Glenorchy to Hobart CBD Transit Corridor

Transit Corridor Assessment Report - Stage one

Problem identification – Metropolitan Level

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1 KEY POINTS

There is a need to identify the problems with the sustainability of Greater Hobart's current transport and land use planning systems to ensure that actions developed in the Transit Corridor Plan properly target these issues.

The problems identified below are experienced at the metropolitan planning level. Developing Main Road as a Transit Corridor is one option which will help target these problems by focusing specifically on improving transport and land use planning outcomes in the Northern Suburbs. The Transit Corridors project alone will not solve these metropolitan problems; other strategies will be required to target these issues.

· Population growth in outer urban areas:

- Places pressure on urban arterial road networks.
- Outer urban areas have high levels of car dependence as they are separated from places of work and activity; this reduces walking and cycling options.
- Public transport services are often limited in outer areas as density is lower than inner areas.

Low levels of population density:

- Greater Hobart has a dispersed settlement pattern with an average density of 12 people per hectare (ABS 2006).
- This level of density is well below the agreed standard for effective delivery of public transport services that other states use (15 people per hectare) (NSW 2001); resulting in bus routes being planned on a low-frequency, highpenetration basis.
- This means that bus routes are often very long and not competitive with the car in terms of travel times.

• An ageing population:

- Tasmania has the oldest population profile in Australia and the population is projected to experience ageing more rapidly.
- The transport needs of the aged are not well understood.
- Public transport cannot always accommodate the needs of older people, especially those with restricted mobility.

• Social exclusion:

- Lack of access to transport can affect people's sense of wellbeing and quality
 of life leading to social exclusion.
- Transport plays an important role in making people feel connected with others and the community at large.
- There are pockets of high transport disadvantage along the Transit Corridor in Glenorchy, Moonah and North Hobart.

• Low levels of physical activity:

- Currently, 69 per cent of Tasmanians are not sufficiently active (DHHS, 2011).
- Undertaking sufficient levels of physical activity is important for maintaining good health and helps prevent disease.

High levels of car dependency contribute to lower levels of physical activity.

• High reliance on cars:

- Greater Hobart has a high reliance on cars, with 78.8 per cent of journey to work trips undertaken by the car (ABS 2006).
- Relative under-investment in urban public transport has created a situation where the current services are spread too thinly and do not provide an advantage over the car for the majority of the community.
- High car usage increases greenhouse gas emissions and makes us vulnerable to oil price vulnerability.

Vulnerability to increases in oil prices:

- Tasmania's transport system is heavily oil dependent and exposed to increases in oil prices and disruptions to supply.
- Where people do not have reliable access to public transport and are reliant on the car, their transport costs will increase, this is particularly the case for people living in outer urban and rural areas.

• Contribution to greenhouse gas emissions:

- Transport is the second largest producer of greenhouse gas emissions in Tasmania, producing 21 per cent of all of Tasmania's emissions in 2007 (Australian Greenhouse Emissions Inventory System).
- 92 per cent of transport emissions come from road transport, with cars being the largest contributor (Australian Greenhouse Emissions Inventory System).

• Increasing cost of transport infrastructure:

- Tasmania has an extensive and ageing transport system with high capital and recurrent maintenance costs.
- In today's financial climate the State Government cannot afford to 'build its way out' of transport problems.
- Providing new roads induces new demand for private travel on those roads, which is ultimately counter-productive because it increases congestion in the longer term.

2 CONTEXT

Greater Hobart is Tasmania's largest urban area, with a population of 216, 000 (ABS, 2008) and is home to around 40 per cent of Tasmania's population. Greater Hobart is classified as a 'smaller city' using Infrastructure Australia's classification structure, being the 11th largest population centre in Australia.

Despite its relatively small population, Greater Hobart has a large geographical footprint and low density development pattern. On average Greater Hobart has an average population density of just 12 people per hectare.

There has been a strong trend toward housing and population growth in outer urban areas such as Kingston/Blackmans Bay, Margate, outer urban areas of Clarence, Sorell and Brighton based on choice and housing affordability.

The pattern of development in Greater Hobart has a significant impact on how the transport system is used:

- Limited local employment opportunities and essential services in outer urban areas meaning people travel more and further to go to work, school or to shop.
- A high reliance on cars for private travel with a high number of car trips.
- Difficulty in providing public transport services as fewer houses are distributed across greater distances than in inner urban areas.

3 FOCUS ON HOBART'S NORTHERN SUBURBS

Hobart's Northern Suburbs extend along the Western Shore of the Derwent River, north of Hobart CBD, including Glenorchy and as far as the township of Brighton. This area contains approximately 30 per cent of the city's overall population. The area is a mixture of residential and commercial development with light and heavy industrial activities concentrated in the areas of Derwent Park, Moonah, Lutana and Brighton.

The Northern Suburbs between the Hobart CBD and Glenorchy activity centre has been identified as an opportunity for infill development within the *Southern Regional Land Use Strategy*. Infill development close to the Transit Corridor provides opportunities to increase density in inner urban areas which are well serviced by existing infrastructure including public transport. The Transit Corridor is also well serviced in terms of activity centres which provide employment, access to services and shopping opportunities.

Focusing on the Northern Suburbs between Hobart CBD and Glenorchy will help to reduce car dependence as people will live closer to higher frequency public transport routes and activity centres, meaning that people will have to travel less distance to access work and shopping and will have greater modal choice in their trip making.

4 TRANSIT CORRIDOR

The Transit Corridor extends from the Hobart CBD through to Glenorchy bus mall for the purposes of this project. The Corridor passes through the suburbs of North Hobart, New Town, Moonah and Glenorchy. It is an important public transport route not only in terms of linking the activity centres along the Corridor, but is an important through public transport route linking the outer Northern Suburbs (Claremont, Bridgewater and Brighton) to Glenorchy and Hobart CBD.

The Corridor passes through some of Greater Hobart's denser residential areas. This level of density means that 18 090 people live with walking distance (0-800 metres) of the Corridor, translating to 8 per cent of Greater Hobart's population (DIER 2012).

The Transit Corridor services a large population catchment. The Northern Suburbs has a high penetration bus network with most Northern Suburb buses using some part of the Corridor. In effect, the Corridor services a population catchment of 71 180 which is 30 per cent of Greater Hobart's population (DIER 2012). This catchment includes through route services feeding into the Corridor from Claremont, Bridgewater and Brighton, with private operators running bus services from New Norfolk, Bothwell and Brighton.

The Transit Corridor from Glenorchy to Hobart CBD carries on average 5600 boardings per day (weekdays) which accounted for 20 per cent of total Metro boardings in Greater Hobart (Metro 2011).

The Corridor also includes the activity centres of Hobart CBD and Glenorchy and smaller centres of North Hobart, New Town and Moonah. The areas of Hobart CBD, Glenorchy and Moonah have a high employment density and a large number of trip attractors.

5 INVESTMENT FOCUS

The focus is on investing in our existing public transport system to manage the community's travel demands. While public transport in Greater Hobart does not experience the capacity problems of major cities such as Melbourne and Sydney, there is a need to improve the reliability of our systems to attract a greater modal share. The primary emphasis is not on building immediate capacity through investing in costly mass transit systems, but on improving the existing system (where there is significant scope for improvement at relatively low cost).

6 PROBLEM IDENTIFICATION

There is a need to identify the problems with the sustainability of Greater Hobart's current transport and land use planning systems to ensure that actions developed in the Transit Corridor Plan properly target these issues. Problem identification is increasingly being used at a national level by Infrastructure Australia in assessing whether infrastructure proposals are actually addressing a demonstrable and significant deficiency. While Infrastructure Australia terms these as 'problems', they could arguably be called 'challenges' or 'issues'. This report reflects Infrastructure Australia's terminology and its approach to problem evaluation.

The problems identified below are experienced at the metropolitan planning level. Developing Main Road as a Transit Corridor is one option to target these problems, by focusing specially on improving transport and land use planning outcomes in the Northern Suburbs.

Other options which have previously been investigated to improve transport outcomes in the Northern Suburbs include the Light Rail Business Case and investigation of bus priority on the Brooker Highway.

The Transit Corridors project alone will not solve these metropolitan problems; other strategies will be required to target these issues. The *Tasmanian Urban Passenger Transport Framework* and the *Southern Integrated Transport Plan* contain actions to address these key transport challenges.

The remainder of the Stage One report identifies problems at the Corridor level in order to inform option identification and assessment and ultimately develop actions to improve the Transit Corridor.

6.1 Population growth in outer urban areas

The problem: Population growth is occurring in multiple locations across the outer urban areas of Greater Hobart, placing pressure on arterial road networks.

From a transport context (without any form of demand management intervention), population growth will drive increased car volumes and subsequent demand for road space. Population growth in Hobart's outer Northern Suburbs will result in additional demand along both the Brooker Highway (which is the key route for car based passengers) and Main Road, which is the key public transport route. Brighton Council experienced the highest average annual growth rate of Southern Tasmanian Councils, at 2.4 per cent from 2001-2008 (ABS 2009).

These outer urban areas tend to have lower population densities, with limited services and less transport options. This leads to greater travel distances and a higher reliance on cars.

The cause: A chronic lack of coordination between land use and transport planning has resulted in residential developments occurring in areas which are unable to be well serviced by public transport. This situation occurs because land use and strategic transport planning are undertaken by separate levels of Government and there is no legislative or other mechanism in place to ensure that this separation is overcome. In particular, there is little consideration of public transport when planning new residential or commercial developments. Often, new subdivisions are created in areas which are not serviced by public transport, or are not a logical or simple extension of the network. Further, the additional cost of delivering suitable public transport services to a new area is not factored into budgetary considerations; it is generally presumed that the car will meet most transport needs.

Decisions regarding the location of future growth are important, as land use directly affects both the demand for travel and the mode of travel. The lack of an over-arching metropolitan land use plan has resulted in growth occurring in multiple areas, with local Government's competing amongst themselves for residential developments.

Housing affordability and lifestyle choice is also a key driver of growth in outer urban areas. The property development market in Tasmania is geared more towards providing 'Greenfield' development than infill, with the cost of development not reflecting the true cost of servicing these areas with infrastructure and service provision. In other words, the sale price of each block is artificially low because it does not reflect the true overall costs to State and local Governments of providing a high standard of new services and infrastructure to these areas.

What is occurring: From a transport planning perspective, there is increasing emphasis on maximising the use of existing infrastructure by managing travel demand. The *Southern Regional Land Use Strategy* provides opportunities for infill development to occur along public transport routes in Glenorchy, Hobart, Clarence and inner areas of Kingston.

Identified infill development locations in inner urban areas provide an opportunity to manage demand by maximising the use of existing transport networks and services, particularly public transport routes which already have a high frequency.

Infill development also represents an opportunity to increase population density and create a more compact urban form, which makes the provision of public transport more sustainable from an economic perspective. People are able to live closer to services and employment centres, meaning that they are more likely to use alternative forms of transport (such as walking and cycling), because their typical journeys will be shorter.

From a transport perspective, there is a need for a policy intervention to encourage population growth in inner urban areas where existing transport infrastructure is in place. This is preferable to continuing the unplanned shift in population towards outer urban areas, which are most unlikely to ever receive high quality public transport services and contribute to traffic congestion on major arterial roads because residents must rely heavily on carbased transport to access places of employment and services.

6.2 Low levels of population density

The problem: Like other Australian cities, Greater Hobart is characterised by a highly dispersed settlement pattern. The average population density in Greater Hobart is 12 people per hectare (ABS 2006), and new development in outer urban areas has relatively low densities of seven to ten dwellings per hectare (STCA 2011).

This level of density is well below the agreed standard adopted by other states such as New South Wales for effective delivery of public transport services, which is a minimum of 15 dwellings per hectare (NSW 2001). The low density pattern of development in Greater Hobart has resulted in bus routes being planned, generally, on a low-frequency, high-penetration basis. This means that bus routes are often long and circuitous, and cannot be competitive with the car in terms of travel time. Providing adequate coverage, speed and frequency simultaneously for public transport is very costly in a low density city such as Hobart.

Low density urban areas often have high levels of car ownership and use, due to the spatial diversity of travel patterns.

The cause: Greater Hobart's dispersed development pattern is partly influenced by its environmental setting, with the Derwent River, Mount Wellington and Meehan Range restricting the location of urban development.

Density patterns are also closely related to the policy shift of separating land uses, which occurred during the Twentieth Century. Older inner urban areas generally have higher densities, a mixture of housing types and contain more mixed use developments, as different forms of land use were located together as the main form of transport was public transport and walking. The Main Road is an example of higher densities and mixed use evolving around a public transport corridor.

With the rise of the car, land use policy shifted towards the distinct separation of land uses. This resulted in growth occurring away from inner urban areas and public transport corridors. Newer outer urban areas are dominated by single detached dwellings, lower densities and lack activity centres, thus forcing people to be more car-reliant. This is still the predominant pattern of growth in Greater Hobart, with approximately 85 per cent of new dwellings occurring in Greenfield developments (STCA 2011).

What is occurring: Mixed use and more compact development is one way that the planning system can respond to take advantage of existing transport infrastructure. The *Southern Regional Land Use Strategy* encourages higher densities and mixed use development patterns, particularly in inner urban areas and along high frequency public transport corridors. This maximises the number of people able to easily access public transport and increases the attractiveness of the service by linking to popular destinations.

Increasing density adjacent to public transport corridors will lead to greater demand for public transport. Studies have found residents in transit-oriented developments have 50 per cent less car use per household and save around 20 per cent of their household income because they need one less car (Newman 2004).

6.3 An ageing population

The problem: Tasmania has the oldest population profile in Australia and the population is projected to experience ageing more rapidly than any other Australian state. Both Hobart and Glenorchy's elderly population is predicted to grow substantially. Glenorchy has an older age profile than Hobart, with 16.8 per cent of its population aged over 65 in 2007. By 2032 this will increase to 25.6 per cent (DCAC 2008).

People over 65, have a lower public transport mode share (2.3 per cent), compared to the Greater Hobart average at 4.0 per cent. Glenorchy has the highest use of public transport at 3.7 per cent for people aged over 65 (Greater Hobart Household Travel Survey 2008/09).

Tasmania will face significant challenges resulting from an ageing population, with fewer working age people to support an increasing number of older people. An ageing population will result in a shift in travel patterns with an increase in non-work trips outside peak travel times.

The transport needs of the aged are not well understood. However, this generation of older people are likely to be more reliant on cars for travel. Having a driver license is an important part of staying independent, however transport disadvantage may occur if people are no longer able to drive and their mobility is restricted. There is likely to be a continuing increase in demand for personalised transport, such as door-to-door community transport.

Public transport cannot always accommodate the needs of older people, especially those with restricted mobility. Transport services must be designed to suit older users if they are to serve as viable alternatives to the car.

Changes associated with population ageing will impact on both housing and transport needs, including:

- Demand for smaller houses and more aged care facilities close to services.
- Provision of safer roads for older drivers.
- Safer pedestrian environments, including catering for those with limited mobility, or users of powered wheelchairs and scooters.
- Need for public transport to be:
 - Accessible as people's mobility declines with increasing age, eg low floor buses, bus stops which cater for people with limited mobility and information that makes public transport easier to use.
 - Affordable for those on retirement pensions.
 - Safe and secure.

The cause: Demographic change is the key driver of an ageing population. Population ageing in Tasmania is caused by a low birth rate, increasing life expectancy and high level of out migration by younger age groups.

What is occurring: There is growing awareness that land use planning has a major role to play in allowing people to age in place by providing greater housing choice and ensuring housing and aged care facilities are located close to services and public transport corridors.

The transport of elderly people with limited mobility (in urban areas) is largely catered for by the community transport sector and taxis. Public transport does play a role in providing access to the elderly; the challenge is to ensure services are designed to suit older customers. Within the public transport system; accessible buses are being progressively rolled out and new or upgraded bus stops are required to be compliant with the Disability Discrimination Act Transport Standards (2002).

6.4 Social exclusion

The problem: Lack of access to transport can lead to social exclusion, which can affect people's sense of wellbeing and quality of life. Social exclusion is where people have limited resources, opportunities and capabilities to participate in all aspects of life, so that they can meet their basic needs. Transport plays an important role in making people feel connected with others and the community at large.

Along the Transit Corridor there are pockets of high disadvantage, particularly around Glenorchy, Moonah and small areas of North Hobart. Transport disadvantage may be experienced by people that have at least one of the following characteristics (Based on Booz and Company 2008):

- Adults who do not have access to a car.
- People aged over 60 years.
- People on a disability pension.
- Adults on a low income.
- Adults not in the labour force.
- Young people aged below 17 years.
- People enrolled in an educational institution.

The cause: The causes of social exclusion are complex and arise through personal factors (health or homelessness), access factors (including transport) and structural factors (including intergenerational poverty and locational disadvantage).

Those groups most at risk include children in low income households, older people living alone, people with a mental illness or disability, and certain cultural and ethic groups.

What is occurring: The Southern Regional Land Use Strategy will provide more infill opportunities in areas well serviced with public transport and close to shops and social services. If these infill areas provide affordable housing options, this will also benefit those who are financially disadvantaged.

Public transport plays a vital role in serving the transport disadvantaged. The challenge is to improve the system to make it attractive to all potential users, as well as better meeting the needs of those that are experiencing transport disadvantage.

6.5 Low levels of physical activity

The problem: Currently, 69 per cent of Tasmanians are not sufficiently active (Health Indicators Tasmania 2008) and when compared with the national average, Tasmanians are more likely to be overweight (DHHS, 2011).

Undertaking sufficient levels of physical activity is important for maintaining good health and helps prevent ailments including cardiovascular disease, mental health problems, Type Two diabetes and some cancers. Being overweight or obese also increases the risk of a wide range of health problems.

The cause: The increase in effort-saving technology in modern society provides us with fewer opportunities to be physically active in our day to day activities. High levels of car dependency contribute to lower levels of physical activity, as there are fewer forms of incidental exercise, such as walking or cycling to work. Climatic factors can also play a role in affecting people's level of activity.

What is occurring: The National Physical Activity Guidelines for Adults state that to maintain general health and wellbeing, it is recommended that we engage in moderate

intensity activity for at least 30 minutes a day. Moderate intensity refers to a level of exertion that increases your heart rate to a point where you are still able to carry on a conversation.

The Premier's Physical Activity Council encourages physical activity through active transport such as walking or cycling to work and school. This form of exercise is generally low cost and is more likely to have greater long-term success as the activity becomes part of everyday behaviour. Incidental exercise associated with the use of public transport is also highly beneficial to individual health.

6.6 High reliance on cars

The problem: Greater Hobart has a high reliance on cars, with 78.8 per cent of journey to work trips being car trips (either car as driver or passenger) (ABS 2006). Greater Hobart has the second lowest mode share for public transport in the journey to work at 6.1 per cent when compared to other capital cities. While public transport use has been significantly rising in the other Australian capital cities from the 1990s, Greater Hobart is only now just seeing a slight increase in public transport use, increasing from 5.7 per cent in 2001 to 6.1 per cent in 2006 (ABS 2006).

Recent figures from Metro Tasmania (July 2011 - December 2011) show a very small increase in patronage figures for Greater Hobart at just 0.01 per cent over that period.

High car usage creates problems in terms of increasing greenhouse gas emissions and makes us vulnerable to increasing oil price vulnerability.

The cause: The high reliance of cars in Greater Hobart can be attributed to:

- Low density pattern of development, with growth occurring in outer urban areas, creating longer travel distances between work and people's homes.
- Availability and low pricing of car parking in the CBD and provision of free car parking in other activity centres which encourages car use.
- Convenience of car travel over other modes, such as relatively low levels of congestion in peak periods, therefore cars generally have faster travel times than other transport modes.
- Long-standing under-investment in urban public transport. Since at least the early 1960s, arguably no genuinely significant new investment in urban public transport infrastructure or services has occurred, except for investment in urban bus depots. Instead, the bus system has been expanded and modified incrementally within a fixed policy approach, with the primary focus being cost minimisation and the provision of a service for the transport disadvantaged. Over many years, this has produced the current situation in which:
 - In an attempt to reach very small numbers of disadvantaged customers, bus
 routes are often circuitous and infrequent, because funding limitations demand a
 compromise between coverage and frequency. This high penetration low
 frequency network design means that bus timetables often do not match the
 times people want to travel, especially in outer urban areas.
 - A continual reluctance (for political reasons) to rationalise very poorly patronised services, coupled with an absence of sufficient growth funding, inevitably leads to the gradual dilution of services across the entire city. Consequently, in almost no location is the bus service able to be high quality and competitive with cars.
 - With very few minor exceptions, buses have no on-road priority over cars, which
 means that buses cannot deliver better travel times than cars (even on relatively
 direct and/or 'express' services).

- Perceived lack of amenity of bus stops and bus malls, exacerbating the unattractiveness of the bus service (particularly with long waiting times associated with infrequent services).
- Public transport carries a stigma that it is catering for a disadvantaged and socially undesirable segment of the community.
- Public transport is often perceived to be uncompetitive with the car in terms of price, especially if people travel together and have access to cheap car parking.

What is occurring: The State Government has developed the *Tasmanian Urban Passenger Transport Framework* which aims to increase the attractiveness of other modes of transport, including public transport, cycling and walking which will help to reduce car dependency.

The Southern Integrated Transport Plan contains actions to manage people's travel demand and influence travel choice in peak periods, examples of actions include:

- Develop and implement a Greater Hobart parking strategy.
- Manage land use to reduce travel demand on major arterial roads.

The Southern Regional Land Use Strategy encourages higher residential densities which will encourage use of more sustainable transport modes.

6.7 Vulnerability to increases in oil prices

The problem: Tasmania's transport system is heavily oil dependent and exposed to increases in oil prices and disruptions to supply. The modelling undertaken as part of the *Tasmanian Oil Price Vulnerability Study* indicates that there will be a long term decline in all fuel-intensive transport activities in Tasmania, including private transport because of higher prices.

The theory behind this is that higher prices will lead to people either driving less or switching to other modes which have lower transport costs. Where people do not have reliable access to public transport and are therefore reliant on the car, their transport costs will increase, this is particularly the case for people living in outer urban and rural areas.

The cause: The *Tasmanian Oil Price Vulnerability Study* indicates that there is every reason to expect continuing, and possibly increasing, oil price volatility into the future as a result of oil producing countries having a monopoly over the supply of oil and an increasing demand especially from India and China. Short-term supply constraints can lead to volatility in prices as a result of major accidents, political turmoil and cyclical peaks. In the longer term, peak oil will also impact on price.

What is occurring: The State Government has already invested in a number of actions, which will help to reduce Tasmania's vulnerability to oil price increases. Relevant passenger transport measures which support the *Tasmanian Urban Passenger Transport Framework* include:

- Improved urban fringe bus services.
- Investment in urban fringe off-bus infrastructure.
- Appointment of an Active Transport Officer and roll-out of the Cycling for Transport Local Infrastructure Development Fund.
- Development of a pilot Travel Behaviour Change Program within the State Government.

The *Tasmanian Oil Price Vulnerability Study* contains actions which will also mitigate against oil price vulnerability. Relevant passenger transport actions include:

- Broadening the Resource Management Planning System to respond to climate change and oil price vulnerability.
- Adopting fuel efficiency standards and diversifying alternative fuel conversion for passenger transport.
- Increasing the modal shift from cars to public transport.
- Increasing active transport programs.

The Hobart City Council has developed a Sustainable Transport Strategy (Sustainable *Transport Strategy 2009-14*) which contains actions to reduce emissions from transport.

6.8 Transport is a major contributor to greenhouse gas emissions

The problem: Tasmania has a target of a reduction in greenhouse gas emissions of 60 per cent below 1990 levels by 2050 (Climate Change (State Action) Act 2008). Transport is the second largest producer of greenhouse gas emissions in Tasmania, producing 21 per cent of all of Tasmania's emissions in 2007. 92 per cent of transport emissions come from road transport, with cars being the largest contributor (Australian Greenhouse Emissions Inventory System).

The cause: Cars are a major contributor to transport greenhouse gas emissions in Tasmania, largely as a result of:

- High levels of car ownership and car dependency.
- Low public transport use.
- Oldest car fleet in Australia, meaning less fuel efficient vehicles.

What is occurring: Measures to reduce greenhouse gas emissions for transport are similar to reducing our vulnerability to oil price increases.

The *Tasmanian Wedges Project Report* prepared for the Tasmanian Climate Change Office, compares a range of potential options for reducing emissions from the transport sector. These include:

- Encouraging low emission vehicles and improved fuel efficiency.
- Establishing planning frameworks that maximise transport efficiency and accommodate alternative transport technologies.
- Improving public transport, including walking and cycling.

6.9 Increasing cost of transport infrastructure

The problem: Tasmania has an extensive and ageing transport system with high capital and recurrent maintenance costs. In today's current financial climate, the Tasmanian Government cannot afford to 'build its way out' of transport problems. Irrespective of this current budgetary problem, it is clear that such a solution is ultimately counter-productive.

Infrastructure solutions (such as building new roads), have been traditionally the only response to transport problems, particularly traffic congestion. Providing new roads can lead to induced demand, encouraging more people to use cars as a form of transport. Expanding urban road capacity makes outer urban areas more attractive places to live, leading to residential growth and expansion of areas which are separated from people's workplaces and are poorly serviced by public transport. These outer areas are typically characterised by low density residential development with few local shops or services, which encourages the use and reliance of cars over other forms of transport.

While building new roads and expanding road capacity might provide congestion relief for the first few years of operation, congestion is often back to, or worse than the initial situation that prompted the infrastructure development in the first place. This has been experienced over recent decades in Australia's major cities.

The cause: Infrastructure costs have increased significantly over the last two decades as a result of:

- Increasing technical standards (eg. for safety, noise attenuation).
- Land acquisition costs.
- Planning and environmental requirements.
- Cost of labour.
- Requirement for better quality construction materials.
- Building in already developed areas with constraints eg. cost of relocating infrastructure, demolition costs.

Maintenance costs have also increased as our infrastructure ages - the older our infrastructure the greater the level of maintenance required to preserve the asset.

What is occurring: Making better use of existing networks through targeted upgrades and managing the community's demand for travel is a more effective use of our limited funds than focusing on large infrastructure solutions. Where infrastructure solutions are essential, they should be directed to areas where there will be the greatest benefit, including benefiting the greatest number of people.

The State Government is increasingly focused on improving the efficiency, reliability and safety of our existing networks and public transport services.



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