AUSTRALASIAN RAILWAY ASSOCIATION

Association Number A03958 | ABN 64 217 302 489

19 December 2013

Committee Secretary
Senate Standing Committees on Rural and Regional Affairs and Transport
PO Box 6100
Parliament House
Canberra ACT 2600

Dear Committee Secretary,

NATIONAL STUDY: SIGNIFICANT SAVINGS ACHIEVABLE FOR AUSTRALIAN COMMUTERS SWITCHING TO PUBLIC TRANSPORT

Enclosed is a copy of a national study that calculates the potential annual costs to commute by car and public transport to Australian Central Business Districts (CBD), providing a national average and specific figures for Brisbane, Sydney, Melbourne, Adelaide, Hobart and Perth.

The study identifies costs and savings in Australian capital cities according to the distance commuters travel to the CBD (5km, 10km, 15km, 20km and 25km) and the vehicle type they drive (Light, Small, Medium, Large, People Movers, Compact SUVs, Medium SUVs and Large SUVs). These costs are then compared to public transport costs for the same distance, identifying the savings commuters can make by changing their commuter behaviour and switching to public transport.

The review found that the average commuter in Australia could save more than $5,400 per year by leaving their car at home and commuting to the CBD with public transport. It also identified that commuters not owning a car at all or, who decide not to purchase a second household car, could save an average of $9,425 in one year (assuming the commuter works for 231 days in the year).

To determine the savings, the study first identified commuter costs for three scenarios. Specifically:

1. **Scenario one:** own a car and commute to work in the CBD by car five days a week,
2. **Scenario two:** own a car but choose (or are able to) commute to work five days a week by public transport, and
3. **Scenario three:** do not own a car and commute to work five days a week by public transport.

The study includes variable and fixed car ownership costs. Fixed costs incorporate depreciation, finance charges, Compulsory Third Party (CTP) insurance, registration and roadside assistance membership. Variable costs include fuel, tyres, maintenance and repairs costs. All variable and fixed costs used in the study were sourced from the latest 2012 vehicle running cost surveys published by the relevant state-based motoring bodies. Car commute figures also incorporate parking rates from the 2012 Colliers International Parking Rate Study while annual public transport costs are derived from an unlimited monthly rail or bus pass multiplied by 12 months.

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I believe the study highlights another benefit to continued government investment in public transport and illustrates why government investment in public transport is good use of public money.

If you wish to discuss the study and its findings further, please contact Emma Woods, Manager Urban Policy

Yours faithfully

Bryan Nye
Chief Executive Officer
Australasian Railway Association

Commuter costs and potential savings: Public transport versus car commuting in Australia

Dr Jian Wang
CRC for Rail Innovation
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For the Australasian Railway Association
November 2013

Foreword

This discussion paper identifies and quantifies, where possible, the potential savings that commuters working in the CBDs of Australian capital cities could achieve by converting to public transport and leaving their cars at home or deciding not to purchase a second car, or not owning a car at all. It is acknowledged that in real life scenarios, the commuter costs and potential savings identified in this report might be influenced by a range of other factors in addition to vehicle types and distance driven. We hope this report will add to the public debate around where and how to encourage the great utilisation of public transport in Australia.

This paper has been authored by Dr Jian Wang (Research Fellow, Southern Cross University). The assistance of Emma Woods (Manager Urban Policy, Australian Railway Association), Dr Keith Sloan (Adjunct Associate Professor, Southern Cross Business School, Southern Cross University), Dr Michael Charles (Associate Professor, Southern Cross Business School, Southern Cross University) and Phil Allan (Director Policy and Advocacy, Australian Railway Association) with the review of earlier drafts is gratefully acknowledged. Dr Wang acknowledges that his position is supported by the Cooperative Research Centre (CRC) for Rail Innovation, which is funded by a combination of cash and in-kind resources provided by the Australian Government, industry participants and research providers.

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Executive Summary

This report identifies the potential annual savings that commuters working in the Central Business Districts (CBDs) of major Australian cities can achieve by commuting to work via public transport rather than by car.

Focusing on commuters travelling to the CBDs in Sydney, Melbourne, Brisbane, Perth, Adelaide, Canberra and Hobart, commuter costs are first identified for the following three scenarios.

- **Scenario 1:** Own and commute to work by car five days a week.
- **Scenario 2:** Own a car but choose (or are able) to commute to work five days a week by public transport.
- **Scenario 3:** Do not own a car or choose not to buy a second car and commute to work five days a week by public transport.

Varied costs are identified according to the distance commuters travel to the CBD (5km, 10km, 15km, 20km and 25km) and for the first two scenarios, the vehicle type they drive (Light, Small, Medium, Large, People Movers, Compact SUVs, Medium SUVs and Large SUVs).

This study then identifies the potential annual savings commuters can achieve by either leaving their car at home and commuting via public transport, or, if in a household with more than one person, deciding to commute by public transport and live with one less car.

Key findings

To own and commute to work in the CBD five days a week by car, costs the average Australian commuter between $7,432 (5km from the CBD) and $14,639 (25km from the CBD), or an indicative average cost of $11,031 each year.

If Australian commuters decide to retain their car but take public transport to work in the CBD, the annual cost drops to an average of $5,541, a saving of $5,490 (or 50 per cent) compared to driving five days a week. Sydney and Perth commuters can expect the most significant cost savings, averaging $8,232 and $8,141 per year (or 62 per cent and 60 per cent savings) by leaving their car at home. These higher savings are a reflection of the CBD parking charges but also the relatively cheap public transport costs currently in Sydney and Perth. Sydney and Perth are followed by Melbourne and Brisbane commuters, with similar significant cost savings ranging from $6,402 to $5,688 per annum. Adelaide, Canberra and Hobart commuters, meanwhile, can expect more moderate savings by leaving their car at home averaging savings of $3,238, $3,516 and $3,214 respectively per year.

Capital cities – potential

If Australian commuters do not own a car or choose not to purchase a second car and instead commute by public transport to work in the CBD, the annual commute costs drops to an indicative average of $1,607. This figure excludes travel costs to and from a bus or train station and the potential parking costs at park and ride facilities but can result in an indicative saving of $9,425 (a massive 85 per cent) compared to owning and using a car to commute to work. Again, Perth and Sydney commuters can expect the highest cost savings, averaging a saving of $12,011 and $11,946 respectively per annum. These high savings are a reflection of high vehicle running costs and parking costs, coupled with relatively cheap public transport costs in Perth and Sydney. Similar cost savings have also been identified in Melbourne and Brisbane, ranging from $10,234 to $9,680. Even in Adelaide, Canberra and Hobart, significant cost savings ($7,463, $7,348 and $7,291 respectively) can be expected for commuters that do not own a car or choose not to purchase a second household vehicle and instead commute via public transport five days a week.

On account of the longer distances commuters are required to travel, on average, commuters living in the outer suburbs of capital cities incur higher costs and therefore also have the potential for higher savings by shifting to public transport than those living in inner areas. The potential savings also depend on the type of vehicle a commuter owns and drives. Due to higher running costs, commuters who drive large vehicles such as SUVs can achieve more significant savings by changing to public transport than those driving light and small vehicles.

In real life scenarios, the commuter costs and potential saving figures identified in this report will be influenced by a range of factors in addition to vehicle types and distance driven. Some examples that could reduce or increase commuter costs and savings include toll charges, car-pooling, use of park and ride facilities, owning an older or second hand car, how an individual drives (i.e. the rate of acceleration or braking) as well as the occasional use of taxis. Moreover, the examples given of savings to be made if a commuter does not retain a private motor vehicle (or "second" vehicle) make no allowance for the costs that could be incurred for non-commuting travel (eg weekend travel).

To put the potential Australian commuter savings identified in this study in perspective:

- The annual Australian household income in 2011 averaged $64,168 (ABS 2012).
- The average Australian household spent $10,608 on food in 2009/10 (ABS 2011).
- The average Australian homeowner with a mortgage spent $21,600 on mortgage interest and fees in 2011 (ABS 2012).

1. Introduction

Across Australia, fuel, vehicle maintenance and parking prices continue to increase, increasing car travel costs in addition to the capital cost of owning a car. Despite this, eight out of ten Australians travel to work by car, driving over 400 million kilometres a day, and most drive alone (BITRE 2008). Many of these trips could be cheaper, faster and collectively less environmentally damaging if made by public transport.

Since 2000, public transport patronage has increased by an average of 21 per cent across Australia (Cosgrove 2011). This trend is most evident in cities that have improved their service offering by investing heavily in public transport infrastructure and service improvements. For example, there was a significant surge in Perth train patronage following the opening of the Mandurah line in late 2007. Since then, patronage has almost doubled. Melbourne has also seen a steady increase in train patronage since 2005 due, in part at least, to investments in two relatively short rail extensions into growth areas (Sydenham and Craigieburn) and an increase in the number of peak period services.

This report explores the potential savings that commuters travelling to Australian capital city CBDs could achieve by converting to public transport and leaving their car at home or deciding not to purchase a second car or, not owning a car at all. CBDs in Australian capital cities perform a critical role and are considered to be dominant retail, commercial, cultural and administrative centres. In Victoria for example, the Department of Planning and Community Development (DPCD) has a notable planning objective to provide significant CBD-based employment and commercial services to curb urban sprawl and the associated negative social, economic and environmental impacts (DPCD 2008). In New South Wales, the Sydney CBD has the highest number of jobs and also absorbs the most number of trips compared to other areas in Sydney (NSW Department of Planning 2006). It is however acknowledged that, while the CBDs of Australian capital cities are the most concentrated sites of employment, not every firm or every job is located close to the centre. Given the constraints of data availability, this study refers to commuters working in the CBDs.

2. Methodology

2.1. Overview

This study first identifies the financial costs associated with owning and commuting to the CBD via car compared to travelling by public transport in major Australian cities. Specifically, this report calculates the costs in Sydney, Melbourne, Brisbane, Perth, Adelaide, Canberra and Hobart for the following three scenarios:

- **Scenario 1:** Own and commute to work by car five days a week,
- **Scenario 2:** Own a car but choose (or are able) to commute to work five days a week by public transport and
- **Scenario 3:** Do not own a car or choose not to buy a second car and commute to work five days a week by public transport.

This study then identifies the annual savings commuters can potentially achieve by not owning a car at all or changing their commuter habits, either by leaving their car at home and commuting via public transport, or, if in a household with more than one person, deciding not to purchase a second car.

Recognising that commuter costs and potential savings will differ depending on the distance commuters travel and the vehicle an individual drives, this report calculates the commuter costs to travel 5km, 10km, 15km, 20km and 25km and identifies the costs for various vehicle types, specifically Light cars, Small cars, Medium cars, Large cars, People Movers, Compact SUVs, Medium SUVs and Large SUVs.

2.2. Commuter Cost Elements

Vehicle running costs

The costs included to 'run' a vehicle draw on variable and fixed costs. Fixed costs include depreciation, finance charges, Compulsory Third Party (CTP) insurance, registration and roadside assistance membership. Variable costs can differ significantly between road users depending on the use of the car and the type of vehicle. This study includes fuel, tyres, maintenance and repairs costs.

All variable and fixed cost information used for this study was sourced from the latest 2012 vehicle running cost surveys published by the National Roads and Motorists' Association (NRMA), Royal Automobile Association of South Australia (RAA), Royal Automobile Club of Western Australia (RAC), Royal Automobile Club of Queensland (RACQ), Royal Automobile Club of Tasmania (RACT) and Royal Automobile Club of Victoria (RACV).

Parking

To determine the cost of parking, this study draws on data from the 2012 Colliers International Parking Rate Study. This provides monthly unreserved parking rates for all Australian capital cities. For the purpose of this project, it is assumed that a commuter purchases 12 months of monthly unreserved parking.

Public transport costs

The annual public transport costs utilised in this study are derived from an unlimited monthly rail or bus pass multiplied by 12 months. In the case of cities with no periodic tickets such as Brisbane, Adelaide and Hobart, the following formula applies: Annual public transport costs = adult daily return fare x 231 working days.

The costs include allowance for a multi-modal public transport trip except for Sydney, Hobart and Canberra (specifically bus, train and ferry services in Brisbane, train, tram and bus services in

Melbourne, bus, train and ferry services in Perth and train, tram and bus services in Adelaide). For Sydney, the costs only include allowance for train service because studies indicate that train travel is the main mode of public transport in Sydney. Xu and Milthorpe (2010) estimated that train travel is the dominant form of public transport journeys in Sydney, with over 45% journey involving train and 27% journey involving bus.

For Sydney, Melbourne, Brisbane, Perth and Hobart, public transport fares are separated into zones with fares becoming more expensive the greater the distance from the city. However, the distance between zones is not consistent with the commuting distances defined in this study (5km, 10km, 15km, 20km and 25km). Adelaide and Canberra do not have zone-based fares but have flat pricing structures that allow commuters to transfer between modes after validating their ticket within a certain period of time (two hours in Adelaide and one and half hours in Canberra). As a result of the zoned ticket fares, the potential savings commuters can achieve by leaving their car at home and travelling by public transport also fall into zoned figures.

Taxi fares

Recognising that commuters will occasionally travel by taxi, taxi fares are also included in this study. Taxi fare estimates include GST, flag fall, booking fees, distance rate and tolls based on information sourced from State and Territory transport agencies. The calculation excludes waiting time, multiple hirings, night time surcharge and the costs to share a taxi.

2.3. Calculation assumptions and vehicle selection

A number of important assumptions have been made in calculating the costs outlined above.

Working days per year

It is acknowledged that annual working days differ between States and Territories due to the fact that each jurisdiction has different public holidays. However, based on consistency principles, 231 working days is used for all full-time commuter calculations in this study. This figure has also been used in a previous Adelaide study (Adelaide Metro 2004).Public transport and parking costs are also based on 231 working days per year.

Public transport costs

In arriving at the annual public transport costs, it is assumed that commuters will either use an unlimited monthly pass or a regular daily return ticket depending on which city they live in and what tickets are available (i.e. where an unlimited monthly pass is available, and cost savings can be made, it is assumed that a commuter would purchase this ticket over a regular daily return ticket).
This study uses the following public transport costs:

- Sydney: My Train yearly ticket cost ranges from $1,080 to $1,600, average of $1,296 per annum.
- Melbourne: MYKI yearly pass ranges from 1,398 to $2,158, average of $1,854 per annum.
- Brisbane: Go Card ticket yearly cost ranges from $1,515 to $3,026, average of $2,212 per annum.
- Perth: SmartRider ticket yearly cost ranges from $1,100 to $2,005, average of $1,501 per annum.
- Adelaide: Metrocard ticket yearly cost is $1,474.
- Hobart: Metro ticket yearly cost ranges from $1,035 to $2,218, average of $1,685 per annum.
- Canberra: My Way ticket yearly cost is $1,224.

Vehicle running costs

Vehicle running costs have been calculated on a new to five-year ownership period and the assumption that the vehicle travels an annual distance of 15,000 km. Depreciation, interest, vehicle

maintenance, registration, insurance and membership figures have all been sourced from the NRMA, RAC, RAA, RACV, RACQ, RACT vehicle running costs 2012 report and can be found at their individual websites. The Australian Capital Territory does not conduct a regular vehicle running cost survey. After comparing car purchase prices, fuel prices and vehicle maintenance costs between Sydney, Canberra and Melbourne, Canberra prices were deemed closer to Melbourne than to Sydney and therefore, RACV data is used for Canberra vehicle running costs.

Fuel costs are calculated using fuel in cents per kilometre information sourced from the NRMA, RAC, RAA, RACV, RACQ, and RACT 2012 vehicle running cost surveys. The fuel prices per litre used in these surveys are based on the 2012 metropolitan average. For Hobart, fuel price per litre information is not published by the RACT. This study uses the following 2012 metropolitan average fuel prices:

- Sydney: Unleaded 144.0 cents per litre; Premium unleaded 159.0 cents per litre; Diesel 147.7 cents per litre.
- Melbourne: Unleaded 145.7 cents per litre; Premium unleaded 155.8 cents per litre; Diesel 148.7 cents per litre.
- Brisbane: Unleaded 145.7 cents per litre; Premium unleaded 155.9 cents per litre; Diesel 148.4 cents per litre.
- Perth: Unleaded 145.9 cents per litre; Premium unleaded 157.5 cents per litre; Diesel 153.0 cents per litre
- Adelaide: Unleaded 141.8 cents per litre; Premium unleaded 157 cents per litre; Diesel 149.6 cents per litre.
- Canberra: Unleaded 145.7 cents per litre; Premium unleaded 155.8 cents per litre; Diesel 148.7 cents per litre.

Vehicle running costs are based on distance travelled for commuting from place of residence to work in the CBD. The costs and or potential savings for non-work related trips are not included in this study.

Vehicle selection

To understand the costs of owning and commuting to work by car, this study compares eight vehicle categories based on classifications by the Federal Chamber of Automotive Industries (FCAI). When determining the representative vehicle for each category, price and technological innovation were considered. The vehicle categories and their representative vehicles included in this study are:

- Light Cars (Toyota Yaris 1.3L Manual Hatch)
- Small Cars (Mazda 3 Neo 2.0L Auto hatch)
- Medium Cars (Hyundai i45 Active 2.0L Auto Sedan)
- Large Cars (Holden Commodore Omega 3.0L Auto sedan)
- People Movers (Hyundai iMAX 2.4L Auto Wagon)
- Compact SUVs (Mazda CX-5 Maxx 2.0L Auto Wagon)*
- Medium SUVs (Ford Territory TX 2.7 L Auto Wagon)
- Large SUVs (Toyota Landcruiser Prado GXL 3.0L Auto Wagon)

*For Compact SUVs, the Mazda CX-7 was selected for Sydney due to NRMA data constraints.

The detailed data in Appendix 1 shows the costs for the categories of cars outlined above and for 5 different distances from the CBD. For simplicity, the national and jurisdictional data below has been averaged with ranges to illustrate the effect of the type of vehicle and distance of the trip.

3. Analysis and results

3.1. National analysis and results

The 2011 Census found that Australia's total labour force of people aged 15 years and over equalled 10.7 million people. More than half (59.7 per cent) reported full-time employment meaning that 6.4 million Australians commute to work five days a week.

Scenario 1 costs: own and commute to work by car five days a week

As displayed in Appendix 1, it is obvious that the greater the distance an individual travels to work, the more expensive the costs are, regardless of the city in which an individual lives. Further, as a result of different running costs, commuters owning larger vehicles such as SUVs incur greater costs compared to those owning and driving light and small vehicles.

The following costs have been identified to own and commute to work by car five days per week:

- Australian commuters travelling to work in the CBD, on average, spend between $7,432 (5km from the CBD) and $14,639 (25km from the CBD) annually to own and commute by car five days a week.
- Perth and Sydney commuters have the highest costs to own and commute to work by car compared with those in other capital cities, ranging from $9,180 to $22,306 and from $8,890 to $20,206 respectively on an annual basis. The higher costs in Perth and Sydney are attributed to CBD parking charges.
- Melbourne and Brisbane based commuters pay similar prices, costing between $7,880 and $20,107 (Melbourne) and between $7,560 and $19,502 (Brisbane) respectively.
- Adelaide, Canberra and Hobart commuters benefit from significantly lower car commuter costs ranging from $4,443 to $16,524 in Adelaide, from $4,364 to $16,591 in Canberra and from $4,447 to $19,157 in Hobart per year.

Scenario 2 costs: own a car but choose (or are able) to commute to work five days a week by public transport

Appendix 1 also identifies the average Australian costs to own a car but commute to work by public transport. Specifically:

- It costs the average Australian between $2,572 (5km from the CBD) to $8,515 (25km from the CBD) annually to own a car but commute to work five days a week by public transport.
- Leaving the car at home and commuting to work by public transport is most costly for Brisbane commuters, who on average pay from $2,235 to $12,854 per annum. The high costs in Brisbane are a reflection of higher public transport costs.
- Hobart, Adelaide, Melbourne and Perth commuters that leave their car at home and commute by public transport all have similar annual costs of $1,701-$14,825 (Hobart), $2,263-$11,303 (Adelaide), $2,108-$12,075 (Melbourne) and $1,756-$12,859 (Perth) respectively.
- Sydney and Canberra commuters have the lowest costs, specifically from $1,669 to $10,771 and from $1,935 to $11,141 per year when an individual decides to leave their car at home and commute via public transport five days a week. Expensive CBD parking and inexpensive public transport costs are the drivers behind these lower costs.

Scenario 3 costs: do not own a car or choose not to buy a second car and commute to work five days a week by public transport

- On average, Australian commuters spend between $1,261 (5km from the CBD) to $1,958 (25km from the CBD) per annum to commute to work five days a week by public transport.
- Brisbane has the highest cost to travel by public transport ($2,212), followed by Melbourne ($1,854), Hobart ($1,685), Perth ($1,501) and Adelaide ($1,474).

- Sydney and Canberra have the lowest public transport costs, at an average of $1,296 and $1,224 respectively.

Potential commuter savings

This study identifies the potential savings commuters can achieve by costing the two following scenarios. Firstly, a commuter leaves their car at home and commutes by public transport or, secondly, a commuter decides not to own a car at all (or not to purchase a second car) and only commutes by public transport.

The detailed figures are included in Appendix 2 with some highlights provided below. By leaving their car at home and travelling by public transport to work five days a week, the average commuter travelling to work in the CBD of Australian capital cities can achieve the following savings.

- Commuters who own a car but choose to leave the car at home and travel to work via public transport will save between $4,859 (5km from the CBD) and $6,124 (25km from the CBD) per year.
- Sydney and Perth commuters can expect the most significant cost savings by leaving their car at home, averaging a saving of $8,232 and $8,141 respectively per year. As noted previously, these high savings are reflections of Sydney and Perth's CBD parking charges and relatively low public transport costs.
- Sydney and Perth commuters are followed by Melbourne and Brisbane, where similar cost savings can be achieved ranging from $6,402 to $5,688 per year by leaving a car at home and commuting by public transport.
- Adelaide, Canberra and Hobart commuters, can expect moderate average savings at $3,238, $3,516 and $3,214 respectively per year.

The average annual savings a commuter can achieve by not owning a car at all or not purchasing a second car and commuting with public transport are outlined below. These savings include the associated costs of keeping the car for commuting purposes but exclude other non-work trips.

- If an individual decides not to own a car or not to purchase a second car to travel to work, they can save between $6,171 (5km from the CBD) and $12,682 (25km from the CBD) per annum.
- With the highest car commuting costs, Perth and Sydney commuters can expect the highest cost savings by not owning or purchasing a second car and making a switch to public transport, averaging a significant saving of $12,011 and $11,946 per year. Again, these savings are a reflection of high CBD parking costs, coupled with relatively cheap public transport costs in Perth and Sydney.
- Similar cost savings can also be seen in Melbourne and Brisbane, ranging from $10,234 to $9,680 per year.
- In cities like Adelaide, Canberra and Hobart, significant cost savings ($7,463, $7,348 and $7,291 respectively) can be expected.

3.2. Sydney analysis and results

According to the latest Census, the population of Greater Sydney in 2011 was 4,391,674, living in 1,720,333 dwellings with an average household size of 2.7 people (ABS 2012). Data from the same Census shows that Sydney's labour force of workers aged 15 years and above totalled 2,188,854 individuals, more than half (62.1 per cent) of which reported full-time employment.

The 2011 Census also revealed that 58.3 per cent of Sydney commuters prefer to travel to work by car than other means. In specific terms, 53.8 per cent of Sydneysiders reported driving to work, and a further 4.5 per cent travelled by car as a passenger. The portion of people opting to travel by train increased from 12.3 per cent in 2006 to 13.8 per cent in 2011. The results also indicated a small decline in the proportion of people walking to work, with only 4.1 per cent of people in 2011. Other methods to travel to work include travelling by bus (5.8 per cent), light rail and ferry (0.4 per cent), and bicycle (0.8 per cent).

While, on average, residents of the outer Sydney suburbs have longer journey times than residents of inner areas, in 2012, the average one-way commute time to work for Sydney employees was 35.8 minutes (Payscale Australia 2013).

Sydney Commuting Costs and Savings

As can be expected, commuters driving larger vehicles have higher costs than those driving smaller vehicles. As a result, the annual cost to commute to work five days a week by car in Sydney ranges from $8,890 to $20,206 depending on the vehicle type and distance driven. The average cost to own and commute by car in Sydney is $13,242 per annum. Specific costs for different distances and car types can be found in Appendix 1. The corresponding potential savings that can be made by changing commuter patterns are available in Appendix 2.

For simplicity, one option has been chosen to demonstrate the level of savings that Sydney commuters can achieved. The following option is for an individual commuting 15km one-way in a small car.

- **Scenario 1:** the annual cost to own and commute with a small car 15km each-way five days a week (231 days of the year) is $11,737.
- **Scenario 2:** where a small car is owned but the decision is made to commute to work with public transport, the annual costs drop to $3,762. As a result, by leaving their car at home and traveling to work by public transport, a Sydney commuter can save, $7,975 per annum (a saving of 68 per cent on the costs of using the car to commute per year, or $153 per week representing around 11 per cent of the greater Sydney median weekly household income ($1,447 ABS 2012)).
- **Scenario 3:** where only public transport is used and no car is owned or a decision is made to not purchase a second car to commute to work, the cost is $1,360 per annum. This scenario saves a Sydney commuter travelling 15km into the CBD $10,377 in one year, or a massive 88 per cent saving compared to owning and commuting by car. This saving is equivalent to $200 per week or 14 per cent of the greater Sydney median weekly household income.

In lieu of owning a car, or purchasing a second household car, individuals may choose to occasionally take a taxi. Recognising this fact, this study also examines the costs to commute by taxi. Sydney commuters would expect to pay at least $36 to commute 15km one-way into the CBD without using toll roads. In a real-life scenario, if an individual has to commute 15km to work in the CBD via taxi once a week, the annualised costs will amount up to $1,656. If the frequency increases to twice a week, the costs will double to $3,312. These estimates exclude waiting time and are conservative but are still minimal compared to the annual car ownership and running costs identified above.

3.3. Melbourne analysis and results

The 2011 Census population of Greater Melbourne was 3,999,982, living in 1,637,167 dwellings with an average household size of 2.6 (ABS 2012). Data from the 2011 census shows that Melbourne's total labour force of people aged 15 and above consisted of 2,039,382 people. More than half (60.1 per cent) of Melbourne's labour force reported being employed full-time.

The 2011 Census also revealed that 80 per cent of Melburnians travel to work by car. Specifically, 75 per cent of Melbourne employees reported that they drive to work, and a further 5 per cent travel as a passenger in a car. The proportion of people opting to take the train was 7 per cent in 2011, putting train travel in the top three methods to commute to work. The Census also indicated that 4 per cent of people walked to work whilst 3 per cent travelled by trams, 2 per cent by bicycle and 1 per cent by bus.

In 2012, the average one-way commute time to work for employees in Melbourne was 30.9 minutes (Payscale Australia 2013).

Melbourne Commuting Costs and Savings

Owning and commuting to work by car five days a week in Melbourne costs the average individual between $7,880 and $20,107 subject to the vehicle type driven and distance travelled. It costs the average Melbourne commuter $12,088 per year to own and commute to work by car.

The following option is for a Melbourne commuter travelling 15km one-way to work in the CBD in a small car.

- **Scenario 1:** In Melbourne, the annual cost to own and commute with a small car 15km each-way five days a week (231 days of the year) is $10,830.
- **Scenario 2:** If a Melbourne commuter owns a small car, but decides to commute to work with public transport, the annual cost is $4,794. By leaving their car at home and traveling to work by public transport, a Melbourne commuter can save, $6,036 per annum (a saving of 56 per cent on the costs of using the car to commute, or $ 116 per week representing a saving of around 9 per cent of the greater Melbourne median weekly household income($1,333 ABS 2012)).
- **Scenario 3:** where only public transport is used and no car is owned or a decision is made to not purchase a second car to commute to work, the cost is $2,158 per annum. This scenario saves a Melbourne commuter travelling 15km into the CBD $8,672 in one year, or a significant 80 per cent saving compared to owning and commuting by car. This saving is equivalent to $167 per week or 13 per cent of the median greater Melbourne weekly household income.

If a Melbourne commuter chooses to catch a taxi occasionally to commute to work in the CBD, he or she would expect to pay at least $27 to commute 15km into the CBD without using toll roads. If the frequency of taxi use became once or twice a week, the annualised costs will amount to $1,263 and $2,526 respectively. These estimates exclude waiting time and are conservative.

3.4. Brisbane analysis and results

The Census population of Greater Brisbane in 2011 was 2,065,996, living in 821,059 dwellings with an average household size of 2.7 (ABS 2012). Data from the 2011 census shows that Brisbane's total labour force of people aged 15 and over consisted of 1,073,479 people on 9 August 2011. More than half (61 per cent) of Brisbane's labour force reported being employed full-time.

The 2011 Census revealed that 80 per cent of Brisbane people travel to work by car. 73 per cent of Brisbane people reported that they drive to work, and a further 7 per cent travel as a passenger in the car. The proportion of people opting to take the bus was 7 per cent in 2011, putting bus in the top two methods of travel to work, followed by train (5 per cent). The results also indicated that the proportion of people, who choose to walk to work, was 4 per cent of people in 2011.

In 2012, the average one-way journey to work for Brisbane employees was 29.3 minutes (Payscale Australia 2013).

Brisbane Commuting Costs and Savings

The annual costs to own and commute five days a week by car in Brisbane ranges from $7,560 to $19,502. These figures depend on and vary according to commuting distance and vehicle types. Owning a car and commuting to work by car five days a week costs the average Brisbane commuter $11,892 per year.

The following option is for a Brisbane individual travelling 15km one-way to work in the CBD in a small car.

- **Scenario 1:** In Brisbane, the cost to own and commute with a small car 15km each-way five days a week is $10,698 on an annual basis.
- **Scenario 2:** If a Brisbane commuter owns a small car, but chooses to use public transport for commuting to work in the CBD, the annualised cost decreases to $5,155. By leaving their car at home and traveling to work by public transport, a Brisbane commuter can save, $5,543 per annum (a saving of 52 per cent on the costs of using the car to commute, or $107 per week representing a saving of around 8 per cent of the greater Brisbane median weekly household income ($1,388 ABS 2012)).
- **Scenario 3:** For an individual in Brisbane, where only public transport is used and no car is owned or a decision is made to not purchase a second car to commute to work, the commuter cost is $2,370 per annum. This scenario saves a Brisbane commuter travelling 15km into the CBD $8,328 in one year, or a significant 78 per cent saving compared to owning and commuting by car. This saving is equivalent to $160 per week or 12 per cent of the median Brisbane weekly household income.

In addition, if a Brisbane commuter chooses to catch a taxi on some occasions to commute to work in the CBD, he or she would expect to pay at least $35 for commuting 15km from Sunnybank to the CBD (without using toll roads). When the frequency of tax use increases to once or twice a week, the annualised costs will be amount to $1,610 and $3,220 respectively.

3.5. Perth analysis and results

The 2011 Census population of Greater Perth was 1,728,867, with an average household size of 2.6 persons living in 726,004 dwellings (ABS 2012). Data from the same census identified that Perth's total labour force aged 15 and above consisted of 900,494 people on 9 August 2011. More than half of Perth's labour force, 60.2 per cent reported being employed full-time.

The second round of results from the 2011 Census revealed that 84 per cent of Perth people travel to work by car. Figures showed that 77 per cent of Perth people reported driving to work, whilst a further 7 per cent travel in a car as a passenger. The portion of people opting to take the train was 4 per cent in 2011, putting train in the top three methods of travel to work. The results also indicated that 3 per cent of Perth employees walked to work in 2011. Other popular methods of travel to work include travelling by bus (4 per cent), bicycle (1 per cent) and truck (1 per cent).

In 2012, the average journey to work for employees in Perth was 28.7 minutes (Payscale Australia 2013).

Perth Commuting Costs and Savings

In Perth, the annual costs to own a car and commute to work five days a week by car range from $9,180 to $22,306 depending on the vehicle type and distance driven. The average cost to own and commute by car in Perth is $13,511 per annum. Specific figures for different distances and types of vehicles can be found in Appendix 1 and 2.

The following option is for a Perth commuter travelling 15km one-way to work in the CBD in a small car.

- **Scenario 1:** In Perth, the cost to own and commute with a small car 15km each-way five days a week is $12,131 per year.
- **Scenario 2:** If a Perth individual owns a small car, but makes a shift to public transport to commute to work in the CBD, the annual cost reduces to $4,192. By leaving their car at home and traveling to work by public transport, a Perth commuter can save, $7,939 per annum (a saving of 65 per cent on the costs of using the car to commute, or $153 per week representing around 10 per cent of the greater Perth median weekly household income ($1,459 ABS 2012)).
- **Scenario 3:** where no car is owned or a decision is made to not purchase a second car to commute to work, and an individual commutes by public transport the cost in Perth is $1,649 per annum. This scenario saves a Perth commuter travelling 15km into the CBD $10,482 in one year, or a significant 86 per cent saving compared to owning and commuting by car. This saving is equivalent to $202 per week or 14 per cent of the median greater Perth weekly household income.

In addition, a Perth commuter using taxis would expect to pay at least $29 to commute 15km one-way from Murdoch to the CBD. When the frequency of taxi use increases to once or twice a week, the annualised costs will amount to $1,334 and $2,668 respectively. This estimate excludes waiting time and is conservative.

3.6. Adelaide analysis and results

The Census population of Greater Adelaide in 2011 was 1,225,235, living in 533,511 dwellings with an average household size of 2.4 (ABS 2012). Data from the 2011 census shows that Adelaide's total labour force of people aged 15 years and above consisted of 612,226 people at the on 9 August 2011. More than half (56.9 per cent) of Adelaide's labour force reported being employed full-time.

The second round of results from the 2011 Census revealed that 84 per cent of Adelaide employees travel to work by car rather than any other means. Figures showed that 78 per cent of Adelaide people reported that they drive to work, and a further 6 per cent travel as a passenger in the car. The proportion of people opting to take the train is 2 per cent in 2011. The results also indicated that 3 per cent of Adelaide employees who chose to walk to work. Other popular methods of travel to work include travelling by bus (6 per cent), bicycle (1 per cent) and truck (1 per cent).

In 2012, the average journey to work for employees in Adelaide was 25.5 minutes (Payscale Australia 2013).

Adelaide Commuting Costs and Savings

The annualised cost to commute to work five days a week by car in Adelaide ranges from $4,443 to $16,524 depending on the vehicle type and distance driven. The average cost to own and commute by car in Adelaide is $8,937 per annum. More details can be found in Appendix 1 and 2.

The following option details the costs and savings an individual in Adelaide commuting 15km one-way to work in the CBD in a small car can achieve.

- **Scenario 1:** In Adelaide, the annual cost to own and commute with a small car 15km each-way five days a week (231 days of the year) is $7,674.
- **Scenario 2:** where a small car is owned by an Adelaide commuter, but he or she decides to commute to work with public transport, the annual cost drops to $4,502. By leaving their car at home and traveling to work by public transport, an Adelaide commuter can save, $3,172 per annum (a saving of 41 per cent of the costs to use drive a car to commute, or $61 per week representing a saving of around 6 per cent of the greater Adelaide median weekly household income($1,106 ABS 2012)).
- **Scenario 3:** where no car is owned or a decision is made not to purchase a second car to commute to work, the cost to commute by public transport in Adelaide is $1,474 per annum. This scenario saves an Adelaide commuter travelling 15km into the CBD $6,200 in one year, or a significant 81 per cent saving compared to owning and commuting by car. This saving is equivalent to $119 per week or 11 per cent of the greater Adelaide median weekly household income.

Recognising that Adelaide commuters may occasionally take a taxi, Adelaide commuters travelling 15 one-way by tax to the CBD would expect to pay at least $30 . I the frequency of taxi use was to increases to once or twice a week, the annualised costs will amount to $1,392 and $2,783 respectively. These estimates exclude waiting time and are conservative.

3.7. Canberra analysis and results

The Census population of Greater Canberra in 2011 was 355,596, living in 144,831 dwellings with an average household size of 2.6(ABS 2012). Data from the 2011 census shows that Canberra's total labour force of people aged 15 years old and above consisted of 202,287 people. More than half (65 per cent) of Canberra's labour force reported being employed full-time.

The second round of results from the 2011 Census revealed that 82 per cent of Canberra people travel to work by car. Figures showed that 74 per cent of reported that they drive to work, and a further 8 per cent travel as a car passenger whilst 7 per cent commuted by bus.

In 2012, the average journey to work for employees in Canberra was 23.3 minutes (Payscale Australia 2013).

Canberra Commuting Costs and Savings

To commute to work five days a week by car, the annual costs in Canberra range from $4,364 to $16,591 depending on the distance driven each day and vehicle type. The average cost to own and commute by car in Canberra is $8,572 per annum. Please refer to Appendix 1 and 2 for more details.

The following option is for a Canberra commuter travelling 15km one-way to work in the CBD in a small car.

- **Scenario 1:** the costs to own and commute with a small car 15km each-way five days a week in Canberra is $7,314 per year based on 231 days of the year.
- **Scenario 2:** where a Canberra commuter owns a small car, but decides to commute to work with public transport, the annualised cost reduces to $3,860. By leaving their car at home and traveling to work by public transport, a Canberra commuter can save, $3,454 per annum (a saving of 47 per cent on the costs of using the car to commute, or $66 per week representing around 4 per cent of the greater Canberra median weekly household income($1,839 ABS 2012)).
- **Scenario 3:** where public transport is used by a Canberra commuter and no car is owned or a decision is made to not purchase a second car to commute to work, the cost is $1,224 per annum. This scenario saves a Canberra commuter travelling 15km into the CBD $6,090 in one year, or a significant 83 per cent saving compared to owning and commuting by car. This saving is equivalent to $117 per week or 6 per cent of the median Canberra weekly household income.

In addition, if a Canberra commuter chooses a catch a taxi occasionally, he or she would expect to pay at least $27 to travel 15km one way to the CBD. Were the frequency of taxi use to increases to an average of one or two taxis per week, the annual taxi costs would amount to $1,263 and $2,526 respectively. Please note, these estimates exclude waiting time and are conservative.

3.8. Hobart analysis and results

The Census population of Greater Hobart in 2011 was 211,656 people, living in 94,192 dwellings with an average household size of 2.4 (ABS 2012). Data from the 2011 census shows that Hobart's total labour force of people aged 15 and above consisted of 102,767 people at the time of last Census on 9 August 2011. More than half (55.1per cent) of Hobart's labour force reported being employed full-time.

The second round of results from the 2011 Census of revealed that 84 per cent of Hobart people travel to work by car. Specifically, figures showed that 75 per cent of Hobart employees reported driving to work, and a further 9 per cent reported travelling as a passenger. The results also indicated that 7 per cent of people walked whilst 5 per cent took the bus.
In 2012, the average journey to work for employees in Hobart was 20 minutes (Payscale Australia 2013).

Hobart Commuting Costs and Savings

The annualised costs to commute to work five days a week by car in Hobart range from $4,447 to $19,157 depending on the vehicle type and distance driven. The average cost to own and commute by car in Hobart is $8,976 per annum. Specific figures for different distances and types of car can be found in Appendices 1 and 2.

The following option is for an individual commuting 15km one-way to work in the Hobart CBD in a small car.

- **Scenario 1:** the costs to own and commute with a small car 15km each-way five days a week in Hobart is $7,426 per year.
- **Scenario 2:** where a small car is owned but the decision is made to commute to work with public transport in Hobart, the annual cost lowers to $4,044. By leaving their car at home and traveling to work by public transport, a Hobart commuter can save, $3,382 per annum (a saving of 46 per cent on the costs of using the car to commute, or $65 per week representing around 6 per cent of the greater Hobart median weekly household income($1,065 ABS 2012)).
- **Scenario 3:** where public transport is used and no car is owned or a decision is made to not purchase a second car to commute to work, the commute cost is $1,478 per annum. This scenario saves a Hobart commuter travelling 15km into the CBD $5,948 in one year, or a significant 80 per cent saving compared to owning and commuting by car. This saving is equivalent to $114 per week or 11 per cent of the median Hobart weekly household income.

In addition, Hobart commuter would expect to pay at least $31 for commuting 15km one-way to the CBD by taxi. If the frequency of taxi use increases to once or twice a week, the annualised costs will amount to $1,426 and $2,852 respectively. This estimate excludes waiting time and is conservative.

3.9. Validation of Results

Literatures search uncovered only three commuter savings report that would provide a meaningful comparison to this study. Furthermore, few studies have attempted to estimate the different travel cost components (e.g. fixed and variable costs) under different conditions (e.g. travelling distance and vehicle types). One of the few studies was undertaken by the American Public Transportation Association's (APTA) Transit Savings Report (2013) and found that, individuals who use public transport instead of driving can save, on average, more than US$10,181 annually. These savings are based on the cost of commuting by public transport compared to the cost of owning and driving a vehicle. Hence, the validity of results was tested by comparing our results with the results estimated in these studies in terms of savings from commuting by public transport.

It is, of course, difficult to compare the estimated results reported herein with other studies. This is because the assumptions underpinning different studies vary significantly. As shown in Table 1, our estimates are higher than Adelaide Metro (2004) and DOTWA (2008), with the exception of the APTA 2013 study. This is as expected, since these studies used previous vehicle running costs and parking costs, which are generally much lower than current prices in 2013. However, our findings are in line with the APTA 2013 study, which employed similar assumptions and methodologies. Our study provides a higher bound estimate of the savings of commuting by public transport compared to DOTWA 2008 and Adelaide Metro 2004. They suggest that the total savings by commuters in Australia may be in the range of $9,413 per year.

Table 1: Comparison of transit savings estimates from other studies (save per year)

	Our study (2013)	**DOTWA (2008)**	**Adelaide Metro (2004)**	**APTA (2013)**
Parking costs	**Medium sized car Parking ($680 monthly for Perth, $276 monthly for Adelaide) 25km from the CBD**	Medium sized car Parking $5-18.7/day 25km from the CBD	Large sized car Parking $7.7/day 25km from the CBD	Medium sized car, aggregated distance
Savings estimates	**Perth $8,498 (Leave car at home) Adelaide $4,004(Leave car at home) Australia-wide $9,413 (no car or second car, aggregated distance)**	$1,409 - 4,574	$2,409	US-wide US$10,181

4. Limitations

In real life scenarios, the commuter costs and potential saving figures identified in this report will be influenced by a range of factors in addition to vehicle types and distance driven. Some examples that could reduce or increase commuter costs and savings include toll charges, car-pooling, use of park and ride facilities, owning an older or second hand car, how an individual drives and the occasional use of taxis. Moreover, the examples given of savings to be made if a commuter does not retain a private motor vehicle (or "second" vehicle) make no allowance for the costs that will be necessarily incurred for non-commuting travel.

This report only evaluates the cost effects of commuters who choose to or are able to use public transport to commute to work in the CBD. In reality, cars still serve as the dominant mode of commuter transport in a large majority of Australian capital cities. Much of the reason for the observed car dominance could be attributed to the inadequacy of public transport services in areas further away from CBDs. Access to public transport diminishes as the distance between the CBD and the outer regions widens. The available data suggests that outermost regions such as Peri-urban areas in most capital cities lack public transport coverage. Because of the scope of this study, these factors are excluded from our costing evaluations.

Furthermore, the underlying assumption of this report is that commuters work in the CBD and commute from their location of residence. It is acknowledged that, while the CBDs of Australian capital cities are the most concentrated sites of employment, not all employment centres are located close to the centre. For example, just 28 per cent of jobs were within a 5 km radius and over 80 per cent of retail and manufacturing jobs were located more than 5km from the city centre in Melbourne (Davis 2011). The spread of employment is not taken into account in this study.

In addition, the full costs of driving include both private financial costs and external social costs such as emissions, accidents and congestion (e.g. Rouhani et al., 2013). Increased public transport use is therefore correlated with a reduction in external costs (the difference between social cost and private financial cost). Though it is important to inform road users on their emissions and congestion costs from a social welfare perspective, this report does not attempt to quantify or include carbon emissions and congestion costs for Australian commuters in Australian cities.

Nevertheless, it is without doubt that commuting by public transport can lower household expenses and free income for other needs. This study identifies that significant annual savings can be achieved by not owning a car at all or not purchasing a second household car and instead commuting by public transport.

This study proves that public transport is an efficient short or long-term tool for households to save on commuting expenditures. These savings represent the beginning of pubic transport's potential contribution to create a stronger economy, a cleaner environment and greater energy independence – which all contributes to a better quality of life.

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Appendix 1: Commuter Costs ($ per year)

Scenarios	Total costs of Scenario 1 Own and commute by car 5 days per week					Total costs of Scenario 2 Own a car but choose (or are able) to commute to work five days a week by public transport					Total costs of Scenario 3 Do not own a car or choose not to buy a second car and commute to work five days a week by public transport.				
Distance from city	5km	10km	15km	20km	25km	5km	10km	15km	20km	25km	5km	10km	15km	20km	25km
Australian average	$11,031					$5,010					$1,296				
Australian average	$7,432	$9,231	$11,025	$12,829	$14,639	$2,572	$3,985	$5,608	$7,025	$8,515	$1,261	$1,362	$1,673	$1,779	$1,958
Sydney average	$13,242					$5,010					$1,296				
Sydney range	$8,890 -$20,206					$1,669-$10,771					$1,080-$1,600				
Light	$8,890	$9,715	$10,830	$11,800	$12,770	$1,669	$2,259	$3,128	$3,717	$4,546	$1,080	$1,080	$1,360	$1,360	$1,600
Small	$9,192	$10,465	$11,737	$13,009	$14,282	$1,881	$2,681	$3,762	$4,563	$5,603					
Medium	$9,723	$11,525	$13,328	$15,131	$16,934	$2,363	$3,645	$5,208	$6,491	$8,014					
Large	$10,163	$12,406	$14,650	$16,893	$19,136	$2,690	$4,300	$6,190	$7,799	$9,649					
People Mover	$9,971	$12,022	$14,073	$16,124	$18,175	$2,566	$4,051	$5,817	$7,302	$9,028					
Compact SUVS	$9,491	$11,063	$12,634	$14,206	$15,777	$2,124	$3,168	$4,492	$5,536	$6,819					
Medium SUVs	$9,753	$11,587	$13,420	$15,254	$17,087	$2,338	$3,597	$5,135	$6,393	$7,891					
Large SUVs	$10,377	$12,834	$15,291	$17,749	$20,206	$2,914	$4,748	$6,862	$8,697	$10,771					
Melbourne average	$12,088					$5,686					$1,854				
Melbourne range	$7,880-$20,107					$2,108-$12,075					$1,398-$2,158				
Light	$7,880	$8,944	$10,009	$11,073	$12,137	$2,108	$2,819	$4,290	$5,000	$5,711	$1,398	$1,398	$2,158	$2,158	$2,158
Small	$8,154	$9,492	$10,830	$12,168	$13,506	$2,276	$3,155	$4,794	$5,672	$6,551					
Medium	$8,401	$9,986	$11,571	$13,156	$14,740	$2,543	$3,688	$5,593	$6,738	$7,883					
Large	$8,797	$10,778	$12,759	$14,740	$16,721	$2,940	$4,482	$6,784	$8,326	$9,869					
People Mover	$8,715	$10,613	$12,512	$14,410	$16,309	$2,762	$4,126	$6,251	$7,615	$8,979					
Compact SUVS	$8,451	$10,087	$11,722	$13,358	$14,993	$2,548	$3,699	$5,610	$6,760	$7,911					
Medium SUVs	$8,715	$10,613	$12,512	$14,410	$16,309	$2,841	$4,285	$6,489	$7,933	$9,376					
Large SUVs	$9,474	$12,132	$14,791	$17,449	$20,107	$3,381	$5,364	$8,108	$10,092	$12,075					
Brisbane average	$11,892					$6,205					$2,212				
Brisbane range	$7,560-$19,502					$2,235-$12,854					$1,515-$3,026				
Light	$7,560	$8,639	$9,719	$10,799	$11,878	$2,235	$3,219	$4,529	$5,249	$6,625	$1,515	$1,779	$2,370	$2,370	$3,026
Small	$7,886	$9,292	$10,698	$12,104	$13,510	$2,444	$3,636	$5,155	$6,084	$7,668					
Medium	$8,110	$9,739	$11,369	$12,999	$14,628	$2,697	$4,143	$5,916	$7,098	$8,936					
Large	$8,534	$10,588	$12,642	$14,236	$16,750	$3,126	$5,000	$7,201	$8,812	$11,078					
People Mover	$8,418	$10,355	$12,293	$14,230	$16,168	$2,910	$4,568	$6,553	$7,947	$9,997					
Compact SUVS	$8,190	$9,900	$11,610	$13,320	$15,030	$2,724	$4,197	$5,997	$7,207	$9,072					
Medium SUVs	$8,612	$10,744	$12,876	$15,008	$17,140	$3,152	$5,053	$7,281	$8,917	$11,210					
Large SUVs	$8,994	$11,509	$14,023	$16,538	$19,052	$3,481	$5,710	$8,267	$10,232	$12,854					
Perth average	$13,511					$5,370					$1,501				
Perth range	$9,180-$22,306					$1,756-$12,859					$1,100-$2,005				
Light	$9,180	$10,188	$11,196	$12,204	$13,212	$1,756	$2,412	$3,618	$4,274	$5,286	$1,100	$1,100	$1,649	$1,649	$2,005
Small	$9,492	$10,811	$12,131	$13,450	$14,770	$1,947	$2,795	$4,192	$5,040	$6,243					
Medium	$9,758	$11,344	$12,930	$14,516	$16,102	$2,235	$3,370	$5,055	$6,191	$7,682					
Large	$10,152	$12,133	$14,113	$16,094	$18,074	$2,640	$4,181	$6,272	$7,813	$9,709					
People Mover	$10,127	$12,083	$14,038	$15,993	$17,949	$2,508	$3,917	$5,875	$7,283	$9,048					
Compact SUVS	$9,812	$11,452	$13,093	$14,733	$16,373	$2,245	$3,390	$5,085	$6,230	$7,731					
Medium SUVs	$10,093	$12,015	$13,936	$15,858	$17,779	$2,514	$3,928	$5,891	$7,305	$9,075					
Large SUVs	$10,999	$13,826	$16,653	$19,479	$22,306	$3,270	$5,441	$8,162	$10,333	$12,859					
Adelaide average	$8,937					$5,699					$1,474				
Adelaide range	$4,443-$16,524					$2,263-$11,303					$1,474				
Light	$4,443	$5,574	$6,705	$7,835	$8,966	$2,263	$3,053	$3,842	$4,631	$5,421	$1,474	$1,474	$1,474	$1,474	$1,474
Small	$4,766	$6,220	$7,674	$9,129	$10,583	$2,483	$3,492	$4,502	$5,511	$6,520					
Medium	$5,018	$6,724	$8,430	$10,136	$11,842	$2,747	$4,020	$5,292	$6,565	$7,838					
Large	$5,470	$7,628	$9,787	$11,945	$14,103	$3,205	$4,936	$6,668	$8,399	$10,130					
People Mover	$5,355	$7,398	$8,881	$11,485	$13,528	$2,992	$4,511	$6,029	$7,547	$9,066					
Compact SUVS	$5,104	$6,895	$8,687	$10,478	$12,270	$2,794	$4,113	$5,433	$6,753	$8,073					
Medium SUVs	$5,424	$7,535	$9,647	$11,759	$13,870	$3,135	$4,797	$6,458	$8,119	$9,781					
Large SUVs	$5,954	$8,597	$11,239	$13,882	$16,524	$3,440	$5,406	$7,371	$9,337	$11,303					

Scenarios	Total costs of Scenario 1 Own and commute by car 5 days per week					Total costs of Scenario 2 Own a car but choose (or are able) to commute to work five days a week by public transport					Total costs of Scenario 3 Do not own a car or choose not to buy a second car and commute to work five days a week by public transport.				
Hobart average	$8,976					$5,762					$1,685				
Hobart range	$4,447-$19,157					$1,701-$14,825					$1,035-$2,218				
Distance from city	5km	10km	15km	20km	25km	5km	10km	15km	20km	25km	5km	10km	15km	20km	25km
Light	$4,447	$5,486	$6,525	$7,564	$8,604	$1,701	$2,811	$3,477	$4,884	$5,550	$1,035	$1,478	$1,478	$2,218	$2,218
Small	$4,747	$6,086	$7,426	$8,766	$10,105	$1,890	$3,189	$4,044	$5,640	$6,495					
Medium	$5,017	$6,626	$8,235	$9,845	$11,454	$2,185	$3,778	$4,928	$6,817	$7,967					
Large	$5,439	$7,471	$9,503	$11,535	$13,566	$2,607	$4,622	$6,194	$8,507	$10,079					
People Mover	$5,354	$7,300	$9,247	$11,193	$13,140	$2,420	$4,247	$5,632	$7,757	$9,141					
Compact SUVS	$5,054	$6,700	$8,347	$9,993	$11,640	$2,176	$3,760	$4,901	$6,782	$7,922					
Medium SUVs	$5,495	$7,583	$9,670	$11,758	$13,846	$2,615	$4,639	$6,219	$8,540	$10,120					
Large SUVs	$6,557	$9,707	$12,857	$16,007	$19,157	$3,556	$6,521	$9,042	$12,304	$14,825					
Canberra average	$8,572					$5,056					$1,224				
Canberra range	$4,364-$16,591					$1,935-$11,141					$1,224				
Light	$4,364	$5,428	$6,493	$7,557	$8,621	$1,935	$2,645	$3,356	$4,066	$4,777	$1,224	$1,224	$1,224	$1,224	$1,224
Small	$4,638	$5,976	$7,314	$8,652	$9,990	$2,103	$2,981	$3,860	$4,739	$5,617					
Medium	$4,885	$6,470	$8,055	$9,640	$11,224	$2,369	$3,514	$4,659	$5,805	$6,950					
Large	$5,281	$7,262	$9,243	$11,224	$13,205	$2,766	$4,309	$5,851	$7,393	$8,935					
People Mover	$5,199	$7,097	$8,996	$10,894	$12,793	$2,589	$3,953	$5,317	$6,681	$8,046					
Compact SUVS	$4,935	$6,571	$8,206	$9,842	$11,477	$2,375	$3,525	$4,676	$5,827	$6,977					
Medium SUVs	$5,199	$7,097	$8,996	$10,894	$12,793	$2,668	$4,112	$5,555	$6,999	$8,443					
Large SUVs	$5,958	$8,616	$11,275	$13,933	$16,591	$3,208	$5,191	$7,175	$9,158	$11,141					

Appendix 2: Potential Commuting Savings ($ per year)

Scenario	Leave Car at Home					No Car or Second Car				
Distance from city	5km	10km	15km	20km	25km	5km	10km	15km	20km	25km
Australian average	$5,490					$9,425				
Australian average	$4,859	$5,246	$5,418	$5,804	$6,124	$6,171	$7,869	$9,352	$11,050	$12,682
Sydney average	$8,232					$11,946				
Sydney range	$7,221 -$9,435					$7,810-$18,606				
Light	$7,221	$7,457	$7,702	$8,083	$8,223	$7,810	$8,635	$9,470	$10,440	$11,170
Small	$7,312	$7,783	$7,975	$8,447	$8,679	$8,112	$9,385	$10,377	$11,649	$12,682
Medium	$7,360	$7,880	$8,120	$8,640	$8,920	$8,643	$10,445	$11,968	$13,771	$15,334
Large	$7,473	$8,107	$8,460	$9,094	$9,487	$9,083	$11,326	$13,290	$15,533	$17,536
People Mover	$7,405	$7,971	$8,256	$8,822	$9,147	$8,891	$10,942	$12,713	$14,764	$16,575
Compact SUVS	$7,368	$7,895	$8,143	$8,670	$8,958	$8,411	$9,983	$11,274	$12,846	$14,177
Medium SUVs	$7,415	$7,990	$8,286	$8,861	$9,196	$8,673	$10,507	$12,060	$13,894	$15,487
Large SUVs	$7,463	$8,086	$8,429	$9,052	$9,435	$9,297	$11,754	$13,931	$16,389	$18,606
Melbourne average	$6,402					$10,234				
Melbourne range	$5,772-$8,032					$6,483-$17,949				
Light	$5,772	$6,126	$5,719	$6,073	$6,426	$6,483	$7,547	$7,851	$8,915	$9,979
Small	$5,878	$6,337	$6,036	$6,496	$6,955	$6,757	$8,095	$8,672	$10,010	$11,348
Medium	$5,858	$6,298	$5,977	$6,417	$6,857	$7,003	$8,588	$9,413	$10,998	$12,582
Large	$5,857	$6,296	$5,975	$6,414	$6,853	$7,400	$9,381	$10,601	$12,582	$14,563
People Mover	$5,953	$6,487	$6,261	$6,795	$7,330	$7,317	$9,216	$10,354	$12,252	$14,151
Compact SUVS	$5,903	$6,388	$6,113	$6,597	$7,082	$7,054	$8,689	$9,564	$11,200	$12,835
Medium SUVs	$5,873	$6,328	$6,023	$6,477	$6,932	$7,317	$9,216	$10,354	$12,252	$14,151
Large SUVs	$6,093	$6,768	$6,682	$7,357	$8,032	$8,077	$10,735	$12,633	$15,291	$17,949
Brisbane average	$5,688					$9,680				
Brisbane range	$5,325-$6,198					$6,044-$16,026				
Light	$5,325	$5,421	$5,190	$5,550	$5,253	$6,044	$6,861	$7,349	$8,429	$8,852
Small	$5,442	$5,656	$5,542	$6,020	$5,841	$6,371	$7,513	$8,328	$9,734	$10,484
Medium	$5,412	$5,596	$5,453	$5,901	$5,692	$6,594	$7,961	$8,999	$10,629	$11,602
Large	$5,408	$5,588	$5,441	$5,424	$5,672	$7,019	$8,809	$10,272	$11,866	$13,724
People Mover	$5,508	$5,788	$5,740	$6,283	$6,171	$6,902	$8,576	$9,923	$11,860	$13,142
Compact SUVS	$5,465	$5,703	$5,612	$6,113	$5,958	$6,675	$8,121	$9,240	$10,950	$12,004
Medium SUVs	$5,460	$5,692	$5,596	$6,091	$5,930	$7,097	$8,965	$10,506	$12,638	$14,114
Large SUVs	$5,513	$5,799	$5,757	$6,305	$6,198	$7,479	$9,730	$11,653	$14,168	$16,026
Perth average	$8,141					$12,011				
Perth range	$7,424-$9,447					$8,080-$20,301				
Light	$7,424	$7,776	$7,578	$7,930	$7,926	$8,080	$9,088	$9,547	$10,555	$11,207
Small	$7,544	$8,016	$7,938	$8,410	$8,527	$8,392	$9,711	$10,482	$11,801	$12,765
Medium	$7,523	$7,974	$7,875	$8,325	$8,420	$8,658	$10,244	$11,281	$12,867	$14,097
Large	$7,512	$7,952	$7,841	$8,281	$8,365	$9,052	$11,033	$12,464	$14,445	$16,069
People Mover	$7,619	$8,166	$8,163	$8,710	$8,901	$9,027	$10,983	$12,389	$14,344	$15,944
Compact SUVS	$7,567	$8,063	$8,008	$8,503	$8,642	$8,712	$10,352	$11,444	$13,084	$14,368
Medium SUVs	$7,580	$8,087	$8,045	$8,553	$8,704	$8,993	$10,915	$12,287	$14,209	$15,774
Large SUVs	$7,728	$8,385	$8,491	$9,147	$9,447	$9,899	$12,726	$15,004	$17,830	$20,301
Adelaide average	$3,238					$7,463				
Adelaide range	$2,180-$5,221					$2,969-$15,051				
Light	$2,180	$2,521	$2,862	$3,204	$3,545	$2,969	$4,100	$5,231	$6,362	$7,492
Small	$2,283	$2,728	$3,173	$3,618	$4,063	$3,292	$4,747	$6,201	$7,655	$9,109
Medium	$2,271	$2,704	$3,138	$3,571	$4,004	$3,544	$5,250	$6,956	$8,662	$10,368
Large	$2,265	$2,692	$3,119	$3,546	$3,973	$3,996	$6,155	$8,313	$10,471	$12,629
People Mover	$2,363	$2,888	$2,852	$3,938	$4,462	$3,881	$5,925	$7,408	$10,011	$12,054
Compact SUVS	$2,310	$2,782	$3,253	$3,725	$4,197	$3,630	$5,421	$7,213	$9,004	$10,796
Medium SUVs	$2,288	$2,739	$3,189	$3,639	$4,089	$3,950	$6,061	$8,173	$10,285	$12,396
Large SUVs	$2,515	$3,191	$3,868	$4,545	$5,221	$4,481	$7,123	$9,766	$12,408	$15,051
Hobart average	$3,214					$7,291				
Hobart range	$2,745-$4,332					$3,412-$16,939				
Light	$2,745	$2,675	$3,048	$2,681	$3,053	$3,412	$4,007	$5,047	$5,347	$6,386
Small	$2,857	$2,898	$3,382	$3,126	$3,610	$3,712	$4,608	$5,948	$6,548	$7,888
Medium	$2,832	$2,848	$3,308	$3,027	$3,487	$3,982	$5,148	$6,757	$7,627	$9,236
Large	$2,832	$2,849	$3,308	$3,028	$3,488	$4,404	$5,992	$8,024	$9,317	$11,349
People Mover	$2,934	$3,053	$3,615	$3,436	$3,998	$4,319	$5,822	$7,768	$8,975	$10,922
Compact SUVS	$2,878	$2,941	$3,446	$3,212	$3,718	$4,019	$5,222	$6,869	$7,776	$9,422
Medium SUVs	$2,880	$2,944	$3,451	$3,218	$3,726	$4,460	$6,104	$8,192	$9,540	$11,628
Large SUVs	$3,001	$3,186	$3,815	$3,703	$4,332	$5,522	$8,229	$11,379	$13,789	$16,939
Canberra average	$3,516					$7,348				
Canberra range	$2,429-$5,449					$3,140-$15,367				
Light	$2,429	$2,783	$3,137	$3,490	$3,844	$3,140	$4,204	$5,268	$6,333	$7,397

Small	$2,535	$2,995	$3,454	$3,914	$4,373	$3,414	$4,752	$6,090	$7,428	$8,766
Medium	$2,516	$2,955	$3,395	$3,835	$4,275	$3,661	$5,245	$6,830	$8,415	$10,000
Large	$2,515	$2,954	$3,392	$3,831	$4,270	$4,057	$6,038	$8,019	$10,000	$11,981
People Mover	$2,610	$3,144	$3,679	$4,213	$4,747	$3,974	$5,873	$7,771	$9,670	$11,568
Compact SUVS	$2,561	$3,045	$3,530	$4,015	$4,500	$3,711	$5,347	$6,982	$8,618	$10,253
Medium SUVs	$2,531	$2,985	$3,440	$3,895	$4,350	$3,974	$5,873	$7,771	$9,670	$11,568
Large SUVs	$2,750	$3,425	$4,100	$4,775	$5,449	$4,734	$7,392	$10,050	$12,708	$15,367