

27 September 2019

The Secretary  
Legislative Council Select Committee – GHT  
Legislative Council  
Parliament House, HOBART 7000

Dear Chair Hon Robert Armstrong

### **Legislative Council Select Committee – Greater Hobart Traffic Congestion**

I would initially like to thank the Legislative Council Select Committee for providing members of the public the opportunity to provide comment on Greater Hobart Traffic Congestion. I'm Andrew Holmes, a recent graduate of UTas, with a Bachelor of Engineering (Civil), a Bachelor of Philosophy and a Masters in Planning. I am interested in traffic and transportation, especially its connection with land use planning and improving public transport. My engineering Honours thesis was on the topic of the preferred mode of public transport along the Northern Suburbs Rail Corridor, and my Masters of Planning thesis discussed recent trends in car parking throughout Australia. I am a member of Engineers Australia, the Planning Institute of Australia and the Institute of Public Works Engineers Australia. Additionally, I catch the bus daily to my place of work and have a first-hand understanding of some of the public transportation issues in Greater Hobart.

There are many differing opinions from groups and individuals on how to approach traffic and transportation throughout Greater Hobart. This submission looks to draw on current literature and research in order to inform the discussion, and clearly highlights where any opinion is introduced.

I would like to outline initially that the priority bus routes as denoted by the state government are from the current UTas site in Sandy Bay to Shoreline and Sandy Bay (UTas) to Glenorchy (Infrastructure Tasmania 2018, p.8).

This submission will now respond to the five terms of reference.

#### 1. The scope of Greater Hobart's traffic congestion and its impact on the community and economy

In 2016, Hobart had a modal split of 76% of trips undertaken by car as the driver, 5.3% by bus and 8.1% by active transport modes (Australian Bureau of Statistics 2017). When comparing to other capitals, Hobart has a relatively high percentage of car trips but also the highest percentage of active transport users throughout Australian capitals. In terms of traffic in the inner city, nearly 80% of the vehicles entering the city are found to stay in the city. This means there are few cars passing through from the Southern Outlet to the Brooker Highway (Commonwealth of Australia 2019). In terms of land use, which has a strong connection to transportation and hence, congestion, residential growth and urban sprawl in Kingston, Austins Ferry and Rokeby/Tranmere has increased the number of vehicles on the roads. Modelling undertaken by the Department of State Growth in 2016 found compound traffic growth of 1.1% on the Tasman Bridge, 1.5% on the Brooker Highway and 3.6% on the Southern Outlet (Department of State Growth 2016, p.4). These percentages may seem small and insignificant, however, in actual numbers, on the daily average of vehicles traversing the Tasman

Bridge for example, will increase by 700 cars this year. This is significant as the Tasman Bridge is already approaching capacity (Department of State Growth 2016, p.4).

Traffic congestion has a large impact on both Greater Hobart's community and economy. I am personally impacted by Greater Hobart's increasing traffic congestion. Traffic congestion significantly impacts my daily bus travel, causing delays to Metro's bus service. As a result of this, I believe congestion directly impacts on the operation of Metro economically as the delays and inconsistencies in the service make bus travel unappealing which limits patronage growth. Research has shown this is a known reason which challenges people and provides a barrier to use Metro's services (Lyth, Sharman & Cleland 2018, p.21).

Road users, including motor vehicles, buses and trucks also experience economic impacts of increasing congestion. Time delays in Greater Hobart are 32% higher in peak times when compared to non-peak times (Salmon 2017). These time delays can be evaluated into a dollar value. The costs of congestion Australia wide are projected to be \$27-37 billion by 2030 (BITRE 2019). In Hobart, it is projected to increase from \$0.09 billion to \$0.12-0.16 billion by 2030 (BITRE 2019, p.24).

At a community level, growing congestion has been found to cause social impacts including heightened anger and stress (Hennessy & Wiesenthal 1999). Congestion also brings increased health issues as drivers and passengers sit in their cars for longer. It has been identified that people who live in outer suburbs have a higher likelihood of obesity than compared to living within in inner city. There are suggestions that this may be attributed to increased sitting in vehicles (Sugiyama 2012, p.6). Longer driving time as a result of congestion has been associated with higher odds for smoking, insufficient physical activity, short sleep, obesity, and worse physical and mental health (Ding et al, 2014).

Increasing car use and congestion presents significant environmental impacts for the residents of Greater Hobart. One reason congestion in Hobart has a higher impact on average than other Australian cities is that Hobart is known to have the oldest cars in the country at an average age of 12.3 years (Burgess 2018). This means that the average car in Hobart was manufactured well before current, stricter emission standards. These emissions have direct impact on active transport participants as walkers and cyclists are breathing in a higher concentration of emissions. However, more of a concern is the impact of emissions on school children at inner city schools. In London, pollution has been found to stunt lung capacity by 5% (BBC 2018). Recent studies have found "exposure to air pollutants can increase the risk of a child developing asthma and the number and severity of asthma attacks, affect their learning abilities, as well as a child's heart, brain and nervous system development" (HEAL 2019, p.2). Schools where this may be of concern in Greater Hobart would be for example, St Michael's Collegiate, Montrose Bay High School, Bowen Road and Albuera Street Primary Schools where they are close to arterial traffic routes.

Congestion can cause many impacts, socially, economically and environmentally. Although there is limited research completed within Greater Hobart, it is logical that the impacts and findings found elsewhere can be transferred to the Hobart context.

## 2. Causes of congestion, including physical and topographical barriers

There are many reasons congestion in Hobart has increased, however a few will be discussed below.

It is my belief that there is a correlation between the First Home Owners Grant and increased congestion. The government pay first home owners \$20,000 towards the construction or purchase of a recently constructed home. The majority of these homes are located within the outer suburbs where land is both available and cheap. However there has not been a job shift towards these urban fringe locations nor a mode shift towards public transport and as a result, this has increased the number of new home owners travelling into the city. Effectively the State Government are paying \$20,000 to first home owners to increase congestion.

Another cause of congestion in the continual focus by the State Government to upgrade, widen or construct new road infrastructure as a way to reduce congestion. Recent projects include the Brooker Highway interchange, the Hobart Airport roundabout upgrade and the upcoming Rokeby Bypass. It is well known that constructing more roads and lanes induces more traffic to drive on these roads (Litman, 2019). More lanes means that in the short term it is easier to drive which encourages people to move to the outer suburbs as the travel time has decreased. However, as more people move to the outer suburbs, traffic increases and the travel time lengthens as we start the whole process again. However induced demand works with other infrastructure too. Constructing protected bike lanes, safe footpaths and crossings, as well as bus priority measures will increase the usability and efficiency of these services and as a result will increase the number of uses on these networks. This has been shown in Greater Hobart with a 'significant increase in southern adult patronage' following the 2017 Metro's Hobart Network Review (Parliament of Tasmania 2017, p.2).

### 3. Strategic planning processes between Commonwealth, State and Local governments

It is well known in State Government literature that both land use and transportation are intertwined. However, this remains decoupled in Southern Tasmania. Currently, Southern Tasmania is bound by the Southern Tasmanian Regional Land Use Strategy (Southern Tasmanian Councils Authority 2018) and the Southern Integrated Transport Plan (Department of Infrastructure, Energy and Resources 2010), which do not relate particularly very well. It is recommended that these plans are revisited as they are approaching ten years old and there has been significant changes to both land use and transportation in Greater Hobart in that time. If an update does occur and both plans are combined, it is recommended that the new strategy/plan is based on the South Australia Integrated Land Use and Transport Plan (Government of South Australia 2013). This plan understands the relationship between transportation and land use and recommends future transportation upgrades/new infrastructure based on future housing density and infill targets. One example of this is the statement "These [tram] networks will contribute to improved liveability and vibrancy along these corridors, as well as providing a catalyst for increasing residential density and mixed use developments." (Government of South Australia 2013, p.48).

There is also uncertainty regarding the ownership of bus infrastructure and who pays for this. It is required that bus infrastructure meets Disability Discrimination Act requirements (Australian Human Rights Commission 2010). All bus stops constructed post 2002 are to be built to current accessible standards. Further all buses are required to be wheelchair accessible by 2022 (Department of Infrastructure and Regional Development 2015, p.105) Metro are currently in a replacement program for their buses to meet this standard. However, it is unclear as to who funds the upgrade of bus stops to meet these accessible standards.

Finally, I believe there is a lack of strategic transport planning in Greater Hobart. An overarching transport strategy would provide certainty to developers of infill development that their new

developments would be serviced by either light rail or a bus network. There is clear evidence that providing certainty by announcing funding and/or even a completion date for future public transport networks can increase land values along the corridor. LUTI consulting undertook an hedonic price analysis of house prices along rail corridors in Sydney and found a notable jump in property prices within 800m of the South East Light Rail line. These prices increased when the state government announced the shortlist of options and then again increased on the project announcement in 2012 (LUTI Consulting 2017, p.28-29). This is not immune to Sydney. A 30% price increase was found on when analysing property prices in the 20 years following the initial planning of the Gold Coast Light rail line (1996-2016) (Burke 2017). State governments can use this knowledge and purchase land surrounding future light rail stations. Governments can then sell this land back to developers following the construction of the light rail network and this can partially pay for the construction of the line. This is called value capture and its use in facilitating transport goals is growing Australia wide. This occurs in Perth, Western Australia through their government agencies LandCorp and METRONET. Claremont station is a prime example of this, whereby land nearby the Claremont train station, surrounding the Claremont Oval was sold to developers. These developments nearby train stations are called Transit Oriented Developments and bring vast benefits, including reducing car ownership, increasing health outcomes for its residents and increase infill density (Holmes 2019). Greater Hobart should look to Perth as a case study and consider implementing some of their strategic land use and transport solutions.

#### 4. Future initiatives to address traffic congestion in the Greater Hobart area

There are many different solutions which could assist Greater Hobart in managing its traffic congestion. However, any solution should **not** consider the expansion or upgrade of road infrastructure due to the large initial expenditure, significant ongoing maintenance cost and poor cost benefit ratios (especially when considering the environmental impacts of increased road use). As discussed, increasing road capacity increases car use. Increasing road capacity will never solve a congestion problem, only delay it. Not building or widening new roads will also benefit many other factors throughout Hobart, including the urban heat effect (increased temperatures from hard and dark surfaces), amenity issues and further disconnecting neighbourhoods.

Instead, and a much cheaper solution, would be to implement traffic demand management principles to better use the existing infrastructure within Greater Hobart. This includes denoting bus lanes for all priority routes throughout Greater Hobart and installing bus priority measures including traffic lights which allow for buses to travel first. These are required for buses entering and exiting the bus mall. These should be installed at the bus mall in the first instance, as in my personal experience, the bus mall is at capacity in peak times and buses are banking up which again slows down the network. This program should be later expanded across the city to improve bus network efficiency. Improving the efficiency of the bus network to be faster and more efficient than sitting in a car is much more effective at creating a mode shift than providing free bus travel (Funnell 2019). Although bus lanes may displace some car users, these projects should be sold as an efficiency project not as an anti-car project.

A light rail line on the existing rail corridor from Hobart to Claremont will provide significant benefits to Greater Hobart. It is my belief that light rail in Hobart is misunderstood as solely a transportation project and should be considered a land use and transportation project, and consider the principles of GHD's *Glenorchy to Hobart Public Transport Corridor Study* report (GHD 2016). Many government reports exist which have undertaken detailed costing of the rail line. It was projected in 2013 that the cost to construct a light rail service between Hobart and Glenorchy line is under \$100 million

(AUD2013) and annual operation costs under \$3 million (ACIL-Tasman 2013, p.vii). Whilst I believe it would cost double or triple that, governments should not fear the cost of recently constructed light rail networks in Sydney and the Gold Coast, as a significant portion of their costs are spent on service relocation and disruption to the inner city. There would be minimal service relocation required if using the current rail corridor. Further, purported concerns arise where some argue that the light rail line is not near housing for some of its journey (around the Domain). This actually brings benefits to the network as there are no stops, so there will be no delays along that segment of the journey. It will effectively be an express service from New Town to the Hobart CBD. A light rail line will refocus the city from continuing urban sprawl and focusing on its outer edges, to promoting infill development. Value capture can be used for station precincts. The first home owner grant could be reassigned for apartment/townhouse living within 800m of this corridor to promote inner city living. People living around these corridors will make better use of existing assets including sports grounds, shops, road transportation infrastructure etc. And most importantly, it will attempt to slow the growth of the urban fringe, which in turn will reduce motor vehicle growth rates on the city bound highways, slowing down predicted congestion for these roads.

Finally, it is recommended reducing the car parking provisions within the new planning scheme will assist in minimising car use throughout Greater Hobart. Currently the Statewide planning provisions require developers to provide a certain amount of car parks based on their land use and the size of the development. However, parking provisions, which are a significant driver of car use (cars need to park somewhere at the end of the journey), are seldom reviewed to determine whether they are suitable for the development or have accommodated, or will accommodate, future transport goals/strategies. Similar to road widening, the dependence on car use has been argued to be circular; more people living on the fringe have resulted in cities providing car parking to make their urban spaces accessible by these people (Shoup 2005). As the urban fringe grew rapidly, cities including Hobart, countered by oversupplying car parking, promoting the use of the car and reinforcing that cities could be easily accessible by car. Free parking was provided by cities to encourage visitation which induced the use of the car. This further encouraged the growth of cars, hence, more parking was provided and the cycle continued.

This cycle must be arrested. In order to do this, cities are changing the parking provisions within the planning schemes to be the maximum number of car parking spaces required, instead of the minimum number required (Moreland City Council 2019). This has been found to promote development as the cost of constructing a multistorey car park is up to \$60,000 per space excluding ongoing maintenance costs and land costs (MRCagney 2018, p.31). This means developers in these areas are beginning to spend money on improving the outcomes and finishes of their buildings, instead of spending a significant portion of their budgets on storing vehicles. By reducing the number of vehicles which can be stored through the reduction of car parking spaces, this will have a notable long-term impact on increasing public transport mode share and hence, slowing the growth rate of congestion.

There are many different methods to reduce traffic congestion. This submission discusses in detail three methods. Further research undertaken by the author of this submission regarding both car parking in Hobart and the future mode use of the Northern Suburbs Rail Corridor can be provided as an appendix to this submission on request. In summary, the recommended actions from this submission are to:

- Implement bus priority measures and bus lanes on priority bus routes in the short term.

- Consider the reintroduction of light rail/trams in Hobart along the Northern Suburbs Rail Corridor as initially a driver for land use change as well as an efficient, frequent and uninterrupted public transport mode.
- Review and change car parking provisions within the new Statewide planning scheme to be maximum limits as opposed to the current minimum limits as to not burden developers into building an oversupply of car parking and providing more infrastructure for cars.

#### 5. Any other matters incidental thereto

Urban sprawl is a real problem in cities including Hobart today. Land on the urban fringe is cheap as developers are only considering the bare minimum requirements for public open space, providing minimum road widths and next to no public art. This is presenting a real problem as there are no services for these new residents, and as a result, these residents are locked into car dependency. Further, urban sprawl has a significant cost implication to Councils and service providers. New developments mean there is a duplication and extension of road networks, power networks, NBN, stormwater, sewerage infrastructure, garbage collection etc. These services all require maintenance and hence, it will be up to future generations to continue to fix these assets when they reach end of life. It costs approximately \$80,000 to install the infrastructure to service one greenfield lot compared to \$26,000 to service infill development (AUD2012) (Department of Infrastructure Energy and Resources 2012, p.15). Further, an increase of density as prescribed by current land use planning for Greater Hobart (Southern Tasmanian Councils Authority 2018), as well as the current city deal (Commonwealth of Australia 2019) and facilitated by the recommendations of a State Government commissioned report are aiming for 50% infill, 50% greenfield development by 2030 (Department of Infrastructure Energy and Resources 2014). Light rail can be used as a driver for increasing infill development, as discussed in the GHD report. It is found that light rail can be a driver for 'unlocking new sites for redevelopment eliminating transport constraints, extending labour market catchment areas, and increasing land and property values' (Knowles and Ferbrache 2016).

Through my research undertaken on car parking in Australia, I have found a suite of literature which discusses the role of on street car parking within CBD's internationally. There are a number of reports from London (Tyler et al, 2012) and New York (New York City Department of Transportation (2013) which have found large volumes of parking supply was do not necessarily result in a greater commercial success, and that 'shopkeepers consistently overestimate the share of their customers coming in by car' (Tyler et al. 2012, p.5). Further, following pedestrianisation or improvement to the streetscape, similar to the program of streetscape upgrade the City of Hobart are currently undertaking, it is found that following an initial small dip in retail spending in the year following the works, these businesses experience greater returns when compared to nearby retail not adjacent the works (New York City Department of Transportation 2013). There is currently an oversupply of car parking within the centre of Hobart. Reducing on street car parking to introduce green spaces, bike lanes and wider footpaths will not reduce retail trade over the medium and longer term and will make these places for people and not vehicles. This is not a scary proposition and has been done in many cities worldwide. This does have a direct correlation to congestion, by removing the number of cars in the city, and encouraging mode shift to public transport, the city will become a better place to be, with improved health, social, environmental and economic outcomes.

Thanks again for providing the public with an opportunity to provide submissions on traffic congestion in Greater Hobart. I look forward to reading other submissions and wish the committee all the best in collating and reporting on this growing problem in Greater Hobart.

Thank you,



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