the benefit that public transport can deliver in terms of enhancing social inclusion.**

- **BIC recommends that the Commonwealth should support the establishment of Regional Accessibility Councils across Australia comprised of key regional stakeholders with an interest or involvement in personal transport/accessibility, to identify the most pressing regional needs to improve regional social inclusion and to also identify ways for getting better use from existing transport resources to meet these needs.**

- **BIC recommends that, in view of the demonstrable benefits from improved public passenger transport services, Australian Governments should agree to substantially increase funding for public transport services. Such expansion must be subject to preparation of detailed transport strategies by the responsible government and include detailed evaluation of the benefits and costs of specific initiatives, to ensure the most effective value for money is achieved.**

- **BIC recommends that the Commonwealth Government eliminates favourable FBT treatment of cars used for business purposes or, failing that, allows the cost of periodical public transport tickets used for travel to/from work to be deducted for tax purposes.**

- **BIC recommends that Infrastructure Australia processes be used as a means of driving more integrated transport and land use planning and development processes in Australian regions, particularly the major cities. Any major land transport infrastructure initiative seeking Commonwealth funding support through IA processes should be able to clearly identify its expected economic, social and environmental benefits and show that these have been assessed as part of an integrated transport/land use strategy.**

- **BIC recommends that the Commonwealth Government establish a, Australian Transport Research Board (similar to the US TRB, scaled down), to be the peak body co-ordinating Australian transport research. The agency should have a sufficient budget to be able to support original research that assists development of public passenger transport in both urban and regional Australia.**

1. Introduction

The Bus Industry Confederation is the peak industry organisation representing the interests of bus and coach operators throughout Australia. The Confederation believes that its members' interests are best represented by showing the community value that is provided through use of bus and coach transport and by bus and coach operators providing high quality services to the travelling public. Major economic, social and environmental challenges are confronting passenger (and freight) travel in Australia, from decades of underinvestment in infrastructure to an unsustainably high reliance on fossil fuels, at a time when responding to climate change demands a lower carbon footprint. The subject matter of this Inquiry is therefore very timely, in terms of tackling key challenges facing our land transport sector.

This submission shows how patronage numbers on bus and coach services has been growing solidly in recent years, demonstrating that we are meeting community travel demands. However, the lack of comprehensive and consistent data on public transport infrastructure (quantum and condition), and the patchy data on patronage, is a significant shortcoming of current system planning and hinders the development of well structured transport strategies to tackle current and emerging transport problems. Our submission then identifies the major benefits we see that the community receives from our public transport systems and services and discusses development needs. These benefits derive from the two fundamental roles that are performed by public transport in general and bus/coach transport in particular. These roles are:

1. A mass transit role, where the primary purpose is trunk movement of large numbers of people, mainly to reduce road congestion costs and the environmental costs of excessive motor vehicle use; and

2. A social transit role, where public transport is providing mobility options to enhance the well-being of transport disadvantaged people.

We present some views on the role of current Commonwealth impacts of Commonwealth measures on public transport and then highlight some best practice examples that we believe are worthy of greater implementation in Australia.

2. Audit of the State of Public Passenger Transport in Australia

2.1 Data problems

There is no publicly available information of which BIC is aware that systematically audits the supply and demand sides of public transport systems in Australia. This shortcoming is reflected in a range of other infrastructure areas (not just public transport), with the recently established body, Infrastructure Australia, making one of its initial priority actions being an audit of economic infrastructure systems in Australia.

Ideally, information would be publicly available on such indicators as asset stock and condition (e.g. rail track and signalling systems; road condition, including along on bus routes), on service levels, patronage, operational performance and customer satisfaction. Patronage data is the only information from this set that is regularly published and our research has shown that it is not consistently assembled across the country in a timely manner.

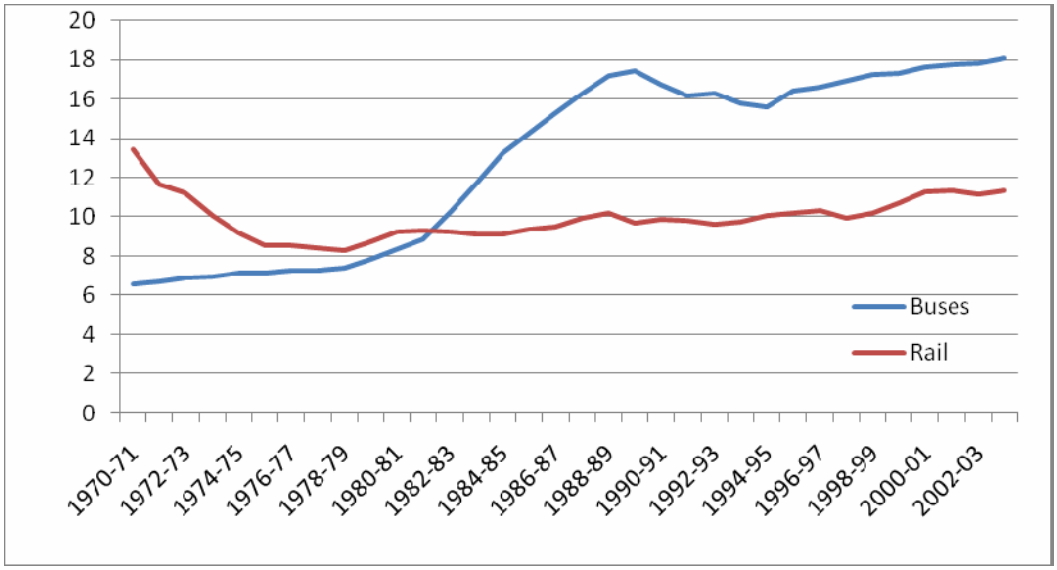
In view of the lack of systemic data on asset and service quality, BIC welcomes the infrastructure audit requirements as part of the Infrastructure Australia process. However, given the lack of available data, it will be extremely difficult to produce a quality audit of infrastructure (and services) condition for public transport (and most other areas of critical infrastructure) in the tight timelines sought by Infrastructure Australia's reporting requirements. However, the requirement to develop a quality audit is welcome and should continue to be assembled and improved until it is completed, and then to be regularly updated.

2.2 Public transport patronage

Figure 2.1 shows total public passenger transport patronage by rail and bus Australia-wide, for the period from 1970-71 to 2003-04. The data shows that buses (including coaches) are the most important mode across the country for public passenger transport, by a considerable margin over rail. Rail led in terms of task during the 70s but lost considerable patronage during that decade, particularly in the non-metropolitan markets. Bus patronage grew very quickly in the 80s and has remained well above rail since that time, continuing to show growth.

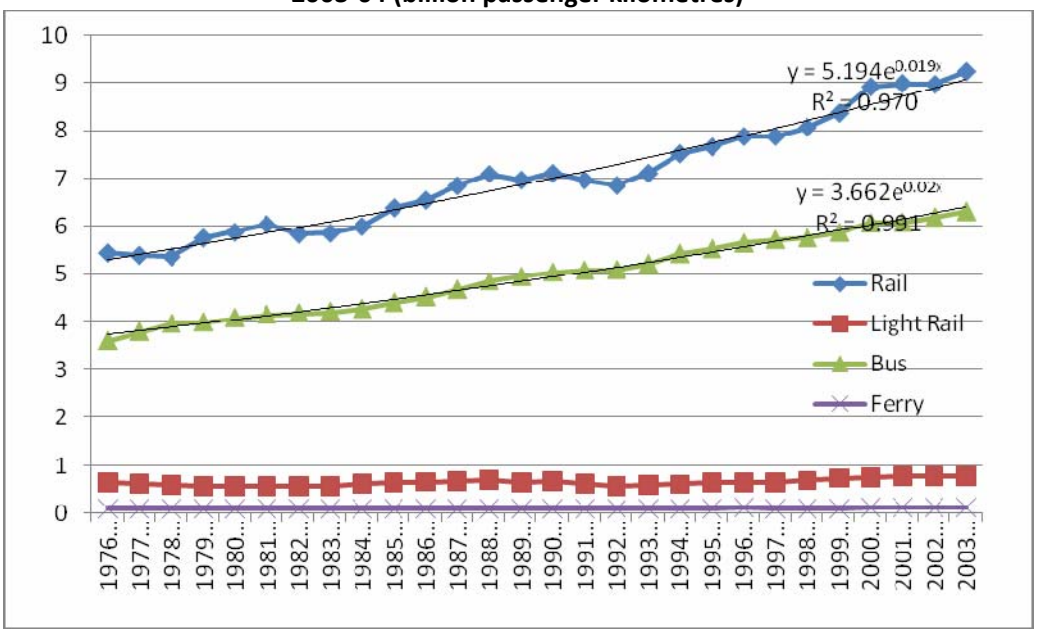
Figure 2.2 shows total metropolitan public transport travel, again in terms of billions of passenger kilometres. Rail is the largest mode in this market segment, followed by bus, with light rail (tram) and ferry playing niche roles. Comparing Figures 2.1 and 2.2 indicates that the metropolitan rail task accounts for over three quarters of the entire Australian passenger rail task, whereas buses carry about two thirds of their total passenger kilometres outside metropolitan areas, as well as being very important in the metropolitan areas.

Figure 2.1: Total passenger travel by public transport: 1970-71 to 2003-04 (billion passenger kms)



Source: Bureau of Infrastructure, Transport and Regional Economics 2008, *Australian Transport Statistics Yearbook 2007*, BITRE, Canberra ACT, Table 4.1.

Figure 2.2: Total metropolitan passenger kilometres travelled by public transport mode: 1976-77 to 2003-04 (billion passenger kilometres)



Source: Bureau of Infrastructure, Transport and Regional Economics 2008, *Australian Transport Statistics Yearbook 2007*, BITRE, Canberra ACT, Table 4.3i.

Figure 2.2 shows that, over the three decades to 2003-04, both the metropolitan rail and bus patronage tasks increased by about 2% per annum, on average. However, recent growth rates (beyond the period shown in Figure 2.2) have been much stronger in some cities.

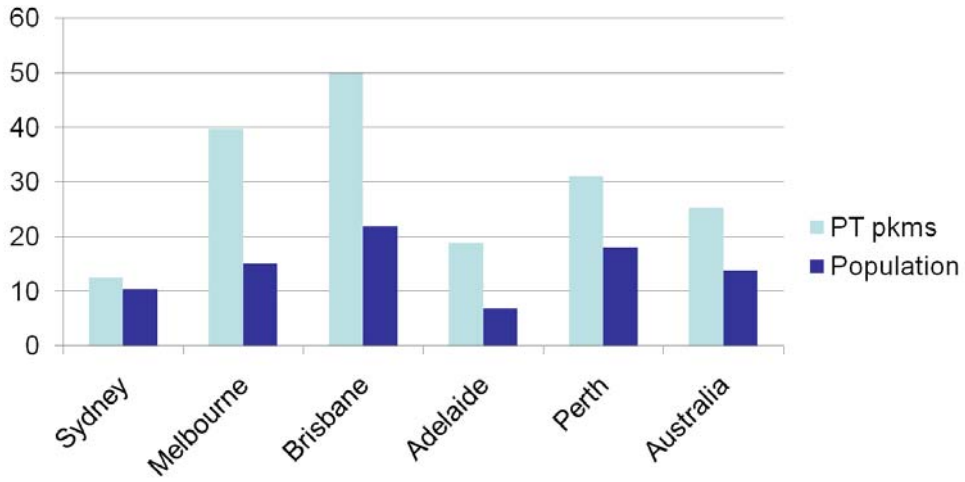
Figure 2.3 shows patronage growth compared to population growth for the major capital cities over the decade to 2007. Brisbane and Melbourne, in particular, stand out as having achieved very strong patronage growth. Adelaide and Perth have also performed solidly. Sydney is the exception, with growth barely exceeding population growth. This result is partly due to a lack of peak rail system capacity.

Melbourne has achieved a world class increase in its public transport patronage in recent years, lifting the PT mode share for motorised trips from 9% to 13% in only three years, a remarkable result. Buses have added a huge 12% to patronage during calendar year 2008, a growth rate not seen for generations. We return to this example in our discussion of best practice examples, below. Rail patronage in Melbourne has grown by a very strong 38% over the three years to the September Quarter 2008.

This strong patronage growth has put pressure on service levels, underlining the need for system improvements. This has been recognised in the funding programs set out in the Victorian Government's 2008 Transport Plan.[1]

In some other capital cities, recent public transport patronage growth rates have been as follows: Perth 7.8% for the network, with trains growing at 19.2%; Southeast Queensland 4.6%; Sydney trains 5.2%, buses 2.9% and ferries -1.2%. The picture is generally one of patronage growing much faster than population, putting pressure on infrastructure and service standards.

Figure 2.3: Public transport patronage growth compared to population growth (% growth 1997-2007)



2.3 Service levels

While BIC is not aware of any publicly available audit of public transport asset conditions, a brief report on public transport comparative service standards was prepared by Booz&co for the Victorian Department of Transport.

[1] Victorian Government 2008, The Victorian Transport Plan, December.

That report found the following, using Melbourne as its reference point and with some BIC commentary (in italics) on the findings:

- cities in Eastern and Western Europe have public transport networks that are about three times as dense as Melbourne's per urban hectare. *Melbourne has an extensive train network and reasonably extensive bus network, compared to other Australian capitals, so this comment would be relevant to all Australian cities. The results are not surprising, given the low population densities in Australian cities compared to most Western and Eastern European cities*;
- service provision is lower in Melbourne with vehicle kilometres per person less than half those in Western Europe and well below Eastern Europe. *Again this general finding would apply to all Australian cities, with population densities being a key explanation*;
- average travel speeds of Melbourne's public transport vehicles is faster than that in a number of cities in Asia, Western and Eastern Europe but car speed is faster than public transport speed in Melbourne, the city being at the low end of those reviewed for relative PT speed compared to car speed. *This result reflects the poor condition of much Australian metropolitan rail track and the low levels of on-road priority accorded to bus and tram services. These are areas for attention to improve Australian public transport patronage levels.*

The Booz report did not compare Australian capital cities to North American cities, with which we are more comparable in terms of population densities.

2.4 Conclusion

Public transport patronage levels are growing at historically very high rates and this is putting pressure on infrastructure and service levels. However, the absence of systematic publicly available data on asset condition reflects poorly on the accountability of the Governments (very largely State and Territory Governments) responsible for the systems and for the public monies invested therein. Substantial increases in funding for public transport infrastructure and services are being sought by State Governments at present, with Infrastructure Australia bids and (in some cases) State Transport Plans being evidence of this trend.

BIC recommends that a Commonwealth requirement for providing funding support for public transport infrastructure and services should be the preparation and annual updating of publicly available information on asset stocks and condition, and on service utilisation in an agreed format. This format should be agreed between Governments and system operators, where those operators are not government entities.

3. Current and Historical Levels of Investment in Private Vehicle and Public Passenger Transport Services and Infrastructure

3.1 Data

The problem that BIC confronted in seeking to provide an informed opinion on the results of audits of public transport infrastructure and services, namely a lack of publicly available information, applies equally to information on investment. While there is time series data available on road investment, the same cannot be said for public transport. Some data is published on rail investment but BIC is not aware of the split of this spending between freight and passenger rail. On the bus side, spending on new vehicles tends to be regarded as recurrent operating expenditure in service contracts with the private sector, tending to make assessment of capital spending in total difficult.

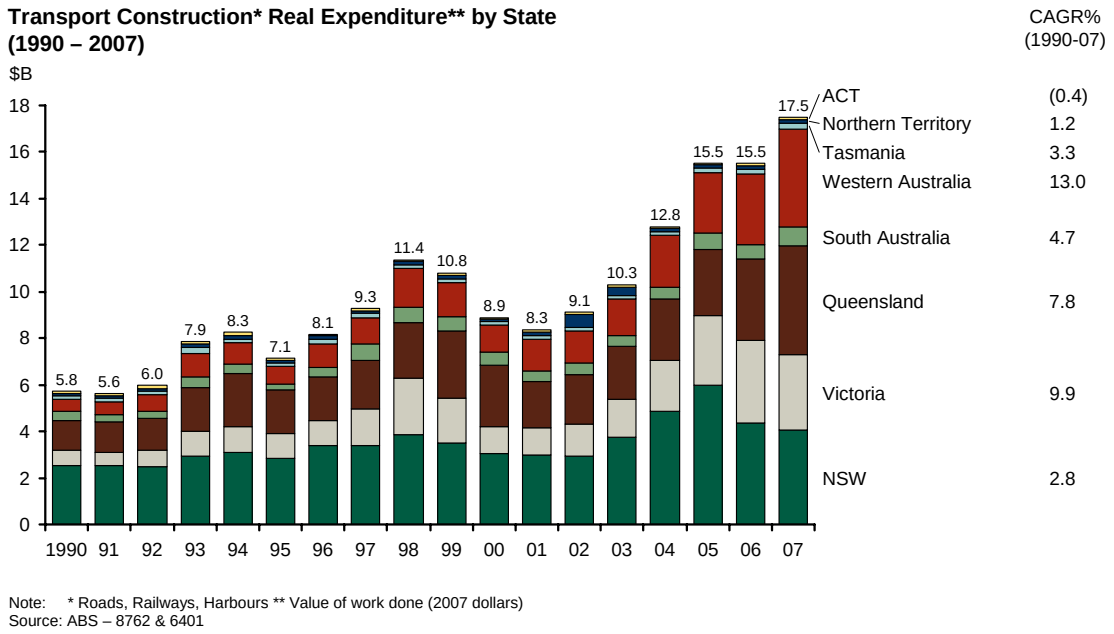
Consulting firm LEK assembled some data on transport investment for the October 2008 Infrastructure 21 Summit run by the Australian Davos Connection, from ABS sources. This section of BIC's submission draws on our own research and complements this with the material assembled by LEK.

The proportion of Australia's Gross Domestic Product (GDP) devoted to Gross Fixed Capital Formation (GFCF) in the key economic infrastructure sectors (transport, water, energy and communications), in total, declined substantially over the three plus decades from the early 60s. From about 6% of GDP in the early 60s, GFCF fell to a little over half this share in the 90s. Over half of this decline in share of GFCF in GDP from the early 60s to late 90s is accounted for by declining capital formation in the transport sector. This is, not surprisingly, being reflected in the growing congestion levels on our urban roads and capacity constraints on public transport systems.

Figure 3.1 shows that, during the 1990's, expenditure on transport infrastructure ranged from $6-11 billion annually (2007 dollars). Over the last decade, however, expenditure has grown strongly, reaching an estimated $17.5bn in 2007. This rebound reflects the political response to growing congestion in urban transport networks but also reflects the growing freight task.

That figure shows the distribution of expenditure between states and the compound annual growth rate (CAGR) in real expenditure over the 1990-2007 period for each state. Western Australia, Victoria and Queensland have shown the fastest growth rates in spending over this period. It is noteworthy that Brisbane, Melbourne and Perth were the three cities showing strongest public transport patronage growth in Figure 2.3 above. BIC's detailed research shows a strong link between improving service levels and growing public transport patronage.

Road expenditure accounts for almost 70% of total transport infrastructure spending, with rail and ports accounting for the remainder. BITRE (2008)[2] indicates Australian road expenditure of $12 billion in 2006-07, a small part of which will have been for the benefit of road-based public transport (e.g. bus lanes). As noted above, however, there is no consistent time series data on the proportion of transport capital expenditure on public transport. However, LEK estimates that capital expenditure on public transport averaged $1-2bn per annum over the last 5 years, with annual operating subsidies of around $3bn p.a.



Note: * Roads, Railways, Harbours ** Value of work done (2007 dollars)
Source: ABS – 8762 & 6401

Figure 3.1: Transport Real Construction Expenditure

Historically the Federal Government has spent very little on public transport. In the 30 years between 1974 and 2004, the Federal Government invested $58bn on roads versus $2.2bn on rail freight, and $1.8bn on public transport (via the 'Better Cities' program.)[3].

[2] BITRE2008, Public road-related expenditure and revenue in Australia 2008 update, Information Sheet 29, Canberra ACT.

[3] Currie G (2006) 'Three 'Tear' Government Involvement in Australian Public Transport – Failures and Opportunities' AITPM National Conference, August.

Public sector expenditure on infrastructure has remained steady over the period shown in Figure 3,1 at around $3-4bn annually, with private sector expenditure (for public and private use) accounting for the majority of the growth and now exceeding $12bn annually.

LEK's research suggests that State Governments and the Commonwealth Government are planning substantial future expenditure on transportation. While there is, at present, no full national inventory of planned or required transport infrastructure spend, piecing together State and Commonwealth forecasts (some long term, others only covering four to six years), ongoing expenditure of around $20bn annually is anticipated**.** This estimate is, of course, subject to considerable uncertainty, pending the reaction by Australian Governments generally to the Global Financial Crisis and also depending on decisions flowing from Commonwealth Government's response to Infrastructure Australia's proposed national priorities later in 2009.

Queensland is forecast to continue spending at approximately $4.4bn p.a. through to 2026 (South East Queensland Infrastructure Plan). Significantly increased infrastructure spending is a key component of the plan. However, long term corridor planning and preservation was also a central part of the plan, as was the recognition that road simply could not handle the predicted growth in passenger and freight volumes. In addition, the coal infrastructure program (2008), developed by the Queensland Government, plans to spend over $13bn on coal related infrastructure over the next 15 years (specifically rail and ports).

New South Wales is forecast to increase its transport infrastructure spend from approximately $3.3bn in 2007/08 to $6.2bn in 2011/12 (NSW State Infrastructure Strategy 2008-2009). Metro rail projects figure prominently in this forward program. However capital expenditure is currently under review, following the suspension of the power privatisation.

Victoria has recently released a new Transport Plan, with proposed spending of $38 billion. Of this total, 48% is for road, 43% rail and 3% each for bus and tram. $115m is provided for bicycle initiatives, which appears relatively small within the total program. The rail initiatives propose an expenditure rate of about $1 billion annually to 2017. As with the NSW plan, funding availability will be critical in terms of what can be delivered.

Western Australia is expected to increase infrastructure spending over the next 4 years, as the government plans to invest $5.8bn on infrastructure in 2007-08, and $21.6bn over the next four years. (DTF WA, Sept 2007).

South Australia is forecast to spend $1.8bn on roads, freight and its contribution to AusLink programs over the next four years ($0.4bn pa).

The **Commonwealth Government** is currently working with states and territories to finalise its road and rail funding program, which is expected to deliver around $26 billion over the six years from 2008-09 for transport infrastructure ($4.3bn p.a.). Additional funding may be provided via the $20bn Building Australia Fund.

3.2 Infrastructure Australia Initial Project List

In December 2008, Infrastructure Australia reported to COAG, identifying a list of transport projects worthy of further consideration in terms of possible funding support. It is currently extending its investigations of the merits of such projects. Public transport projects figure prominently in the list, with metro rail projects being among several high cost projects singled out. Some intermodal hubs are also notable on the list. These are mainly projects to assist freight movement but, by increasing the rail freight mode share, these projects may also marginally assist the operation of road-based public transport.

The initial listing of public passenger transport projects for further investigation total about $100 billion, including $32-59 billion for a very fast train, $14bn for Brisbane Inner City Rail Capacity Upgrade, $13bn for two Sydney metro projects, $7bn for two major rail projects in Melbourne (Regional Rail Express Line and East-west Rail Tunnel) and $3b for ACT light rail. Many projects on this list will not be completed within the next two decades, given the scale of funding required. The scale of cost of the major rail projects, furthermore, suggests that very close examination of the possibilities of cheaper alternatives, such as Bus Rapid Transit, must be thoroughly explored, given the relative roles played by rail and bus as indicated in Figures 2.1 and 2.2.

International experience with BRT has shown that passenger loads of above 30,000 per hour are possible in own right-of-way (e.g. as in Curitiba), which are (for example) greater than any heavy or light rail peak flows in Melbourne. Golotta and Hensher have pointed out the often favourable economics of BRT, relative to rail.[4]

3.3 Building Strategic Transport Planning Capabilities

BIC applauds Infrastructure Australia for the rigour it is applying in seeking funding submissions and in evaluating those submissions. The paucity of data on asset condition and general lack of long term transport plans to underpin well argued cases for investment means that projects need to be given a thorough vetting before being supported.

Congested roads, overcrowded public transport services and delays in agreeing, and then implementing, the kinds of changes that are needed to respond to such challenges in our cities are symptomatic of a long term lack of strategic planning and investment in Australia's transport systems and infrastructure more generally.

European transport researchers separate the strategic (S = policy), tactical (T = system design) and operational (O) stages of transport service and infrastructure planning and provision, a generic model that can be applied to any infrastructure sector. It is at the tactical level (T) that sectoral system development directions are determined for a jurisdiction and where priorities between competing policy objectives are ultimately resolved, to the point of directional priority setting.

[4] Golotta, K. and Hensher,D.A. 2008, Why is the Brisbane Bus Rapid Transit System a Success, and what Lessons can be Learnt from It? *Road and Transport Research*, 17 (4), December.

It is here in the urban transport sector (for example) that questions such as how the desired balance between public and private transport will be achieved, the importance to attach to rail/road freight priority and how to deliver such priority, the links between transport systems/services and land settlement patterns, choice of public transport service levels, including service levels to meet social equity goals and the detail of transport pricing systems (public transport fares, road user charges) are settled.

International and Australian experience is that, while comprehensive transport policy statements that set out the governmental goals to be pursued in a sector like transport may be unusual, the existence of integrated transport plans (e.g. for a city or larger region) that set out system development requirements (including infrastructure development needs) to meet these goals, with clearly defined roles and responsibilities for delivering and updating the plans and maintaining long term plan currency (with regular update), is equally unusual. This has become known in some conversations as the 'tactical level gap'.

This tactical level weakness reflects an inability, or unwillingness, on the part of governments, mainly at State level, where most infrastructure development responsibilities lie, to take a long term strategic view of sectoral development needs and to maintain the commitment. While States have generally been poor in this area, the Commonwealth has typically seen little need to apply pressure for systemic change, other than in isolated cases (e.g. the Auslink program and national water initiative).

The establishment of Infrastructure Australia, to advise the Federal Government on infrastructure funding priorities from the Building Australia Fund, presents an opportunity to substantially improve strategic processes that underpin transport investment in Australia. As noted above, transport projects figure prominently among State Government funding submissions to Infrastructure Australia (including several multi-billion dollar metro rail proposals and proposals for major road network additions). The way in which such initiatives are assessed, and conditions attached to any funding flows, provides an opportunity to substantially improve strategic planning processes across the country in a short space of time.

BIC recommends that funding flows to States or local government for particular major transport investment projects, flowing from Infrastructure Australia processes, should be accompanied by a requirement that the recipient government establishes and implements a strategic transport planning capability in an on-going manner, producing transport plans at the relevant jurisdictional level at least once every five years, with annual updating. Failure to meet this requirement should result in penalties or cessation of the relevant funding.

4. The Benefits of Public Passenger Transport

There is widespread international agreement about the major kinds of benefits that public passenger transport can deliver to people and communities. These benefits can be summarised under a number of headings that coincide with the reasons why public passenger transport is a nationally significant means of surface transportation. These reasons are the contribution that public passenger transport makes to:

- reducing road congestion costs, enhancing economic competitiveness and liveability;
- reducing the environmental impact of personal travel, particularly through the impacts on reducing greenhouse gas emissions and improving air quality;
- enhancing social inclusion, by providing mobility options to people who are considered transport disadvantaged;
- improving the safety with which people travel; and,
- increasing energy security, through reducing reliance on imported transport fuels.

While the congestion argument is primarily about capital city public transport services, the other benefits apply to all public transport services, irrespective of location. Our submission now turns to these benefits.

4.1 Traffic congestion, competitiveness and liveability

The Bureau of Transport and Regional Economics has estimated that road traffic congestion cost almost $10 billion nationally in 2005 and that this cost will double by 2020[5]. These costs represent significant economic waste, adversely affecting industry competitiveness and reducing the liveability of our cities. Research by Professor John Stanley of the Institute of Transport and Logistics Studies at University of Sydney has suggested that over half of these costs accrue directly to business, primarily as costs of wasted time.[6]

While congestion is not a new phenomenon, there is a growing international recognition of its connections to economic competitiveness and city liveability, especially in relation to the growth of trade-exposed knowledge-intensive activities (e.g. higher order business and professional services, finance, high tech manufactures, biotechnology). These activities are footloose and liveability for the skilled staff employed in the sectors is a key locational determinant. Transport infrastructure programs need to target this area.

There is also growing evidence that local/sub-regional accessibility to suburban sub-centres (or development nodes) is important in helping to foster growth in these locations. This is an important element in fostering more compact cities and public transport is an important means of providing local/sub-regional access to many such locations.[7]

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[5] Bureau of Transport and Regional Economics (2007) Estimating urban traffic and congestion cost trends if or Australian cities, Working Paper no. 79, Canberra.

[6] John Stanley pers com.

[7] He, Sylvia 2009, Investigating Network Access and Agglomeration Economy Using Spatial Autoregressive Models, paper presented to the 8th Annual Meeting of the Transportation Research Board, January.

These links are widely recognised. For example, the recent US Transportation Research Board paper on *Critical Issues in Transportation* highlights the economic consequences of an ageing infrastructure stock[8], a theme echoed by the US National Surface Transportation and Revenue Policy Commission in its recent report[9]. More broadly, the links between transport infrastructure development and economic competitiveness were recently highlighted in an Economist Intelligence Unit report, *Megacity Challenges*, in which a survey across 25 megacities revealed transportation infrastructure development as the highest infrastructure priority for enhancing economic competitiveness[10].

Among the suite of measures that will be needed to reduce congestion costs in our cities, improving public transport services is central. Comprehensive cost-benefit analyses of improved urban public transport systems and services, for example, typically show benefit-cost ratios of 2-3, with the major measured benefit being reduced costs of traffic congestion. For example, evaluation by BIC's member organisation, BusVic, of a suite of public transport improvement measures that closely mirrored the Victorian Government's 2006 *Meeting Our Transport Challenges* program showed a benefit-cost ratio of 3, with half the benefits being congestion cost savings. Sir Rod Eddington's evaluation of a major rail tunnel in Melbourne indicated a benefit-cost ratio of greater than 1.4.[11]

In Canada, which generally has better urban public transport services than Australia, a recent assessment of a 74% increase in service levels suggested a rate of return of a strong 12.5% would be achieved, with congestion cost savings being the major benefit.[12]

Because congestion costs increase very rapidly in peak motoring situations, only small reductions in traffic volumes are needed to generate very substantial benefits. For example, UK research suggests that marginal social cost based pricing in all UK urban areas would cut congestion costs by almost half but only reduce road traffic volumes by about 6-10%[13].

What kinds of public transport initiatives can be expected to contribute to important congestion reduction benefits?

[8] United States Transportation Research Board (2006), Critical Issues in Transportation, Washington DC.
[9] United States National Surface Transportation and Revenue Policy Commission (2007). Transportation for Tomorrow: Report of the National Surface Transportation and Revenue Policy Commission, December.
[10] Economist Intelligence Unit (nd). Megacity challenges: a stakeholder perspective. Research project conducted by Globescan and MRC McLean Hazel. Sponsored by Siemans.
[11] East-West LinkNeeds Assessment (2008, Investing in Transport, March, page 66.
[12] HDR Decision Economics 2008, The Optimal Supply and Demand for Urban Transit in Canada, report prepared for the Canadian urban Transit Association, August.
[13] Department for Transport 2004, Feasibility Study of Road Pricing in the UK, Annex B: Modelling Results and Analysis, July.

BIC recommends that public passenger transport priorities to reduce road congestion costs should be the following:

Major upgrades to trunk public transport service levels (capacities, frequencies, operating hours and days), both radial and circumferential.

In some cases the radial capacity upgrades will require metro type rail solutions. However, these are very expensive and need to be strongly justified, as Sir Rod Eddington's team has done for the proposed Melbourne tunnel. Bus Rapid Transit will be a preferred solution on many more occasions, where significant trunk capacity increases are required at reasonable cost. These initiatives have been shown internationally to deliver value for money. Brisbane is a world leader in this technology but there is great opportunity for extensive roll-out in other cities, both in own right-of-way and on existing arterial roads[14].

The relatively low capital costs of BRT compared to heavy rail have generally made the roll-out of this technology possible within a relatively short time frame (up to 5 years often). Whether this is a transition strategy to other forms of public transport or an end in itself should be determined by how the market responds.

Given the development patterns of Australian cities and the relatively smaller role now played by Central Business Districts, increased focus should be given to improving trunk public transport service capacity in circumferential corridors, particularly where these corridors are serving suburban activity centres.

Bus rapid transit services, operating at high frequency (15 minutes or less most of the day) and with on-road operating priority or own-right-of-way where possible, will be the most cost-effective means of providing high volume public transport services in such situations, as Canada and many other cities are demonstrating (e.g. York region's Viva service in Toronto; Melbourne's SmartBus services).

Focusing public transport (bus) investment along such corridors has the important added advantage of providing a transport platform to cater for higher density mixed use development along the corridor, which will become an increasingly important means of achieving more compact cities.

Professor Rob Adams of Melbourne University Architecture and Planning School and City of Melbourne has been promoting the multiple benefits of this form of development, in terms of lower energy requirements for transport and buildings, scope for local energy generation, water capture and roll-out of fibre to the property for high speed broadband. It is in this area of integrating urban public transport and land use that the interface between public transport, bicycles and pedestrians becomes very important. Easy pedestrian access to bus routes, with stops that provide shelter, are basic requirements to attract people from their cars and reduce traffic congestion.

In suburban activity centres, public transport, bicycles and pedestrians should be given priority over motor vehicles along in-centre bus routes. There are also opportunities for buses and bicycles to share bus priority routes along arterial roads.

[14] Hensher, D.A. and Golob, T.F. 2008, Bus rapid transit systems – A comparative assessment. *Transportation*, 35 (4), 501-518.

Urban rail investments more generally should focus on getting the existing systems running more efficiently, with adequate rolling stock, track (capacity and condition), signalling and control systems and station upgrades receiving investment support.

In suburban corridors that lack the public transport volumes to justify bus rapid transit, congestion reduction can still be achieved by operating bus services along arterial roads at 15-20 minute frequencies, from about 5.00am to midnight weekdays and with a slightly later start on weekends. Night time headways can stretch out a little (e.g. to 30 minutes).

High quality information services for customers are also a fundamental requirement if people are to be attracted to public transport, rather than using their cars. Melbourne's Metlink model is widely recognised as international best practice in this regard, a point to which we return below.

4.2 Climate change (greenhouse gas emissions)

The transport sector, including freight movement, contributes about 14% of Australian greenhouse gas emissions and emissions from the sector are growing faster than all other sectors, except stationary energy (Fig. 2.1). Road transport is by far the largest single transport GHG contributor. A Carbon Pollution Reduction Scheme (CPRS) will form the core of Australia's efforts to reduce greenhouse gas (GHG) emissions and this will add, long term, to fuel price pressures. For example, a carbon price of $40/t is equivalent to an increase of about 11c/L in fuel costs. While the Federal Government Carbon Pollution Reduction Scheme has announced an excise tax offset to carbon prices for cars for three years, this is unlikely to continue long term, such that the CPRS should be expected to increase fuel prices over the long term, a necessary development if that scheme is to provide correct price signals to travellers.

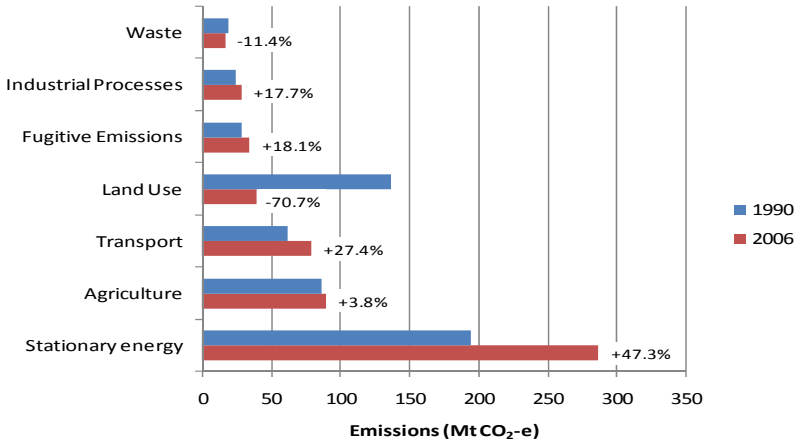


Fig. 2.1: Australian Greenhouse Gas Emissions

In addition to the CPRS, a range of complementary measures is also likely to be required to help reduce emissions from the land transport sector.[15]

[15] The low elasticity of demand for fuel in the road transport sector (up to about -0.7 in the long term), means that a CPRS alone is unlikely to lead to major cuts in emissions from the sector, unless the carbon price reaches high levels.

BIC recommends that complementary measures should ensure that public transport is promoted as an alternative travel choice and not "priced" in such a way to act as a disincentive to reduce car usage.

Stanley, Hensher and Loader have prepared a number of scenarios showing the types of initiatives that would enable road transport to achieve emissions cuts of 20% on 2000 levels by 2020 and 80% by 2050, this work forming the basis of the Bus Industry Confederation's submission to the Garnaut Review.[16] (see attachment A) Their work shows that the key contributions to cutting land transport GHG emissions will need to come from:

1. Reducing the demand for motorised travel
   - Land use planning (density, co-location)
   - Maximise opportunities for walking and cycling
2. Mode shift to low carbon modes
   - Cars to public transport, walking and cycling
   - Trucks to rail
3. Improving vehicle utilisation
   - Higher car occupancy
   - More efficient freight movements
4. Reducing vehicle emissions intensity (which will need to be the single greatest source of emission cuts)
   - More efficient vehicles (the largest single contributor)
   - Smaller vehicles
   - Alternative fuels (problematic at present)
   - Intelligent transport systems
   - Better driving practices.

In summary, the BIC recommends the following policy measures should be adopted to cut land transport GHG emissions according to defined targets:

1. **Improvement of fuel efficiency (very large improvements needed, requiring mandatory fuel efficiency targets about in line with European thinking, given the slow rate of impact of Australia's voluntary targets);**
2. **Comprehensive road pricing (replacing existing charges with charges that better reflect the full costs associated with road travel, including congestion costs, accident costs, health costs, road damage, air pollution and noise). This would deliver benefits of lower GHG emissions but also lower road congestion costs, lower air pollution, reduced road accidents, etc.**
3. **More compact, walking and cycling friendly urban settlements.**
4. **Increased investment in public transport (as discussed in this report).**
5. **Investment in rail freight and inter-modal hubs.**
6. **Freight efficiency improvements (e.g. accelerated introduction of high productivity vehicles).**

[16] Stanley, J., Hensher, D.A. and Loader C. 2008, Road Transport and Climate Change: Stepping off the Greenhouse Gas, *Transportation Research A*, under review.

7. **Reallocation of road space to prioritise low emission modes (e.g. high occupancy vehicle lanes).**
8. **Behaviour change programs (e.g. Travel Smart).**

This listing of measures that would reduce the road transport contribution to GHG emissions aligns closely with what is needed to cut congestion (with the exception of the fuel economy element, which will have little direct impact on congestion, except if smaller vehicles per se are a very significant contributor to cutting emissions). Public transport is an important contributor to both congestion reduction and cutting GHG emissions.

Australia's current target to cut GHG emissions by 60% on 2000 levels by 2050 will require major changes in travel behaviour and in travel technologies in coming years. Any tightening of this emission reduction target, in line with targets countenanced by Sir Nicholas Stern in his work for the UK Government and Professor Ross Garnaut in his Australian work,[17] will add to the pressures for behavioural and technological change in Australian transport.

The major working out of these changes will take place in metropolitan areas, both in Australia and internationally, but regional and rural areas will not be immune to changes required to respond to climate change, because almost half the transport task of the road sector is performed outside our cities. Public transport will be part of the solution to transport greenhouse gas emissions.

4.3 Social inclusion

There is a growing body of evidence that mobility is an important influence on people's ability to participate in society. Poor mobility can be a significant contributing factor to social exclusion. Recent interest in these connections was largely stimulated by the work of the UK Social Exclusion Unit[18] but has been taken further by Australian researchers.

Figure 2.2, for example, shows how trip rates vary substantially as between different groups who might be regarded as "transport disadvantaged" in the regional Victorian town of Warrnambool, with these trip rates being less than those of other Warrnambool residents (not shown in Figure 2.2). The low trip rates prima facie suggest lower levels of engagement. [19]

[17] Emission reduction targets of 70-90% by 2050 have been suggested by these experts, for highly developed countries like Australia.

[18] UK Social Exclusion Unit (2003), Making the Connections. Final report on transport and social exclcusion. London, Cabinet Office..

[19] ;. Stanley, JK and Stanley JR (2004). Improving Public Transport to Meet Community Needs: A Warrnambool Case Study. Report prepared for Bus Association Victoria;

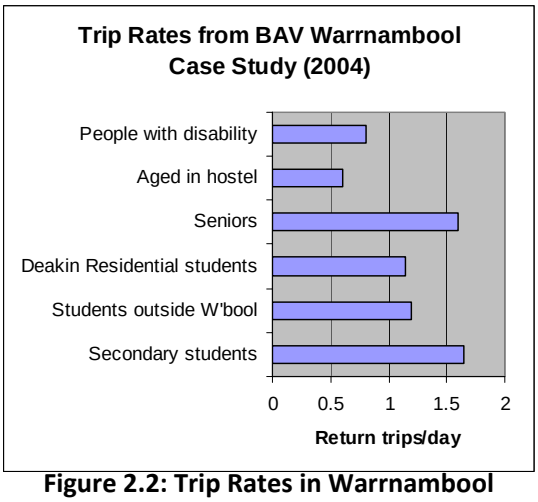


Figure 2.2: Trip Rates in Warrnambool
Source: Stanley and Stanley 2004[20].

No Way to Go: Transport and Social Disadvantage in Australian Communities[21] presents a range of Australian examples supporting the links between mobility and social inclusion, across a wide range of differentiating factors. For example, transport disadvantage is a common concern of young people, especially in rural areas, and of older Australians, especially as the capacity to drive diminishes. Lack of income is frequently a compounding factor. Physical capacities are also an important influence on mobility opportunities.

In an important piece of research, Dodson and Sipe[22] have shown how high fuel prices and mortgage interest rates placed large numbers of Australians living in outer suburban areas under significant financial stress. Similar findings would be expected in regional Australia. In both urban fringe and regional areas the high level of car dependency means people have little choice but to wear rising fuel costs if they wish to maintain lifestyles.

Currie has developed this theme, introducing the term "forced car ownership" to describe the situation where low income households buy two or more cars to achieve the mobility levels they need, even though this may consume a very large proportion of the household budget.[23] While the lower fuel prices and interest rates that are currently being enjoyed have eased these pressures, the medium to longer term outlook is for fuel prices to remain high, under pressures such as peak oil (discussed further below in Section 4.4.

[20] Ibid.
[21] Currie, G., Stanley, JR and Stanley, JK (2007) No Way to Go: Transport and Social Disadvantage in Australian Communities. Monash University e-Press, Clayton
[22] Dodgson, J and Sipe, N (2006), Shocking the Suburbs: Urban Location, Housing Debt and Oil Vulnerability in the Australian City, Urban Research Program, Research Paper No. 8, Griffith University, June.
[23] Currie,Graham (forthcoming), Australian Urban Transport and Social Disadvantage, *Australian Economic Review Forum on Urban Transport*.

Stanley, Currie and Stanley[24] have argued that approaches to reducing transport disadvantage can generally be grouped under four broad headings:

needs assessment – better understanding the travel needs of transport disadvantaged groups and individuals;
service provision – improving service levels and options to meet these needs;
institutional arrangements – improving co-ordination between various stakeholders and between levels of government to deliver more effective and efficient outcomes; and
research – to extend understanding of the nature of social exclusion and the links between transport, social exclusion and well-being.

Victorian research on transport and social exclusion has been linked through to transport program development and implementation in the Victorian Government's *Meeting Our Transport Challenges* (MOTC) Program, in both Melbourne and Victorian regions. This program represents social transit provision founded upon research-based needs assessment. The idea behind these initiatives is that provision of a decent base public transport service level, which means bus services in most local communities, enables most people to undertake most of the activities they require most of the time.

It provides them with the opportunity to connect with friends, their community and to build social capital. This base service level is called the "minimum service level", seen as the foundation of the social transit role of public transport. Appropriate minimum service levels will vary by location but, in outer urban areas, they will typically be something like an hourly service within 400 metres of properties, from 6.00am to 10.00pm. Service levels will fall with population numbers and densities.

The success of MOTC bus program initiatives in growing patronage in outer suburban Melbourne and in regional Victoria has been important in enhancing social inclusion and provides support for further developing such initiatives.

BIC recommends that the Australian Transport Council adopt national minimum acceptable public passenger transport service levels that recognise major geographical areas. Implementation of such service standards will enhance the benefit that public transport can deliver in terms of enhancing social inclusion.

BIC's research into mobility opportunities in regional Australia indicates that there are a number of opportunities. Providing improved access opportunities by public transport will sometimes be achieved by improving route bus service levels. In other situations, it can be achieved by increasing the use of existing school bus services, with suitable contractual variations to encourage greater use of these vehicles or it may be met by use of community transport services.

Community transport is a growing sector servicing a large number of community needs such as the distribution of food to the elderly, taking the disabled to education, shopping, medical and other destinations. With an ageing population and high fuel costs long term, this service sector is likely to be increasingly demanded. It is increasingly being considered as a form of public transport in its own right.

[24] Stanley, John, Currie, Graham Stanley, Janet. (2008), The way to go? In Currie, G., Stanley, JR and Stanley, JK (2007) No Way to Go: Transport and Social Disadvantage in Australian Communities. Monash University e-Press, Clayton

Community transport operators provide services using buses, minibuses, and cars, all of which will feel the pressures of increased fuel costs. Eligibility criteria typically limit the use of community transport services to particular categories of people and/or types of trips.

Home and Community Care (HACC) is an important program providing services to some disadvantaged people. Transport is one of these services, making HACC an element of the wider community transport sector. There is an approximate 60:40 Commonwealth/State ratio for funding for HACC services.

When allowance is made for school transport services, regional route bus services and community transport, including HACC funded initiatives, it is apparent that there are many resources currently being devoted to providing mobility for various categories of people who are often transport disadvantaged, in regional Australia. However, eligibility criteria tend to exclude some categories of traveller and/or types of trips. Yet there is often physical capacity for additional travellers to have their needs met.

In a BIC review of HACC funding arrangements for the 02/03 financial year it was found there were approximately 3,000 HACC funded organisations providing services to 700,000 people a year. In 02/03 HACC transport serviced 4.7 million trips with a national spending of $44.1 million.

A key concern of the prevalence and popularity of HACC programs is the impact of fuel prices on the cost of these services. As fuel prices increase services become more expensive and if funding is not adjusted in accordance with the increased cost the services will become less effective. The reduction or cessation of these services will serve to exacerbate the problems of social isolation, particularly for the disabled and the elderly who rely on them for mobility. Better coordination of HACC services within existing transport infrastructure and by using the expertise of public transport operators is a desirable objective.

Much can be achieved through low cost mechanisms. Regional ideas and understanding should be tapped to identify such opportunities. BIC believes that there should be greater regional devolution of responsibility for needs assessment and prioritisation for public and community transport services in regional Australia.

BIC recommends that the Commonwealth should support the establishment of Regional Accessibility Councils across Australia comprised of key regional stakeholders with an interest or involvement in personal transport/accessibility, to identify the most pressing regional needs to improve regional social inclusion and to also identify ways for getting better use from existing transport resources to meet these needs.

The socially exclusionary impacts of rising fuel prices on the transport disadvantaged was highlighted prior to the current economic crisis as a result of high interest rates and rising fuel prices. Whilst these are currently at lower levels it can be reasonably assumed that in the future, particularly in relation to fuel, will increase. Increased mortgage vulnerability in reaction to rising fuel prices and existing research outlining the scale of mortgage vulnerability in transport disadvantaged areas is addressed below.

4.4 Oil Prices

Problems of social equity that have a transport origin have been compounded in recent times by high oil prices[25].

For example, diesel prices increased nearly 50% between June 2007 and June 2008 and petrol prices also rose very strongly. Dodson and Sipe [26] have identified locations in Australian cities where substantial numbers of people are at financial risk, with possible flow-on consequences for their well-being, because of these cost pressures.

Similar problems will exist in regional Australia. The implementation of minimum public transport service levels and implementation of Regional Accessibility Planning Councils, as argued above, is an effective way to tackle these problems.

The causes of the recent rapid rise in fuel prices are the subject of much debate. However, there is a growing concern that the rises reflect, in part at least, long term structural imbalances between oil demand and supply and that "peak oil" is close, if not already at hand. While the current Global Financial Crisis has mitigated these concerns, rising long term oil prices are generally acknowledged as likely.

Public transport will continue to be a useful means of insulating transport disadvantaged people from the pressures associated with such price rises. Allied to the question of high oil prices is the growing import burden this is imposing on the Australian economy. Petroleum imports (petroleum oils and oils from bituminous minerals, crude) totalled $10.5bn in 2005 but had risen to $18b in 2008. Reducing domestic demand for petroleum products will ease balance of payments pressures and help insulate the economy against any future shortages of such products available for import. Mode shift from the private motor vehicle to public transport will assist in this regard (as would freight shift from truck to rail).

[25] High oil prices can also be argued to affect economic competitiveness but this is not a major concern because the price rises have been international. The major producers of oil and close substitutes gain a distinct advantage from this and these are not, in the main, trade competitors of Australia. We are, of course, a major gas producer.

[26] Dodson, J and Sipe, N (2008) Unsettling Suburbia: the New Landscape of Oil and Mortgage Vulnerability in Australian Cities, Griffith University Research Paper, August.

4.5 The Fuel Price Elasticity of Public Transport Demand

In their research into impact of fuel price changes on ridership figures Currie and Phung[27] have quantified the fuel price elasticity of public transport demand.

Their evidence suggests that car fuel price changes act to change public transport ridership to a ratio (or cross-elasticity) of around 0.15.
This means a 10% rise in fuel prices increases ridership by about 1.5%. Currie and Phung also show evidence suggesting that poorer housing affordability (ratio of income to housing costs) is the reason why ridership in some cities is more closely linked to mortgage interest rates.

Their research confirms the traditional view that fuel price impacts are larger for peak period travel, for work based trips and for longer distance trips. Their findings also suggest large mass transit systems (like Melbourne railway and the Brisbane and Adelaide busways) have substantially larger impacts. Clearly these larger peak impacts are at least in part why our mass transit systems are often overloaded during peak periods.

4.6 Safety

Australia's road safety performance is better than the OECD median performance. By comparison with the US, for example, Australia had about 1.2 road traffic deaths per 10,000 registered motor vehicles in 2004, about one-third below the US rate. The margin between the two countries had been about 0.3 in 1995 but had doubled in Australia's favour by 2004.

Judged in terms of deaths per billion passenger kilometres travelled, BITRE data shows that, in 2004, rail had 4.14 deaths per billion passenger kilometres[28]; disaggregated data for buses indicates 1.4 deaths per billion passenger kilometres, well below the rate for rail. In short, achieving a mode shift from car to bus and from rail to bus would save lives in Australia.

[27] Currie G and Phung J (2007) 'Aggregate and Disaggregate Analysis of Fuel Price and Interest Rate Impacts on Public Transport Demand' Australasian Transport Research Forum 2007

[28] Bureau of Infrastructure, Transport and Regional Economics 2008, *Australian Transport Statistics Yearbook 2007*, BITRE, Canberra ACT, Table 9.3i.

4.7 Summary of Benefits

There is widespread international agreement that the benefits from quality public transport services include:

- lower congestion costs and sustained economic competitiveness;
- lower greenhouse gas emissions;
- greater social inclusion;
- less road fatalities/serious injuries;
- enhanced energy security;
- reduction in oil-dependence;
- reduction in overall household expenditure on transport;
- less need for road expenditure.

Reduced obesity (not discussed above) is also an expected benefit, from the increased exercise associated with using public transport. Similar arguments apply to walking and cycling. The scale of some of these prospective benefits is very large, of the order of $10 billion across all the benefits listed. This magnitude is a powerful argument for a considerable increase in the level of public passenger transport service funding in Australia.

While not discussed above, BIC also notes that public transport can be an effective part of a national economic stimulus program to help combat the current global financial crisis. The sector is relatively labour intensive, especially in terms of delivering increases in service levels, and there is a significant local manufacturing presence. The lead time for improved bus services, in particular, is relatively short. Longer term sustainability arguments support such a growth in public transport services over time. The economic benefits of fast implementation argue for accelerated roll-out in the current economic climate.

BIC recommends that, in view of the demonstrable benefits from improved public passenger transport services, Australian Governments should agree to substantially increase funding for public transport services. Such expansion must be subject to preparation of detailed transport strategies by the responsible government and include detailed evaluation of the benefits and costs of specific initiatives, to ensure the most effective value for money is achieved.

5. Role of Commonwealth Government (policy and instruments)

This section of the submission considers some examples of national government roles in public transport in jurisdictions that have three levels of government like Australia, focusing particularly on Canada and the United States, because of their socio-economic, geographic, cultural and political similarity to Australia. It also outlines ways in which the Commonwealth impacts on public transport in Australia today.

5.1 International examples

5.1.1 Canada

Canada's major cities have much in common with Australian cities in terms of public transport services. Public transport mode shares tend to be a little higher in the best Canadian cities than in Australia, with Toronto and Ottawa being leading examples. For example, the City of Toronto had a very strong 24% of motorised trips, or 22% of all trips undertaken by public transport at the time of its 2001 transportation survey. The City's population at the time was 2.4 million. Mode share in the much broader Toronto region was also a strong 10% of all trips (population 6.5 million in 2001). Ottawa (population just over 1 million) achieved a public transport mode share of 13% of all trips and almost 16% of motorised trips in 2005, at the time of its transportation survey.

High mode shares in Canadian urban PT align with good service levels, in terms of frequency (headways), span of operating hours and days and reliable service delivery. These qualities mean that people in these cities can rely on public transport to meet the large majority of their personal travel needs, supporting the development of a public transport culture.
While the car is still very dominant, committed support of public transport by government, primarily municipal government until recent years but increasingly by higher levels of government, has helped to facilitate strong patronage outcomes.

Canadian urban PT systems in total have been experiencing sustained patronage growth of about 3% annually, well above population growth. PT operators identified massive backlogs in service and supporting infrastructure (e.g. vehicles; track in the case of rail; BRT infrastructure; etc). The Canadian Urban Transit Association's most recent estimate of the Canadian urban PT infrastructure deficit is $C40 billion for the 2008-12 period.

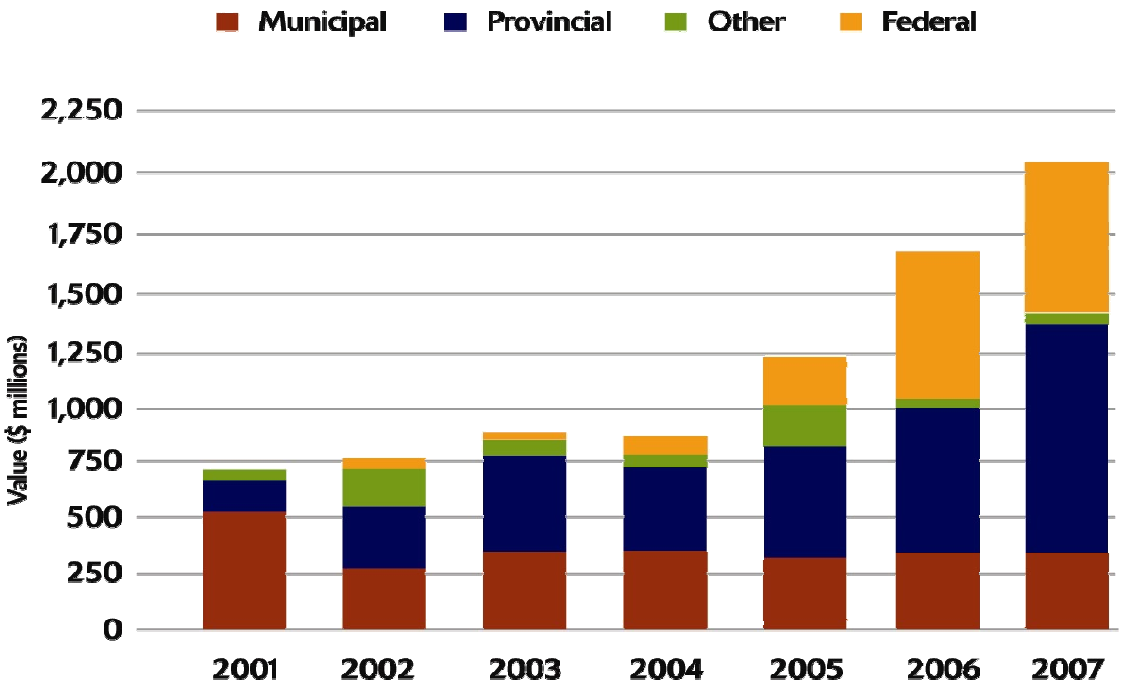
Known funding sources of only $C20b were identified. While this was a significant improvement on the 2006 estimate of $C15b available, it still only meets half of the estimated infrastructure spending requirement. The Canadian Urban Transit Association is currently arguing that a substantial part of this gap should be funded as part of the Canadian Government's wider economic fiscal response to the Global Financial Crisis.

Figure 5.1 shows sources of Canadian urban public transport infrastructure funding over the period from 2001 to 2007 inclusive. Improving urban public transport has become a Federal Government priority over this period, particularly because of the recognised contribution PT makes to improved liveability and economic competitiveness and because of its contribution to environmental credentials. Air quality

and greenhouse gas emission performance have been powerful arguments supporting Canadian Federal PT infrastructure funding support.

The scale of Canadian federal investment in PT has grown dramatically over the six year period shown, to about $C600 million in each of 2006 and 2007. Provincial investment has also increased, partly associated with matching requirements of federal funding support (and embodied in funding agreements). Local government plays a much stronger role in Canadian PT than in Australia.

Figure 5.1: Governmental funding of Canadian Urban Public Transport Capital Investment: 2001-2007.



Source: Figure supplied by the Canadian Urban Transit Association

On the operating cost side, Canadian urban PT systems have a relatively high cost-recovery rate (about 60%), higher than systems in strongly pro-PT countries like France and Sweden, and about double the rate achieved in the US, Italy and the Netherlands.

This is related in part to relatively high fares (user-pay) as well as higher efficiency which is possible due to better fleet utilisation resulting from more compact cities and better bi-directional traffic than in more car-oriented cities such as the US.

Operating cost funding support is derived almost entirely from municipal governments. Provincial Government funding is mainly on the capital side, with only about 6% of operating costs being sourced from provinces. Federal funding support is essentially all on the capital side. These funding arrangements contrast with the US, where Federal and State Governments contributed almost one-third of operating costs in 2005.

Canadian Federal PT funding support has grown in stages. In the early years shown in Figure 5.1, funding was largely included as part of a wider set of infrastructure support programs, such as the Infrastructure Canada program, the Canada Strategic Infrastructure Fund, the Highways and Border Infrastructure Fund and the Municipal Rural Infrastructure Fund. Funding was essentially by application.

In 2005, the Federal Government committed to the New Deal for Cities and Communities and to transfer half of the federal excise tax on motor vehicle fuels (5 cents per litre) to Canadian communities by 2010, for transit and other environmentally sustainable infrastructure.
This now amounts to $C2 billion per year and was recently made a permanent measure through the Gas Tax Fund. Also in 2005, the federal Government introduced two short term programs dedicating $C1.3 billion to transit capital needs, through to 2009. These two Funds were the Public Transit Fund ($C400m 2005-06) and two Public Transit Capital Trusts ($C900m over three years to 2009).

In 2007 the new $C8.8b Building Canada Fund replaced several older infrastructure funds. It will invest in a variety of project categories including PT until at least 2014, with matching requirements expected from provinces and municipalities. These later forms of funding assistance are primarily distributed on a per capita basis.

In addition to these large funding initiatives, there is a range of smaller Canadian federal Government funding commitments that assist urban PT, including:

- Urban Transportation Showcase - $C35m over 8 years to 2009 to demonstrate best practice initiatives to cut GHG emissions. A number of transit initiatives have been supported under this program;
- Eco-MOBILITY - $C4m over the 2008-11 period to support travel demand management programs, which can include transit;
- Transit-Secure - $C80m over 2006-08 to improve transit security (75% Federal money and 25% from the recipient);
- Tax exemption for transit passes – a tax incentive that allows Canadians to deduct 15% of the cost of monthly or longer duration PT tickets in annual tax returns, effective from July 2006.

Examples of some of the initiatives that have been assisted by Federal funding include:

- new bus rapid transit in the Greater Toronto area (e.g. York Region; City of Brampton);
- purchase of over 300 new buses (including almost half diesel-electric hybrids) and payments towards 156 new Toronto Rocket subway trains, for Toronto Transit Commission;
- new bus terminals in North Bay and Windsor Ontario; and,
- extension of Edmonton's light rail system.

While there has been significant funding commitment from the Canadian federal Government to PT in recent years, there is still no long term Federal policy for PT. Involvement is still primarily project or proposal funding related, within a per capita grant framework. Canadian PT advocates are seeking a stronger long term Federal policy level commitment to support of PT, particularly in urban areas.

Some of the key conclusions from an examination of Canadian PT performance are as follows:

- good public transport service levels are essential for strong patronage numbers and a growing market share;
- public transport can help meet national goals in areas as diverse as economic development, city liveability and environmental enhancement (air quality and climate change mitigation);
- partnerships across levels of government can play a very important role in upgrading public transport systems and services, to enable them to continue to provide the service levels that will allow them to continue to play significant roles in meeting these national goals;
- the Federal Government has a very important leadership role to play in taking public transport systems to their next level of development, which is critical to cater for continued patronage growth but requires considerable capital injection, beyond the resources of State (Provincial) and Local governments and public transport operators.

Less relevant to the purposes of the current Senate Inquiry but of relevance to the wider question of public transport service efficiency and effectiveness is the conclusion that the high levels of municipal (public) ownership in Canadian urban public transport, set alongside the high cost-recovery rates and high market shares, suggests that private ownership of public transport service delivery is not a necessary condition for good performance. Well managed public business entities can also perform very well.

5.1.2 United States

While Federal Government involvement in public transport is a relatively recent phenomenon in Canada, it has a much longer history in the US. Current US Federal involvement is primarily through the Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which has currency over the 2004 to 2009 period, providing $US 52.6 billion for transit over this period (about $US10b in 2008). Its antecedents went back to the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA), which began the TEA legislative series. Public transportation support from the US Federal Government, however, dates to well back before the TEA legislation.

Funding was provided out of General Revenues prior to 1983 and then from both a Mass Transit Account (MTA) set up under the Surface Transportation Assistance Act of 1982 and general revenues. The MTA receives a proportion of federal gas tax receipts to support public transport. Currently, 15.5% of the total per gallon tax on gasoline and 11.7% of the tax on diesel are dedicated to the MTA. This Trust Fund provides about 80% of total assistance for public transport, the general fund providing the remaining 20%.

As noted above, US Federal assistance for public transport includes both capital and operational support. The reasons for this support are generally the same as those indicated above for Canada. They reflect a federal recognition that public transport systems are important contributors to economic development and congestion reduction, to environmental sustainability, city liveability and to social inclusion. Social inclusion has been a stronger theme in US Federal public transport involvement than it has in Canada, reflecting what the US calls environmental justice agendas that extend back to the 60s. Canada has placed less emphasis on this issue as a rationale for Federal involvement in urban PT because Canadian public transport service levels have typically been higher than those in the US for cities of comparable size and shape. The consequence is that less specific emphasis needs to be devoted in Canada to the travel requirements of urban socially disadvantaged groups – mainstream services perform most of this role already.

Energy security has also been a strong theme in recent years in reasons why a strong public transport system is important to the US and why the Federal Government has a role to play, reflecting high levels of auto dependency. This theme has been stronger in the US than in Canada, possibly reflecting the large deposits of tar sands in Canada (high oil prices make these economically viable but they are known as dirty oil!).

Notable among US Federal assistance is the number and range of categories of assistance that are included, some of which are formula driven (accounting for $US28.5b of the total of $US52.6b in the current legislation).

In addition to specific categories of assistance for disadvantaged groups (e.g. a program category for elderly individuals and individuals with disabilities; another called job access and reverse commute), the legislation provides assistance under such headings as (examples only): urban area formula program (a significant part of the total); capital investment programs, also a very significant part of the total ($US22.7b); small transit intensive cities formula program (for cities with under 200,000 population); clean fuels formula program; new freedom program; bus and bus facilities; fixed guideway modernisation; new starts; metropolitan planning; state planning; research (various categories).

It is not necessary to outline the detail of these programs, so much as to note that:

- funding amounts are substantial;
- the level of specificity in program categories is a clear indication that the Federal Government is seeking to influence development directions in public transport; and,
- the level of support for planning ($US560m, or over $100m annually) and research ($US374m or over $US 60m annually) is significant and demonstrates a recognition of the importance of strategic and evidence-based thinking in influencing the future of public transport.

It is arguable that there are too many categories of assistance provided in US Federal Government transport programs. This was a key conclusion in the 2008 report of the National Surface Transportation and Revenue Policy Commission (NSTRPC, itself established under SAFETEA-LU). That Commission identified 106 US Federal Surface Transportation Programs and has proposed that they be replaced by just ten.

The ten are primarily defined in terms of outcomes sought, rather than inputs. Thus, for example much Federal funding support for urban PT would shift from specifically designated transit programs (of which there are 20) to parts of other programs, such as “congestion relief” and “environmental stewardship”. There has been no decision at Federal level about changing the structure of assistance programs but BIC is strongly supportive of the outcome-based focus.

The NSTRPC report estimated future investment requirements in the US surface transportation system, including transit. It identified a currently sustainable (fundable from existing sources) investment level of $US 13b annually but identified a requirement that this increase to between $US21-32b through to 2020, with a funding gap of $US8-19bn This was seen as requiring an increase in the gas tax of 4-10 cents a gallon to meet the funding gap.

The large increase in transit (and other surface transportation) funding identified by the Commission led it to propose, inter alia, that a major national revenue of revenue options be undertaken, with

congestion pricing or a vehicle mile tax being a central opportunity, because of its capacity to charge travellers for the external costs their choices impose on others (external costs).
The US situation has many similarities to Canada, although service levels tend to be lower and cost-recovery rates less. The national benefit of improved public transport services is widely acknowledged and the role of the Federal Government in helping to facilitate development is recognised and accepted by the Federal Government.

The need for a major upgrade of infrastructure has been identified by an independent national commission, involving doubling transit investment levels, and the importance of this upgrade to public transport's capacity to fulfil its national roles in helping to cut congestion, reduce transport emissions, improve energy security, improve the safety of travel and give travel opportunities to disadvantaged groups has been emphasised by the NSTRPC report. The US Federal interest in specific categories of assistance is of interest, since it demonstrates recognition of the range of beneficial impacts that transit can deliver.

A dedicated Federal public transport funding source exists in the US, which has assisted the continuity of Federal funding support. However, gas tax revenues are declining as road traffic growth slows and additional revenue sources are recognised as being needed to both sustain current investment levels and cater for system growth.

The US Federal focus on planning and research is notable. This encourages States and municipalities to take longer term, more strategic approaches to urban transport systems and enhances understanding of the key levers that can influence outcomes. This is a major gap in the Australian transport arena.

Addendum:

The American Recovery and Reinvestment Act (ARRA), President Obama's economic stimulus package, which became law on February 17 2009, includes several funding provisions and incentives for public transportation.

Transit Provisions

The economic recovery package includes $8.4 billion dollars for new capital investment for public transportation. Of this total, $6.9 billion is available for capital projects eligible for funding under the existing transit formula programs. The funds will be distributed as follows:

- $5.44 billion for capital projects under the Urban Formula Program (§5307)
- $680 million for capital projects under the Rural Formula Program (§5311)
- $680 million for Growing States and High Density Formula Program (§5340)

The remaining funds must be spent within one year, or they will also be subject to redistribution. The federal share for the grants is 100 percent.

In addition to the formula grants, $100 million is made available for new discretionary grants for transit agencies to "reduce energy consumption or greenhouse gas emissions." The FTA will publish guidance with program details and instruction on how to apply for these funds.

The ARRA also includes $750 million for grants under the Fixed Guideway Modernization program. Funds will be distributed under the first four tiers of the current formula. Like the other formula grants, the FTA must issue apportionments within 21 days, and grantees must obligate the first 50 percent within 180 days, and the remaining 50 percent within one year or be subject to the same "use-it or lose-it requirements." The federal share for these grants is also 100 percent.

Under the transit title of the bill, a final $750 million is available for Capital Investment grants under the New Starts and Small Starts program. These discretionary grants will be competitively awarded by FTA. The Department of Transportation (DOT) will award grants ranging from $20 million to $300 million for highways, bridges, public transportation, including New Starts and Small Starts, port infrastructure and freight rail projects of national, regional and metropolitan significance.

Highway Provisions

The ARRA includes $27.5 billion in grants under the federal highway program. Of these funds 50 percent will be distributed under the Surface Transportation Program, and 50 percent will be distributed based on the obligation limitation ratio from the Fiscal Year (FY) 2008 appropriations bill. Transit and passenger rail projects are eligible uses for 100 percent of the highway funds distributed to the states or metropolitan areas. Of the total highway grants, 30 percent will be sub allocated to metropolitan areas. The ARRA also sets aside $60 million of the highway total for eligible grants under the Ferryboat discretionary program.

Rail Provisions

The ARRA allocates $9.3 billion for the development of intercity and high speed passenger rail. Of this total, $1.3 billion is available for capital improvements and security upgrades for Amtrak. The remaining $8 billion is provided for the development of new intercity and high speed rail passenger service. The grants will be distributed under the Intercity Passenger Rail Grants to States and the High Speed Corridors grant programs authorized in last year's Rail Safety Improvement Act.

The legislation does not specify a specific distribution among the two programs, but does note that a priority shall be given to funding high speed rail projects. The Federal Railroad Administration must issue a strategic plan for the distribution of funds within 60 days of enactment, and issue program guidance within 180 days. The federal share of these grants is up to 100 percent.

Other Provisions

The ARRA also contains the following provisions of note:

- Commuter Tax Benefit – The tax title of the legislation provides the long sought equalization of the parking and transit tax benefit. Beginning this month, employers may offer up to $230 per month in tax free transit commute expenses.
- Transit and Rail Security Grants – The legislation provides an appropriation of $150 million for additional transit and rail security grants.

5.2 Australian Commonwealth Government Public Transport Involvement

The Commonwealth Government has taken little interest in public transport in Australia. Some assistance was provided during the 70s and later under the Building Better Cities program and the current government has set aside some small amounts for public transport investigations. However, for many years the Commonwealth argument has been that public transport is a state responsibility.

Some knock-on benefits for public transport were cited as expected from the Auslink road program, the proposition being that road improvements would ease road congestion and that this would assist the operation of road-based public transport. The discussion of rising congestion costs in section 4.1 above indicates that this argument has no substance. At best, Commonwealth road funding assistance may have slowed the growth in congestion costs for a few years.

However, by fostering greater motor vehicle use, Commonwealth road funding assistance is most likely to have operated **counter** to the interests of public transport. If specific road funding assistance were to be directed to increasing road capacity for sole use of public transport (e.g. BRT own right-of-way), this would help to redress the balance somewhat.

The same conclusion applies to fringe benefit tax treatment of car use, which has the perverse impact of encouraging greater car use, to achieve a lower FBT rate. The lack of comparable treatment of the cost of public transport travel has been pointed out to the Commonwealth Government on many occasions, to no avail. The Canadian Government's tax exemption for transit passes was noted in Section 5 1 above.

BIC recommends that the Commonwealth Government eliminates favourable FBT treatment of cars used for business purposes or, failing that, allows the cost of periodical public transport tickets used for travel to/from work to be deducted for tax purposes.

Commonwealth Government assistance for the motor vehicle industry, following inquiries such as the Bracks Inquiry, compounds problems stemming from existing Commonwealth policies and programs, as they impact (indirectly) on public transport. This assistance protects local vehicle manufacturers, the major markets for whose products are vehicle fleet purchasers. Most of these are, in turn, the recipients of the FBT benefit that is denied to public transport.

While there may be a case to assist this industry on grounds of job protection and perhaps technology transfer, the industry has performed poorly in recognising market trends towards smaller vehicles and must be held more accountable for its performance. Any assistance that is provided to the motor vehicle industry must be accompanied by strict mandatory emission reduction targets, with substantial penalties for non-achievement.

(The discussion in the preceding sections of this report has identified a number of ways in which the Commonwealth could proactively help the development of public transport systems and services in Australia, without getting involved in any responsibility for system operation (which should remain where it is). Canadian and US experience has demonstrated very clearly, and this submission has added

an Australian flavour to the argument, that there are national benefits from a strong public transport sector, both urban and regional.
The precise role that public transport plays in these contexts cannot be stated a priori. The work has simply not been done! It should be the outcome of detailed investigations, leading to medium to long term integrated transport/land use policies and plans undertaken by the responsible level of government (mainly State and Territory Governments but also Brisbane City) in an on-going way. Broad agreement to the resulting plans and priorities is desirable from the Commonwealth, because:

- national interests are involved, which lie beyond the responsibility domain of State and Territory Governments; and
- this reality of national interests warrants Commonwealth input on priorities and, in turn, argues for Commonwealth funding support towards key parts of an agreed implementation program (e.g. a specific set of projects, and perhaps related reforms in areas such as transport pricing).

This outcome may perhaps be achieved through Infrastructure Australia processes and subsequent funding commitments. BIC supports this direction. However, if this is to be the case, it is essential that project funding proposals are intimately linked to broader integrated transport policies, strategies and plans that are part of a broad approval process. This is essentially taking major regional and urban transport policies, strategies and plans to partnerships between senior levels of responsible government, a direction that is implied in current Canadian intergovernmental arrangements in surface transportation.

BIC recommends that Infrastructure Australia processes be used as a means of driving more integrated transport and land use planning and development processes in Australian regions, particularly the major cities. Any major land transport infrastructure initiative seeking Commonwealth funding support through IA processes should be able to clearly identify its expected economic, social and environmental benefits and show that these have been assessed as part of an integrated transport/land use strategy.

BIC has been supportive of the major recommendations of the House of Representatives Standing Committee on Environment and Heritage *Sustainable Cities* Report (2005).

In particular, recommendation 1 about establishing a Sustainability Charter and recommendation 2 about using this charter as a test against which all new Australian Government policy proposals should be assessed have much to commend them. We suggest that a Sustainability Charter should be an important test through which any infrastructure proposal seeking Commonwealth funding assistance through Infrastructure Australia processes should pass.

There are other ways in which the Commonwealth could add considerable value to the development of Australian public passenger transport. Transport research is very poorly funded in Australia, relative to the size of the sector (e.g. compared to the multitude of such institutions in agriculture). In particular, there is no peak entity that leads research in public transport. Several university institutes undertake research in the field and there are two chairs of public transport that have been established in recent years. However, Australia has no public transport equivalent to Austroads.

The publications listings on the Australian Transport Council website www.atcouncil.gov.au are ample demonstration that this forum has not done a great deal to promote transport research in Australia.

The Commonwealth's Bureau of Infrastructure, Transport and Resource Economics has a good publication record and does a little to support wider transport research in Australia (e.g. supporting key forums) but is not a peak entity in terms of direction setting for transport research, including public transport research.

As noted in Section 5.2 above, US Federal transport legislation provides considerable funding assistance towards transport research and development, much of which is of benefit to public transport. The Commonwealth should do much more in this area, with the benefit being potentially very large, given the importance of the Australian transport sector.

BIC recommends that the Commonwealth Government establish a, Australian Transport Research Board (similar to the US TRB, scaled down), to be the peak body co-ordinating Australian transport research. The agency should have a sufficient budget to be able to support original research that assists development of public passenger transport in both urban and regional Australia.

6. Best practice international examples of PPT services and infrastructure

In this section of the report, BIC lists a number of examples that we regard as international best practice in terms of public passenger transport. We do not go into great detail on any measures but highlight what we believe to be their key contribution. These examples include Australian and international examples

6.1 Within Australia

Brisbane Bus Rapid Transit (BRT)
As noted earlier in this submission, Brisbane has picked up on the technology of BRT and is rolling out an international best practice example. Patronage growth has been strong and costs are well below rail equivalents. The dedicated right-of-way allows fast, safe bus operation. The relatively low capital costs of BRT compared to heavy rail have generally made the roll-out of this technology possible within a relatively short time frame (up to 5 years often). Whether this is a transition strategy to other forms of public transport or an end in itself should be determined by how the market responds.

Metlink
Metlink is Melbourne's public transport marketing body, owned by the operators but working in close partnership with the State's Director of Public Transport who provides funding support and approves the Metlink Board's Marketing Strategy (but not the more detailed Marketing Plan). Metlink has a call-centre, journey planner, conducts system marketing campaigns, monitors patronage and fare evasion and brings the various modes together to discuss common problems. There has been considerable international interest in this approach to system marketing in a privatised delivery model.

Melbourne Bus Contracts
BIC mentions the Melbourne bus contracts because they are a reflection of an operating partnership between the Victorian private bus industry and State Government that has agreement on system development objectives and directions and uses the contracts to tie these to service delivery. The level of trust between the government and industry is high, meaning that both sides can draw on each other

to deliver a better outcome for the travelling public. The delivery model provides value for money without compromising accountability and transparency.

Perth and Adelaide Bus Contracts
Operating within a competitive tendering regime, these contracts have delivered significant cost savings to their communities, together with high quality services. Some important innovations have occurred in service planning and marketing, such as the go-zone concept.

Sydney/Melbourne Metro Rail proposals
While the scale of these proposals is very daunting, BIC believes that at least one should proceed in Sydney as a matter of priority, together with the Melbourne project, with Commonwealth assistance through Infrastructure Australia processes. These projects, like BRT, can be transformational in their impact and transformation will need to be the catch-cry for Australia's public transport systems going forward. Incremental change will not solve the scale of problems we are facing with congestion and climate change. The metros are worth early priority.

Warrnambool Accessibility Planning Committee

This regional group in south-west Victoria established itself to identify regional accessibility needs and to seek out the best ways to fulfil these needs, without relying on government funding to employ a project co-ordinator. It was a grass roots initiative that is helping to improve regional access opportunities.

6.2 International

Curitiba's Linear Urban Development and Bus Rapid Transit System

Curitiba is a Brazilian city, located well to the south of the country. It was an international pioneer of Bus Rapid Transit and has structured its urban development along linear corridors that form the spines of the BRT system. This linear form of urban development holds out much promise for Australian cities, because it substantially reduces pressures for urban sprawl but does not touch most of the existing suburban area, reducing political opposition to implementation. This set of initiatives dates back thirty years, with the importance of taking a long term sustained approach to better transport/land use integration being a key lesson.

Canadian Federal Public Transport Assistance

While this is less generous and less "fixed" than US Federal funding support, BIC believes that its less detailed prescription on where Federal funds should be spent (than in the US model) and its emphasis on intergovernmental agreements to assure alignment of intent is a good way for Australia to proceed.

US Transportation Research Board

The TRB has established itself as the premier forum/pathway for transport research in the US. Its annual conference is a massive event and involvement is widespread and extensive. BIC considers that Australia should adapt the TRB model to help promote and foster transport research in Australia.

London Congestion Pricing

While London's congestion pricing scheme is administratively cumbersome, its focus on carefully linking revenues to improvements in public transport helped gain political acceptance and the results have been very positive. Importantly, the scheme has attracted international attention to congestion pricing, which is a key area for reform if public transport is ever to achieve its potential. The leadership shown by the then London Mayor, Ken Livingstone, to get the scheme up, is a further best practice element in this case study.

Netherlands Road Pricing Reforms

Satellite-based road user charging will be implemented throughout the Netherlands, to reduce congestion and finance future road infrastructure. The 'kilometre price' proposed is to be differentiated by location, environmental properties of the vehicle, and time of day (effectively a peak/off-peak or congestion charge)[29]. It is to be introduced for all vehicles on all roads in the entire country, starting with trucks in 2011 and phasing in a scheme for cars from 2012 to 2016. The Dutch government plans to scrap road tax as well as purchase tax on new cars when the system is introduced.

6.3 Concluding Comment

In citing these examples, BIC has sought to emphasise institutional relationships between public transport service providers and governments, to show the importance of links between transport and land use and to raise the importance of broader transport pricing reform.

Treating public transport in the absence of these wider considerations will only serve to perpetuate the silo thinking that has delivered underperformance from Australia's transport sector for many years. The immensity of the national challenges facing the transport sector demands an integrated approach, wherein all relevant arms of government, all policy instruments and all stakeholders are united with a common sense of purpose. This requires real leadership, to drive the necessary transformational change.

[29] The road user charge scheme will be facilitated by GPS/speed sensor vehicle tracking, calculated by onboard electronic accumulating odometers, remotely assessing travel from central computers that are capable of applying a range of charging regimes. These include uniform road-use charges and congestion pricing (differential charging according to traffic conditions), including adjusted-upward charges for road use in remote areas (perhaps excluding local residents) where maintenance costs are high and distances travelled are relatively less. Graded distance fees can also be introduced if desired – possibly on equity grounds.