



CITY OF HOBART TRANSPORT STRATEGY 2018–30

CONSULTATION PAPER 2: PRIVATE TRANSPORT



City of **HOBART**

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City of **HOBART**

HOW TO MAKE A SUBMISSION

Your submission can be as long or short as you want. You do not have to answer all or any questions in the paper, they are there as a guide.

Online

yoursay.hobartcity.com.au

Email

coh@hobartcity.com.au

Transport Strategy in the subject line.

Post

Transport Strategy

City of Hobart

GPO Box 503

Hobart TAS 7001

Submissions should be lodged by
20 March 2017.

TABLE OF CONTENTS

LIST OF MAPS, TABLES AND CHARTS	1
SECTION 1	4
ABOUT THE CITY OF HOBART'S TRANSPORT STRATEGY	4
WHAT ARE THE CITY OF HOBART'S GOALS AND OBJECTIVES?	5
HOW WILL WE DEVELOP THE TRANSPORT STRATEGY?	7
ABOUT THE MODULES	9
ABOUT THE CITY OF HOBART AND TASMANIA	11
Population	13
Settlement patterns	15
Employment and sources of income	17
Key industry sectors	21
SECTION 2	24
SUMMARY MODULE 2: PRIVATE TRANSPORT	25
How do we define private transport	25
The private transport task in Tasmania	25
The transport network	26
Parking	27
Challenges in the future	28

THE PRIVATE TRANSPORT TASK IN TASMANIA	29
Walking	31
Cycling	37
Private motor vehicles	43
Motorcycles	49
Mobility devices	51
THE TRANSPORT NETWORK	53
CONTEXT: ROLES AND RESPONSIBILITIES	56
Australian Government	57
Tasmanian Government	57
Local government	60
SECTION 3	66
INTEGRATED TRANSPORT AND LAND USE PLANNING	66
Journey to work	72
Current road use and peak hour congestion	77
Road safety	82
Smart Roads and Network Operation Plans	87
Transforming Hobart and inner-city movement	90
Parking	92
Tourism	97
Intelligent and Emerging Transport Systems	100
Health and mobility	103
Cost of transport	105
The environment and climate change	109
LIST OF ABBREVIATIONS	112
GLOSSARY	114
BACKGROUND PAPERS AND FURTHER READING	118
ATTACHMENT 1	120
REGULATORY AND LEGISLATIVE FRAMEWORK	
ATTACHMENT 2	128
KEY REFERENCES	

LIST OF MAPS, TABLES AND CHARTS

MAPS

Map 1	Southern region
Map 2	Southern region—dwelling density
Map 3	Southern region dwelling density— Lutana to Sandy Bay
Map 4	Southern region—journey to work—walking share
Map 5	Southern region—journey to work—cycling share
Map 6	Schematic mapping of Hobart Arterial Bicycle Network
Map 7	Average annual daily traffic on key arterial roads in Hobart
Map 8	Southern region—principal roads and settlement areas
Map 9	Southern region—major movement and settlement areas
Map 10	Tasmanian state road hierarchy
Map 11	Greater Hobart residential development areas
Map 12	Average annual daily traffic on key arterial roads in Hobart
Map 13	City of Melbourne road use hierarchy
Map 14	Commuter parking around CBD, North Hobart and Sandy Bay
Map 15	Commuter parking around the University of Tasmania

TABLES

Table 1	Tasmanian employment and participation rates
Table 2	Median income by source (a) greater capital city statistical areas and rest of state/territory, 2012–13
Table 3	Weekday trip mode share by LGA of residence
Table 4	Car ownership
Table 5	Tasmanian local government road hierarchy
Table 6	Major LGA journey to work, origin and destination
Table 7	Hobart area traffic volumes—normal daily, AM–PM peak, school holidays
Table 8	Cruise ship calls and passengers/crew to Hobart
Table 9	Hobart total weekly transport cost compared to other capital cities
Table 10	Hobart total transport costs as share of income
Table 11	Hobart weekly costs of transport

CHARTS

Chart 1	Share of active transport by commuting mode 2001–2011
Chart 2	Southern region—journey to work—modal share
Chart 3	Southern region—major highways—delay/km (in seconds)
Chart 4	Safe system diagrammatic representation
Chart 5	City of Hobart—registered motor vehicles



SECTION 1

ABOUT THE CITY OF HOBART'S TRANSPORT STRATEGY

The City of Hobart is planning for the future transport needs of our community. We want to ensure that as we move into the next part of the 21st century, we have strategies in place to support growth in our population and the economy. Transport plays a vital part in delivering the food we eat and the products we export and import. Transport affects so many parts of our lives—how we travel to work or get to school and sport and leisure activities. It helps us to stay in touch with family and friends. It is time to review our current transport strategies to meet the needs of Hobart into the future. This is why we are developing the Transport Strategy 2018–30 for the City of Hobart.

On any given day, the Hobart municipal area may host up to 48 700 residents, 46 000 workers, 33 000 students and a large number of people shopping or visiting the city. The safety and efficiency of the city's transport and road network is of paramount importance to businesses, residents, road users, transport operators, parents and school children, the government sector, tourists and visitors alike.

Although there is diversity in the transport task in Hobart, most people want the same thing. They want to be able to move about with ease and safety, in a timely manner, whether they are in a bus or a car, on foot or riding a bicycle.

It is essential to involve the community in discussions about how these sometimes conflicting needs can be met into the future. We need to have an understanding of the full breadth of issues, views and ideas, based on different health and education needs, age groups, occupations and day-to-day activities, so that we can develop the best strategies for our transport network.

We also need to make sure that the City of Hobart's transport strategies for the future are effectively integrated with the policies and activities of the Tasmanian Government, the federal government, and other local councils, all of whom have responsibilities for land use planning, infrastructure and transport networks and services.

Because Hobart is many things to many different people, it is time to ask some important questions and to discuss the future of transport for the City of Hobart municipal area with as many people as possible. That is why we intend to engage with you over the next 12 to 18 months, to find out what you think should be in the City of Hobart's Transport Strategy. We have ideas and we want to hear yours.

WHAT ARE THE CITY OF HOBART'S GOALS AND OBJECTIVES?

The development of the City of Hobart's Transport Strategy follows the release of our *Capital City Strategic Plan 2015–2025*. This contains the agreed goals and strategic objectives that are relevant to the development of the Transport Strategy:

Vision

In 2025 Hobart will be a city that is highly accessible through efficient transport options. (p.13)

Goal 2 – Urban management

City planning promotes our city's uniqueness, is people-focussed and provides connectedness and accessibility.

Strategic Objective 2.1

A fully accessible and connected city environment

2.1.1 Develop and implement a transport strategy

2.1.2 Enhance transport connections within Hobart

2.1.3 Identify and implement infrastructure improvements to enhance road safety

2.1.4 Implement the parking strategy
Parking – A Plan for the Future 2013

2.1.5 Identify and implement measures to support the use of public transport

2.1.6 Implement the Principal Bicycle Network

2.1.7 Review network operation of city streets and adopt a network operating plan (p.19)

Goal 3 – Environment and natural resources

An ecologically sustainable city maintains its unique character and values our natural resources. (p.14)

Strategic Objective 3.2

Strong environmental stewardship

3.2.4 Regulate and manage potentially polluting activities and protect and improve the environment. (p.21)

There are other interrelated goals and strategic objectives in the City of Hobart's *Capital City Strategic Plan 2015–2025* which will have a bearing on the final Transport Strategy, including social inclusion objectives, building community resilience and supporting city growth.

Further information on the *Capital City Strategic Plan 2015–2025* is available at [hobartcity.com.au/Publications/Strategies_and_Plans/Capital_City_Strategic_Plan_2015 - 2025](http://hobartcity.com.au/Publications/Strategies_and_Plans/Capital_City_Strategic_Plan_2015_-_2025)



DISCUSSION

The City of Hobart has set the broad objectives within which this Transport Strategy will be developed, but we can also consider more detailed guiding objectives that are not only specific to Hobart but are also relevant to improving regional outcomes. This approach recognises Hobart's role as the capital city of Tasmania and the hub of southern regional Tasmania, which includes Brighton, Central Highlands, Clarence, Derwent Valley, Glamorgan Spring Bay, Glenorchy, Huon Valley, Kingborough, Sorell, Southern Midlands and Tasman local government areas.

Through the Southern Tasmanian Councils Authority, these councils have agreed on a vision for a regional transport system that:

- maximises the efficient use of current infrastructure, assets and services
- is well maintained, resilient and managed in a sustainable manner for the long term
- supports seamless intermodal connections for passengers and freight
- is capable of supporting future economic growth and meeting the needs of our communities, while supporting quality of life
- improves accessibility and safety for all users
- provides an integrated and well connected transport system for rural and urban areas
- improves environmental and health outcomes for our community
- responds to climate change and an oil constrained future by lowering greenhouse gas emissions and reducing car dependency
- is integrated with land use planning
- is planned, coordinated and funded through a cooperative partnership approach between different levels of government and the community.¹

More information on the *Southern Integrated Transport Plan* is available at stategrowth.tas.gov.au/freight/planning/regionalplans/southern

QUESTIONS

Have we provided you with enough information to understand the links between the City of Hobart's strategic plan and the development of this Transport Strategy?

Do you think these are suitable guiding objectives for us to plan for the City of Hobart's future transport needs?

¹ Department of Infrastructure, Energy and Resources, *Southern Integrated Transport Plan* 2010, p.3.

HOW WILL WE DEVELOP THE TRANSPORT STRATEGY?

The City of Hobart has a strategic objective to enhance community engagement so it is essential to engage with all sectors of the community to identify issues and discuss the best way forward as early as possible. Developing the City of Hobart Transport Strategy 2018–30 is a complex task and we do not expect that everyone will want to comment on every aspect. For example, residents and ratepayers may not be interested in ‘last mile’ freight delivery to Salamanca Place and freight operators may have no interest in arrangements for residential parking. Therefore, consultation on the transport task will be broken up into modules for comment and discussion. You can choose to engage with one or as many you feel are important to you or your user group.

Anticipated timeframes for release and engagement of the modules:

Module 1: Freight, Port and Air

September–October 2016
(Consultation undertaken)

Module 2: Private Transport

November–March 2017

Module 3: Public Transport

April–May 2017

Module 4: Local Area Traffic Management

June–July 2017

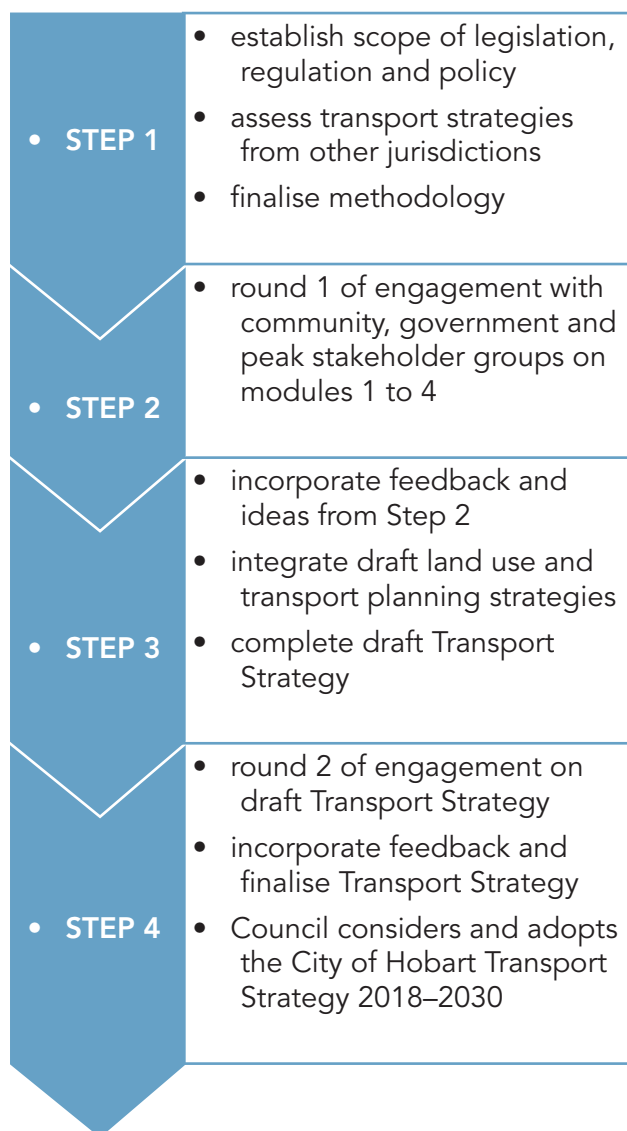
Our role will be to provide you with background information and discussion points and to record your views, issues and ideas. We have also included questions that are designed to generate thinking and ideas around each topic. You do not have to answer every question. You may have other comments, issues or ideas to contribute.

We will connect with you through social media, newspapers, letters, workshops and websites.

You will have the opportunity to give us your feedback through the City of Hobart’s Your Say website, feedback forms, meetings and public forums.

At the end of the first round of consultation, your feedback and further research on each of the four modules will be brought together to form the draft City of Hobart Transport Strategy 2018–30.

There will be another opportunity for you to comment on the draft Transport Strategy before it is finalised. The final Transport Strategy should be finished in the first half of 2018.



QUESTIONS

Are you aware of the City of Hobart's Your Say website, which is used to provide feedback on projects and programs for Hobart?

To assist with refining our engagement processes, would you like to see any particular type of consultation method? For example, is it easier for you to access information about the Transport Strategy through a website or by visiting one of the City of Hobart's offices to obtain relevant papers and information?

For future modules would you prefer to attend forums or to provide feedback through written or website submissions?

ABOUT THE MODULES

In Australia, local councils, states and territories, and the Commonwealth Government have responsibility for delivering services and the day-to-day function of our transport network. Each consultation paper we release will include information on who is responsible for various aspects of Tasmania's transport network.

More detailed information on relevant legislation, regulation and policy is included in the 'Background papers and further reading' section.

Relevant statistics and data are provided when available. More extensive data is often available in the references and materials listed under 'Background papers and further reading' at the end of this document.

Impacts on social, economic and environmental issues are important across the whole of the transport network. Therefore, the consultation papers contain information and discussion on topics such as road safety, tourism, climate change, health and the environment. Some papers will also cover topics that are specific to that particular module only.

If you have difficulty accessing any of the referenced websites or any of these documents, please contact the City of Hobart by email with Transport Strategy in the subject line: coh@hobartcity.com.au or call 6238 2930.







ABOUT THE CITY OF HOBART AND TASMANIA

The City of Hobart is a defined Local Government Area (LGA) that has direct boundaries with the City of Glenorchy, the City of Clarence and Kingborough Council.

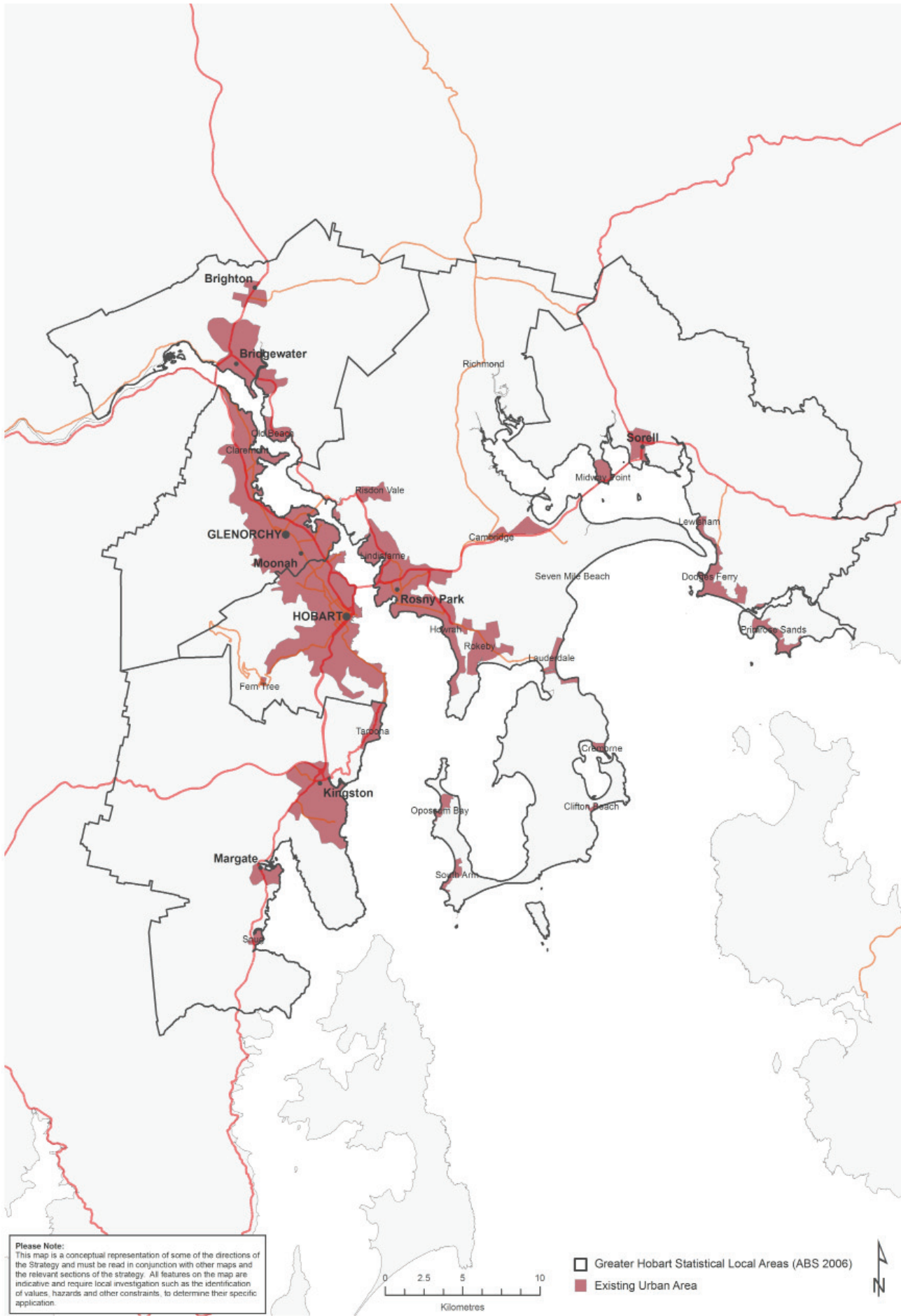
Southern Tasmania is defined as a regional planning unit for the purposes of the Land Use Planning and Approvals Act 1993 (LUPAA). The metropolitan centre of the region is Greater Hobart which extends to the LGAs of Brighton, Clarence, Glenorchy, Hobart, Kingborough and Sorell.

As well as being Tasmania's capital city, Greater Hobart is the most populous urban area in Tasmania. The City of Hobart is its geographic and historical centre.

The Hobart city centre and surrounds, is the highest order activity centre in Tasmania. It is the centre of government and the primary focus for Tasmania's peak legal, finance and banking services, specialised health and education precincts, speciality retail, tourism and cultural facilities. It provides uses and services not found elsewhere in the region or state.

Map 1: Southern region

Source: Southern Tasmanian Councils Authority





Population

As at 30 June 2015, the Australian Bureau of Statistics (ABS) estimated that Tasmania's total population grew by 1860 people (or 0.4 per cent) compared to the previous year, to 516 586. The ABS estimated that the population of the City of Hobart was 50 668 as at 30 June 2015. Approximately 42 per cent of the total population of Tasmania lives in the Greater Hobart region (211 656 people).² Tasmania's population, as a proportion of Australia's population, was 2.2 per cent over this period. Through the year to 30 June 2015, the majority of population growth was in the Hobart and south-east region. Over the past decade, this region has grown at a faster rate than the north and north-west regions, contributing the majority of growth at a state level.

Modelling undertaken by the Tasmanian Department of Treasury and Finance indicates that by June 2062, Tasmania's population is projected to be almost 589 000, with an average growth rate of 0.3 per cent each year.³

The 2011 Census recorded 82 007 people aged 12 to 25 years in Tasmania. This group represented 16.6 per cent of the total population of Tasmania; 49 per cent of the group was female (40 190) and 51 per cent (41 817) was male. At this time, the LGA with the highest proportional population of young people aged 12 to 25 was Hobart (19.8 per cent).

Age profile and population growth

As the population of Tasmania (and Australia) has aged over recent decades, the proportional population of children has decreased. At the 2011 Census, children (from zero to 14 years of age) accounted for approximately 19 per cent of the Tasmanian population (compared to 19.3 per cent nationally), down from 22.5 per cent in the 1996 Census (21.6 per cent nationally). In 2011, the fertility rate among Tasmanian women was 2.17. It is projected that over the next ten years the proportional population of children from zero to 14 years of age will decline to about 17.6 per cent, and that over the next 20 years the proportional population of this age group will decline by around 8.7 per cent. It is projected that the proportional population of the 15- to 39-year-old age group will also decrease over this period.⁴

Tasmania has the oldest and slowest-growing population in Australia. It is projected that 25 per cent of the state's population will be 65 or more years old in 2030, an increase of nearly 60 000 Tasmanians in that age group in 2030 compared to 2011. According to the 2011 Census, one in six Tasmanians were aged 65 or older in 2011 and it was projected that one in five will be in that age group in 2020, and one in four by 2030.⁵

The City of Hobart municipal area has a younger population profile than some of the surrounding LGAs and is forecast to age less rapidly than, for example, the population of the City of Glenorchy. In 2007, 12.3 per cent of Hobart's population was aged between 18 and 25 compared with the state average of 7.7 per cent. Hobart's lower median age can be attributed to the local university student population.⁶

The Tasmanian Government has committed to increasing Tasmania's population to 650 000 by 2050 to offset the impacts of a declining population, which include a slowing economy, fewer people in the workforce to support those who are unable to work, and a reduced ability to fund essential services, such as health and education and the transport network.

Further information on the implications of an ageing Tasmanian population can be found at: www.stategrowth.tas.gov.au/_data/assets/pdf_file/0017/100376/Background_issues_paper.pdf

Further information on the Tasmanian Government population growth strategy can be found at: stategrowth.tas.gov.au/_data/assets/pdf_file/0014/124304/Population_Growth_Strategy_Growing_Tas_Population_for_web.pdf

² Australian Bureau of Statistics, *Census of Population and Housing*, 2011, cat. no. 2001.0 6GHOB, ABS, Canberra.

³ Department of Treasury and Finance, Tasmania, viewed 9 November 2016, www.treasury.tas.gov.au/domino/DTF/DTF.nsf/v-ecopol/397D0680E5DCC583CA257CEC0005F727

⁴ Department of Premier and Cabinet, Tasmania, viewed 9 November 2016, www.dpac.tas.gov.au/divisions/csr/information_and_resources/children_and_young_people_in_tasmania_snapshot/demographics

⁵ Department of Premier and Cabinet, Tasmania, viewed 9 November 2016, www.dpac.tas.gov.au/divisions/csr/information_and_resources/children_and_young_people_in_tasmania_snapshot/demographics

⁶ Department of Industry, Energy and Resources, *Glenorchy to Hobart city centre Transit Corridor: Transit Corridor Assessment Report – Stage 1, Demographic Influences and Travel Patterns*, Tasmania, 2012.

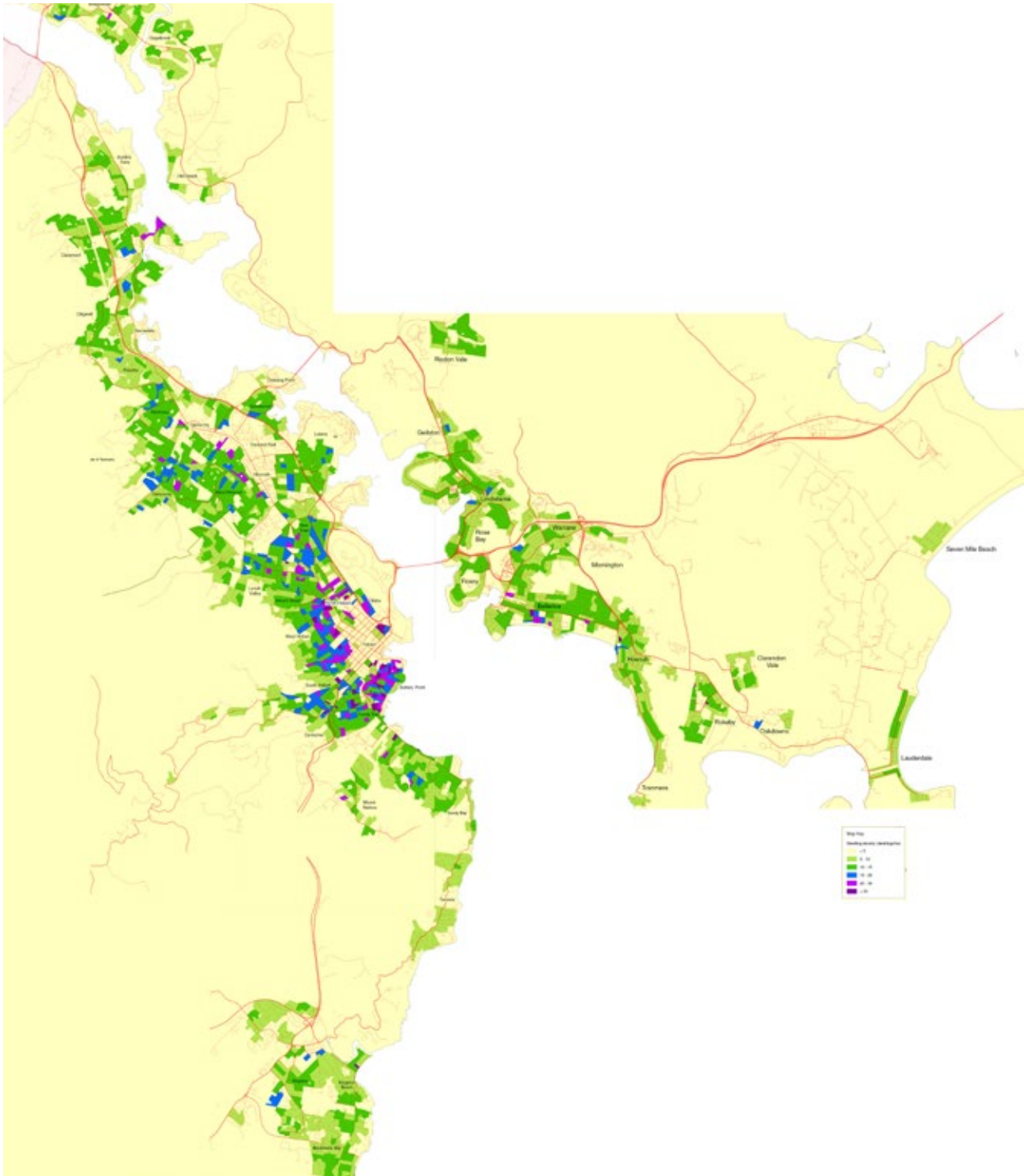
Settlement patterns

Tasmania has the most regional and dispersed population of any state or territory in Australia, with 58 per cent of the population living outside the greater capital city area. Greater Hobart's settlement pattern is strongly influenced by its physical environs, with the River Derwent, kunanyi/Mount Wellington and Meehan Range restricting the location of urban

development and transport networks. Hobart's geography, along with limited planning restrictions on greenfield subdivisions, has resulted in a highly dispersed settlement pattern. Low-density urban areas often have high levels of car ownership and use. In comparison, denser urban areas often have high levels of alternative transport use such as public transport, walking and cycling, because origin and destination points are closer together.

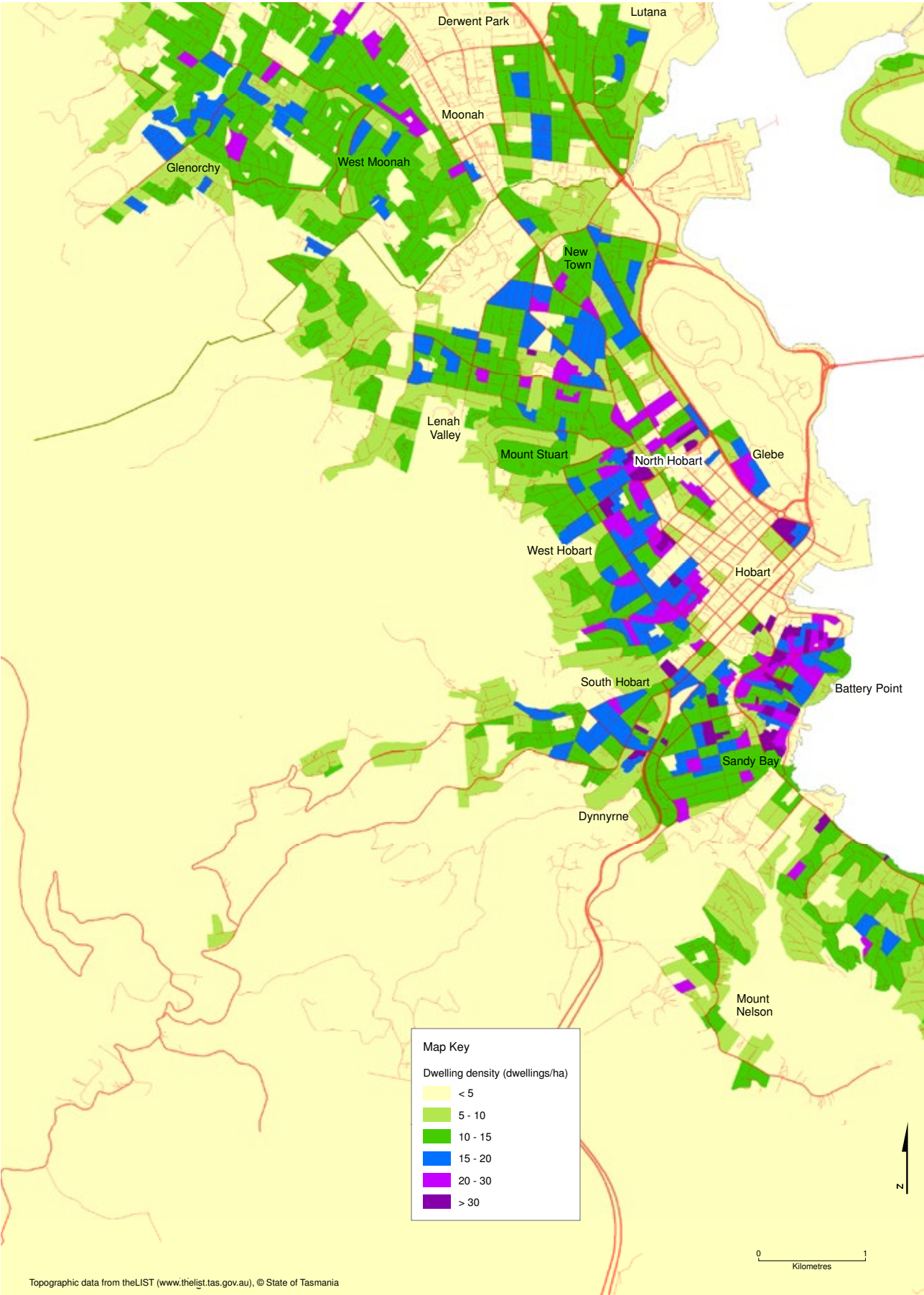
Map 2: Southern region—dwelling density

Source: Southern Tasmanian Councils Authority



Map 3: Southern region dwelling density—Lutana to Sandy Bay

Source: Southern Tasmanian Councils Authority



Greater Hobart has an average population density of approximately 12 people per hectare, which is low for Australian cities. Housing and population growth for Greater Hobart predominantly occurs in outer urban areas of Clarence, Kingborough, Sorell and Brighton, based on choice and housing affordability. Historically, the majority of affordable housing stock has been located on the urban fringe in public housing estates, although this continues today through greenfield subdivisions appealing to first home buyers and lower income groups.

The Southern Tasmania *Regional Land Use Strategy 2010–2035* identified a Greater Hobart Residential Strategy to manage residential growth by establishing a 20-year urban growth boundary based upon 50 per cent of growth occurring in existing suburbs and 50 per cent on greenfield sites. Currently, 15 per cent of growth is in existing suburbs and 85 per cent on greenfield sites. It recommended distributing residential infill growth across the existing urban areas for the 25-year planning period as follows:

Glenorchy LGA	40 per cent (5300 dwellings)
Hobart LGA	25 per cent (3312 dwellings)
Clarence LGA	15 per cent (1987 dwellings)
Brighton LGA	15 per cent (1987 dwellings)
Kingborough LGA	5 per cent (662 dwellings). ⁷

Employment and sources of income

The ABS estimated that employment decreased overall in Tasmania in the year to June 2016, compared to the previous year. In this period, an increase was recorded in the west and north-west regions (up by 4 per cent or 2000 people). However, both the Hobart and south-east region (down by 1.8 per cent or 2200 people) and the Launceston and north-east region (down by 0.6 per cent or 400 people) recorded decreases in this period. Table 1 includes further detail on employment and participation rates.⁸

⁷ Southern Tasmania Regional Planning Project, *Southern Tasmania Regional Land Use Strategy 2010–35*, 2013, 97.

⁸ Department of Treasury and Finance, Economic Analysis Unit, Viewed 9 November 2016, [www.treasury.tas.gov.au/domino/DTF/DTF.nsf/LookupFiles/Regional-Labour-Markets.pdf/\\$file/Regional-Labour-Markets.pdf](http://www.treasury.tas.gov.au/domino/DTF/DTF.nsf/LookupFiles/Regional-Labour-Markets.pdf/$file/Regional-Labour-Markets.pdf)

Table 1: Tasmanian employment and participation rates

Source: Tasmanian State Government: Treasury

Original data, year-average	Sep 15	Jul 16	Aug 16	Sep 16
Employment ('000)				
Hobart and south-east	123.2	120.5	120.2	120.2
Launceston and north-east	65.6	65.5	65.4	65.4
West and north-west	51.8	52.8	52.7	52.6
Tasmania	240.6	238.8	238.3	238.2
Employment, change from prev year average ('000)				
Hobart and south-east	3.6	-2.5	-3.1	-3.0
Launceston and north-east	0.4	-0.3	-0.2	-0.2
West and north-west	2.1	1.7	1.4	0.8
Tasmania	6.1	-1.2	-1.9	-2.4
Employment, change from prev year average (%)				
Hobart and south-east	3.0	-2.1	-2.5	-2.5
Launceston and north-east	0.7	-0.5	-0.3	-0.4
West and north-west	4.1	3.3	2.7	1.7
Tasmania	2.6	-0.5	-0.8	-1.0
Participation rate (%)				
Hobart and south-east	62.4	60.5	60.4	60.4
Launceston and north-east	59.3	59.8	59.8	59.7
West and north-west	60.4	60.1	59.9	59.7
Tasmania	61.1	60.2	60.1	60.1
Participation rate, percentage point change from prev year				
Hobart and south-east	0.9	-2.1	-2.2	-2.0
Launceston and north-east	-0.9	0.1	0.4	0.4
West and north-west	2.0	0.5	0.0	-0.7
Tasmania	0.6	-0.9	-1.0	-1.0
Unemployment rate (%)				
Hobart and south-east	6.3	6.1	6.2	6.3
Launceston and north-east	6.1	7.6	7.7	7.7
West and north-west	7.9	6.0	5.9	5.9
Tasmania	6.6	6.5	6.6	6.6
Unemployment rate, percentage point change from prev year				
Hobart and south-east	-0.7	-0.4	-0.2	0.0
Launceston and north-east	-1.8	1.2	1.3	1.6
West and north-west	-0.2	-1.8	-2.1	-2.0
Tasmania	-0.9	-0.34	-0.1	0.0



In 2009, the ABS reported that Tasmania had the lowest average total annual per capita income (or wage-derived income) in Australia. More than one-third of Tasmanian households were reliant on government benefits and allowances, with 31.5 per cent of Tasmanians receiving Commonwealth income support payments or on low incomes.

In 2009, the Tasmanian Department of Premier and Cabinet reported that approximately 13 per cent of the total Tasmanian population was living below the poverty line, with approximately 69 000 households dependent on government pensions and allowances. The report included data on locational disadvantage, and service and transport exclusion.⁹

The ABS reports statistics on estimates of personal income, including regional data on the number of income earners and amounts they received, in the 2012–13 financial year for the following categories: employee income; own unincorporated business income; investment income; superannuation and annuities; other income; and total income. This enables comparisons between regions and sources of income and median incomes. However, when considering the statistics for those regions with higher levels of low-income earners, superannuated retirees or people living on pension benefits, it should be noted that these people may not be required to report part of their income or lodge tax returns at all.

⁹ Social Inclusion Commissioner, *A Social Inclusion Strategy for Tasmania*, 2009.

Table 2: Median income by source (a) - greater capital city statistical areas and rest of state/territory, 2012–13

Source: Australian Bureau of Statistics

Region	Employee	Own unincorporated business	Investment	Superannuation & annuities	Other income (excl. govt pensions & allowances)	Total income from all sources (excl. govt pensions & allowances)
New South Wales	48 322	10 981	413	16 456	113	44 780
Greater Sydney	50 422	13 475	433	14 885	125	47 281
Rest of NSW	44 560	7 473	370	18 318	93	40 702
Victoria	46 644	9 778	437	13 789	105	43 867
Greater Melbourne	48 053	11 141	429	14 261	115	45 533
Rest of Victoria	42 417	6 775	455	12 610	80	39 172
Queensland	47 567	8 792	255	16 800	110	44 574
Greater Brisbane	49 578	10 008	243	17 470	114	46 790
Rest of Queensland	45 600	7 991	263	16 108	105	42 568
South Australia	46 050	10 267	348	22 656	123	43 472
Greater Adelaide	47 196	11 063	340	23 476	134	44 672
Rest of South Australia	41 726	8 788	357	19 371	94	39 317
Western Australia	53 446	13 625	309	18 686	130	51 465
Greater Perth	54 216	14 344	309	19 318	141	52 225
Rest of WA	50 155	11 498	295	15 098	97	48 318
Tasmania	43 524	7 781	308	18 422	109	40 749
Greater Hobart	45 766	9 944	308	20 520	116	42 992
Rest of Tasmania	41 820	6 448	305	15 803	103	39 040
Northern Territory	54 445	11 283	103	23 939	83	53 707
Greater Darwin	57 617	12 476	102	24 964	83	56 621
Rest of NT	50 292	7 852	100	21 123	88	49 782
Australian Capital Territory (b)	61 846	8 677	298	32 319	117	58 613
Australia (c)	48 030	10 268	364	18 079	112	44 940

- (a) Medians are calculated using non-zero income earners for each source of income. See Explanatory Notes paragraphs 20 and 31 for more information.
- (b) The whole of the Australian Capital Territory is one GCCSA.
- (c) Australia totals include data for the other territories and regions unknown or not stated.

Key industry sectors

Public administration and safety

As Hobart is a capital city and the seat of the Tasmanian Government, it is not unexpected that public administration and safety is the largest industry sector in terms of employment, comprising around 20 per cent of the workforce. Parliament, ministry offices and head offices of most state government agencies are located in Hobart, mostly in the city centre. In addition, the Commonwealth Government has a number of administrative roles based in Hobart. Local government employment is also included in this sector.

Health care and social assistance

The health sector is clearly important in meeting the needs of the local community, but it also plays a broader role. As the second largest employment sector, it brings a large part of the workforce to the city. The many thousands of patients and visitors and medical specialists that the Royal Hobart Hospital attracts also add to the economic activity of the city. Employment in the health care and social assistance sector accounts for around 16 per cent of Hobart's workforce.

Education and training

Education and training is Hobart's third largest employment sector. Hobart hosts much of the state's tertiary sector and is the main destination for international students in Tasmania. There are 30 education providers in the City of Hobart municipal area, including primary, secondary and senior secondary schools, TAFE and one of Australia's oldest and most respected universities, the University of Tasmania.

Retail and trade

Retail is Hobart's fourth largest employment sector. The City of Hobart municipal area has about 25 per cent of the Greater Hobart population, but more than 40 per cent of the total retail employment. This shows the extent to which residents of Greater Hobart shop in the city. The city provides 52 per cent of Greater Hobart's total employment, bringing over half of the working population to the city most days and making it easy for these people to do their shopping in Hobart.

Professional, scientific and technical services

This sector is the fifth largest in Hobart, accounting for around 8 per cent of employment. There are several large employers, such as the Institute for Marine and Antarctic Studies, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Menzies Institute, which are breaking new ground in Antarctic and health research.

Tourism

Although tourism is not a recognised stand-alone sector within standard industry classifications, it clearly generates significant employment. Visitor numbers to Tasmania have been growing steadily. More than 1 million people visited Tasmania on scheduled air and sea services during the year ending March 2014 (not including cruise-ship visitors). Numbers of interstate visitors rose from 2010–11 to 2013–14 by 14.2 per cent, to 903 148. Within the tourism industry in Hobart, accommodation is the largest sector, accounting for more than 42 per cent of all employment. This is closely followed by the retail trade (18 per cent) and cafes and restaurants (15 per cent).

Further statistical information on the tourism sector can be found at:

www.tourismtasmania.com.au/_data/assets/pdf_file/0003/43662/TVS-Snapshot-March-2016.pdf



DISCUSSION

A key role of national, state and local government is the provision of transport networks that are affordable and facilitate access and mobility for all members of the community. At a national and state level, transport costs represent a major expense for many households, whether using public transport or a private vehicle. This is especially true in Tasmania, where median incomes are lower than the national average, a high proportion of the population relies on government income, the population is relatively dispersed and there is limited public transport infrastructure. This means that many low-income Tasmanians have to use private transport to access employment and essential services.¹⁰

QUESTIONS

If the Tasmanian Government reaches its population targets—to increase the population of Tasmania to 650 000 by 2050—what challenges will this pose for Hobart’s transport network?

How can the Transport Strategy contribute to achieving population growth targets in Hobart, the southern region and the rest of Tasmania over the next 12 years?

Will the current arrangements for transport in and out of Hobart be able to cope with growth in population in infill areas within the municipal area?

How can the City of Hobart plan for and manage an increasingly ageing population using our transport networks?

How can the City of Hobart plan for and manage increases in the resident (post-secondary) student population on our transport networks?

What are the challenges facing those who travel in and out of the city who are on low incomes?

¹⁰ R Eccleston, B Churchill, H Smith, *Cost of Living Pressures on Tasmanian Households*, 2014.



SECTION 2

MODULE 2: PRIVATE TRANSPORT

This is the second of four modules for the City of Hobart Transport Strategy 2018–30.

Module 1: Freight, Port and Air
(consultation undertaken)

Module 2: Private Transport

Module 3: Public Transport

Module 4: Local Area Traffic Management



SUMMARY – MODULE 2: PRIVATE TRANSPORT

Hobart is Tasmania's capital city and southern Tasmania's regional centre. It is the home of the Tasmanian Government and a vibrant hub of tourism, business and the retail sector. The Hobart city centre and surrounds is the largest employment district in southern Tasmania.

Proportionally, large numbers of people travel in and out of Hobart every day and rely upon private transport to do so. This includes residents of southern Tasmania travelling to and from work, others journeying to Hobart as the seat of government and centre of business for the state, and tourists based in Hobart making day visitation to surrounding areas.

The development of the City of Hobart Transport Strategy is an opportunity to plan for the future in collaboration with the community, peak stakeholder groups, other local councils and the Tasmanian Government.

How do we define private transport?

Private transport is any transport that is controlled by an individual and not available for use by the general public. It includes cars and motorcycles, bicycles, mobility devices and the ability to walk.

Private transport task in Tasmania

An essential element of people's daily lives is the movement between places: to access jobs, schools, shops, key services and participate in social and recreational activities. With the exception of freight movement, the transport system's key function is the movement of people between places.

As we get busier, we travel more, often over longer distances and involving more complex trips. For example, Tasmanians often do school drop-offs and pick-ups on the way to and from work, or stop at the local shops and supermarket. Depending upon where we live and work and our preferences in regards to schooling and child care, shopping and other daily needs, people may need to travel to multiple destinations.

In Tasmania, the movement of people between these destinations primarily relies upon private transport modes: in particular by private car. Private cars provide significant flexibility in travelling to multiple destinations. We can go where we want, when we want.

Tasmania has the second highest level of vehicle ownership per head of population.¹¹ In Greater Hobart, private cars account for nearly 75 per cent of household trips.¹² Reliance upon private cars as the dominant means of private transport is increasing.

Since 2011, the number of passenger vehicles registered in Tasmania has grown by 20 949 vehicles to a total of 316 904 vehicles in 2016. Light commercial vehicle registrations have also grown from 87 113 in 2011 to 99 346 in 2016, along with motorcycles from 15 052 in 2011 to 19 093 in 2016.

¹¹ Southern Tasmanian Councils Association, *Regional Land Use Strategy, Background Report No.8: The Regional Transport System*, p.20.

¹² Department of Infrastructure, Energy and Resources, Infrastructure Strategy Division, *Greater Hobart Household Travel Survey*, Tasmania, 2010.

Across all classes, the total vehicle registrations in Tasmania grew from 419 009 in 2011 to 457 629 in 2016.¹³

Not all the private transport task in Tasmania is reliant upon private cars, light commercial vehicles and motorcycles. The private transport task includes the movement of people through walking and cycling, which are also known as active transport. With increasing traffic congestion, crowded public transport and reduced accessibility to free or cheap commuter parking—and a renewed interest in physical activity and health—many people across Australia are walking and cycling to their destinations where they can.

The City of Hobart has one of the highest proportional uses of walking as a means of transport among all Australian capital cities. There are also areas within the City of Hobart where bicycle use is also extremely high. As such, the private transport task in the City of Hobart is different to surrounding municipal areas as journey lengths are shorter and more modal choices are available.

The need to travel is not limited to any age group, and older people and those with a disability also have transport tasks to satisfy. Mobility devices such as sit-on 3 and 4 wheeled electric powered scooters and wheelchairs have seen significant technical advances in the past decade, and can be affordable transport options for some people. The usage and ownership data associated with such devices is limited, but it is expected the prevalence of such devices will increase in coming decades with Tasmania's demographic changes.

The transport network

The transport network is a spatial network that provides for the movement of people and goods. In Tasmania, it is predominantly road based. Only limited transport is via rail, and even then it is restricted to the movement of goods (freight) or short tourist trips.

The private transport task primarily relies upon the public road system, although walking and cycling opportunities are facilitated by footpaths adjacent to roads, on-road bicycle lanes and off-road paths such as the Intercity Cycleway and the South Hobart Rivulet path. Neighbouring LGAs also have some off-road path opportunities for walking and cycling.

The provision and maintenance of public roads in Tasmania is generally split between state and local government (see Section 2: Context: Roles and Responsibilities for further detail). The Australian Government provides some funding for the National Highway (which includes the Midland Highway) and other selected projects.

There are four key metropolitan arterial road links for Greater Hobart, all of which have a presence within the City of Hobart:

- Brooker Highway
- Tasman Highway
- Southern Outlet
- Davey Street and Macquarie Street couplet.

These roads are the 'spokes in the wheel' of the road transport network for southern Tasmania. They are predominantly owned and managed by the state government, however, they all converge on the City of Hobart. The City of Hobart has a comparatively high level of responsibility within the city, being the road owner and manager for the Davey Street and Macquarie Street couplet and the Brooker Avenue from Burnett Street through to its termination at the Railway Roundabout.

¹³ Australian Bureau of Statistics, *Motor Vehicle Census*, 31 Jan 2016, cat. no. 9309.0.



Within the City of Hobart, these metropolitan road links are supported by the local road network, with different roads having different functions. Locally significant roads providing inter-suburb access include:

- the main road corridor that extends from the Hobart city centre to the northern suburbs (inclusive of New Town Road and Argyle, Campbell, Elizabeth and Murray streets)
- Sandy Bay Road through to Taroona
- Augusta Road through to Kalang Avenue
- Huon Road through to Fern Tree and Mountain River.

Parking

One of the major influences on the private transport task is the availability of parking and end-of-trip facilities.

Parking provides the end-point destination for people undertaking their day-to-day journeys. The availability and type of parking has a strong influence on the use of private cars. Long-term parking attracts commuter traffic by allowing people who work in an area to store their cars for the day. Short-term parking attracts people who are accessing retail activities or services. Parking cost and accessibility are factors in the provision of parking and generate additional vehicle trips throughout the day.

Likewise, end-of-trip facilities for other modes of private transport, such as bicycles, can be a determinant of that use. Developments that have incorporated well-designed facilities for the secure storage of bicycles and access to change rooms incorporating showers have been demonstrated to encourage workers to walk and cycle to work. Importantly, end-of-trip facilities must be easily accessible for users, particularly from building entrances. End-of-trip facilities also benefit all employees as they provide for lunchtime walkers, runners and sporting teams.

Did you know?

Office block landlords in the major Australian cities are increasingly upgrading their end-of-trip facilities. In 2015, the owners of the Grosvenor Place office tower at 225 George Street, Sydney, unveiled a \$9.3 million upgrade to their end-of-trip facilities. The upgrade included 230 bicycle parking spaces, a bike repair room with repair stand equipped with tools and pump and expansive male and female dressing rooms with individual showers, ironing boards, hair straighteners and shoe cleaners.

Further information on parking and end-of-trip facilities is covered in Section 3.

Challenges in the future

Typical of many other Australian cities, Tasmania's urban areas and towns have evolved in response to car-based travel. While not the only determinant of settlement patterns, significant investment in arterial roads, particularly during the post World War Two period, made outlying urban areas and towns more attractive places to live by reducing travel times. In comparison, investment in support of other transport modes has been minimal in southern Tasmania.

Residential growth has continued to expand the urban fringe into surrounding rural areas, where there is strong reliance upon cars to access employment opportunities and services. In addition, previously isolated settlements, such as the southern beaches or Margate and Snug south of Hobart, are now transitioning to satellite suburbs of Greater Hobart because of affordability and lifestyle choices.

The Tasmanian Government has announced targets for increasing Tasmania's population by the year 2050. The increase seeks to offset population decline due to an ageing population and to improve Tasmania's long-term economic, social and environmental future. How Greater Hobart and surrounding towns accommodate this population growth, and the supporting transport network, will have a significant influence upon the private transport task.

The City of Hobart has goals and objectives within its Hobart 2025 Strategic Framework to deliver improved social, economic and environmental outcomes, for example, through better integration of land use and transport planning.

While there is increasing employment, services and retail activity in centres outside of central Hobart, the Hobart city centre and surrounds remains the primary commercial and employment centre for Greater Hobart and the southern Tasmania region. It is also the seat of government in the state.

The Hobart waterfront and city area are significant focal points for visitors to the region, with a large proportion of all visitor accommodation in southern Tasmania as well as the cruise ship terminal at Macquarie Wharf. The Tasmanian Government has set a target of 1.5 million visitors to Tasmania by 2020, an increase of 500 000 from 2014 when Tasmania reached the milestone of 1 million visitors. Providing a transport system that makes it easy for visitors to navigate their way around and through the City of Hobart will be an important consideration for the new Transport Strategy.

A significant number of people journey in and out of Hobart each day and this is only likely to increase into the future if we follow a 'business as usual' path. Current evidence is showing that private car use as the dominant means of transport is increasing from all areas except the City of Hobart; while at the same time the capacity of the existing road network is reaching saturation, particularly at peak periods. This leads to peak hour congestion. Resolving this conflict will be one of the key challenges for the transport network into the future and is unlikely to be resolved without integration with the land use planning system, investment to support other transport modes and behavioural changes.

Within the City of Hobart, and in particular the city centre and surrounding area, the challenge is to provide less focus on the movement of cars and other vehicles into and through the city and greater focus on improving movement of people and engagement within the urban environment in and around the city. Current City of Hobart projects to improve pedestrian and cycleway facilities, such as the Hobart Rivulet path improvements, the Sandy Bay Road cycleway and shared path development along Morrison Street and the Hobart waterfront, is demonstrative of how this shift can occur. It recognises that different roads will have different functions, with some being managed as shared public space.



There are other challenges in the future:

- road safety
- lower speed environments
- reallocation of road space in selected road corridors
- cooperation with other LGAs and the state government to ensure sound decision making and improved funding allocations.

The City of Hobart also recognises the importance of strong environmental stewardship and resilience to climate change. Private vehicle road transport is one of the largest sectoral emitters of pollution in Tasmania. Recent studies have identified the economic cost and loss of life from the public health impacts from air pollution, including from transport. Although the City of Hobart is limited in its ability to manage these issues, it can be a strong advocate for state and federal policy settings that encourage fuel efficiency and switching to low emission fuels, improved vehicle standards, zero emission vehicles and recognition of the need to change our current transport mode trajectory. The City of Hobart can also continue to improve the public realm, through more pedestrian friendly environments and delivery of an integrated cycling network to assist in greater take up of active transport.

The City of Hobart, other LGAs and the Tasmanian Government all rely on data and statistics to make informed decisions about the operation of the transport network. Intelligent transport systems, which generate road-use data, have proven a valuable tool to assist long-term strategic asset management interstate and overseas. The role they can play over the next 20 years in managing transport demand and congestion will be considered in the development of this Transport Strategy.

PRIVATE TRANSPORT TASK IN TASMANIA

The private transport task in Tasmania is undertaken by various transport modes: cars, motorcycles, bicycles, mobility devices and feet. The task is primarily undertaken on the public road network, including associated footpaths. Although active transport modes—walking and cycling—along with mobility devices, rely upon the open space network and off-road cycleways, for example: the Intercity Cycleway and Hobart Rivulet shared path.

There are various data sources providing information on the use of different modes of transport as a means to journey from one place to another. Following the release of statistical data from each Census, the Department of State Growth provides what is known as the 'Journey to Work' data analysis. Discussed in more detail in Section 3, this data provides information on origin and destination of journeys to work and the transport mode used to get there.

The Greater Hobart Household Travel Survey undertaken by the Department of Infrastructure, Energy and Resources in 2010, provides data about all types of journeys undertaken by households in Greater Hobart, not just those undertaken for work purposes. Statistics were compiled from a representative sample of the population in Greater Hobart. While not regularly updated, key findings of this study highlight:

- the reliance upon private cars as the primary modes of personal transport
- the increased use of walking as a means of transport for journeys within a local area
- an average 2.7 trips per person per weekday are undertaken across Greater Hobart, with an average of 2.2 trips per person on weekend days
- the purpose of trips is evenly spread between trips to work, shopping and recreation/entertainment.

Table 3: Weekday trip mode share by LGA of residence

Source: Greater Hobart Household Travel Survey

LGA	Car as driver	Car as passenger	Public transport	Walking	Other
Brighton	58.5%	25.1%	5.2%	10.3%	0.8%
Clarence	56.3%	20.4%	4.7%	17.0%	1.6%
Derwent Valley*	56.7%	21.9%	2.6%	18.6%	0.2%
Glenorchy	54.6%	21.1%	4.7%	17.9%	1.7%
Hobart	49.0%	17.0%	2.4%	30.2%	1.4%
Kingborough*	58.8%	19.5%	3.3%	17.5%	0.9%
Sorell*	58.7%	20.2%	7.2%	13.9%	-
Greater Hobart	54.7%	19.8%	4.0%	20.2%	1.3%

* Pt A Statistical Areas only.

For more information about the Greater Hobart Household Travel Survey go to: www.transport.tas.gov.au/road/plans_strategies/greater_hobart_household_travel_survey

Infrastructure Australia releases the State of the Australian Cities report every year, which provides a comparative analysis of a range of issues across the 17 major cities in Australia, including on the transport system and reliance upon different modes of transport.

The State of the Australian Cities report can be downloaded at: www.infrastructure.gov.au/infrastructure/pab/soac

When the detailed data is examined it becomes obvious that the transport task is highly related to the greater Hobart land use pattern, including housing locations, employment locations, school and education facilities, shopping and recreation areas. As such, the modal opportunities for servicing the transport task are highly dependent on people's home addresses.

The following sections examine the principal modes available for individuals to travel using private transport. Note that public transport options will be considered in detail in the next consultation paper, to be released in 2017.

Walking

Many people walk to local destinations such as shops, cafes and parks. Others walk to their school or workplace. Together with cycling, walking is often referred to as active transport.

While, for some people, this term implies an aspect of healthy living, active forms of transport offer a broad range of benefits, including:

- increased capacity, and reduced congestion, in the overall transport network
- reduced environmental impacts
- improved public health and reduced healthcare costs
- improved community wellbeing and social cohesion.

In a connected city environment, walking has priority over other modes of urban mobility. It is the most fundamental mode of transport; almost everyone can walk and most journeys by other forms of transport either begin or end by walking. It is low cost, environmentally sustainable and promotes physical and mental health.

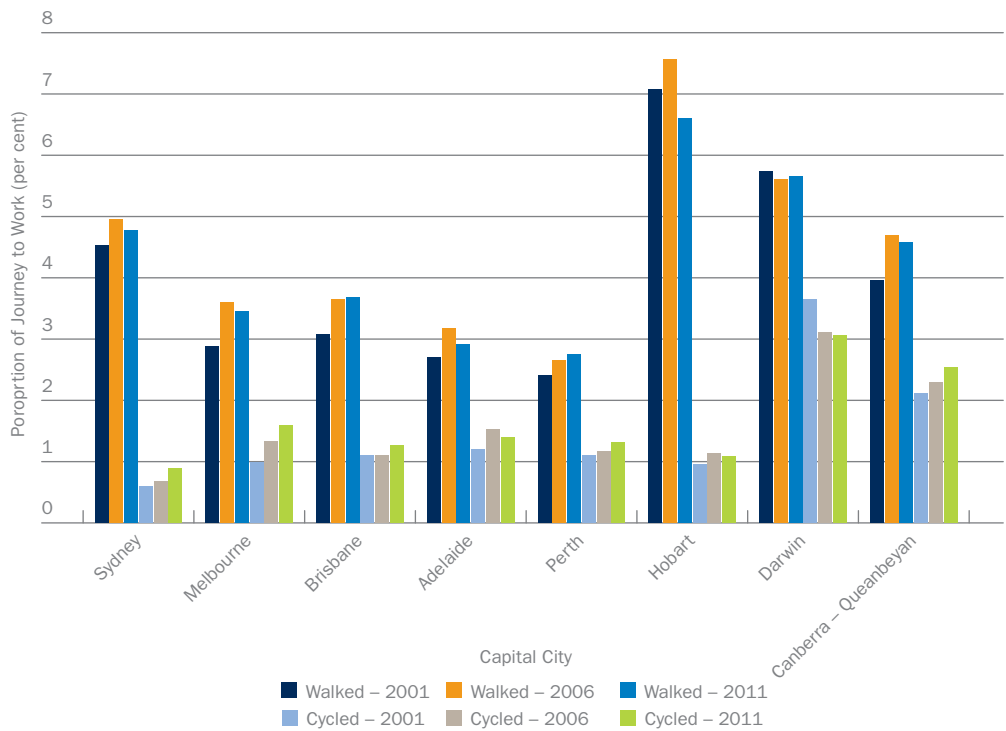
Out of all the capital cities in Australia, the City of Hobart has the highest proportion of people utilising walking as a mode of transport to and from work. According to the State of the Australian Cities report, between six and seven per cent of people journeying to work each day walk.¹⁴ In comparison, between four and five per cent in Sydney, three and four per cent in Melbourne and Brisbane, and two and three per cent for Adelaide and Perth utilise walking as a mode of transport to work.

¹⁴ The Journey to Work statistics compiled by the state government indicate that up to 10 per cent of people journeying to work, walk. The difference in statistics is that Infrastructure Australia includes part of the Derwent Valley municipal area within its definition of Greater Hobart.



Chart 1: Share of active transport by commuting mode 2001–2011

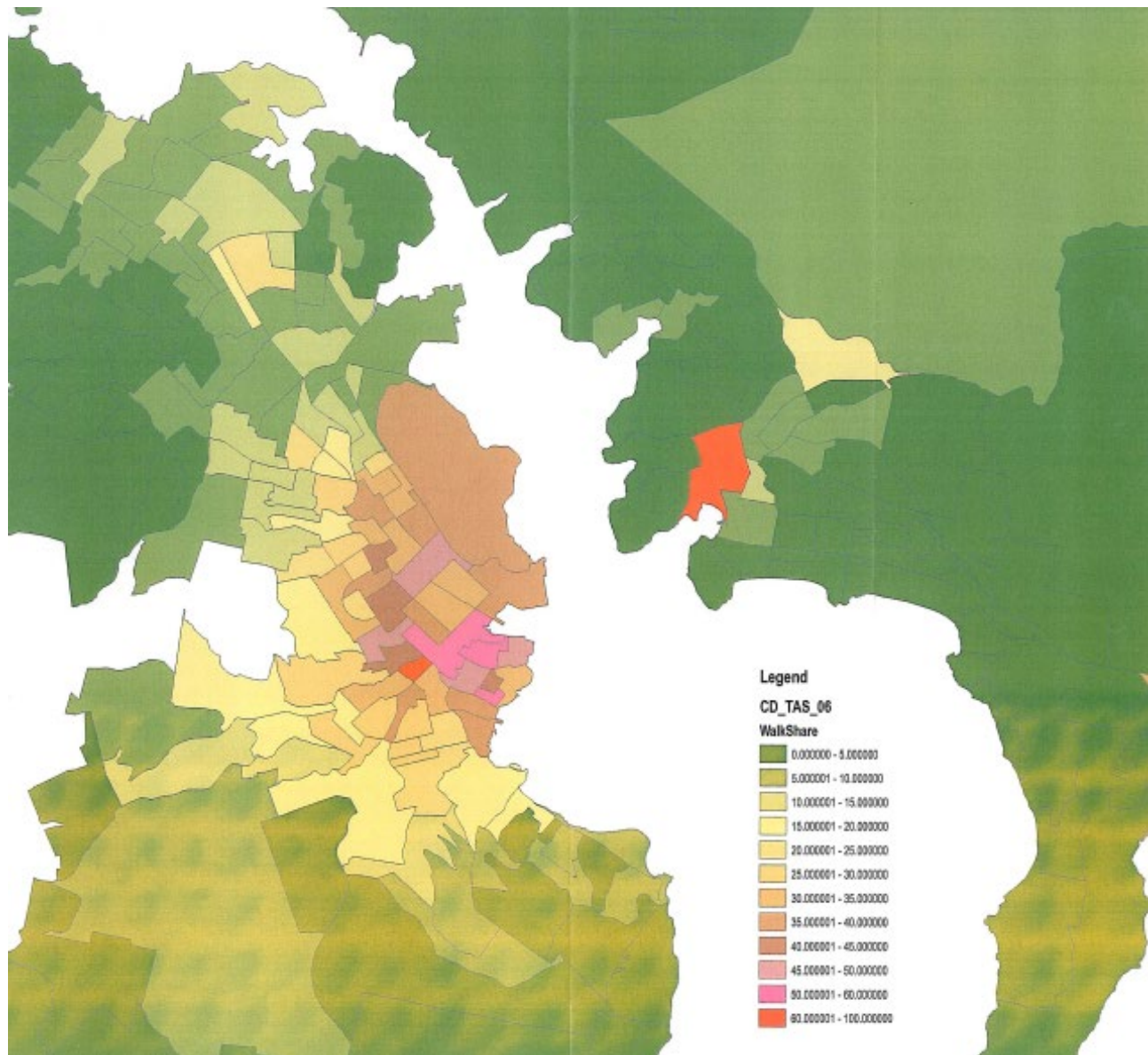
Source: Department of Infrastructure and Regional Development (DIRD) 2015, State of the Australian Cities 2014–2015, Commonwealth of Australia, Canberra



Not surprisingly, the highest proportion of people journeying to work by walking, live in the inner suburbs of the City of Hobart as shown in Map 4.

Map 4: Southern region—journey to work—walking share

Source: ABS Census 2011 data—map by City of Hobart.



The significance of walking increases when considering all types of journeys. Not just those for work purposes. Around 20 per cent of all journeys across Greater Hobart are by walking.¹⁵ In the City of Hobart, the proportion is higher at around 30 per cent, nearly 12 per cent more than other nearby LGAs (within some local areas this figure is even higher).

These journeys will include trips to local shops, schools, parks and services. It also includes the movement of people throughout the city centre and surrounding area for business and tourism purposes.

¹⁵ Department of Infrastructure, Energy & Resources, Tasmania, *Greater Hobart Household Travel Survey, 2010*.

As part of the statistical analysis for the Inner City Development Plan,¹⁶ more than 158 500 pedestrian movements were recorded within a single day (2 March), which is outside the peak Christmas/New Year period. While many pedestrians were likely to have been recorded twice, the data does indicate that there are a significant number of pedestrians throughout the city environment.

Generally, walking is an important mode for short trips up to 1 km, although the average trip distance for walking across Greater Hobart is generally longer.¹⁷ Trip distances for walking across Greater Hobart range from an average 1.4 km in Brighton and Glenorchy through to 2.2 km in Clarence and Kingborough. The City of Hobart has an average trip distance of 1.7 km. Walking also starts and finishes most trips made by other modes.

Walking trips are important for the economy. Not only is walking used for business purposes, it is the primary mode for shopping, tourism and visitors once they reach the city centre. The economic value of walking to cities has been described as the walking economy.

Accessibility can be generated through good road connections or public transport connectivity, but walkability is especially conducive to increasing potential face-to-face interactions that are fundamental to a knowledge-based economy.¹⁸ Increased face-to-face interactions allows for increased connectivity between people. There is a strong relationship between connectivity and productivity, which is referred to in agglomeration economies.

Increased walking also has a positive effect on the retail sector. Research¹⁹ indicates that walkable environments create an opportunity for unplanned expenditure by allowing shoppers to directly interact with retail activities, instead of 'drive-through' shoppers, stopping to pick up one item on the way to another destination. A study of shoppers in New York City²⁰ suggested that shoppers who value wider footpaths over on-street parking spent about five times as much money.

Did you know?

The City of Melbourne recently explored the value of its 'walking economy' by asking:

- What might be the impact of giving pedestrians priority at an intersection?
- What might be the value of a development which includes a laneway or arcade to enhance permeability?

A detailed model of pedestrian connectivity was developed (including footpaths, laneways, arcades and pedestrian crossings) and overlaid with the density of employment, or 'effective job density'. The modelling suggested that the City of Melbourne's existing \$32 billion economy could be boosted by \$400 million (12.5 per cent) through enhanced connectivity.

Walking is also an essential part of an effective public transport system. Passengers walk to and from bus stops and to make connections between services. Where people are not close to their destination, integrating walking and public transport can be part of a solution.

¹⁶ GEHL Architects, *Hobart 2010 Public Spaces and Public Life—A city with people in mind*, 2010.

¹⁷ Department of State Growth, Tasmania, *The Greater Hobart Household Travel Survey*, 2009.

¹⁸ Knowledge is now recognised as the primary driver of productivity and economic growth by the Organisation for Economic Cooperation and Development.

¹⁹ TA Litman, *Economic Value of Walkability*, Victorian Transport Policy Institute, 2014.

²⁰ Schaller Consulting, *Curbing Cars: Shopping, Parking and Pedestrian Space in SoHo*, 2006.

DISCUSSION

Whether someone is able to walk to their destination is heavily dependent upon the distance between their home and the destination, and the perceived safety and quality of the pedestrian infrastructure and public spaces. Other factors in the decision to walk include:

- saving money
- community attitudes and acceptance
- exercise, health and wellbeing
- ability to 'trip chain'
- environmental consciousness (reducing emissions).

What is trip chaining?

Trip chaining (or linked trips) is when a person builds in stops to different destinations. For example, a woman on her way to work walks a certain distance, catches a bus the rest of the way and then stops to purchase a coffee before she gets to work. Or after leaving work, she walks to her car, does school pick-up and then goes to the grocery store or supermarket before heading home.

Traditional transport planning has treated walking trips as incidental to road traffic, with very little consideration of the quality and accessibility of urban environments for walkers. The shifting emphasis from a car-dominated orientation to a more balanced attitude, where active modes of transport are encouraged, is being seen across many Australian cities.

Increased use of walking as a mode of transport assists in relieving congestion, creates a more sustainable and inclusive city, and contributes to economic activity. Built environments that promote and facilitate walking are better places to live and work, have higher real estate values, promote healthier lifestyles and have higher levels of social cohesion.

Walkability is a measure of how inviting an area is to pedestrians and takes into account both quantitative and qualitative factors. Improved walkability of our urban environment is a factor in encouraging greater use of walking as a mode of transport.

Key factors in improving the walkability of an area include:

- Integration with the land use planning system. As discussed in greater detail in Section 3 the mix of land uses and density of an area has an important influence on how many people choose to walk, by increasing the opportunity for more people to live in proximity to services and employment.
- The quality of footpath and walkways. Well-designed footpaths and walkways ensure that widths are appropriate for the likely capacity and use, surfaces are comfortable and easy to walk upon with minimal trip hazards, there are opportunities for walkers to rest and stop and there is appropriate sun and wind protection.
- The safety of footpaths and walkways. People walking need to feel personally secure. Safety considerations include the dangers arising from road traffic, path lighting and fear of passing through areas where anti-social behaviour may occur. Pedestrian environments that benefit from 'passive surveillance' can be a key factor in creating a feeling of personal security.



- The permeability of the built environment. Increasing connectivity of streets and roads by minimising dead ends and creating laneways and footpaths results in more direct routes and a more interesting environment, however, the design of laneways and footpaths is critical.
- The quality of streetscape and urban spaces. A visually pleasant and interesting environment will always encourage more pedestrians. This extends to the quality of the public realm and the appearance and scale of buildings which form the public space, as well as the type of land use activity. For example, in a city environment, laneways with lots of active frontages will encourage more walkers.

Within the City of Hobart, there are three key contexts for walking as a mode of transport:

- There are those people who walk to work, which is usually a journey from the inner suburbs into the city centre, whether from a home address or a city fringe commuter parking space.
- The city environment itself (city centre, waterfront and surrounds) in which walking is a highly important mode of transport for workers, shoppers and visitors.
- There are local areas in which residents will walk to local shops and services for their daily needs or to visit parks and friends.

Each of these contexts for walking gives rise to potentially different strategic considerations. Further considerations will be examined in Consultation Paper 4—Local Area Traffic Management, to be released in 2017.

QUESTIONS

What factors do you take into account when deciding to walk to a destination?

If you don't already, what changes could occur to make it more likely for you to walk to your destination, including work?

Do you find the city centre, waterfront and surrounding area easy to navigate as a pedestrian?

Do you find the recent Hobart waterfront footpath upgrades (Morrison Street) to have improved your walking experience?

Would you move into an area if it had a high walkability factor?

Are there any particular areas where you find it difficult from a road safety perspective to be a pedestrian?

Cycling

Cycling is a low cost, space efficient, low carbon, healthy and sociable mode of private transport. Cycling is already a very popular form of transport in some other countries. In Australia, anecdotally, cycling rates declined with the wide adoption of the private motor car during the 1960s and 1970s. Similar falls in patronage were seen in public transport. However, across Australia and especially in cities, cycling is increasing in popularity as a form of transport. Like walking, cycling offers a broad range of benefits to both the individual and the community, including:

- saving money
- increased capacity, and reduced congestion, in the overall transport network
- reduced environmental impacts
- improved public health and reduced healthcare costs
- improved community wellbeing and social cohesion.

Cycling is ideal for medium distance trips of around 5–8 km and is an effective alternative to driving or public transport over the same distance. However, cyclists are vulnerable road users and its increasing popularity as a mode of transport often depends on increasing safety through such things as reduced traffic speeds and purpose-built bicycle routes: both on and off road. Cyclists also generally want to take the most direct and least taxing route.

Statewide, cycling accounts for less than one per cent of all journeys to work. Within Greater Hobart this increases to between one and two per cent: similar to that of Adelaide, Brisbane and Perth, but considerably less than Canberra at between two and three per cent and Darwin at just over three per cent.²¹

Pockets of high proportional use of cycling as a mode of transport to work exist around Tarooma, South Hobart, New Town and Geilston Bay.

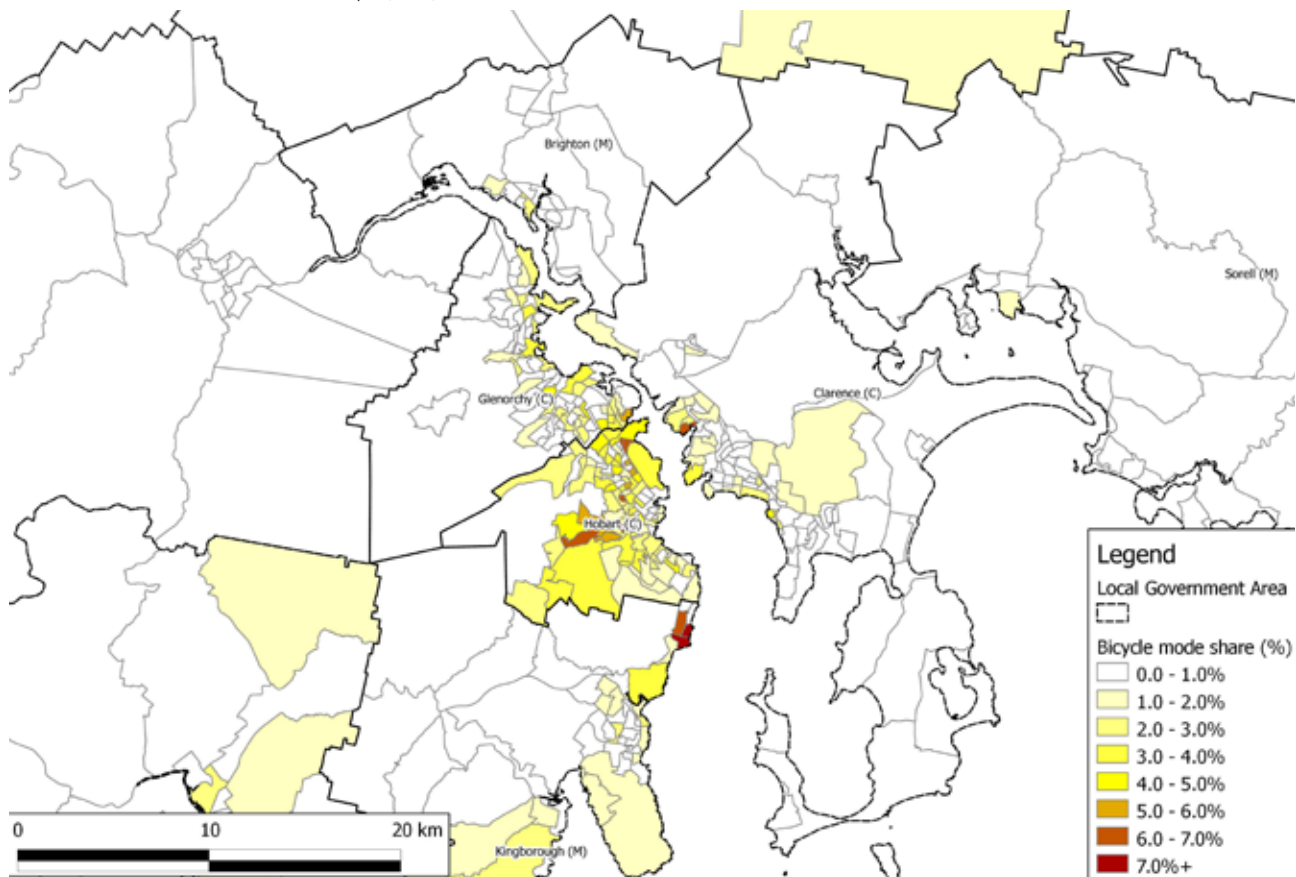
Cyclists in both South Hobart and New Town have access to high quality paths that are separate to the road network: the Hobart Rivulet Track and the Intercity Cycleway. Residents in Geilston Bay have access to the Clarence Foreshore Trail which connects to the Tasman Bridge and ultimately the Intercity Cycleway.

The following map of the Australian Bureau of Statistics 2011 Census journey to work data shows the fine grain nature of areas where a high proportion of people use a bicycle.

²¹ Department of Infrastructure and Regional Development, Australia, *State of the Australian Cities Report 2014–15*, 2015.

Map 6: Southern region—journey to work—cycling share

Source: ABS Census 2011 data—map by City of Hobart



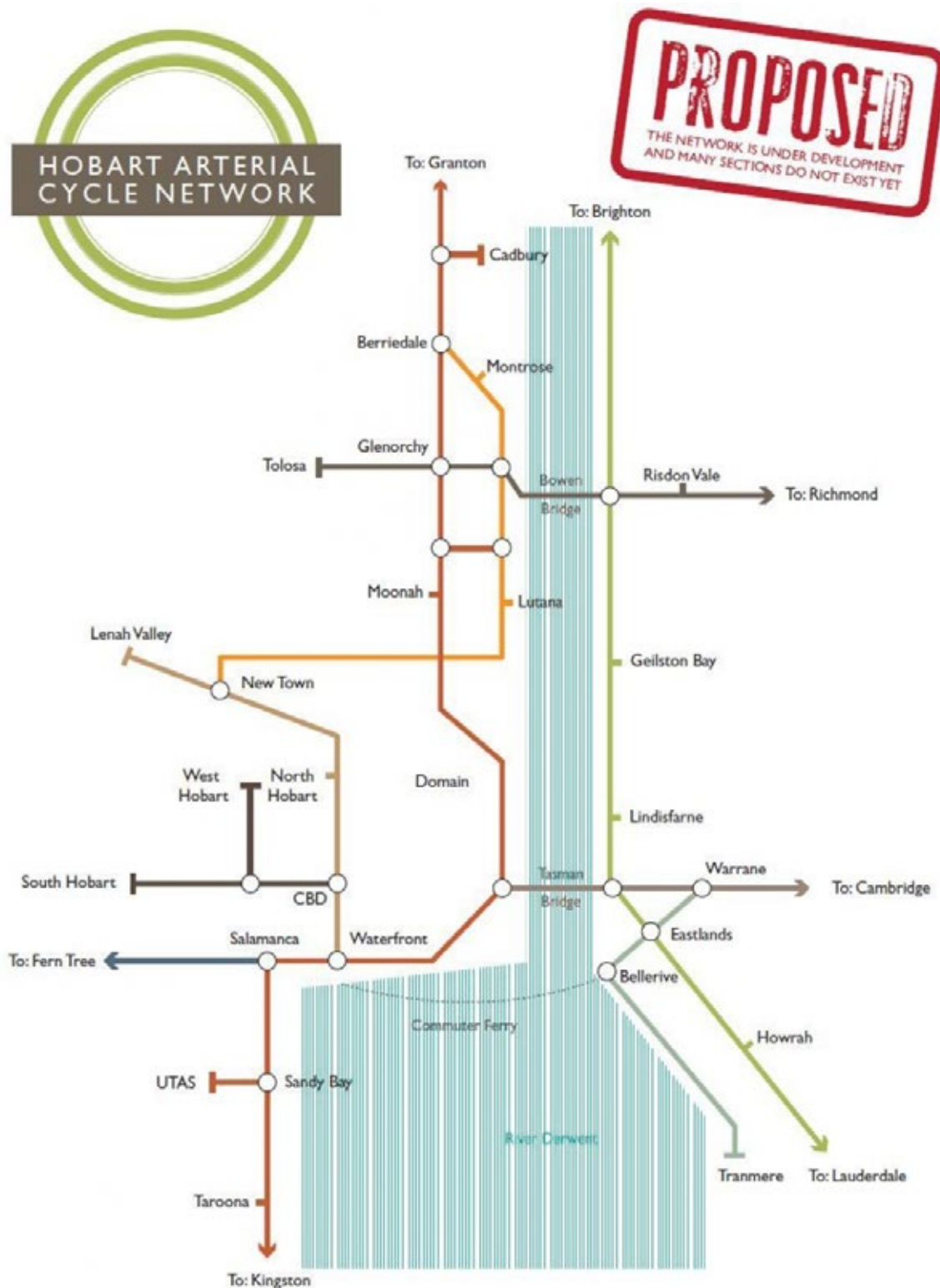
The City of Hobart adopted a Principal Bicycle Network Plan in 2008 following community consultation. This has driven the development of specific bicycle infrastructure on the nominated corridors since that time.

In 2008 a regional bicycle plan was developed through a working group made up of representatives from Hobart, Clarence, Glenorchy, Kingborough and Brighton councils, as well as a representative from the Department of Infrastructure, Energy and Resources. A funding grant was provided by the Commonwealth Department of the Environment, Water, Heritage and the Arts to assist with the development of the plan. Cycling South prepared the document with reference to the municipal bicycle plans of each council and in consultation with the working group. Public consultation was carried out in 2008 and feedback was collated and incorporated into the final document: Hobart Regional Arterial Bicycle Network Plan 2009. The plan:

- identifies roads that are part of the arterial bicycle network to ensure future state and local road projects incorporate bicycle friendly design
- records existing and proposed arterial cycle routes on a regional map
- provides strategic direction in the development of an integrated cycling network and enables funding and grants to be directed towards cycling projects
- identifies locations where end-of-trip facilities are required to enhance the cycling network.

Map 7: Schematic mapping of Hobart Arterial Bicycle Network

Source: Cycling South



For more information on Cycling South head to www.cyclingsouth.org where a copy of the Hobart Regional Arterial Bike Network Plan 2009 can be downloaded.

Over the past seven years, the City of Hobart has advanced towards greater integration of recreational and commuter cycling infrastructure in accordance with the City of Hobart's Sustainable Transport Strategy, the City of Hobart's Principal Bicycle Network Plan and the Hobart Regional Arterial Bicycle Network Plan.

Traditionally, within local government there has been a strong focus on recreational cycling, rather than commuter cycling, with supporting infrastructure often planned and delivered under recreational plans rather than transport. References have often been to recreational trails and off-road shared paths, rather than bicycle infrastructure to support everyday journeys and the commuting trip. In Tasmania there has been very little on-road bicycle lane development, something that the City of Hobart is actively aiming to improve.

The cycle network within the City of Hobart is comprised of on-road cycle lanes; the Intercity Cycleway and recreation focussed shared walking and cycling tracks such as the Hobart Rivulet Track. The improvement and management of the cycle network within the City of Hobart is a shared responsibility between two divisions. On-road cycle lanes and bicycle parking facilities are planned, delivered and managed by the City Infrastructure Division, with specific projects under the Inner City Action Plan delivering improved cycleway infrastructure within the city area (see Section 3). Cycling infrastructure in park areas is delivered through the Parks and City Amenities Division. Since 2008, the City of Hobart has delivered approximately 8.9 km of on-road bicycle lanes through the municipal area, with key connections along Argyle and Campbell streets to the north of the City, Sandy Bay Road to the south, and small road sections to complement the Hobart Rivulet path to the west. Initial on-road lanes have also commenced on Augusta Road in Lenah Valley, with many other sections in planning and design.

Intercity Cycleway

The Intercity Cycleway is an off-road 15.6 km long shared cycling and walking track that extends from the Hobart Cenotaph to Box Hill Road in Claremont in the northern suburbs. Constructed with a concrete surface on a disused railway line, there are no steep hills or sharp turns, making it ideal for cyclists of all abilities, including children.

It is used as both a commuter link as well as for recreational and tourism purposes. There are many attractions and sites along the route, including the Royal Tasmanian Botanical Gardens on the Queens Domain, the Transport Museum at Glenorchy and MONA at Berriedale.

The Intercity Cycleway is maintained by both the City of Hobart and Glenorchy City Council. Within the City of Hobart, it connects into a cycleway that extends into Sullivans Cove. Upon completion of the Morrison Street shared paths, it will ultimately connect through to Castray Esplanade and Battery Point.

The facility supports approximately 600 cycling trips per weekday during the winter, rising to around 900 cycling trips per weekday during summer. A large proportion of these trips appear to correspond to commuter usage.

Provision of cycling infrastructure has primarily been the responsibility of local government. Presently, the Tasmanian Government invests less per person on bicycle infrastructure than any other state. In 2015, it contributed funding to improved cycle infrastructure equivalent to only \$2.52 per person compared to \$4.11 per person in NSW, \$5.21 per person in Victoria and \$4.39 per person in South Australia. Local government therefore continues to bear the primary funding responsibility for cycle infrastructure.

For more information on the comparative spend of state governments on cycling infrastructure, download the National Cycling Strategy Implementation Report 2014 at www.transportinfrastructure.council.gov.au

Many of the world's leading cities now recognise the value of cycling, with Australian cities following. Cycling is particularly important in cities which aim to intensify land use activity and residential density around their city centres.

The advent in the past 10 years of improved battery technology has seen the number of electric bike models available for sale increase substantially. The power-assisted nature of such bicycles allows riders of all abilities to ride in undulating or hilly areas, such as parts of Hobart.

Research indicates that like walking, cycling also has a positive impact on the local economy. One study has found that bike riders visited more shops than drivers each trip, and that in small to medium cities cyclists and pedestrians are spending 25 per cent of retail revenue.²²

DISCUSSION

Like walking, whether people are able to cycle to their destinations is heavily dependent on the distance and perceived safety and quality of the cycling infrastructure. The journey to work statistics underline the importance of the infrastructure, with areas of high cycling use having access to quality tracks such as the Intercity Cycleway, the Hobart Rivulet Track and the Clarence Foreshore Trail.

Increased use of cycling as a mode of transport, like walking, not only assists in relieving congestion but creates a more sustainable and inclusive city and contributes to economic activity. The advent of electric bicycles has meant that individuals at all levels of fitness can ride up hills with ease.

Safe cycling on road can be achieved through separate cycle lanes and making traffic speeds compatible with average cycling speeds. On some roads it will be appropriate to provide for cycle lanes, while on others, such as Morrison Street on the Hobart waterfront, it makes sense to create off-road shared facilities for less confident cyclists. Faster cyclists may continue to use roads, albeit in a lower speed environment that benefits all users.

The connectivity of the cycling network is also critical. Breaks in the cycling network deter cyclists because they can either impose lengthy detours or generate safety concerns.

End-of-trip facilities are a further consideration. Such facilities include bicycle parking, changing facilities and space to store clothing and equipment. Lack of a place to securely store bicycles while at work, shopping or similar, can be a deterrent to choosing cycling for a trip. Bicycle storage also needs to be appropriately located to avoid cluttering of footpaths, which impacts upon pedestrians.

²² COWI Consulting Group, *Danish Road Directorate*, Copenhagen, 2015.



Beyond these physical elements, one of the biggest influences on cycling as a mode of transport is the culture of cycling and attitude of other road users. To create a cycling culture, cycling needs to be convenient, easy to do, enjoyable and a cultural norm embraced by the wider community.

Bicycles are a vehicle entitled to use roads and footpaths within Tasmania, except where locally prohibited (for example, some footpaths in the city have prohibitions for bicycles at various times). The layout of on-road bicycle lanes, as a relatively 'new' form of infrastructure for Tasmania, has itself created challenges in terms of road users' awareness of the relevant road rules. Creating a more receptive environment for cycling includes providing information and advice to the community about road rules, the expectation of road users and the suitability of infrastructure. Community education events, such as 'Ride to Work Day', are another way to generate a cycling culture and community understanding of the role cycling can play in alleviating a range of issues facing our transport system.

QUESTIONS

If you don't already cycle, are there any changes or additional infrastructure or facilities that might make it more likely for you to use a bicycle as a mode of transport?

Are there are particular areas where you believe cycling infrastructure linkages are inadequate?

Is the location and quality of cycleways within the City of Hobart suitable?

Do you find that the public transport system encourages cycling as part of a multi-modal journey?

Do you find there are sufficient end-of-trip facilities for the safe storage of your bicycle in the City of Hobart?

Private motor vehicles (cars)

The private car is the most dominant mode of private transport in Tasmania. Within Greater Hobart it accounts for 75 per cent of all trips, but as a mode for journeys to work it accounts for 88.6 per cent: 80 per cent as driver and 8.6 per cent as a passenger.

However, within the City of Hobart the overall percentage of private car trips for the journey to work is much lower at around 61 per cent (51 per cent driving and 10 per cent as passenger).²³

Tasmania has the second highest rates of car ownership in Australia at 597 cars per 1000 population: the same as Western Australia and slightly less than the ACT at 603 cars per 1000 population.²⁴

Car ownership rates are also increasing, with an average annual increase of 1.7 per cent. In Greater Hobart, most households have either one or two cars, which is similar across Tasmania. Ownership rates per household do vary at the municipal level. The City of Hobart has higher rates of households with no car or only one car. This is a likely reflection of the urban nature of the municipality, with higher densities and close proximity to a significant range of employment opportunities, retail and services.

Table 4: Car ownership

Source: ABS 2013 Motor Vehicle Census, Australia, 2013

No. of registered motor vehicles	Australia	Tasmania	Greater Hobart	City of Hobart
None	8.6%	7.9%	9.1%	11.5%
1 motor vehicle	35.8%	35.6%	37.1%	42.5%
2 motor vehicles	36.1%	35.5%	34.6%	31.5%
3 or more motor vehicles	16.5%	18.1%	16.3%	11.9%
Number of motor vehicles not stated	3.0%	2.9%	2.8%	2.6%

The number of private vehicle passenger transport kilometres travelled each year is increasing in Greater Hobart. In 2006, it was estimated that there were 1.47 billion vehicle kilometres travelled by car in Greater Hobart. Future projections (based on business as usual) for Greater Hobart's passenger transport task show that this trend will continue, with the majority of vehicle kilometres being travelled by car, rising to 1.54 billion vehicle kilometres by the year 2020.²⁵ By comparison, passenger kilometres travelled by bus have remained relatively stable, and in 2006 were estimated

at 0.025 billion vehicle kilometres. (Recalling, however, that buses can carry multiple passengers.) Recent reports from Metro Tasmania indicate an upswing in patronage following the major route review in greater Hobart—this will be covered further in the module on Public Transport.

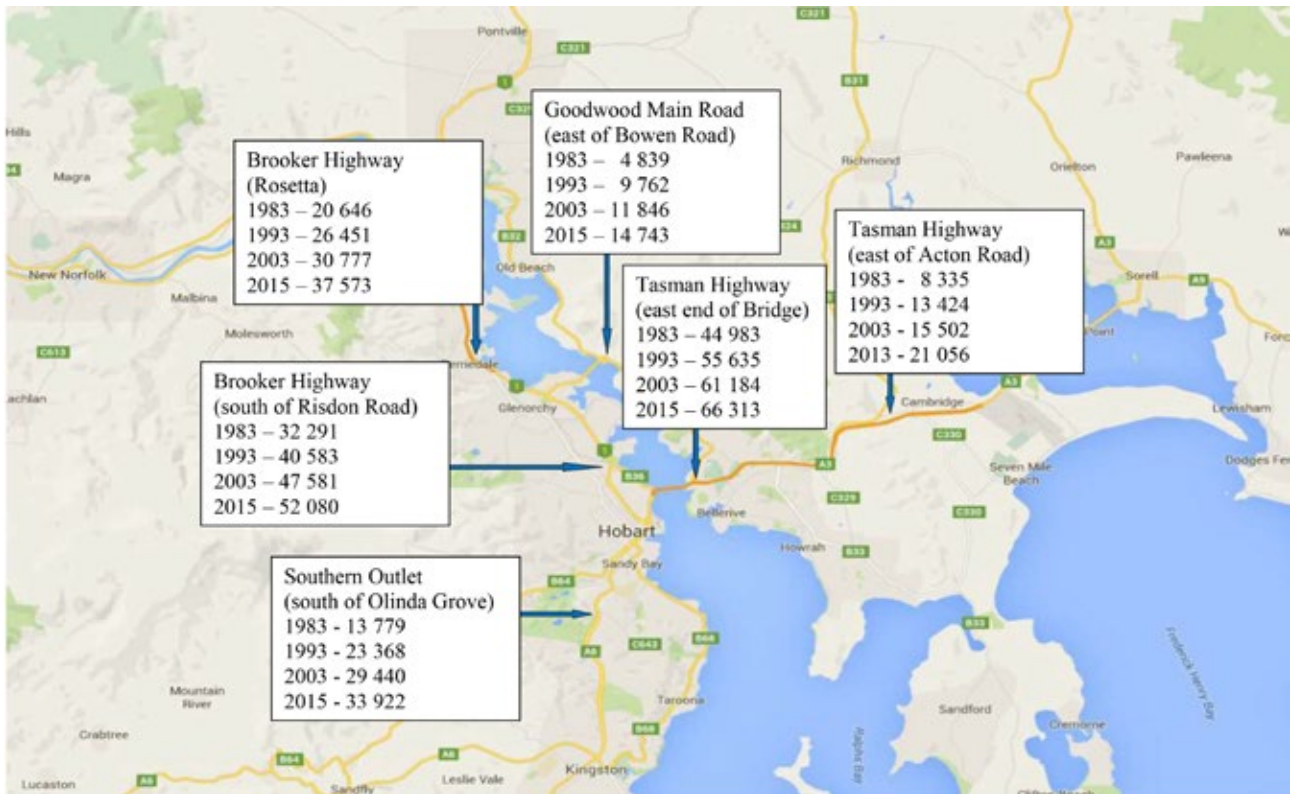
²³ Department of Infrastructure, Energy and Resources, Tasmania, *Journey to Work Data Analysis*, 2011.

²⁴ Australian Bureau of Statistics, *2013 Motor Vehicle Census*, Australia, 2013.

²⁵ Department of Infrastructure, Energy and Resources, Tasmania, *Southern Integrated Transport Plan*, 2011

Map 8: Average annual daily traffic on key arterial roads in Hobart

Source: City of Hobart with data supplied by Department of State Growth



Further information about travel patterns in greater Hobart and movement within and between LGAs can be found in the state government's *Household Travel Survey* report: www.transport.tas.gov.au/_data/assets/pdf_file/0003/109731/Household_Travel_Survey_Summary_-_Final.pdf

The popularity of private vehicles as a mode of transport is not surprising. Cars provide the ultimate flexibility. You can (generally) get where you want, when you want. This is a particularly important consideration in our sprawling low density cities with different land uses located in different areas.

There are impacts that arise from such high levels of car usage, including:

- demand for parking at end-point destinations
- reliance upon a public road network which is maintained and upgraded from the public purse
- environmental impacts arising from air pollution and the manufacture and disposal of motor vehicles
- congestion on the road network, which in itself causes personal impacts from extra time spent in the car and increased environmental impacts.

While car prices are at their most affordable for decades, the cost of running a motor vehicle continues to rise. Of all capital cities in Australia, Greater Hobart has the highest weekly fuel costs at an average of \$60.66 per week,²⁶ with similar car loan repayments and weekly maintenance costs. However, at the same time, the median weekly household income is the lowest of all capital cities at \$1065,²⁷ and accordingly, the cost of transport is a major drain on household budgets.

In cities and towns that are heavily reliant upon cars as a primary means of transport, access to motor vehicles and the ability to support the economic cost of running a car is a key determinant of socio-economic wellbeing.²⁸ In Greater Hobart, much of the affordable housing stock is located towards the urban fringe, with many outlying suburbs of lower socio-economic status: influenced by government policies during the 1960s and 1970s of locating public housing estates in outlying areas. Spatially divorced from the primary employment centres (such as the City of Hobart) and services, these communities experience what is known as 'locational disadvantage' as they are often households which struggle to afford car ownership.

²⁶ SGS Economics and Planning, *Transport Affordability Index*, Australian Automobile Association, 2016.

²⁷ Australian Bureau of Statistics, *Census of Population and Housing, 2011*, cat. no. 2001.0 6GHOB, ABS, Canberra.

²⁸ J Dodson, B Gleeson, R Evans and N Sipe, *Transport Disadvantage in the Australian Metropolis*, Griffith University, Queensland, 2006.



DISCUSSION

Cars as a mode of transport provide considerable flexibility in undertaking journeys for whatever purpose. They create ease in undertaking some multi-destination journeys (trip chaining) and often provide the only option for people to travel over distances not possible for cycling or walking in the absence of public transport.

Based on business-as-usual patterns, it is likely that car ownership and usage will continue to increase. This will place further pressure on the road network at peak hour, as well as creating additional demands for parking (and associated land associated with parking) and continuing to embed costly transport habits in Tasmania.

Many other Australian cities are strategically moving towards a transport system where the car, while still a significant component of the transport task, is part of an integrated system that involves a combination of public transport, walking and cycling. In other words, a system where car driving becomes a part of an effective mix of modes, rather than the dominant mode.

The ability to move towards such a system is influenced by the effectiveness of the public transport system, which is one of the few options that is a realistic alternative for longer journeys. In Greater Hobart, our public transport system has generally good geographical coverage, but relatively low service frequencies: a direct reflection of the dispersed pattern of settlement. The system is also heavily radial, with many services starting or ending in the City of Hobart. Cross-city journeys often require changes in bus services. Changes to bus frequency and routes were introduced by Metro in 2016 as part of a major route review, and these have reportedly seen an increase in patronage.

The ability to move towards such a system is also influenced by the spatial relationship between where people live and where they

work, shop and access services. Land use patterns are a key determinant of the transport task. If people live close to where they work, go to school, shop or access services, it is more likely that they will walk or cycle to their destination. This is evident within the City of Hobart, which has lower use of private cars and higher use of active modes of transport. There are two key scenarios that will need to be considered in the development of the Transport Strategy: the transport needs of those living within the City of Hobart and the transport needs of those living in other municipal areas but relying upon employment and services within the City of Hobart.

Strategies to reduce the number of cars on the road and the extent of congestion need not just be about reducing the number of trips. Travel demand management (TDM) is the term given to efforts to change behaviours and manage access to limited road space. For example, car pooling is a practical way to share transport costs and reduce the number of vehicles on the road. Some strategies across Australia to encourage car pooling include priority parking, lane restrictions on roads for single-occupant vehicles (or lanes dedicated to vehicles with three or more occupants) and workplace incentives.



QUESTIONS

Why do you choose to use your car instead of public transport or walk or ride a bike?

Do you have any ideas for you, your business or the community about reducing reliance upon cars as the primary mode of transport?

What would encourage you to use car pooling in your daily trip to work, school or shopping?

What tools (such as technology) would assist you in utilising a system such as car pooling?

Have you considered using a more fuel efficient vehicle or an electric vehicle? Are there any barriers that exist to your use of these vehicles?

If there were park-and-ride facilities near you, would you use those to walk/ride/use public transport for the remainder of the trip?

Could you estimate what your weekly transport costs are? Is this a factor in whether you choose to drive to work and other places?

Motorcycles

Motorcycles have been a part of the transport system for many years—initially providing much more affordable personal mobility than motor vehicles. As with cyclists and pedestrians, motorcyclists are often referred to as vulnerable road users.

As at 31 January 2016, the ABS recorded 19 093 registered motorcycles in Tasmania.

The ABS 2011 Census Journey to Work data indicates that some 1146 journeys to work were made by motorcycle out of a total of 177 566 trips statewide. Within the City of Hobart, the ABS data recorded 294 motorcycle journeys to work in 2011.

DISCUSSION

Motorcycles and scooters provide a mode of transport with a range of benefits to the user and the community. Motorcycles are relatively cheap to run, generally fuel efficient and require significantly less parking space than cars. However, motorcycle and scooter riders are vulnerable road users and losing control of their vehicles can have significant consequences.





QUESTIONS

What types of facilities should governments provide to support motorcyclists?



Mobility devices

Mobility devices, such as wheelchairs and mobility scooters, are an essential part of daily life for people with a mobility impairment. Not only do they improve access to everyday services, but they can also greatly enhance an individual's quality of life.

The ability of people relying upon mobility devices to access services and employment is heavily dependent upon the quality of the footpath infrastructure, the availability of accessible car parking spaces and the ability to access buses.

DISCUSSION

Providing for mobility devices is a critical element in ensuring that we have an equitable transport system. The City of Hobart can play a direct role by ensuring that its footpath infrastructure, particularly that around the Hobart city centre and along key routes leading in from suburbs, is designed to accommodate people with mobility impairments.

The accessibility of the public transport system will be considered in further detail in Module 3—Public Transport.





QUESTIONS

If you are reliant upon mobility devices, are there any challenges with the infrastructure or transport system that you experience?



TRANSPORT NETWORK

The transport network is the system which moves people and goods. In Tasmania, road is the dominant form of infrastructure within the transport network.

Tasmania has approximately 23 000 km of improved roads which are primarily owned (and therefore managed and maintained) by both state government, through the Department of State Growth, and local government. While local government owns the majority of the road network (approximately 14 600 km), the highest traffic volumes generally occur on the state roads which are Tasmania's major intrastate and regional arterial roads.

Outside of the Department of State Growth and local government, the other major road owners in Tasmania are Forestry Tasmania and the Parks and Wildlife Service. The roads managed and maintained by these organisations, while important within the Tasmanian context, have no influence on the private transport task within the City of Hobart.

The Midlands Highway (the National Highway) is southern Tasmania's major link to the north and north-west regions for both passenger and freight movement.

Within southern Tasmania, there are key regional links that play an important role in moving people from regional and rural areas into the metropolitan area.²⁹ Those roads strategically important to the private transport task are the:

- Arthur Highway
- Channel Highway
- Huon Highway
- Lyell Highway
- Tasman Highway (from the Hobart city centre to the Hobart International Airport to the East Coast).

Within the Greater Hobart area there are four identified key metropolitan links and urban transport corridors that are critical to the effective movement of people around the metropolitan area, three of which feed into the city centre: Brooker Highway, Tasman Highway, Southern Outlet and the fourth—the Macquarie Street and Davey Street couplet—connecting them.

Sections of the Brooker Highway carry over 52 000 vehicles per day. It is the urban component of the link to northern Tasmania via the Midlands Highway. It provides the key link to the Hobart city centre for residential areas north of Glenorchy through to Brighton and New Norfolk. The Brooker Highway is primarily managed by the Department of State Growth. The City of Hobart is responsible for the Brooker Highway (Avenue) from the Burnett Street intersection southwards.

The Tasman Highway links residential areas in Clarence and Sorell municipal areas with the city centre, as well as providing access between the Hobart International Airport and the City of Hobart. Daily vehicle numbers on the Tasman Bridge are now well over 66 000 vehicles per day. The Tasman Highway is solely managed by the Department of State Growth.

The Southern Outlet provides the major connection with the Hobart city centre to the growing residential areas in Kingborough and further south to the Huon Valley. It carries significantly less traffic than the Brooker and Tasman highways, with around 34 000 vehicles per day. The Southern Outlet is solely managed by the Department of State Growth.

The Macquarie Street and Davey Street couplet is the link across the city centre that connects the Brooker Highway, Tasman Highway and Southern Outlet. In other words, it is the spatial link between the southern, eastern and northern parts of the Greater Hobart area. Traffic volumes are in the region of 30 000–40 000 vehicles per weekday during school terms on each road.

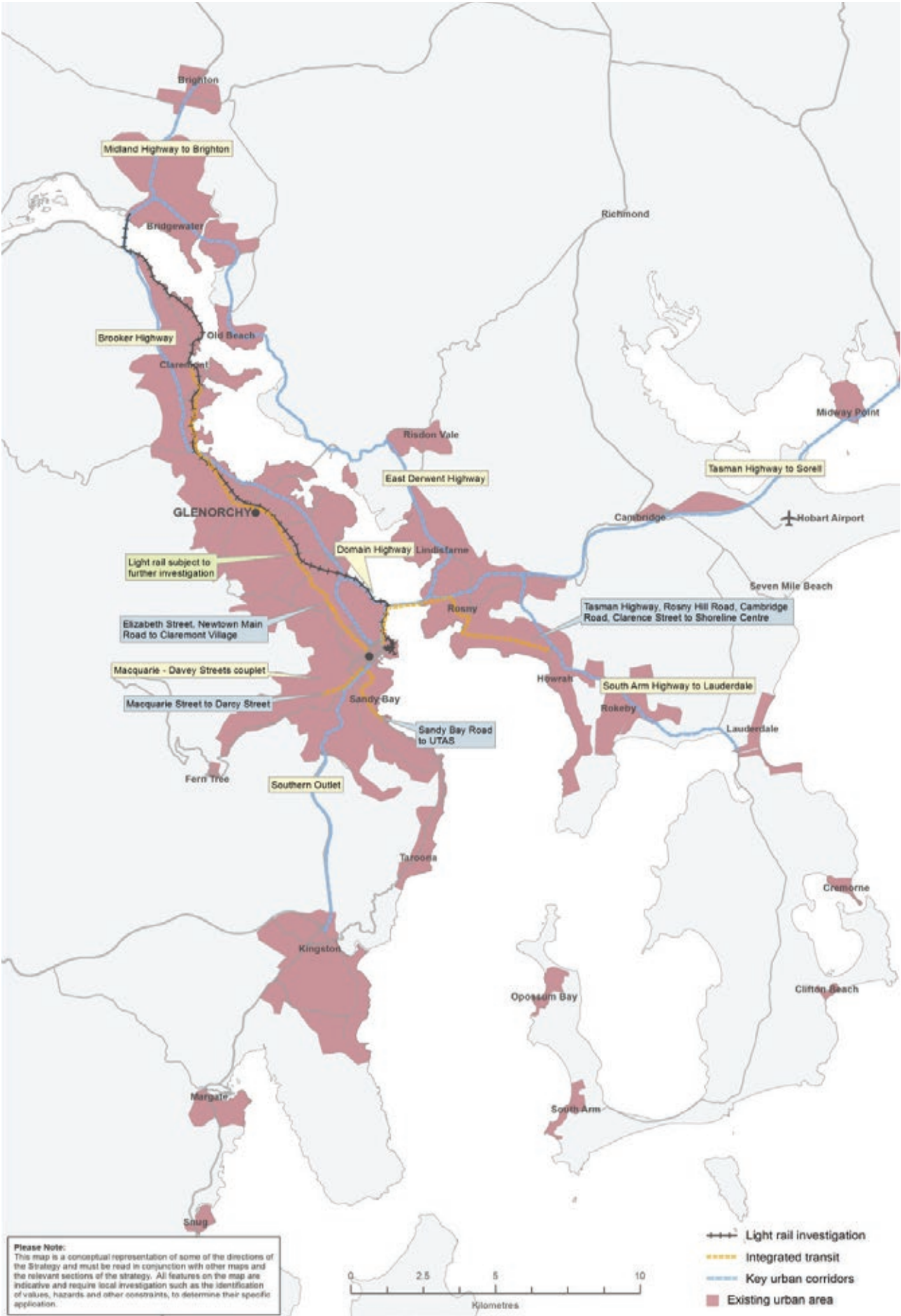
Outside of these metropolitan links there are key urban transport corridors which include Sandy Bay Road, Main Road (New Town to Glenorchy), Kalang Avenue–Augusta Road and Domain Highway. With the exception of the Domain Highway, which is managed by the Department of State Growth, all these other road corridors are managed by the City of Hobart.

The transport network supporting the private transport task is supplemented by other open space and recreational infrastructure, as well as other public and private access ways through the city for pedestrians. In this respect, facilities such as the Intercity Cycleway, Hobart Rivulet Track, Clarence Foreshore Trail, the Queens Domain and pedestrian laneways of Mather's Lane, Cat and Fiddle Arcade and Collins Court, are all part of the transport network, either at the metropolitan or localised level.

²⁹ Department of Infrastructure, Energy and Resources, *Southern Integrated Transport Plan*, 2010.

Map 9: Southern region—principal roads and settlement areas

Source: Southern Tasmanian Councils Authority, Southern Tasmania Regional Land Use Strategy 2010 -2035





DISCUSSION

The road network comprises a hierarchy of roads that are critical to the private transport task. Different roads will have different roles and functions.

The City of Hobart includes some of the most important arterial roads within southern Tasmania. These experience high volume and high frequency traffic, essential to the effective movement of cars through the region: the dominant mode of private transport. While some local roads assist in supporting high traffic movement into and through the city, not all local roads are or should be designed to accommodate high volume traffic movement. Some roads are public space specifically providing for shared movement of a range of different private transport modes, including walking and cycling. The different functions of roads are often reflected in their design and posted speed limits.

The road network within southern Tasmania is radial, extending out from the City of Hobart. Consequently, many roads within the City of Hobart are not only locally important but regionally important for the movement of passengers. This is often a balancing act with the role and function of the city centre and surrounds as a destination and principal activity centre within Tasmania.

Road infrastructure is expensive to maintain and even more expensive to build.

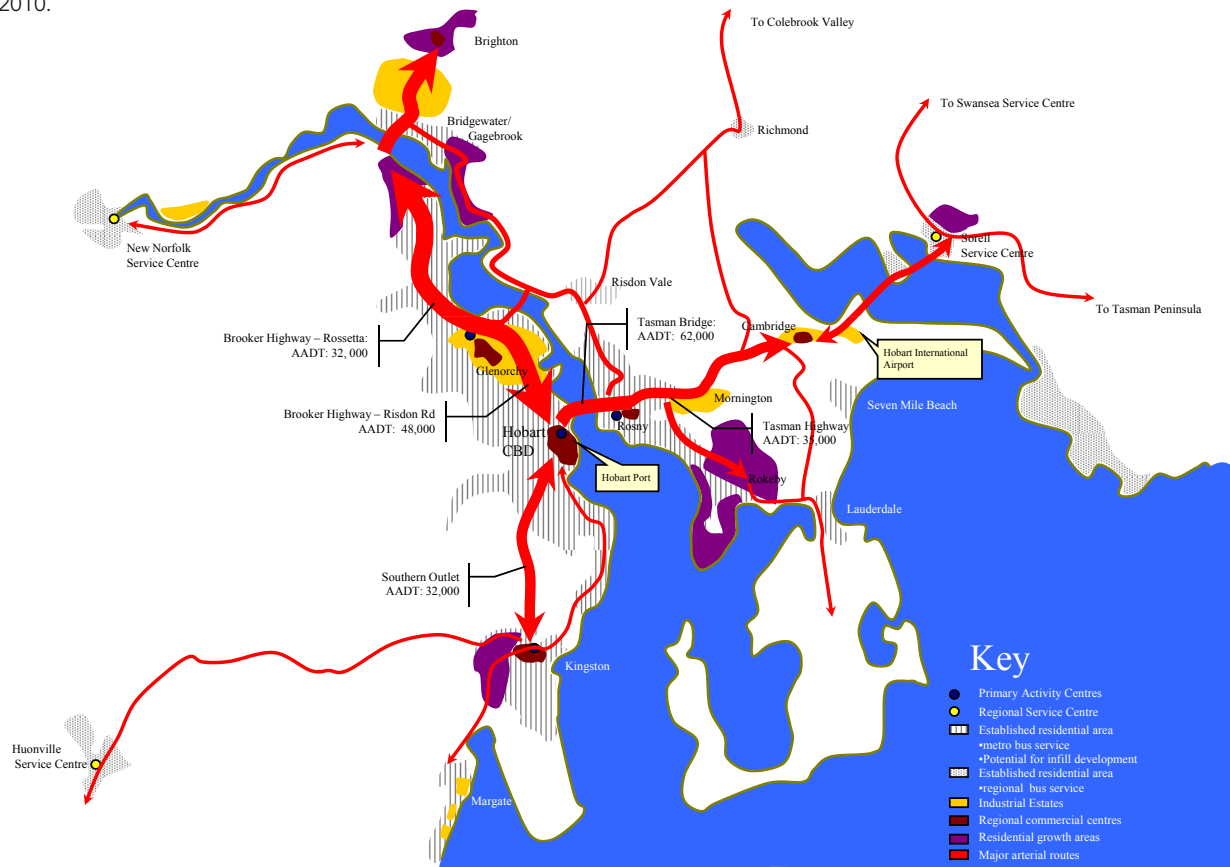
Additionally, within Greater Hobart there are significant topographical and natural constraints which limit new major transport corridor options, particularly for cross-city transport movements. That said, the through and cross-city journey is not a major component of the travel task, and figures to support this are presented in Section 3.

QUESTIONS

Have we provided you with enough information to understand the various owners and responsibilities of the different sections of the transport network?

Map 10: Southern region—major movement and settlement areas

Source: Department of Infrastructure, Energy and Resources, Southern Tasmanian Councils Authority, Southern Integrated Transport Plan, 2010.



CONTEXT ROLES AND RESPONSIBILITIES

From the user's perspective, the system supporting the private transport task within Tasmania is a single, generally seamless, network.³⁰ In reality, the responsibility for managing roads, cycleways and public open spaces upon which private transport relies, involves a complex matrix of service providers and asset owners, regulators and funding sources spread across different levels of government, industry and the private sector.

Tasmania has approximately 23 000 km of improved roads that are primarily owned (and therefore managed and maintained) by both the Tasmanian Government, through the Department of State Growth, and local

government. While local government owns the majority of the road network (approximately 14 600 km), the highest traffic volumes generally occur on the state roads, which encompass Tasmania's major intrastate and regional arterial roads.

Outside of the Department of State Growth and local government, the other major road owners in Tasmania are Forestry Tasmania and the Parks and Wildlife Service. The roads managed and maintained by these organisations, while important within the Tasmanian context, have no significant influence on the private transport task within the City of Hobart.

³⁰ Southern Tasmanian Councils Authority, **Background Report No CC: Regional Transport System**, 2011.

Australian Government

The Australian Government funds the National Land Transport Network. This is a defined national network of important road and rail infrastructure links and their intermodal connections. The network is determined by the Commonwealth Minister for Infrastructure and Transport under the *National Land Transport Act 2014*. In Tasmania, the National Land Transport Network road corridors include the Bass Highway, the East Tamar Highway, Illawarra Road, the Midland Highway, the Brooker Highway and a portion of the Tasman Highway from Hobart to the Hobart International Airport.

For more information on the National Land Transport Network visit www.investment.infrastructure.gov.au

The Australian Government also supports major road infrastructure and transport projects through funding programs such as Roads to Recovery and Black Spot Road Safety. Funding for these projects can be directed either to the state or local government. Direct funding to local government is distributed according to a formula set by the Local Government Grants Commission in each state.

Infrastructure Australia is an independent statutory body which provides advice to all jurisdictions. It also provides decision makers within the Commonwealth Government advice and guidance on specific infrastructure investments of national priority, through the Infrastructure Priority List.

For more information on Infrastructure Australia visit www.infrastructureaustralia.gov.au

Tasmanian Government

The Tasmanian Government is responsible for the planning and management of the State Road Network, encompassing 3774 km of road. The State Road Network focuses on providing connectivity between cities, major towns, rural catchments and key sea and air ports.

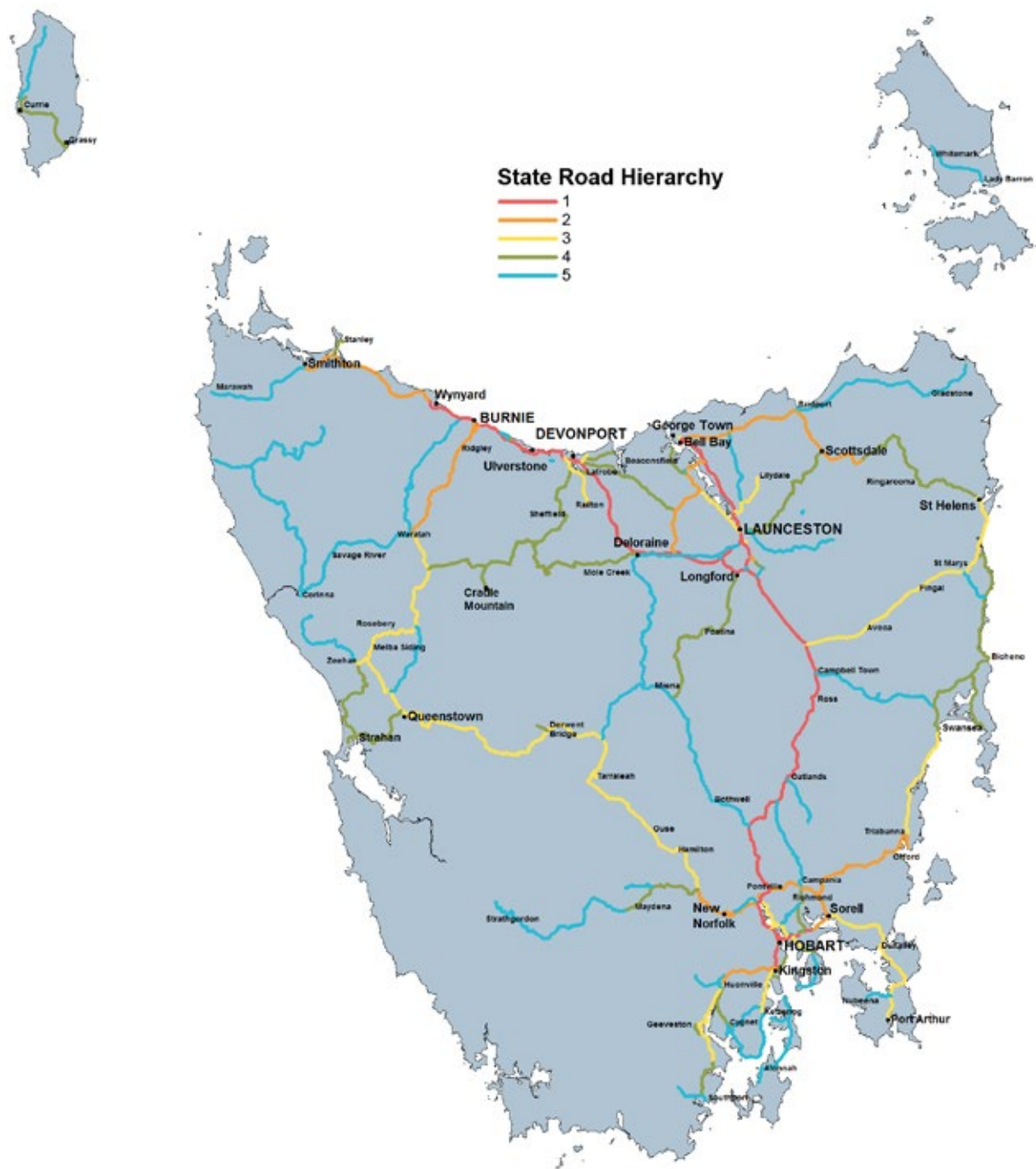
To manage and plan the network in a strategic manner, the Department of State Growth utilises a five-tier hierarchy for roads:

- **Category 1**—the primary freight and passenger roads connecting Tasmania. These encompass the 324 km National Land Transport Network (formerly the Auslink National Highway), linking Hobart, Launceston and Burnie via the Bass and Midland highways.
- **Category 2**—linking major production catchments and the Category 1 roads, and are therefore the major regional roads for carrying heavy freight. These roads also facilitate passenger vehicle movement, commercial interaction and tourism movement.
- **Category 3**—main access roads to Tasmania's regions, carrying less heavy freight traffic than regional freight roads.
- **Category 4**—providing safe passenger vehicle and tourist movement within the regions of Tasmania.
- **Category 5**—primarily access roads for private property but may be used for comparatively low frequency heavy vehicle transport for industries such as forestry and agriculture.

Within the City of Hobart, state roads include the Tasman Highway, Southern Outlet and Brooker Highway, which are all Category 1 roads. The Tasmanian Government is responsible for the funding of state roads, with the exception of contributions from the Australian Government for the National Land Transport Network.

Map 11: Tasmanian State Road hierarchy

Source: Department of State Growth



The Tasmanian Government also:

- provides funding for public transport through Metro Tasmania, which influences reliance upon the private transport task
- regulates vehicle licensing and registration
- makes and enforces road rules
- approves speed limits
- controls and maintains all traffic signals: although where new ones are requested by local government the initial cost is borne by the relevant council
- funds the maintenance of road line markings and regulatory signage. Parking signs and 'yellow' lines for parking control are the responsibility of local government
- maintains road line markings, with the exception of yellow lines, which are the responsibility of local government.

These functions are split across multiple state agencies, including the Department of State Growth, the Department of Justice and the Department of Police and Emergency Management.

Generally, the Tasmanian Government does not contribute to the funding of local roads, however, in special circumstances they do enter into agreements with individual local councils to assist in the funding of particular infrastructure or projects. This is the case with the Macquarie Street and Davey Street couplet, where the Tasmanian Government has entered into an agreement with the City of Hobart to contribute to the cost of road improvements and maintenance, due to the critical nature of those roads within the regional road network.

The Tasmanian Government's involvement in the delivery of cycling infrastructure is generally limited to on-road and adjacent off-road cycling paths on state road corridors. There is a Positive Provision Policy that informs Tasmanian Government decision-making about investment in cycling infrastructure, particularly on state roads (such as the Channel Highway) or for non-road-transport programs.

Contributions to local government for cycling infrastructure can sometimes be funded through the vulnerable road users grants or through specific programs under various government agencies.

For more information on the Positive Provision Policy for Cycling Infrastructure go to: www.transport.tas.gov.au/passenger/cycling_and_walking/ppp

Infrastructure Tasmania is responsible for providing advice to the Tasmanian Government to provide a statewide approach to the planning and delivery of infrastructure in Tasmania, including major roads.

For more information on Infrastructure Tasmania go to: www.stategrowth.tas.gov.au/home/about_us/infrastructure

For more information on other responsibilities: www.transport.tas.gov.au

The Tasmanian Government is also responsible for statewide and regional land use planning, which is given effect through the Resource Management and Planning System of Tasmania. LUPAA is an integral piece of legislation within that system and established the legislative framework for the declaration of Regional Land Use Strategies, as well as the approval of planning provisions controlling use and development. Both the Minister for Planning and the Tasmanian Planning Commission (an independent statutory authority) are tasked with relevant approval powers relating to these functions.

Local government

In Tasmania, local government is responsible for the planning and management of the local road network. The principal legislation granting powers to local government for this function is the *Local Government (Highways) Act 1982*. Local roads are categorised into a hierarchy which is used to determine the allocation of funding from the Australian Government.

Table 5: Tasmanian local government road hierarchy

Source: Tasmanian Government Local Government Division: Department of Premier and Cabinet

Classification	1. Arterial	2. Collector	3. Link	4. Local Access	5. Minor Access	Unformed
Functional Criteria						
Function/ predominant purpose	Provide the principal links between urban centres and rural regions.	Connect arterial roads to local areas and supplement arterial roads in providing for traffic movements between urban areas, or in some cases rural population centres.	Provide a link between the arterial or collector roads and local access roads.	Provide access to residential properties and in some cases commercial properties and in some cases commercial properties, at a local level.	Provide access to residential properties and irregular access to community facilities such as parks and reserves.	Roads not maintained by the council or non constructed/ maintained road reserves or roads that have a very low level of services.
Connectivity description	High connectivity - connecting precincts, localities, suburbs, and rural population centres.	High connectivity - supplements arterial roads in connecting suburbs, business districts and localised facilities.	Medium connectivity - connects traffic at a neighbourhood level with collector and arterial roads.	Low - connects individual properties within a neighbourhood to link roads.	Low - provides access to properties.	Future roads or roads that have a very low level of service.
Guidance Metrics						
Average Annual Daily Traffic (AADT)	>10000 vehicles per day (vpd)	3000–10000 vpd	1000–3000vpd	50–1000vpd	<50vpd	N/A
Heavy vehicles permitted	Yes - thoroughfare	Yes - thoroughfare	Yes - some through traffic	No thoroughfare, local access only	No thoroughfare, local access only	N/A
Average Annual Daily Truck Traffic or Equivalent Heavy Vehicles (AADTT/ EHV)	>1000 AADTT or > 10% EHV	250–1000 AADTT or > 10% EHV	<250 AADTT or > 10% EHV	N/A	N/A	N/A
Public Transport Route	Yes	Yes	Yes	No	No	N/A
Carriageway form	2 or 4 lanes	2 lanes	2 lanes	1 or 2 lanes	Typically 1 lane	N/A
Running surface	Sealed	Sealed	Sealed	Sealed/ unsealed	Sealed/ unsealed	Unformed

Local government also has powers under the *Local Government Act 1993* to make by-laws to regulate and control conduct on local roads in a municipal area. This includes on-street parking controls and the occupation of roads and footpaths for development works such as construction, outdoor dining, signboards, trading and footpath and driveway crossings. Local government also advocates to the Tasmanian Government on the setting of different speed limits on local roads.

Did you know?

Both the Department of State Growth and the City of Hobart regularly obtain data on traffic volumes and speeds by locating automatic traffic counters on roads. Data collected from these counters is used to assist state and local government in making decisions about the road network.

Through the Southern Tasmanian Councils Authority, local government in the southern Tasmania region has coordinated its advocacy and generated state and federal election funding requests.

Local government is primarily responsible for the delivery of cycling infrastructure and programs. In southern Tasmania, five of the councils within Greater Hobart metropolitan areas have established a committee for the coordination of cycling infrastructure and programs, called Cycling South: Brighton Council, Clarence City Council, the City of Hobart, Glenorchy City Council and Kingborough Council. Cycling South aims to encourage increased recreational and transport usage of bikes through the development of an integrated cycling network, although each council remains responsible for the delivery and management of cycleways.

The provision and management of public open space upon which active modes of transport often rely upon is also the responsibility of local government.

Local government plays an important role in the land use planning system. Through coordination with other councils, they have been involved in the development of the Regional Land Use Strategies, declared by the Minister for Planning. They are currently responsible for their own planning scheme controls and in the future will continue to be responsible for the spatial allocation of state planning provisions through zone and overlay maps.



DISCUSSION

The complex world of legislation, regulation, policies and funding agreements and programs at the local, state and national levels provide the context within which the City of Hobart is developing this Transport Strategy. It also provides the scope of the objectives and goals that the community may want to see reflected in the Transport Strategy.

There are legislative powers that enable the day-to-day activity of the transport and road network that is operated and managed by the City of Hobart. LUPAA provides powers to support the integration of transport plans and strategies involving the City of Hobart with the land use planning system.

Although these arrangements impose constraints, they also enable opportunities for partnerships and agreements. Councils within the southern Tasmania region have demonstrated that major transport and infrastructure projects can achieve better economic, social and environmental outcomes through strategic partnerships with the state or federal governments than if one local council acts alone. That is because an improved transport network has positive effects beyond the immediate locality.

The City of Hobart plays a crucial role in delivering these widespread benefits because of its comparatively high responsibility in managing roads critical to the regional transport network and in its role as our capital city, the seat of government and the hub of business and commerce in Tasmania.

The City of Hobart cannot act independently to manage major transport related issues in the short, medium and long term. For example, while the City of Hobart may have aspirations to increase the number of people using public transport in and out of the city every day to decrease congestion, those services are undertaken by Metro Tasmania, which is a state-owned company. Here, our role is one of advocacy and cooperation.

Likewise, the City of Hobart also cannot act independently to deliver land use planning outcomes that are integrated with the transport system. It can, however, provide a lead role, advocating and educating other decision makers and the community about the transport benefits of particular land use planning outcomes. It can also ensure that its own planning controls support an integrated approach to land use and transport planning.

Collaboration and cooperation are also important when considering ideas that have attracted community interest, such as the River Derwent ferry services or a light rail service from Hobart to Glenorchy. The City of Hobart has to consider the broader community, stakeholder groups, the Tasmanian Government and any other local councils and authorities that may have an interest in or be affected by such proposals.

It is recognised that the City of Hobart will experience constraints as well as opportunities over the next 10 to 15 years. Opportunities include further collaboration with other councils and the Tasmanian Government to deliver future economic growth.

Attachment 1 provides a detailed listing of the regulatory and legislative framework within Tasmania.



QUESTIONS

Have we provided you with enough information to understand the context within which the Transport Strategy is being developed?

What extra information would you like to access during the consultation process and development of the draft strategy?





SECTION 3

INTEGRATED TRANSPORT AND LAND USE PLANNING

Transport planning is the process by which the government defines specific policies and desired outcomes for the delivery of transport-related infrastructure and services. These policies and desired outcomes are expressed in strategies or plans which are then used to guide public investment in specific projects.

Strategic land use planning involves the development of policies to achieve desired outcomes for location and intensity of land uses. It involves strategic direction for the growth of settlements and towns. In Tasmania, there are three regional land use strategies declared under LUPAA—the Southern Tasmania Regional Land Use Strategy 2010–2035 was declared by the Minister for Planning and came into operation on 27 October 2013.

The past few decades in Australia have seen an increasing emphasis on integrating land use planning with transport planning. There are now policies to support the integration of transport and land use planning at a national, state and local level. This means that there is greater recognition of the relationship between general spatial and land use patterns, transport volumes and supporting transport infrastructure.

Changes in transport technology have, over the past 70 years, strongly influenced the pattern of urban growth in Australian cities. Early last century, most activities in towns and cities occurred within a short distance of each other. The compact nature of early settlements was shaped by the transport

options available then: people walked, rode horses or used horse-drawn vehicles. Cities were compact because people had to be close to employment and services.

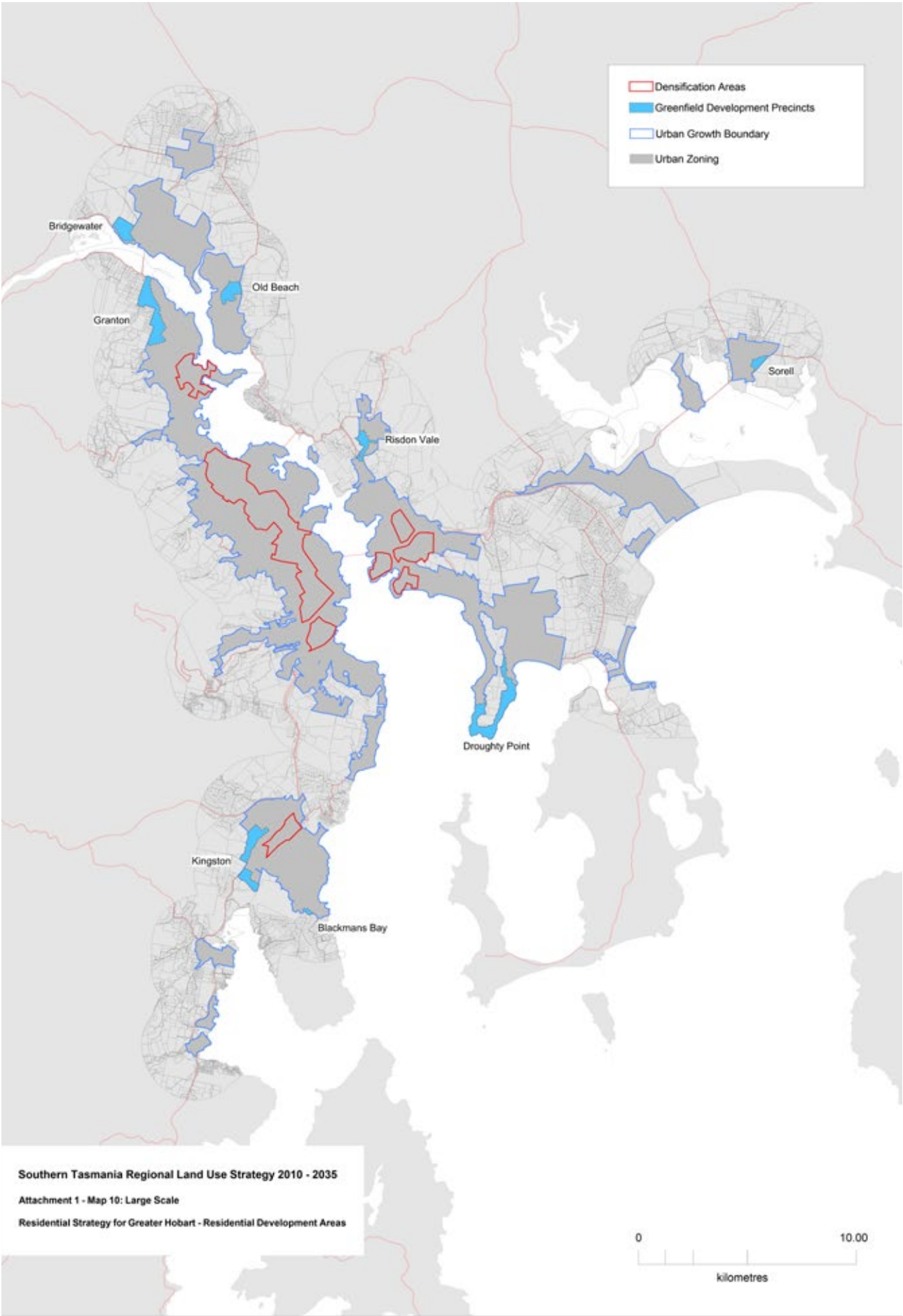
During the early 1900s, cities in Australia began to expand with rail and tram networks making it possible for people to live a greater distance from their place of work. The post World War Two era then saw increasing car ownership, with the 1960s and 1970s the era of major road transport infrastructure projects. This made it possible for people to live even further away from employment and services. In addition, increasing populations resulted in the expansion of our cities as a result of further unchecked development occurring.

In southern Tasmania, Greater Hobart has evolved over the past 60 years to be a sprawling metropolitan area at very low densities. Today, Greater Hobart has a development footprint comparable to Sydney, New York City and London, but with significantly lower population densities. Greater Hobart has an average population density of 217 people per km² compared to 2058 people per km² in Sydney, 4761 people per km² in London and 10 194 people per km² in New York.³¹

³¹ Department of Infrastructure, Energy and Resources, *Tasmanian Urban Passenger Transport Framework*, 2010, 7.

Map 12: Greater Hobart residential development areas

Source: Southern Tasmanian Councils Authority, Southern Tasmania Regional Land Use Strategy 2010 –2035



It is important to recognise that the transport system has not been the only determinant of settlement patterns. Past land use policies across Australia encouraged low density development patterns and the separation of land uses, which has created high dependency on the car. The 'great Australian dream' of quarter-acre lots became a cultural ideal in the Australia psyche. This has had the flow-on effect of making effective provision of public transport difficult and costly.

There have also been other determinants of settlements patterns, such as specific economic drivers, the protection of natural areas or physical limitations. For example, the physical geography of Hobart has had a profound influence on the city's urban form. Unlike other cities with access to flat and accessible areas of adjacent land, Hobart is limited by hilly terrain—the Mount Wellington Range and Meehan Range, river crossings, the River Derwent and Pittwater Lagoon. These constraints have had a major influence on urban form, including the use, development and rate of conversion of land. Such physical limitations also provide challenges for transport infrastructure.

Dense residential areas around activity centres or 'mixed use' patterns of land use and development create more sustainable travel behaviour. The wider benefits include:

- more efficient use of existing infrastructure, including lower infrastructure costs for servicing new infill lots
- creating greater market demand for existing public transport services
- reducing distances between residential areas and trip attractors, thereby making walking and cycling more viable transport options
- the ability to provide a diversity of housing options that can cater for changes in demographics.

Even in new suburban areas, the potential for greater accessibility can be achieved through good subdivision design that minimises cul-de-sacs and maximises connectivity through the road network. This alone can make the creation of a new bus route a more viable prospect and increase the opportunity to rely upon public transport rather than private modes of transport. The provision of walking and cycling facilities (among other things) in new subdivisions is in line with the Heart Foundation's best practice document, *Healthy by Design*, which recognises the community health benefits of active transport.

At a regional level, strategies to develop and integrate the transport network with Tasmania's land use planning system can be found at www.planning.tas.gov.au/old/planning_our_future/tasmanian_planning_reform/regional_strategies or at www.transport.tas.gov.au/road/plans_strategies/southern_integrated_transport_plan

Healthy by Design guidelines can be found at heartfoundation.org.au/images/uploads/publications/Healthy-by-Design-Tasmania.pdf

What are activity centres?

Activity centres are areas where there is a concentration of commercial and other land uses. Their primary role is usually as a dispenser of retail goods and services. Higher order activity centres combine a much wider range of functions commensurate with their role and purpose. They are also concentrations of employment opportunities, locations for education, community meeting places, centres of community and government services, settings for recreation, leisure and entertainment activities and sometimes places for living through new forms of higher density housing.

The Hobart city centre and surrounds, including the waterfront, are recognised as the principal activity centre for both the southern Tasmanian region and the state. The Sandy Bay, New Town and North Hobart shopping areas are recognised as neighbourhood centres servicing a number of suburbs, while the small centres of South Hobart and Lenah Valley fall within the categorisation of local centre.

The natural clustering of commercial and business activities into centres is largely a result of the economies of agglomeration: the economic benefits of concentrating similar and complementary activities into the same areas.

Land use planning strategies to decentralise the concentration of commercial activities have often proven to be ineffective because of the economic and market considerations. The ability to drive commercial and retail development is a factor of feasibility, catchment demographics and 'moving annual turnover' in the locality. The more businesses there are in an area, the greater its catchment and therefore the greater the ability of a business to capture moving annual turnover. Demonstrating this is commercial growth across Greater Hobart over the past five to ten years, which has been increasingly recentralised around the City of Hobart.

DISCUSSION

The spatial relationship between where people live, work, shop and go for entertainment and recreation fundamentally influences both the private and public transport task. Cities and towns that have low density suburban sprawl are generally far more reliant upon private transport modes, and in particular cars, as the primary mode of transport.

Consolidation of density in inner suburbs around established activity centres and increased mixed use areas does, however, create planning challenges around balancing amenity and local character with the desired strategic outcome. It also gives rise to debates around localised traffic impact and what type of car parking should be provided for in individual developments. Increasing density in inner suburbs may create the environment in which there can be a cultural shift around the levels of car ownership necessary when living in inner areas. In many cities, car sharing has become a feasible alternative to actual car ownership. Private companies offer cars which are parked in local streets and neighbourhoods and can be booked in advance using a smart phone or computer. For shopping trips or longer trips that may require a vehicle, such a service negates the need to actually own a car.

Statistics already indicate that people who live in the City of Hobart are more likely to use active modes of transport and have lower levels of car ownership when they live close to their work. However, within the community there remains concern regarding the traffic impacts of infill development.

The development of the Transport Strategy for the City of Hobart is an opportunity to consider issues around greater integration of land use and transport planning and the potential changes that could occur in inner suburbs to facilitate increased densities and further mixed use corridors. This strategy should also highlight what local level projects the City could undertake to assist in integrating these land use changes within the existing urban fabric.

The City of Hobart not only regulates use and development (within the constraints of the planning scheme) to achieve the desired strategic land use direction, but is responsible for delivering public spaces, infrastructure and urban design outcomes that can assist in better integration of land use and transport planning objectives. It can also advocate for particular objectives at the metropolitan and regional level.

The City of Hobart can also play a role in managing congestion and travel demand as well as use other transport planning tools and frameworks, such as the Victorian Government's SmartRoads, which recognises that some roads will need to provide more effectively for some user groups and transport modes. It is recognised that there may need to be different transport strategies to address the needs of residents within the City of Hobart compared to those commuting from other municipal areas into the City of Hobart.



QUESTIONS

Are you aware of the current land use strategy for southern Tasmania?

Would you be interested in living in a 'mixed use' zone or in a higher density residential area close to the Hobart city centre if it meant that you could walk or cycle to work, services or shops?

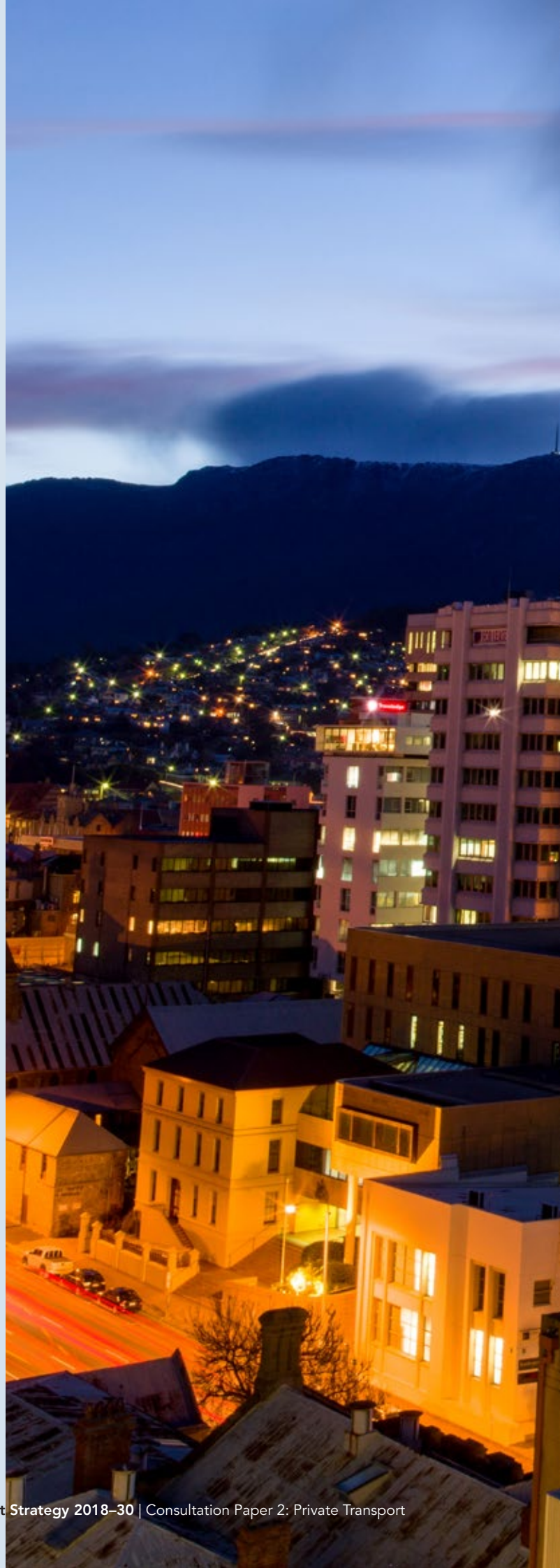
What other characteristics of residential living would attract you to live in a higher density area?

If you lived close to an activity centre like the Hobart city centre, would you still see a need to have more than one car or a car at all?

Could the occasional need for a car be satisfied by a car sharing program in your area?

At what point do you feel that the advantages of living in an outlying low-density area, or rural town, and travelling to work each day in a car would be outweighed by the advantages of living close to work and/or services and shops?

Do you feel that the number of car parking spaces provided for on a property influences your decision as to whether you choose to live in a particular place?



JOURNEY TO WORK

Journeying to work accounts for just over 32 per cent of all types of trips;³² greater than any other trip purpose. The Hobart city centre and surrounds is Tasmania's largest journey to work destination. Of the approximately 109 400 jobs in southern Tasmania, nearly 45 000 or 41 per cent, are within the City of Hobart municipal area.

The City of Hobart has what is referred to as high levels of self-sufficiency.³³ This means that there are more jobs within the City of Hobart than population. Of the nearly 45 000 jobs in the City of Hobart, only 37 per cent are occupied by residents of the City of Hobart,³⁴ with the rest living in other municipal areas. This means that more than 28 500 people are travelling into the City of Hobart each weekday for work from surrounding municipal areas.

While there is some traffic movement across the municipal area to other municipal areas, as well as some movement of residents outwards, traffic movement into the City of Hobart during morning peak and out during afternoon peak, remains the dominant spatial traffic movements arising from journeying to work.

Table 6: Major LGA journey to work, origin and destination

Source: ABS 2011 Census—journey to work data—table created by City of Hobart

		JTW Destination 2011						
JTW Origin 2011		Brighton	Clarence	Glenorchy	Hobart	Kingborough	Sorell	TOTAL
	Brighton	975	614	1678	1565	103	54	4989
	Clarence	230	7401	2937	9490	442	323	20 823
	Glenorchy	457	1469	7059	7159	328	81	16 553
	Hobart	141	1453	2240	17 050	798	75	21 757
	Kingborough	61	678	1148	6551	5452	23	13 913
	Sorell	67	1102	631	1528	91	1570	4989
	TOTAL	1931	12 717	15 693	43 343	7214	2126	83 024

³² Department of Infrastructure, Energy and Resources, Infrastructure Strategy Division, *Greater Hobart Household Travel Survey*, Tasmania, 2010.

³³ For more information download Background Report No 2: The Regional Profile to the Southern Tasmania Regional Land Use Strategy at www.stca.tas.gov.au/rpp/.

³⁴ Department of Infrastructure, Energy and Resources, Tasmania, *Journey to Work Data Analysis*, 2011.



Compared to statewide modal share for people travelling to work, people living and working in Hobart are more likely to use active transport: 21 per cent of residents in the City of Hobart journey to work by walking. However, more than 42 372 people (from both within and outside the municipal area) are travelling in and out of the City of Hobart for work purposes each day, primarily using a private car. Including the additional people who are travelling across the City results in a road network around the City of Hobart under considerable pressure during peak morning and afternoon periods.

Chart 2: Southern region—journey to work—modal share 2011

Source: Department of Infrastructure, Energy and Resources, Journey to Work Data Analysis, pp 12–13

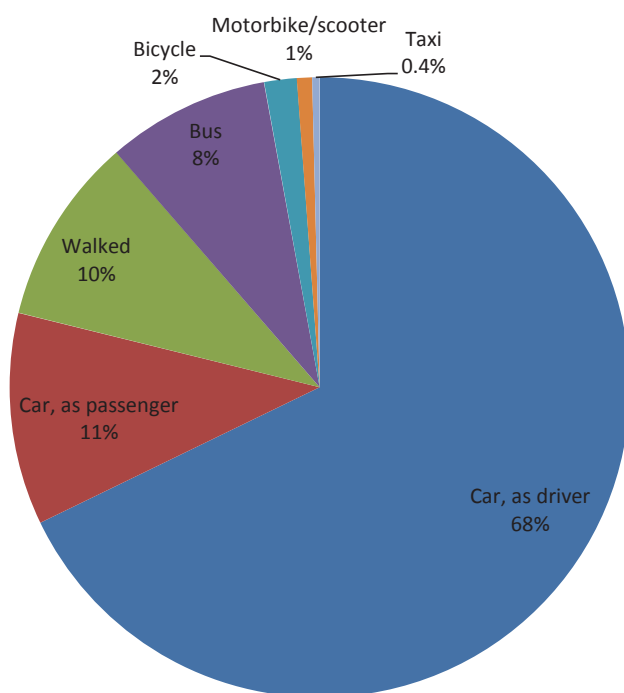
Modal Share

Hobart is Tasmania's largest destination for journey to work travel.

Compared to statewide modal share percentages, people travelling to Hobart for work are more likely to use active (walking, bicycle) or public (bus) transport, and less likely to travel by car.

Mode of journey to work to Hobart (Inc Clarence, Glenorchy etc)

Mode of journey to work to Hobart³⁵



Mode	Number Travelling by Mode
Car, as driver	25 392
Car, as passenger	4135
Walked	3663
Bus	3177
Bicycle	634
Motorcycle/scooter	297
Taxi	145
Other ³⁶	1259
TOTAL	38 702

³⁵ Values exclude those who did not go to work and those who worked at home.

³⁶ 'Other' includes journeys undertaken by truck, ferry and by more than one mode of transport.

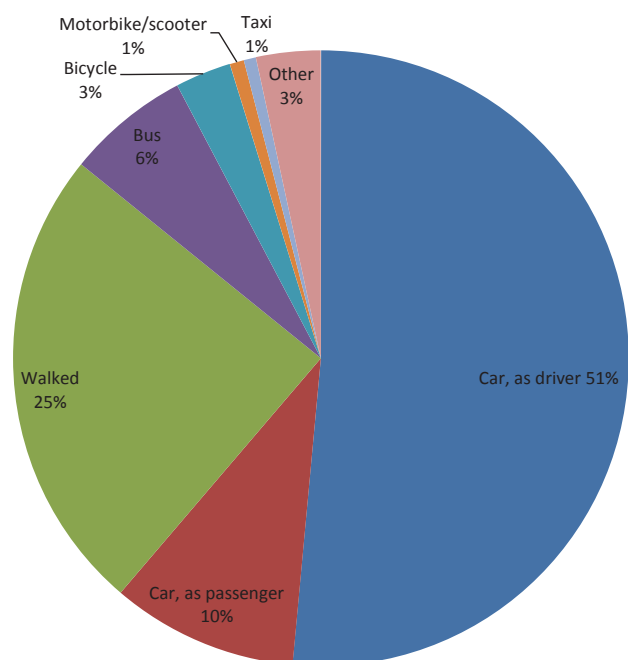
³⁷ Values exclude those who did not go to work and those who worked at home.

³⁸ Includes journeys undertaken by truck, ferry and by more than one mode of transport.

Impact of self-containment on mode of transport to work

For people who live and work in Hobart, the proportion of people using active transport to travel to work increases. While 10 per cent of all people working in Hobart walk to work, and 2 per cent cycle, for people living and working in Hobart these percentages increase to 25 per cent and 3 per cent respectively. Of all people statewide who reported cycling or walking to work in 2011, 31.4 per cent lived and worked in Hobart.

Mode of journey to work to Hobart: Hobart residents³⁷



Mode	Number Travelling by Mode
Car, as driver	7175
Car, as passenger	1362
Walked	3427
Bus	901
Bicycle	409
Motorbike/scooter	104
Taxi	89
Other ³⁸	473
TOTAL	13 940

For more information on the journey to work movements and modes: www.stategrowth.tas.gov.au/passenger/journey

DISCUSSION

Journeying to work is the most significant aspects of the private transport task. The private car is the dominant means of transport and its usage is proportionally increasing.

That said, the state government's journey to work Census 2011 analysis report noted that data trends included:

- an increase in the overall number of people travelling to work, and an increase in the number of people travelling by car (as driver or passenger) to all metropolitan LGAs. All metropolitan LGAs also saw an increase in population between 2001 and 2011
- in the City of Hobart there has been a shift away from car usage (for drivers and passengers) for the journey to work. Journeys by bus, bicycle, motorcycle/scooter and walking have increased.

The story here is a tale of two situations. Individuals living close to the Hobart city centre, or indeed job centres in other municipalities, have better options for changing travel mode for their journey to work, while people living more remotely from the major central area of jobs, with less access to transport mode alternatives, are more reliant on private motor vehicles.

While there are significant economic and social benefits arising from the concentration of employment and retailing activity within the Hobart city centre, the road network around the City of Hobart and key metropolitan arterials leading into it is already at saturation during peak periods. This increasing reliance on private cars as the primary mode of transport to work creates long-term challenges for transport around Hobart.

As discussed in the integrated transport and land use planning section, part of the potential solution may be in increased opportunities to live around the Hobart city centre and therefore increased reliance upon active modes of transport. The development of this Transport Strategy is an opportunity to also consider other potential solutions, such as travel demand management (TDM) measures that the City of Hobart can either directly facilitate or advocate for. For example, the City of Hobart is currently undertaking a project to produce a City of Hobart workplace travel plan for each of its main employment sites. This project will create a template for other employers in the City to research their workforces and undertake similar travel planning exercises.

There are a broad range of TDM measures. Those relating to journeying to work include:

- provision of employer provided end-of-trip facilities for cyclists (for example, secure storage and showers)
- provision of more flexible working hours and working from home arrangements
- subsidised active transport costs for employees (for example, salary sacrifice for bus tickets and bicycle purchase)
- workplace travel plans.



QUESTIONS

Do you think there are differences in meeting the needs of City of Hobart residents in journeying to work with meeting the needs of people journeying to work from outside of the City of Hobart?

How much time do you spend on your journey to work?

What would encourage you to utilise public or active transport in your journey to work?

Does the travel distance to work influence your choice of workplace or conversely your choice of housing?



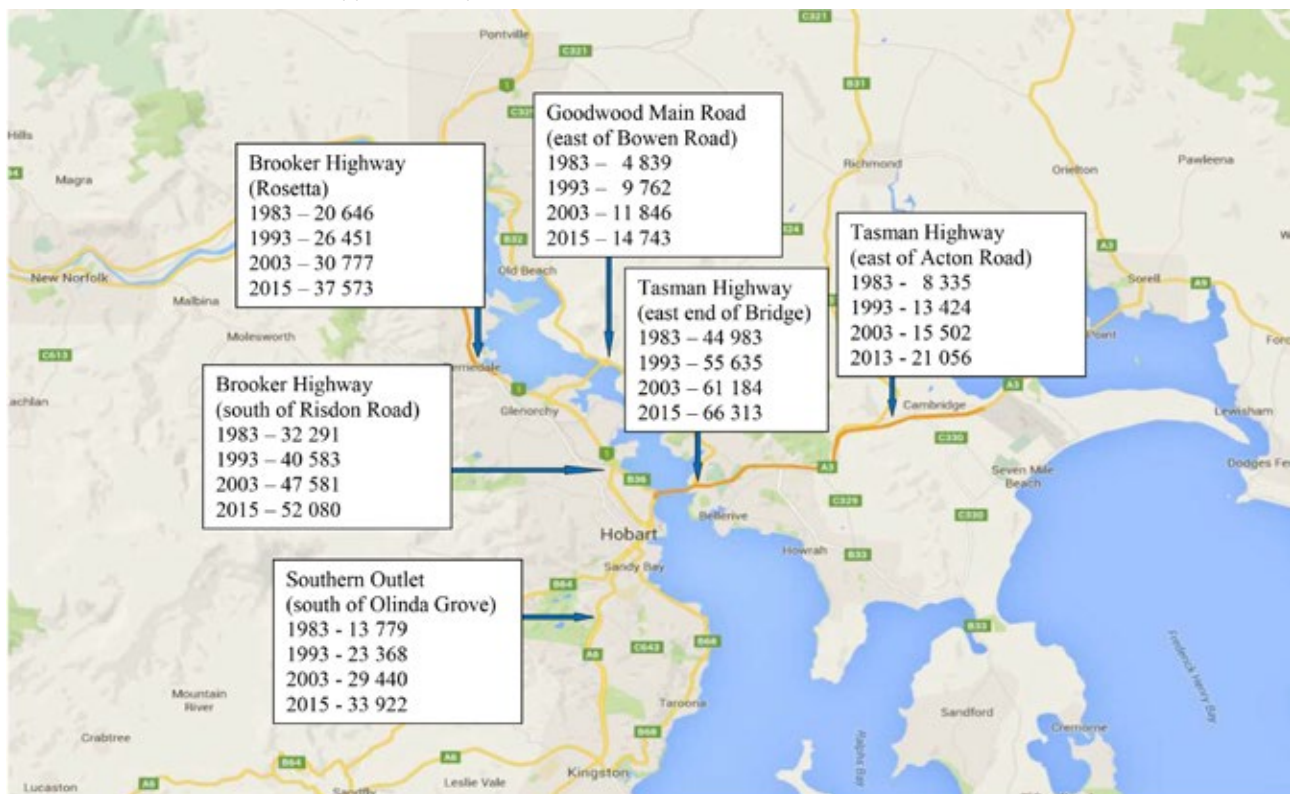
CURRENT ROAD USE AND PEAK HOUR CONGESTION

The Hobart city centre and surrounds attracts a large volume of traffic throughout the day and relies upon the three major metropolitan arterials for access: Tasman Highway, Brooker Highway and Southern Outlet.

Major roads into central Hobart have the highest traffic volumes. The Brooker Highway, Tasman Highway and the Southern Outlet have the highest average annual daily traffic and are forecast to remain the highest volume roads for the foreseeable future. There is, however, a significant difference between the traffic volumes experienced on the Brooker Highway (approximately 52 000 vehicles per day) and Tasman Bridge (approximately 66 000 vehicles per day) compared to volumes on the Southern Outlet (approximately 34 000 vehicles per day).

Map 13: Average annual daily traffic on key arterial roads in Hobart

Source: City of Hobart with data supplied by Department of State Growth



Traffic congestion occurs when traffic (volumes) demand exceeds the available transport network capacity. The functionality of the network when traffic (volumes) equals capacity is known as 'saturation'. During periods of traffic congestion, small disruptions to traffic flow can have dramatic effects on vehicle speeds, with stop and start conditions proliferating. If demand continues to increase, particularly at the same time as disruptions (for example, road works or a crash), traffic flow can reduce to zero speed, which is known as 'gridlock' if the 'no movement' situation continues to occur—say through multiple changes of traffic lights.

The road network within the City of Hobart and on the major metropolitan links extending outwards is consistently nearing capacity during the morning and evening peak period. Typically, this has existed for a short period, however, in the past five years or so this has extended to a true peak hour. Thus, relatively small changes in traffic conditions are resulting in large impacts. This was seen in February 2016, with road works on the eastern side of the Tasman Bridge affecting outbound traffic and causing significant delays during the afternoon peak period across the Hobart city centre.

All routes generally experience some delays in the morning peak on the inward run into the Hobart city centre. However, the Brooker Highway experiences the greatest delays, followed by the South Arm Highway and East Derwent Highway (which feed into these metropolitan arterials), followed by the Tasman Highway and Southern Outlet.

Afternoon peaks tend to be less concentrated. This reflects the greater variation in school pick-up time through to the traditional work finishing times of between 4 and 6 pm. Optional trips such as shopping also tend to be undertaken in the afternoon, contributing to staggered departure times. In comparison, morning departure times tends to be highly predictable, with people departing their homes generally within the same five to ten minute block each weekday.

Chart 3: Southern region—major highways—delay/km (in seconds)

Source: Department of Infrastructure, Energy and Resources, Tasmania, Congestion in Greater Hobart, July 2011

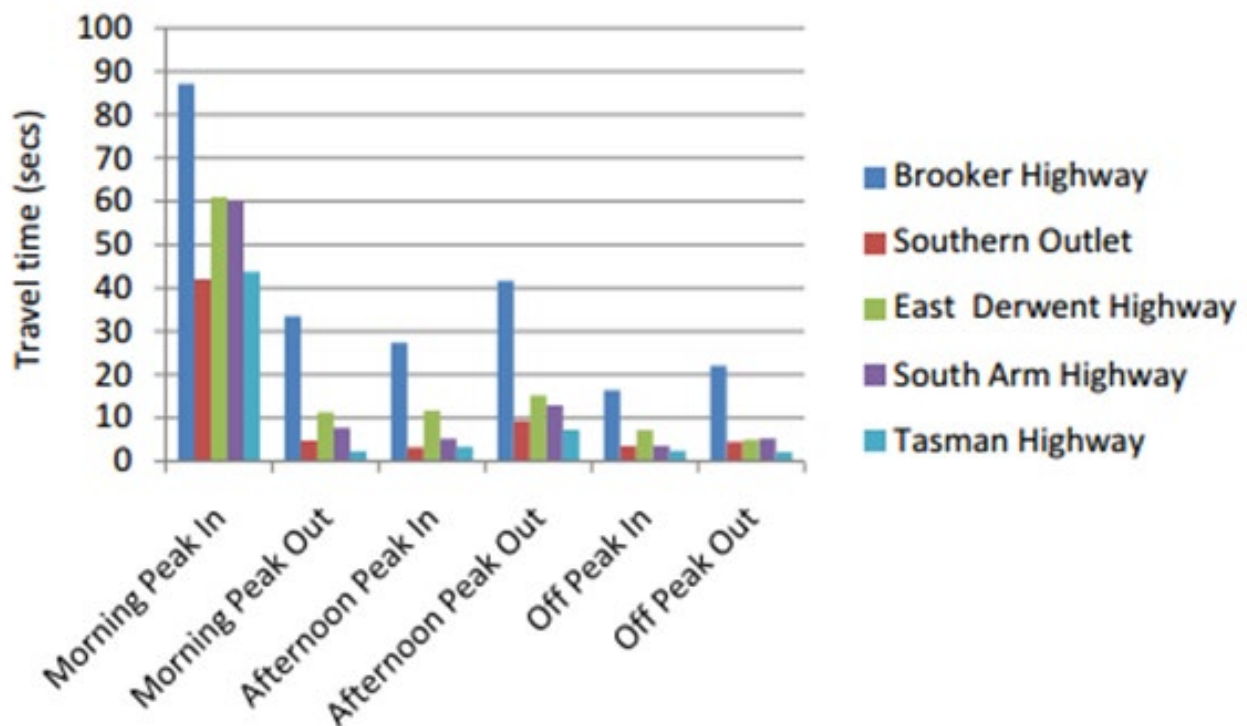


Table 7: Hobart area traffic volumes—normal daily, AM–PM peak, school holidays

Source: Department of State Growth, Tasmania, congestion summit presentation, 10 June 2015

Traffic Volume - Difference between week commencing 4/4 (normal week) and 11/4 (school holidays)		Mon 4/4	Tue 5/4	2 Day Avg	Mon 11/4	Tue 12/4	2 Day Avg	Avg Diff	%Diff
Brooker/Risdon Rd	Total	66,752	67,929	67,341	64,729	66,689	65,709	1,632	-2.4%
	AM Peak	15,674	15,843	15,759	14,448	14,669	14,559	1,200	-7.6%
	PM Peak	14,339	14,611	14,475	13,965	14,447	14,206	269	-1.9%
Southern Outlet/ Davey St	Total	23,708	23,549	23,629	22,007	22,994	22,501	1,128	-4.8%
	AM Peak	6,403	6,476	6,440	5,856	6,015	5,936	504	-7.8%
	PM Peak	5,597	5,631	5,614	5,254	5,608	5,431	183	-3.3%
Tasman Bridge - Eastern Entry	Total	36,688	37,859	37,274	34,975	36,155	35,565	1,709	-4.6%
	AM Peak	10,889	10,971	10,930	9,778	9,962	9,870	1,060	-9.7%
	PM Peak	8,428	8,833	8,631	7,810	8,249	8,030	601	-7.0%
Summary Total	Total	127,148	129,337	128,243	121,711	125,838	123,775	4,468	-3.5%
	AM Peak	32,966	33,290	33,128	30,082	30,646	30,364	2,764	-8.3%
	PM Peak	28,364	29,075	28,720	27,029	28,304	27,667	1,053	-3.7%

There is some difference in peak hour traffic volumes between school days and non school days as shown in Table 7. Interestingly, the total traffic volume difference is relatively small at around a -3.5 per cent total difference. However, the peak hour difference, at around eight per cent, makes a vast difference to the operation of the network. People generally indicate that there are 'no problems' during school holidays in terms of road network congestion.

For more information on current road use and congestion, the Department of State Growth has two reports that can be downloaded:

The Greater Hobart Congestion Report at: www.transport.tas.gov.au/_data/assets/pdf_file/0016/110644/Greater_Hobart_Congestion_full_report.pdf

The Hobart Congestion Traffic Analysis 2016 at: www.transport.tas.gov.au/_data/assets/pdf_file/0011/132986/Hobart_Traffic_Congestion_-_Traffic_Analysis.pdf

DISCUSSION

In 2016 there has been a significant amount of discussion regarding road use and congestion around Greater Hobart. While congestion of arterial roads in Greater Hobart remains noticeably less severe than in other major Australian cities, there is an increasing community perception and supporting statistics that traffic congestion is worsening. In some parts of the City of Hobart, concern is being raised within the community about localised impacts arising from what is seen as displaced traffic from the arterial roads.

Our proportional reliance upon cars as a mode of transport from areas outside of the City of Hobart is increasing, and this will result in increased traffic on existing roads and potentially worsen the levels of current congestion. Interestingly, however, as is generally observed in Hobart, traffic congestion rarely occurs during school holidays. The data presented shows that the actual traffic reduction is in the order of eight per cent from school to non-school weekdays. It is also interesting to note that outside of peak hours the existing road network has significant additional capacity.

Some people have canvassed major infrastructure responses as potential solutions, such as a western bypass around the city or a tunnel under the city centre. Analysis of the data and journey to work patterns indicates that the main traffic flows are to the Hobart city area—not through the city. Watching the Southern Outlet or the Tasman Bridge at morning peak time demonstrates that outbound traffic flows are significantly less than inbound traffic flows. Furthermore, the cost of constructing such major infrastructure responses—such as cross-city tunnels or highway bypasses—in urban areas is significant and out of proportion to the issue when compared with other active transport, public transport and TDM measures which have not received sufficient attention from government.

It is also reflective of an infrastructure

focus rather than a network or system-wide perspective to traffic issues. It has been consistently demonstrated across the world, that building new roads only generates more traffic as it induces people to use their car who might not otherwise have done so by making it more convenient. Over time, the same levels of congestion return. This phenomenon is referred to as ‘induced demand’.

The development of this Transport Strategy provides an opportunity to consider potential TDM measures to reduce pressures on the road network, particularly during peak periods. There are a broad range of TDM measures used around the world. Potential TDM measures include:

- transportation management associations—leverage public and private funds to increase the use of ride-sharing and other commuting options that reduce traffic congestion and improve air quality
- adding or improving pedestrian-oriented design elements, such as short pedestrian crossings of roads, wide footpaths and street trees
- direct cost parking, as opposed to sharing the costs indirectly with others through increased rents and tax subsidised arrangements
- improving public transportation infrastructure
- providing active transportation facilities, including bike lanes and multi-use trails
- providing traveller information tools, including ITS improvements, mobile and social applications, way finding tools, and other methods for promoting non-single occupant vehicles
- more active control of the road and signal network
- road space rationing or alternate-day travel by restricting travel based on licence plate number, at certain times and place



- roadspace re-allocation, aiming to re-balance provision between private cars, which often predominate due to high spatial allocations for roadside parking, and for sustainable modes
- time, distance and place road pricing, where road users are charged based on when, where and how much they drive.

QUESTIONS

Do you leave home at the same time each day?

How much do school starting and finish times influence your travel each day?

What do you feel constitutes traffic congestion?

Would you change your travel habits if you were charged a fee to use the roads during peak periods?

Would the improved provisions of infrastructure for walking and cycling encourage you to use active transport on your commute to work?

What barriers would you face in utilising alternative TDM measures, for example, different work start times, car pooling or working from home?

Would you or your employer consider alternative workplace arrangements, such as working from home, earlier or later starting times, to reduce traffic congestion?

ROAD SAFETY

The Tasmanian Government's Towards Zero—Tasmanian Road Safety Strategy aims to achieve a safe system, with the ultimate goal of zero deaths and serious injuries as a result of road crashes.

For the ten-year period 1995 to 2004, more than 5000 people were seriously injured or killed on Tasmanian roads. For the period 2005 to 2014, coinciding with the introduction of the Tasmanian Road Safety Strategy 2007–2016, there were almost 3500 deaths and serious injuries on Tasmanian roads. In the current strategy, a target was set which would see serious casualties almost halved between 2005 and 2020. Although the road trauma level has been decreasing, it is considered unlikely that the ambitious target will be achieved if new measures are not implemented.³⁹

In the road safety space, crashes include all injuries and deaths that occur on the road network including those involving pedestrians, bicycle riders and motorcyclists. In general, road users who are not in a car, or similar enclosed vehicle with a range of safety features, that is pedestrians, bicycle riders and motorcyclists, are referred to as vulnerable road users.

The City of Hobart, the National Road Safety Strategy and the Tasmanian Government base their road safety policies on the safe system approach.⁴⁰ This approach has four essential elements, where all elements must work together. If a crash occurs as a result of a specific weakness of one element, the other three elements are strong enough to counteract the effects of the crash.⁴¹ The safe system approach recognises that people will make mistakes and may have road crashes—but the system should be forgiving and those crashes should not result in death or serious injury.⁴² The Towards Zero strategy is reflective of this approach.

³⁹ Department of State Growth Road Safety Branch, Tasmania, *Towards Zero – Tasmanian Road Safety Strategy 2017 – 2026 Discussion Paper*, 2016.

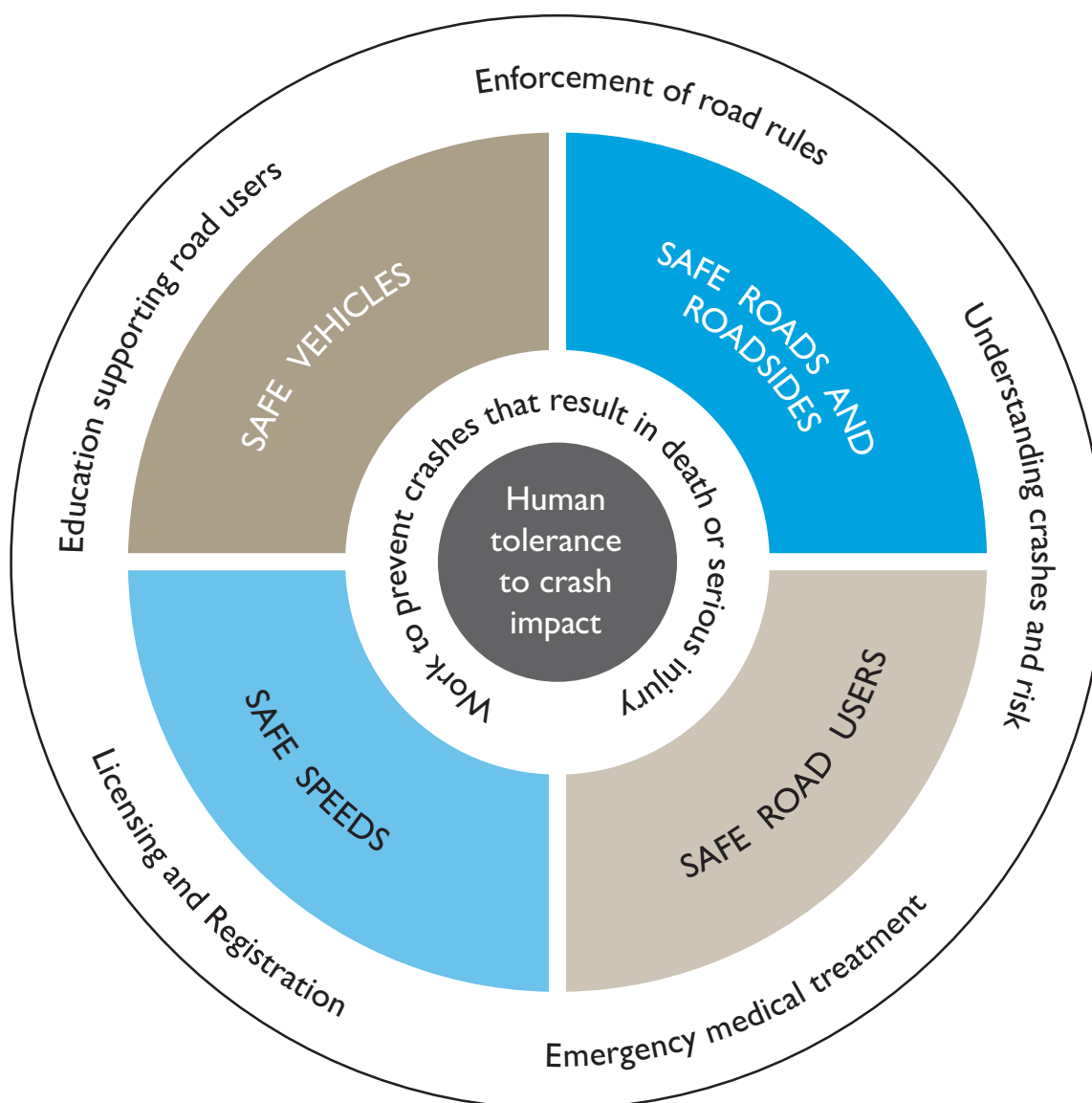
⁴⁰ *ibid.*

⁴¹ *ibid.*

⁴² National Road Safety Strategy, Australia, The Safe System approach, viewed 17 October 2016, roadsafety.gov.au/nrss/safe-system.aspx.

Chart 4: Safe system diagrammatic representation

Source: Towards Zero—Tasmanian Road Safety Strategy 2017–26 Discussion Paper



Safe System Principles

1. People make mistakes.
2. People are fragile.
3. We need to create a more forgiving road system.
4. We need to share responsibility for road safety.

The four essential elements recognised in the safe system approach are:

1. Safe road users

Encouraging safe, compliant behaviour through education, enforcement and regulation; facilitate safety through the learning and development of safer road users.

The City of Hobart generally relies upon the campaigns of the state government and the federal government, or in the case of Graham (below) the Victorian Government.



The Victorian Transport Accident Commission collaborated with a leading trauma surgeon, a crash investigation expert and a world-renowned artist to produce 'Graham', an interactive lifelike sculpture demonstrating human vulnerability. Graham has been designed with bodily features that might be present in humans if they had evolved to withstand the forces involved in crashes: www.tac.vic.gov.au/about-the-tac/media-room/news-and-events/current-media-releases/introducing-graham

2. Safe roads and roadsides

Designing and maintaining roads to reduce the risk and severity of crashes. Improving infrastructure is effective in preventing crashes and in reducing the impact of a crash.

The City of Hobart seeks to reduce conflict between vulnerable road users and motor vehicles by improving the quality of the road environment for all users—threshold treatments, pedestrian crossings, road narrowing, pavement markings, median islands and other measures help to achieve this.

The state government maintains a database of road crash locations reported to police. This data is mapped geographically and allows both state and local government officers to find candidate projects for the Australian Government funded black spot program. This produces an evidence base for the identification of projects where physical changes to the road environment may be beneficial to reduce the crash rate at a particular location.

Further information can be found at: www.hobartcity.com.au/transport/managing_the_transport_network

Details on Tasmanian crash statistics can be found at: www.transport.tas.gov.au/roadsafety/crash_statistics

Australian Government black spot program details can be found here: investment.infrastructure.gov.au/funding/blackspots/

3. Safe speeds

Setting appropriate speed limits that complement the road environment is the third element to the safe system approach. Speeds just 5 km/h above the speed limit in 60 km/h zones and above, are sufficient to double the risk of a crash occurring where an injury is likely.⁴³ Regardless of the cause of crashes, speed is an aggravating risk factor for all crash types, affecting the chance and outcome of all crashes.

The City of Hobart can continue to reduce conflict between vulnerable road users such as pedestrians, cyclists and motorcyclists by reducing speeds on local roads and especially in urban areas. The state government is the authority that sets speed limits on all roads, so the City of Hobart is required to apply for a change to speed limits within its municipal area. In 2014, the City of Hobart led the state in an overall reduction of speed limits in an LGA by reducing limits within the urban area down to 50 km/hr.

4. Safe vehicles

The design of vehicles can protect occupants, lessen the likelihood of a crash and simplify the driving task. Tasmania has the oldest car fleet in Australia.⁴⁴ Consequently, the Tasmanian community is not experiencing the benefits of enhanced safety features available in many new vehicles. In the long term, improving fleet safety offers significant benefits to the broader community as many vehicles originally sold as government/business fleet vehicles are passed on to other road users through the second-hand car market.

The Tasmanian Government, the City of Hobart and other Tasmanian councils have policies that ensure a high safety standard for their fleet vehicles.

⁴³ Department of State Growth, Tasmania, *Third Action Plan 2014–2016*, undated.

⁴⁴ Australian Bureau of Statistics, *Motor Vehicle Census*, 31 Jan 2016, cat. no. 9309.0



DISCUSSION

Road safety is a shared responsibility between the infrastructure providers, road managers and road users. The City of Hobart is responsible for delivering safe roads and roadsides as well as safe speeds, with road safety the number one priority when making decisions about the road network.

The City of Hobart wants to ensure that safe access and amenity can continue to be provided for residents, visitors and vehicles alike. The *Capital City Strategic Plan 2015–2025* explicitly recognises this in Objective 2.1.3: 'Identify and implement infrastructure improvement to enhance road safety'.

Projects funded under the Tasmanian Government's road safety levy are delivered with the cooperation of local councils, including the City of Hobart. The City of Hobart co-funds projects under the Australian Government's road safety black spot program.

The Tasmanian Road Safety Advisory Council has identified tourists as being at particular risk. Due to the language barriers and being unfamiliar with the road rules in Tasmania, they may not understand the local road environment.

In a network that involves mixed land use and transport access, such as the Hobart city centre, the future challenge is to improve road safety and efficiency with mixed traffic conditions and vulnerable road users.

QUESTIONS

Do you think improved safety outcomes for all road users should be the most important factor in managing the road and transport network?

Would you support lower speed limits to protect vulnerable road users across the City, or only in targeted locations?

Do you take personal responsibility for your safety and the safety of others when travelling?

Have you ever engaged in unsafe behaviour while driving?

⁴⁵ Road Safety Advisory Council, 31 October 2012, 'What We Do', viewed 11 November 2016, <www.rsac.tas.gov.au/what-we-do>.

⁴⁶ Tasmanian Road Safety Advisory Council, 'Road Safety Strategy for Tourists', viewed 11 November 2016, <www.rsac.tas.gov.au/wp-content/uploads/2012/08/Tourist-Road-Safety-Strategy1.pdf>.

SMART ROADS AND NETWORK OPERATION PLANS

There is an increasing focus by road authorities on a smarter and more proactive approach to managing and using the existing road network. While there will always be a need to maintain quality roads and undertake road and public transport infrastructure improvements, it is increasingly important to 'get more' out of the existing network. This would then balance the competing demands for limited road space, reduce the social and economic costs of congestion and minimise impacts on the environment.

The Victorian Government has developed a leading framework for delivering upon the objective of an integrated and sustainable transport network. SmartRoads has been developed to improve the long-term operational management of roads across Victoria. It establishes a 'road use hierarchy' that allocates priority road use by transport mode, place and time of day.

By deciding which modes have priority on which routes, the road network can work better for everyone. Key changes to how roads are operated include:

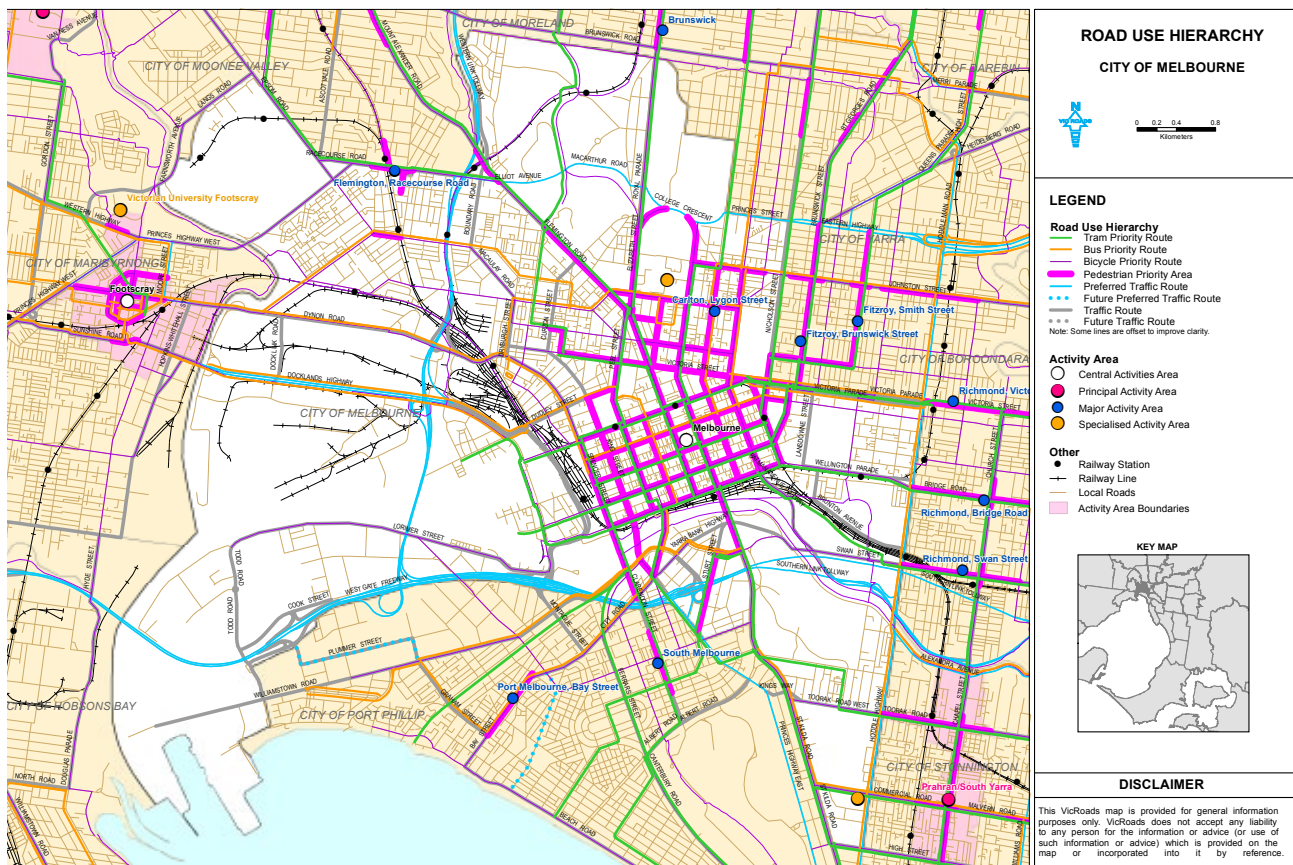
- facilitating good pedestrian access into and within activity centres in periods of high demand
- prioritising public transport on key routes that link activity centres during morning and afternoon peak periods
- encouraging cars to use alternative routes around activity centres to reduce the level of 'through' traffic
- encouraging bicycles by further developing the cycle network
- prioritising trucks on important transport routes that link freight hubs and that aim to reduce conflict with other transport modes.

The prioritisation of these movements are assigned through network operating plans for particular areas.

For more information on the Victorian Government's SmartRoads framework go to: www.vicroads.vic.gov.au/traffic-and-road-use/traffic-management/smartroads

Map 14: : City of Melbourne road use hierarchy

Source: Vicroads



The City of Hobart has examples of the 'smart road' concept. For example:

- The North Hobart activity centre (the restaurant strip) has a traffic bypass which allows the limiting of through traffic coming from the north of the City.
- Clearways and time-restricted parking areas are an example of time of day controls which allow improved movement during peak times.
- The recent works in Morrison Street on the Hobart waterfront are an example of prioritising walking and bicycle space provision over motor vehicle capacity.



DISCUSSION

A critical part of managing the transport system around Hobart into the future is recognising that there will be different functions for different roads at different times, and this will be the basis for the level and prioritisation of capital expenditure on the transport network into the future.

Hobart 2025—A Strategic Framework identifies that an efficient road and travel network through an integrated approach is a specific objective for the municipal area.

The City of Hobart has an integral role, not only as the local road authority and public infrastructure provider, but also in engaging the community in a new way of thinking about the way the road network needs to operate. The Victorian Government's SmartRoads framework is an example of how this can be achieved. It demonstrates how to engage communities on where they want to prioritise traffic movement and where they want to encourage greater interaction between people and places.

Of course Melbourne is a much larger city than Hobart, with additional transport modes available (for example trams and trains), but the principles of SmartRoads and network operating plans are tools that will prove valuable in the management of the transport network in Hobart.

QUESTIONS

Do you think that prioritising modes of transport at certain times of day would assist in making better use of the transport system?

Would prioritising modes of transport, such as a priority bus lane, change your transport patterns at different times of day?

Do you agree that some roads and streets in Hobart should have a higher emphasis on providing for people?



TRANSFORMING HOBART AND INNER CITY MOVEMENT

In 2005, the City of Hobart initiated an extensive community consultation process to create the Hobart 2025 Vision. This process highlighted the community's desire for the inner city to become more vibrant and people focussed and to see improved opportunities for alternative transport options, with an aspiration to create a city which is highly accessible through efficient transport options.

Following this consultation process, the City of Hobart engaged internationally acclaimed urban planner and architect Professor Jan Gehl and his team of consultants, Gehl Architects, to explore ways to improve Hobart's public realm.

Their report, *Hobart 2010 Public Spaces and Public Life—A city with people in mind*, provided recommendations for the future of Hobart, with a focus on improving movement and engagement in and around the city centre.

Feedback from further community engagement in 2011 on the Gehl report was used to develop the Inner City Action Plan (ICAP). ICAP outlines 15 recommended projects—several have been implemented and several others are in the implementation stage.

One of these has been the recent upgrading of Liverpool Street between Murray Street and Elizabeth Street. The Gehl report recommended that Liverpool Street and Collins Street should be upgraded to become 'pedestrian priority streets ... (with) pedestrians, bicyclists and slow driving vehicles travelling in a common area'.⁴⁷

The delivery of this project along Liverpool Street was timed to coincide with the opening of the Liverpool Street side of the new Myer department store, meeting the needs of the forecast increase in pedestrian traffic arising from that development. The project involved:

- improved pedestrian access, including wider footpaths, removal of kerbs and streamlined traffic access
- development of green zones with plantings and public art
- improved, high efficiency street lighting for orientation, safety and atmosphere
- improved street furniture, including bench seating; improved wayfinding system and interpretive information
- Limited on-street parking to free 15-minute parking, to provide for high turnover and encourage use of the multi-storey car parks.

The City of Hobart also has a range of other projects that have furthered ICAP. The Morrison Street shared pathway project, (currently in final construction), involves the creation of a widened, shared footpath and cycleway to link Brooke Street to Castray Esplanade on the river side. This is part of the City of Hobart's efforts to link the Intercity Cycleway around the Hobart waterfront to Castray Esplanade, in accordance with the City's Principal Bicycle Network Plan. On the city side of Morrison Street, footpaths are being widened to improve pedestrian amenity and create opportunities for outdoor dining. There will be upgraded street lighting, street trees and furniture improvements.

The ICAP project suite, along with other major projects, has been funded through the City of Hobart's capital works program and is collectively referred to as 'Transforming Hobart'.

For more information on the Transforming Hobart projects: www.hobartcity.com.au/Projects/Major_Council_projects

⁴⁷ GEHL Architects, *Hobart 2010 Public Spaces and Public Life—A city with people in mind*, 2010, 96.



DISCUSSION

The City of Hobart is focused on bringing life and energy to our city and making it a place where people can move easily and efficiently through key public and urban spaces. It is about recognising that the city is not about the movement of cars and trucks, but about the movement of people and goods.

It is intended that inner Hobart will become more people focused, with well-designed public spaces, a pedestrian network that enables smooth movement between city destinations, and an urban environment that encourages cycling as a safe, alternative mode of transport. Traffic will flow more smoothly and our public transport system will become more usable, efficient and reliable.

QUESTIONS

Are you aware of the projects under the Transforming Hobart ICAP?

Have you experienced the upgrade works in Liverpool Street, Morrison Street or along the Hobart Rivulet linear park? Do you think the improvements have made the spaces more pedestrian and people friendly?

If the City had an improved bicycle network with facilities separated from motor vehicles, would you be more likely to use cycling as a mode of transport?

For you, what will make the city more people focused and a more enjoyable place to spend time?

PARKING

The City of Hobart controls many thousands of car parking spaces on its highway reservations and in off-street car parks, with the most important of these located within and adjacent to the city centre, Sullivans Cove and the shopping centres of North Hobart and Sandy Bay.

Since 1955, the City has managed its parking supply using a combination of people, procedures, policies and equipment to achieve core objectives which include:

- ensuring needs of residents and their visitors are met
- assisting traffic flow on arterial roads
- meeting demands of public transport usage
- making parking space available on street and off street for shoppers, visitors and businesses to allow commercial centres within the City to compete successfully with surrounding suburban centres.

Car parks are placed throughout the City in strategic locations to allow shoppers, visitors and businesses to access parking within walking distance of key destinations in the city centre. These car parks consist of on-street and off-street parking and privately supplied off-street parking.

Commuter parking also surrounds the city centre, North Hobart shopping area, Sandy Bay shopping area and the University of Tasmania. Although commuter parking is discussed in this module, residential parking schemes, urban parking controls and yellow lines will be discussed in Module 4—Local Area Traffic Management.

On-street parking

One of the forms of car parks provided by the council is on-street parking, which includes metered and non-metered spaces. The spaces are subject to a wide variety of uses depending on their regulatory zone, which can include time-metered zone, time-restricted zone, loading zone, no stopping, no parking, taxi stands or bus stops. In 2013, the City of Hobart had 1993 metered on-street parking spaces and various non-metered spaces. In areas outside of the core city centre on-street parking by commuters has continued to increase and the City operates its resident parking scheme for suburbs on the fringes of the city centre to assist residents with residential parking permits to find a parking space near their homes. This aspect will be further discussed in Consultation Paper 4 Local Area traffic Management — due for release in mid 2017.

Off-street parking

Off-street parking is an important parking supply that the City manages for the central retail and commercial centre. In 2016 there were approximately 2500 parking spaces available in the three City owned multi-storey car parks. The management of these spaces impacts the retail and business centre and is currently run with 90 minutes free parking and relatively cheap parking for up to four hours for short-term visitors and shoppers and to discourage long-term parking.

Other off-street parking provided by the City of Hobart includes 125 parking spaces in Salamanca Square Car Park, 86 parking spaces in Dunn Place Car Park, 10 parking spaces in Lefroy Street Car Park and 70 parking spaces in Condell Place Car Park.

Commuter parking

The residents of the greater Hobart region use their vehicles for travel far more than any interstate capital and an important factor for deciding to use their vehicle for travel to and from work is parking and the ease of finding a space near their destination. To provide parking for these city centre workers, paid commuter parking is available within a 15-minute walk of the city centre and includes:

Paid parking location	Parking bays
Lower Domain Road	92
Tasmanian Cricket Association Ground North and South	203
Davies Avenue	17
Regatta Grounds Car Park	112
Tennis Centre North Car Park	42
Aberdeen Car Park	35

As has been previously mentioned, there are extensive areas of on-street car parking available on local streets around the City of Hobart. Ultimately, the existing road network is a public resource and where parking can be provided without excessive detrimental effects to others, then there are equity grounds for providing a pool of parking for city workers, at low cost, outside of the city centre.

Motorcycle parking

The City also continues to expand parking for motorcycles within the City of Hobart as demand increases. Currently, all-day free motorcycle parking is available on Elizabeth Street, Purdys Mart and Castray Esplanade. Other smaller areas are also provided around the city. Undercover paid motorcycle parking is also available in Salamanca Square car park and in the three multi-storey car parks around the city.

Bicycle parking

With bicycles providing a key mode of sustainable transport, the City provides parking for bicycles in the form of bicycle hoops. Bicycle parking is also provided by various businesses near their offices and locked cages are available at Salamanca Square car park and Argyle Street car park.

Access parking

The City of Hobart provides certain concessions to drivers who display a Disabled Parking Permit (issued by the state government or temporarily by the City) when they are used in a metered zone or non-metered time-restricted zone. These parking permits also provide the right to use specially marked accessible parking spaces that are available in both on-street and off-street parking facilities.

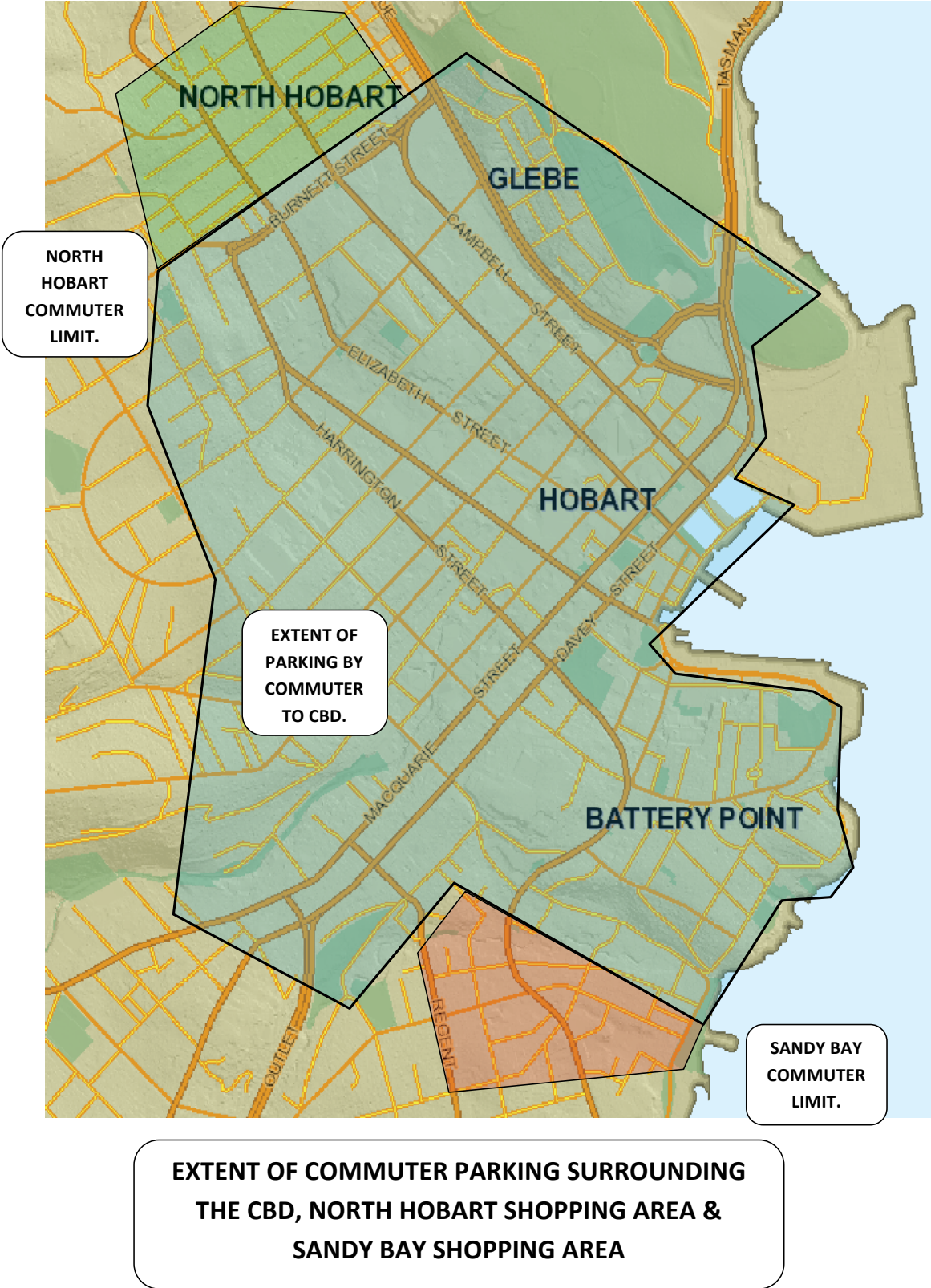
Privately owned off-street parking

In addition to City owned parking, various businesses offer off-street car parks for both long- and short-stay parking. Many properties and workplaces also provide parking for employees and clients.

More information regarding parking in the City of Hobart can be accessed at: [www.hobartcity.com.au/Publications/Strategies_and_Plans/Parking - A Plan for the Future 2013](http://www.hobartcity.com.au/Publications/Strategies_and_Plans/Parking_-_A_Plan_for_the_Future_2013)

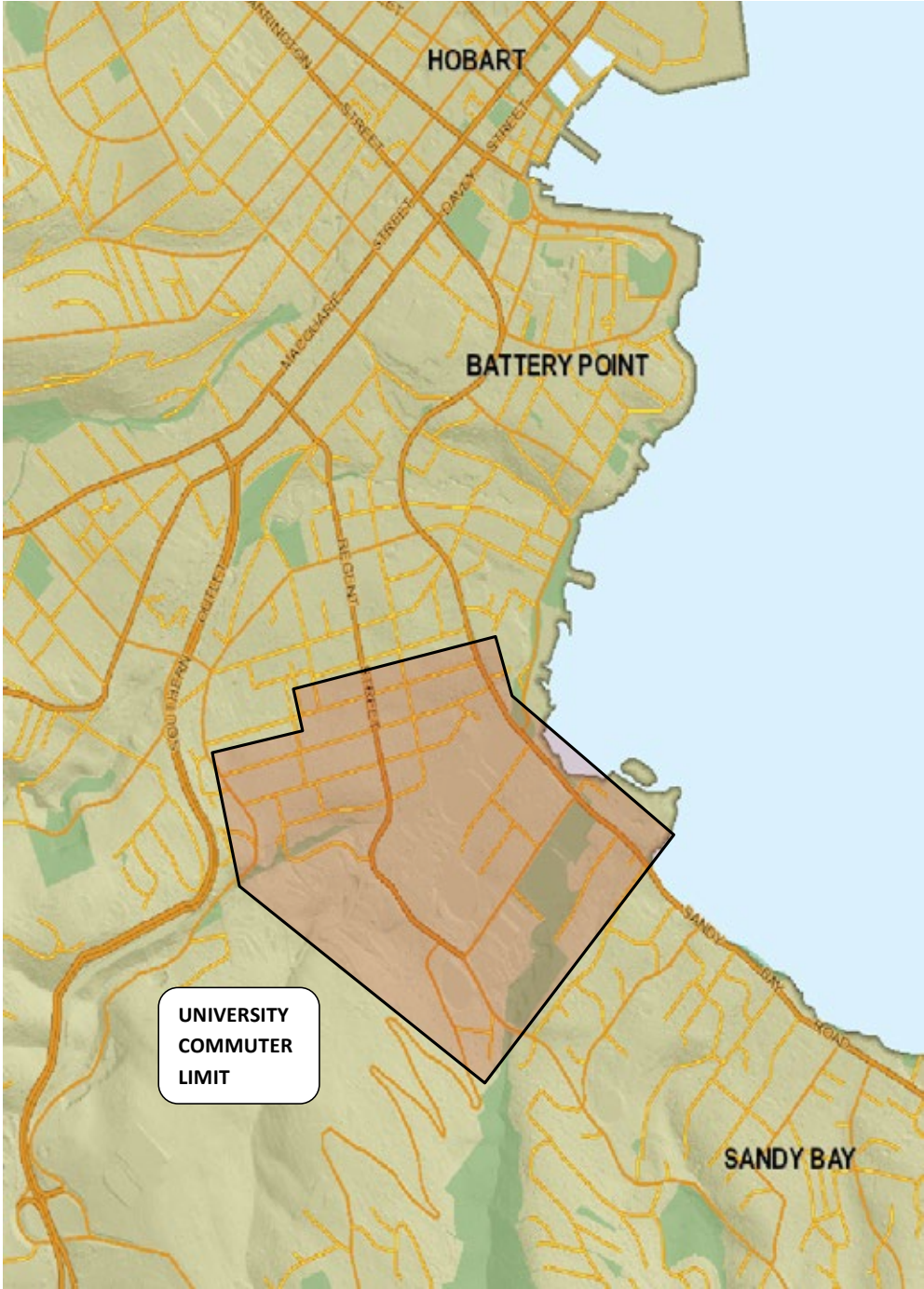
Map 15: : Commuter parking around CBD, North Hobart and Sandy Bay

Source: City of Hobart – Parking – A Plan for the future 2013



Map 16: : Commuter parking around the University of Tasmania

Source: City of Hobart – Parking – A Plan for the future 2013



**EXTENT OF COMMUTER PARKING SURROUNDING
THE UNIVERSITY OF TASMANIA**



DISCUSSION

A core tool that the City uses to influence transport systems is control of vehicle parking. The City owns and operates car parking facilities, and while private providers have a stake, the City is in a position to use the parking under its control to encourage behavioural change. Various schemes identify how removal of parking and dependency on vehicles can help create a thriving city that maintains its convenience and accessibility through the greater use of transport alternatives and effective road and travel networks.

At various times in the development of Hobart, there has been a perception that there is a 'lack of parking' and providing additional parking spaces may be a solution to encouraging further development. However, providing additional parking spaces encourages more vehicles into the city. The cost of constructing a new multi-storey car park at about \$30 000 per parking space (2012 figures) along with congestion, health, and environmental issues from more vehicles means car dependency is no longer the default option if a transport system that is less car dependent, more equitable, less congested and with reduced emissions, is to be encouraged.

To work towards the City's goals and objectives and realise the vision contained in the Southern Integrated Transport Plan, agreed to by the Southern Tasmanian Council Authority and the state government, the various tiers of government need to reduce dependency on motor vehicles and provide improved access to alternative transport methods and modes. The City of Hobart has previously taken action to reach these goals by setting higher parking fees that discourage longer term parking on inner city parking meters, as well as keeping low fees for short term visits to the city centre car parks. This has resulted in vehicle turnover and a discouragement for long-term parking within the city. The City is also continuing to expand parking for bicycles and motorcycles as the demand increases.

QUESTIONS

Do you understand the City's pricing regime of paying a higher fee for parking closer to the city centre, compared to paying a lower fee for parking further from the city centre?

Should the City increase long-term parking fees while keeping low fees for short-term visits within the city centre to encourage shoppers and visitors, while discouraging commuter parking in the city centre?

Would you park more remotely from the city centre, or consider an alternative mode of transport, if all-day parking was charged in currently free commuter parking areas?

Should pedestrian footpaths on roads be widened by removing on-street parking and prioritising parking of vehicles in off-street multi-storey car parks?

Do you think a decrease in available long-term parking within the city and an increase in parking fees would encourage you to use an alternative method of transport?

Do you think that other local government should follow the City of Hobart's approach and charge for parking in major activity centres to encourage greater transport behavioural change?

TOURISM

Tasmania is a popular destination for visitors. For the year ending June 2016, there were 1.17 million visitors to Tasmania, up two per cent from the previous year.⁴⁸ Of these more than 750 000 stayed overnight in the City of Hobart (an increase of 20 per cent from the year ending June 2013); 853 000 people visited the city centre (a slight decrease of 0.1 per cent on the previous year but an increase of 22 per cent from the year ending June 2013).⁴⁹

Slightly more than half of the visitors to the state are here on holiday. They often use the city as a central point, not for only visiting destinations within the city, but for making day trips to surrounding regional areas, such as Port Arthur, Huon Valley, the Channel and the Derwent Valley. The average length of stay within the city centre for the year ending June 2016 was 4.4 days.

Around 20 per cent of all visitors to the state are here for business purposes. As the seat of government and government administration and commerce for the state, many of them come to the City of Hobart. Supplementing these numbers are the visitors journeying to Hobart for business purposes from elsewhere within Tasmania.

Visitor accommodation is a dominant land use within the city centre and waterfront area and with the expected increase in visitation only likely to increase. The Tasmanian Government has a target to increase visitor numbers to 1.5 million by 2020, a target that is achievable based on current growth. In addition, the advent of accommodation through portals such as Air BnB has resulted in many people in the community providing visitor accommodation within their homes.

A key arrival mode for many tourists is via the air links to Tasmania.

Based on existing data provided by Hobart Airport, approximately 2 million passengers per year currently pass through the Hobart Airport. Passenger demand forecasts indicate that Hobart Airport will manage 4.6 million passengers per annum by 2035. Spreadsheet analysis using the passenger forecasts and traffic count data estimate that this level of passenger demand will result in approximately 16 100 passenger-related vehicle trips per day.⁵⁰

The waterfront is also home to the primary cruise ship terminal for Tasmania, at Macquarie Wharf. In addition to the more than 750 000 people staying overnight in the City of Hobart, there were an additional 69 586 visitors arriving as cruise ship passengers this year. This is forecast to double in the next two seasons.

⁴⁸ Tourism Tasmania, September 201, 'Tourism Fast Facts', viewed 25 October 2016, <www.tourismtasmania.com.au/_data/assets/pdf_file/0006/44574/Fast-Facts-September-2016.pdf>.

⁴⁹ Tourism Tasmania, Tourism Visitor Statistics Analyser, viewed 25 October 2016, <www.tvsanalyser.com.au>.

⁵⁰ Hobart Airport, submission to City of Hobart Consultation Paper 1: Freight, Port and Air.

⁵¹ Department of State Growth, Tasmania, 'Sector Summary 2014', viewed 25 October 2016, <www.stategrowth.tas.gov.au/_data/assets/pdf_file/0008/89585/Tourism.pdf>.

Table 8: Cruise ship calls and passengers/crew to Hobart

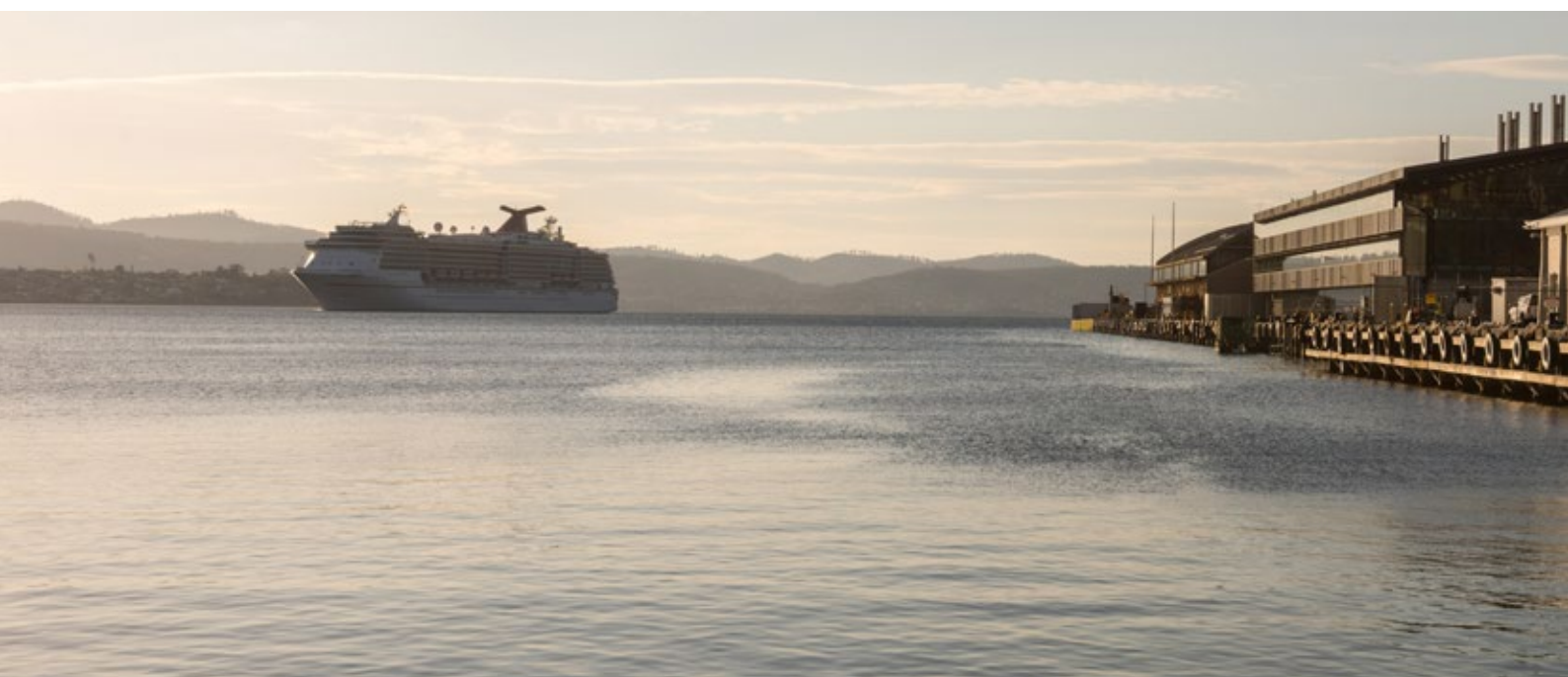
Source: Tasports

2017–18 (forecast)				2016–17 (forecast)				2015–16			
Ships	Total arrivals	Pax	Crew	Ships	Total arrivals	Pax	Crew	Ships	Total arrivals	Pax	Crew
66	192 627	135 478	57 149	48	144 973	101 415	43 558	32	98 915	69 586	29 329

The Tasmanian community is increasingly dependent on the economic contribution of the tourism industry; with a 60 per cent increase in expenditure by visitors to Tasmania for the year ending December 2013.⁵¹ Further, when combining both direct and indirect jobs, the tourism sector supported approximately 40 000 jobs or about 17.4 per cent of total Tasmanian employment (for the year 2012–13).

Did you know?

The percentage of visitors to Tasmania, be it for holiday, business or visiting family, is reasonably consistent regardless of the visitor numbers; slightly more than 50 per cent for holiday, 20 per cent for business and 30 per cent visiting family.





DISCUSSION

Tourism is a significant driver in Tasmania's economy, with the City of Hobart a major destination for visitors. Achieving targets to increase visitor numbers to 1.5 million by 2020 could translate into further direct and indirect economic and social benefits throughout Hobart, the region and Tasmania. This includes further employment opportunities for service industries such as retail, accommodation and restaurants. With Hobart as the natural focus for activities and arrivals, providing for the visitor economy is front and centre to strategies and plans for our future.

There are challenges associated with managing large numbers of tourists. Their transport needs are different, and unlike residents, tourists are unfamiliar with the road network, specific destinations and how to get there. And in some cases, unfamiliar with road rules. The Road Safety Council of Tasmania has specifically identified tourists as vulnerable road users.

Many tourists use a hire car vehicle during their stay in Tasmania, although this is less true for short stay cruise ship visitors. Ongoing hotel development in the City and projected tourism number increases to the state may create additional parking demand, especially for overnight stabling of vehicles. Many City car parks are currently unoccupied outside of normal work hours and provide a large reservoir for overnight car parking. Over time, this situation may deteriorate around new hotels and require further management. Within the City of Hobart, tourists can comprise a significant number of pedestrians and are more likely to use walking as a mode of transport to get to destinations in and around the city centre. The City of Hobart has recently installed a network of contemporary way-finding signage. Such signage is useful for all visitors and tourists to the City. Creating safe and pleasant pedestrian environments will benefit the tourism industry as well.

QUESTIONS

What measures can be put in place to provide alternative transport options for tourists within the City?

Do you think road network signage is adequate for tourists?

Have you seen or used the new way-finding signage in Hobart?

What can the City of Hobart do to improve tourist safety within the City?

INTELLIGENT AND EMERGING TRANSPORT SYSTEMS

Intelligent transport systems (ITS) describe technology that applies to transport and infrastructure to transfer information between systems for improved safety, productivity and environmental performance.⁵² Examples include:

- Stand-alone applications such as traffic management systems, which are used to smooth traffic flows by coordinating ramp signals and information, in conjunction with warning systems installed in individual vehicles such as electronic stability control and lane detection.
- Cooperative ITS applications (C-ITS) including vehicle-to-infrastructure and vehicle-to-vehicle communications such as intersection arrival and collision avoidance systems as well as traffic signal and variable speed control.⁵³

A national ITS framework was agreed to by all states and territories at the Transport and Infrastructure Council in 2011. The Policy Framework for Intelligent Transport Systems in Australia provides guidance to ensure that the technology used in each jurisdiction is compatible and is developed around a set of agreed policy principles:⁵⁴

The benefits of ITS can broadly be described in three key areas:⁵⁵

- Safety—ITS technologies can be used to smooth traffic flows, reduce congestion and reduce certain types of accidents. Similarly, C-ITS can be used to improve safety by providing warnings on heavy braking or potential collisions at intersections.
- Productivity—ITS can increase productivity by finding innovative ways to increase the capacity of our current infrastructure.
- Environmental performance—ITS through a reduction in congestion and stop-start driving can reduce fuel consumption and greenhouse gas emissions.

Emerging transport technologies include electric vehicles, car sharing such as GoGet, ride sourcing applications such as UBER, and autonomous vehicles (driverless). Autonomous vehicles are being widely anticipated to be the most significant change to the travel experience since the invention of the car itself.⁵⁶ There are potential impacts that the City of Hobart will need to consider as identified in the Emerging Transport Technologies Report for the City of Melbourne:

- Greater use of ride sourcing services, with a likely substantial increase upon the introduction of autonomous vehicles.
- Rising demand for car sharing (and bike sharing) in the short to medium term.
- Significantly lower demand for car parking in the medium to long term (5–20 years).
- Greater market availability of electric vehicles and demand for electric vehicle charging.
- Potential increase in congestion in the absence of additional congestion management measures due the introduction of autonomous vehicles.
- Reduction of road traffic crashes in the long term (15–20 years) upon the widespread reduction in use of conventional (human driven) cars.

⁵² Department of Infrastructure and Regional Development, Australia, 'Intelligent Transport Systems', viewed 19 October 2016, <infrastructure.gov.au/transport/its/> .

⁵³ Intelligent Transport Systems Australia, 'About', viewed 19 October 2016, <www.its-australia.com.au/about-us/> .

⁵⁴ Department of Infrastructure and Regional Development, Australia, 'Intelligent Transport Systems', viewed 19 October 2016, <infrastructure.gov.au/transport/its/> .

⁵⁵ Department of Infrastructure and Regional development, Australia, 'Benefits of Intelligent Transport Systems', viewed 19 October 2016, <infrastructure.gov.au/transport/its/benefits.aspx> .

⁵⁶ Institute for Sensible Transport, *Emerging transport technologies: Assessing impacts and implications for the City of Melbourne*, February 2016, 35.

DISCUSSION

The capacity of ITS to provide data and statistics to improve the performance of the transport network is proven at a national and international level.

Hobart's traffic signals operate using SCATS software and are owned and managed by the Department of State Growth. While the software has had various upgrades over the years, much of the physical infrastructure is ageing. This results in incompatibility issues with newer versions of the software, as well as loop detector failures,⁵⁷ which then affects the efficiency of the road network upon which the private transport task relies upon. The Department of State Growth is currently undertaking a major traffic light physical infrastructure (signal control box) upgrade in Hobart.

Pricing mechanisms linked to ITS technology have delivered direct and indirect benefits in high-profile global implementations, for example the London Congestion Charge.⁵⁸ Social benefits include an improved road safety outcome arising from targeted enforcement of road rules and demonstration of compliance

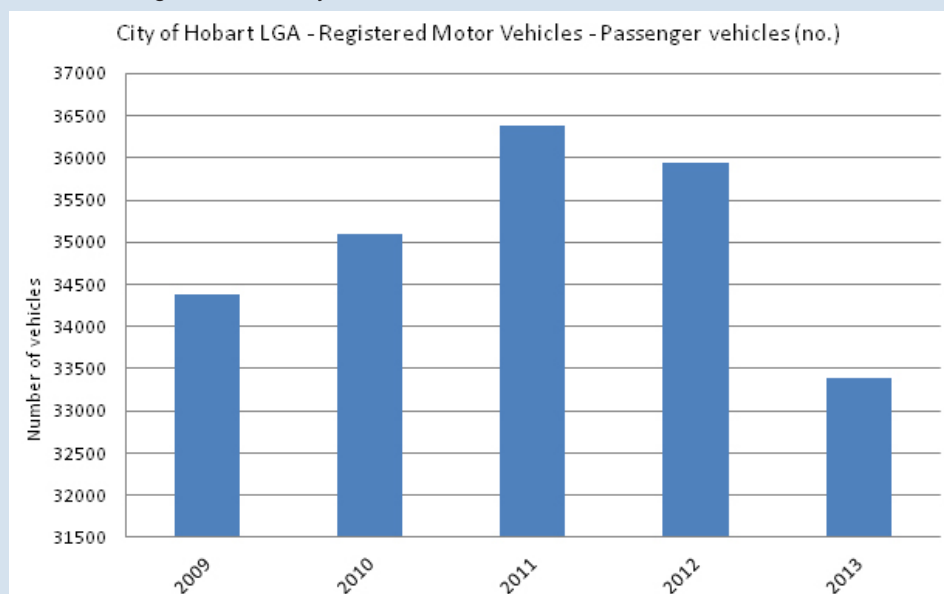
with operating conditions (registration of vehicles). ITS technology is also beneficial to long-term strategic asset management by providing the necessary data and statistics on usage and efficiency.

Emerging transport technologies can play a role in changing the nature of the private transport task. For example, can the City of Hobart play a role in facilitating access to a vehicle rather than ownership of vehicles? Melbourne currently has an active and growing car sharing market, with GoGet, Flexicar and Greensharecar currently operating within the City of Melbourne. GoGet had no Victorian members in 2011, but now have more than 10 000. It is estimated that one car-share vehicle replaces about nine privately owned vehicles, with car share members driving half the distance of non car-share members.⁵⁹

Vehicle ownership rates and even the proportion of young people with a driver's licence, once a right of passage, are beginning to decline. Since 2004, per capita vehicle kilometres travelled has also begun to decline. This is happening not just in Australia, but is recognised as a trend in a number of developed countries worldwide.⁵⁹

Chart 4: City of Hobart—registered motor vehicles

Source: ABS regional statistics by LGA, annual (2008–09 to 2012–13)



⁵⁷ Department of State Growth, Tasmania, *Hobart Congestion: Traffic Analysis 2016*, 2016.

⁵⁸ Transport for London, 'Congestion Charge', viewed 14 November 2016, <www.tfl.gov.uk/modes/driving/congestion-charge>.

⁵⁹ Institute for Sensible Transport, *Emerging transport technologies: Assessing impacts and implications for the City of Melbourne*, February 2016, 7.



QUESTIONS

Do you see ITS as useful for managing road use and congestion?

If a car sharing system operated in Hobart, would you be likely to use it?

Can you think of any emerging technologies that could be utilised to improve the safety and usability of traffic management within the City?

What is your reaction to congestion pricing and paying for access to road space at peak use times?

greenshare
when you need a car

If you live in this area, direct car ownership is a waste of money – greenshare can save you lots!

- greensharecar™ now operates in your street and serves your community.
- Petrol, insurance, roadside assistance, cleaning, maintenance and registration are all included in GreenShareCar™'s low hourly or daily rates.
- If you drive less than 15,000km per year, you can save money.
- greensharecar™ members have access to green on-demand, rent by the hour or the day.
- Becoming a member is easy!

How does it work?

1. Join greensharecar™ online using the free trial book a car online or call us on 1300 666 666. greensharecar™ gives you access to our entire fleet of cars. You can find the nearest car to you by using the Greenshare app or website. You can also find the nearest car to you by using the Greenshare app or website.

Why You Could Love This?

1. You can save money by joining greensharecar™. Car sharing is both an eco-friendly and cost-effective way to get around. Car sharing is both an eco-friendly and cost-effective way to get around. Car sharing is both an eco-friendly and cost-effective way to get around.

How greensharecar™ Works

- Join**
Join online and begin driving within days. We'll send you a SmartCard, which you'll use to unlock the car. You'll also receive a personal access code to all cars.
- Book**
As a member you'll have convenient, 24-hour access to all our greensharecar™ cars. You can book a car online or call us any time between 9am and 5pm. You can also book a car by using the Greenshare app or website.
- Unlock**
When you join we'll send you a SmartCard, which you'll use to unlock the car. You'll also receive a personal access code to all cars.
- Drive**
Once you've unlocked the car, it's entirely up to you. You can drive it anywhere you like, as long as you're within the city limits.

HEALTH AND MOBILITY

There is considerable research on the health benefits of active modes of transport (walking and cycling) as well as public transport. The Heart Foundation of Australia in their *Move It—Australia's Health Transport Options Paper* sets out the case for embracing active transport as a priority. It has the benefit of building in physical activity⁶⁰ into day-to-day life and results in improved environmental conditions and contributes to greater social inclusion and community interaction: an important contributor to mental health.

The added benefits of embracing these modes of transport are minimising the disadvantages of private cars as a mode of transport. These can include reductions in:

- air pollution
- road trauma
- traffic noise.

Tasmania's population is ageing both numerically and structurally. Since 1996, the median age of residents within southern Tasmania has increased from 34.1 to 39.6.⁶¹ According to research by the University of Tasmania, by 2051 33.8 per cent of the population is projected to be aged over 65 years compared to 16.3 per cent in 2011.⁶²

Older people are particularly vulnerable in the current transport system. They often find it difficult to undertake the most essential trips, such as buying groceries or travelling to medical appointments.⁶³ Some of the barriers within the transport system faced by older people include being unable to walk to bus stops, inability to access buses due to physical barriers and fear of safety and falls.

There are many flow on benefits from healthier transport choices. Active transport choices improve the amount of daily exercise, which reduces the risk of heart disease, diabetes and improves overall health and wellbeing.⁶⁴

Recent studies have also identified the economic cost of public health impacts of ambient and household air pollution for OECD countries, including Australia. Current estimates of the joint effects of ambient and household air pollution include an estimated 7 million premature deaths globally each year, representing one in eight of the total deaths worldwide.⁶⁵

Greater active and public transport use can also foster a sense of community, is cheaper and less stressful.

For more information on health issues associated with the transport system: www.heartfoundation.org.au/images/uploads/publications/Move-It-Australias-Healthy-Transport-Options.pdf

⁶⁰ Physical inactivity is estimated to cost the nation \$13.8 billion a year. The direct annual healthcare cost incurred to treat the symptoms of inactivity alone was estimated by Medibank Private to be \$719 million in the 2007–08 period.

⁶¹ Australian Bureau of Statistics, *Census of Population and Housing*, 2011, cat. no. 2001.0 6GHOB, ABS, Canberra.

⁶² Southern Tasmanian Councils Authority, *Southern Tasmania Regional Land Use Strategy, Background Report No 2: The Regional Profile*, 2011.

⁶³ Royal Automobile Club of Victoria, *Transport and Mobility: Challenges, Innovations and Improvements*, Report PP 06/01, 2006.

⁶⁴ Heart Foundation, 'Why Walk?', viewed 14 November 2016, walking.heartfoundation.org.au/why-walk/.

⁶⁵ World Health Organization, *Economic cost of the health impact of air pollution in Europe*, 2015.



DISCUSSION

Active modes of transport, such as walking and cycling, are part of the private transport task. In addition to reducing the reliance on cars and the associated benefits that arise from this, using walking and cycling as a mode of transport has significant health benefits for individuals and communities. It also benefits the broader community by lessening the costs of healthcare associated with inactivity.

The City of Hobart has a significant role to play in facilitating active modes of transport within its municipal area. This includes providing safe and pleasant pedestrian environments, delivering a bicycle network that is integrated at the metropolitan level and strategies that provide for multi-modal trips.

Lack of access to transport is one of the key issues older people highlight as a major barrier in feeling connected to their community and therefore impacting on their quality of life.⁶⁶ Discussion on the provision of suitable public transport services for older people is contained in Module 3— Public Transport.

QUESTIONS

Do the health benefits of walking and cycling motivate you to use them as a mode of transport?

Do you think, as the Heart Foundation has suggested, that a state policy on improving infrastructure to support active modes of transport in new subdivisions and developments is required?

⁶⁶ Council on the Ageing Tasmania, *Addressing Transport Issues for Older People*, Position Paper May 2013, 2013.

COST OF TRANSPORT

Transport is a major, and in most cases, unavoidable cost for households. In a transport system heavily reliant upon private cars as the primary means of transport, this includes not only the initial cost of purchasing a car but ongoing running and maintenance costs.

While the upfront costs of owning a car are becoming more affordable, the running costs are increasing.

The Transport Affordability Index⁶⁷ provides a snapshot of the costs of transport for a typical household in Australia's capital cities. While the overall total weekly transport cost for households in Greater Hobart is the lowest of all capital cities in Australia, when analysed as a share of income, Hobart ranks as the fourth most expensive capital city for transport costs.

Table 9: Hobart total weekly transport cost compared to other capital cities

Source: Australian Automobile Association / SGS – Transport Affordability Index 2016

02 Ranking	State	01	02
1	Sydney	\$428.11	\$419.06
3	Melbourne	\$352.52	\$348.49
2	Brisbane	\$380.71	\$375.64
4	Perth	\$305.80	\$300.99
7	Adelaide	\$287.79	\$285.66
8	Hobart	\$278.73	\$271.17
6	Darwin	\$295.14	\$286.28
5	Canberra	\$305.52	\$299.61
Average	National	\$328.29	\$323.36

Table 10: Hobart total transport costs as share of income

Source: Australian Automobile Association / SGS – Transport Affordability Index 2016

02 Ranking	State	01	02
1	Sydney	17.1%	16.8%
3	Melbourne	14.5%	14.1%
2	Brisbane	16.2%	15.9%
8	Perth	10.2%	10.1%
5	Adelaide	13.3%	13.2%
4	Hobart	14.6%	14.2%
6	Darwin	13.0%	12.0%
7	Canberra	10.7%	10.5%
Average	National	13.7%	13.3%

Fuel costs are an identifiable component of the costs to households in Greater Hobart: Greater Hobart has the highest weekly fuel costs of any capital city in Australia.

Table 11: Hobart weekly costs of transport

Source: Australian Automobile Association / SGS – Transport Affordability Index 2016

02 Ranking	Expenses	01	02
7	Roadside Assist	\$2.02	\$2.02
8	Tolls	\$-	\$-
3	Public Transport	\$25.60	\$25.60
2	Fuel	\$60.66	\$60.65
4	Servicing and tyres	\$23.72	\$23.67
6	Insurance	\$18.98	\$16.69
5	Registration and licensing	\$22.93	\$22.93
1	Car loan payments	\$124.83	\$119.61

⁶⁷ SGS Economics and Planning, *Transport Affordability Index*, Australian Automobile Association, 2016.

The proportional costs to households across Greater Hobart is not, however, even. People living in the City of Hobart are generally more wealthy: the median weekly income for the City of Hobart is \$1260 compared to median for Greater Hobart of \$1065.⁶⁸ However, this demographic has the benefit of potentially greater transport choice because they live close to where they work, shop and access services.

Less wealthy households tend to live on the urban fringe where there is a predominance of affordable and social housing stock and must rely on either private cars or public transport.

The Tasmanian Government commissioned the Tasmanian Oil Price Vulnerability Study 2012 to consider the economic impacts of volatile oil prices on the Tasmanian economy. The study found that the Tasmanian economy is particularly vulnerable to risks associated with increases in oil prices and considered how to mitigate these risks. Suggestions relevant to the City of Hobart include:

- the implementation of 'active transport' programs and supporting infrastructure
- ensuring better integration between land use and transport planning, to more effectively manage travel demand and settlement patterns
- investing in infrastructure that delivers wider economic benefits through increased productivity
- a shift to greater population density
- modal shift (a change between means of transport) from private to public transport.

Further information on the Tasmanian Oil Price Vulnerability Study 2012 can be found in the 'Background papers and further reading' at the end of this document.

⁶⁸ Australian Bureau of Statistics, *Census of Population and Housing*, 2011, cat. no. 2001.0 6GHOB, ABS, Canberra.





DISCUSSION

Considering the cost of transport is an important component of delivering an equitable and socially inclusive transport system. Within the City of Hobart, many people have a range of transport options available for their daily travel requirements, including walking, cycling and public transport, which can reduce the reliance on a private motor vehicle and the overall household expenditure committed to transport.

Heavy reliance on private cars within the transport system can give rise to 'transport disadvantage', where people who cannot drive or afford to have access to a car are disadvantaged by greater difficulty in accessing employment, education and services as well as experiencing isolation.

The City of Hobart can play a role in reducing transport disadvantage and inequity by lobbying and advocating for continuing and additional Tasmanian and Australian Government support for public transport services and active transport facilities. The City of Hobart has also been supportive of affordable housing developments in close proximity to the city centre.

Consideration of the role of public transport in reducing the cost of transport will be considered more in Module 3— Public Transport.

QUESTIONS

Can you estimate how much your weekly transport costs are?

Do you find transport a significant part of your household costs?

Does the cost of transport influence your transport decisions?



THE ENVIRONMENT AND CLIMATE CHANGE

Our climate is changing. The 2016 State of Climate⁶⁹ report identifies that our climate has already warmed by 1 degree celsius. There has been an increase in extreme weather events, including extreme bush fires, and sea levels have risen around Australia.

These changes are impacting on our coastal settlements, infrastructure and ecosystems and these impacts will continue to worsen. In Tasmania, between 12 000 and 15 000 residential buildings, with a current value of \$4 billion, are at risk of inundation from a sea-level rise of 1.1 m by 2100. A sea-level rise of this magnitude will also put at risk up to 2000 km of Tasmania's roads, up to 160 km of Tasmania's railways and up to 300 commercial buildings. These assets have an estimated value of up to \$4.5 billion, \$700 million and \$1 billion respectively.⁷⁰

Under the *Climate Change (State Action) Act 2008*, Tasmania has a legislated target of reducing greenhouse gas emissions to 60 per cent below 1990 levels by 2050. The Tasmanian Climate Change Office has developed Tasmania's Draft Climate Change Action Plan 2016–21, for more information see: www.dpac.tas.gov.au/divisions/climatechange

The City of Hobart recognises the importance of strong environmental stewardship and resilience to climate change. The City has been formally involved in climate change action since 2000 and is continuing to reduce greenhouse gas emissions and adapt to climate impacts and hazards.

In 2010 the City had already reduced its own emissions by 70 per cent from 2000 levels and has committed to reducing its greenhouse gas emissions by 17 per cent from the 2010 levels by 2020. The City has also committed to a reduction target of 35 per cent for its energy use from 2010 to 2020.

Our transport choices have a significant impact on emissions. In Tasmania, transport is the energy sector's largest sub-sector emitter; making it a key area for emission savings.

Fuel use has reduced in the transport sector recently, reducing emissions. The high proportion of walkers and cyclists in Hobart is one contributing factor, as well as changes in vehicle ownership and improvements in fuel efficiency.⁷¹

We have more choices than ever before. New bike paths, walking tracks, park-and-ride facilities and electric vehicle battery technology advancements, have provided a greater range of options in the City of Hobart.

The City has taken a lead with its own fleet management. For example, it has purchased a range of hybrid vehicles for its construction and maintenance vehicle fleet. The fleet now includes five compressed natural gas and three hybrid 6.5 tonne works trucks. All new diesel fleet vehicles purchased comply with the European Union's Euro 6 emission regulations.⁷² It has installed two recharging connections for electric vehicles in the Hobart Central car park in Melville Street.

Further information on the City of Hobart's policies relating to climate change can be found at: www.hobartcity.com.au/Environment/Climate_and_Energy

⁶⁹ CSIRO and Australian Bureau of Meteorology, *State of the Climate 2016*, 2016.

⁷⁰ Department of the Environment and Energy, Australia, 'Climate change impacts in Tasmania', viewed 14 November 2016, <www.environment.gov.au/climate-change/climate-science/impacts/tas>

⁷¹ Tasmania's latest greenhouse gas accounts for 2013–14 were released on 6 May 2016 as part of the Australian Government's State and Territory Greenhouse Gas Inventories 2014.

⁷² European Commission, 'Transport Emissions', viewed 14 November 2016, <ec.europa.eu/environment/air/transport/road.htm>



DISCUSSION

Transitioning away from fossil fuel use remains the internationally accepted approach to changing our emissions trajectory. This could include:

- switching to low-emission vehicles
- switching to biofuels
- improved vehicle fuel efficiency
- improved freight efficiency
- travel demand management
- improved urban design.

The City of Hobart is limited in its ability to adopt some of these measures, as most are policies under the control of either the Tasmanian or Australian governments. But the City of Hobart can be a strong advocate for state and national policy settings that may encourage improved fuel efficiency and switching to low-emission vehicles or biofuels.

In addition, the City of Hobart can ensure that it provides infrastructure to support the use of active transport, public transport and low-emission vehicles, such as electric cars. For example, as the electric vehicle market grows, there will be a greater need for charging stations within the city.

QUESTIONS

Do you understand the impacts of climate change on successive generations?

Do you make choices about your transport because of climate change concerns?

Should more attention be given to reducing emissions from the transport sector?



LIST OF ABBREVIATIONS

ABS	Australian Bureau of Statistics; collects and disseminates official national, regional, capital city and local statistics	STCA	Southern Tasmanian Councils Authority, comprising 12 southern Tasmanian councils—Brighton, Central Highlands, Clarence, Derwent Valley, Glamorgan Spring Bay, Glenorchy, Hobart, Huon Valley, Kingborough, Sorell, Southern Midlands and Tasman.
CSIRO	Commonwealth Scientific and Industrial Research Organisation, which has a base in the Port of Hobart		Southern Tasmanian Councils Authority
ICAP	Inner City Action Plan		
ITS	Intelligent Transport Systems: technologies applied to transport and infrastructure to transfer information between systems for improved productivity, safety and environmental performance	TDM	Travel demand management
LGA	Local Government Area		
LUPAA	Land Use Planning and Approvals Act 1993; Tasmania’s primary land use management legislation		
MONA	Museum of Old and New Art, Berriedale		
OECD	Organisation for Economic Cooperation and Development		



GLOSSARY

activity centres

Places which are the focus for services, employment and social interaction in cities and towns. They provide a broader function than just retail and commercial centres. They are also community meeting places, centres of community and government services, locations for education and employment, settings for recreation, leisure and entertainment activities, and places for living through new forms of high-density housing with good levels of amenity, in mixed land use settings.

agglomeration economies

Refer to the benefits from concentrating output and housing in particular areas. If an area specialises in the production of a certain type of good, all firms can benefit from various factors such as: Good supply channels, Supply of trained workers etc

Capital City Strategic Plan 2015–2025

Contains the City of Hobart's agreed goals and strategic objectives that are relevant to the development of the Transport Strategy.

Census

The Census of Population and Housing is undertaken by the Australian Bureau of Statistics (ABS) and records a wide range of data about the Australian population.

congestion

When traffic (volumes) demand exceeds the available transport network capacity and vehicles experience significant travel time delay.

couplet

Used to define the two major one-way streets, Macquarie Street and Davey Street, which provide a major cross-city route.

Euro 6

Relates to standards for emissions from vehicles and applies to new type approvals from September 2014 and all new cars from September 2015. It reduces some pollutants by 96% compared to the 1992 limits.

greenfield

A term used in urban planning for land that has had no previous construction and development.

greenhouse gases

Greenhouse gases trap heat in the atmosphere and make the Earth warmer. Those with the most significant impact on climate change and global warming are water vapour, carbon dioxide, methane and nitrous oxide. Other common greenhouse gases include ozone and chlorofluorocarbons.

gridlock

When traffic flow reduces to zero speed.

induced demand

Demand for driving that is created by building more roads.

infill development

Development of vacant or under-used parcels within existing urban areas that are already largely developed.

last mile

Final destination of freight in the logistics chain, often on roads managed by local government.

light commercial vehicles

Any four-wheeled motorised vehicle primarily designed for the carriage of goods and having a gross vehicle mass exceeding 1 tonne, or other motorised vehicle not defined as a passenger vehicle.

Local Government Area (LGA)

A spatial unit defined under the Australian Standard Geographical Classification (ASGC). The ASGC is a hierarchical geographical classification, defined by the Australian Bureau of Statistics.

local road network

Part of the road network for which local government is responsible.

mass

Means weight in terms of freight.

modal shift

A change between transport modes; for example, from private vehicle to public transport or from road to rail freight.

moving annual turnover

The total value of a variable, such as sales figures for a product, over the course of the previous 12 months. This is a rolling yearly sum, so changes at the end of each month with data from the new month added to the total and data from the first month of the period taken away.

National Land Transport Network

A single integrated network of land transport linkages of strategic national importance which is funded by Tasmania and Australian governments. The National Network in Tasmania comprises road and rail connections between Tasmania's key urban areas, ports and airports.

passive surveillance

Limits the opportunity for crime by taking steps to increase the perception that people can be seen.

public realm

Is defined as any publicly owned streets, pathways, right of ways, parks, publicly accessible open spaces and any public and civic building and facilities.

saturation

Functionality of the network when traffic (volumes) equals capacity of the transport network.

state road hierarchy

A five-tier hierarchy or classification system of roads in Tasmania.

TasPorts A state-owned company which operates all of Tasmania's ports.

transport disadvantage

Where people who cannot drive or afford to have access to a car are disadvantaged by greater difficulty in accessing employment, education and services as well as experiencing isolation. It can also relate to people for whom no alternative travel mode is available, i.e. few or no bus services.

transport task

A piece of work to be done, in the transport sense the task is to move a person or good (physical item) from a to b.



KEY RELEVANT LEGISLATION

(Note: A more complete listing is provided as Attachment 1)

COMMONWEALTH

National Land Transport Act 2014

Environment Protection and Biodiversity Conservation Act 1999

Disability Discrimination Act 1992

National Heavy Vehicle Regulations

Airports Act 1996 – provides the overarching framework for the operation of privatised airports in Australia.

TASMANIAN STATE

Land Use Planning and Approvals Act 1993

Southern Tasmanian Land Use Strategy 2010–2035

EMPCA – Environmental Management and Pollution Control Act 1994

Roads and Jetties Act 1935 – The main source of law on state roads and subsidiary roads

Transport Act 1981 – Regulates and controls transport services on roads, water or air through the Transport Commission

Traffic Act 1925

Vehicle and Traffic Act 1999 – Regulates the licensing of drivers, registration of vehicles and traffic management.

LOCAL GOVERNMENT

Local Government Act 1993

– *Highways By-Law (By-Law 3 of 2008)* – (*Local Government Act 1993*)

Local Government (Highways) Act 1982 – The main source of law on local government roads



ATTACHMENT 1 – REGULATORY AND POLICY FRAMEWORK

LOCAL GOVERNMENT

Hobart 2025 Strategic Framework:

www.hobartcity.com.au/Publications/Strategies_and_Plans/Hobart_2025_Strategic_Framework

Covers all areas of the City of Hobart's operations including Economic Development, Equal Access etc.

CITY OF HOBART

Inner City Development Action Plan:

www.hobartcity.com.au/Hobart/A_City_with_People_in_Mind/Inner_City_Action_Plan

15 projects being implemented.

Sullivans Cove Planning Scheme 1997 and Hobart Interim Planning Scheme 2015:

www.hobartcity.com.au/Development/Planning/Planning_Schemes

Outcomes of State Planning Review may impact. There are adequate current provisions and all local government in Tasmania is in same situation.

Parking – a Plan for the Future 2012–2017:

[www.hobartcity.com.au/Publications/Strategies_and_Plans/Parking - A Plan for the Future 2013](http://www.hobartcity.com.au/Publications/Strategies_and_Plans/Parking_-_A_Plan_for_the_Future_2013)

Being implemented.

Sustainable Transport Planning 2009–2014:

www.hobartcity.com.au/Transport/Sustainable_Transport_Planning

The new Transport Plan for the City of Hobart will supercede this document.

Hobart 2010 Public Spaces and Public Life – a city with people in mind:

www.hobartcity.com.au/Hobart/A_City_with_People_in_Mind

Jan Gehl's Report to the City of Hobart.

Highways By-Law 2008, Car Parks and Parking By-Law 2008, Car Parks and Parking Amendment By-Law 2012:

www.hobartcity.com.au/Council/Legislation

The *Local Government Act 1993* states that by-laws expire 10 years after the date on which it takes effect unless it is expressed to expire sooner.

GREATER HOBART AND SOUTHERN TASMANIAN COUNCILS

Glenorchy City Council, Clarence City Council, Kingborough and Huon Strategic Plans

These can be referenced through the Southern Tasmanian Regional Land Use Strategy 2010-2035 and Southern Tasmanian Integrated Transport Plan 2010.

TASMANIAN GOVERNMENT

Local Government Act 1993:

www.thelaw.tas.gov.au/tocview/index.w3p;cond=;doc_id=95%2B%2B1993%2BAT%40EN%2B20150929000000;histon=;prompt=;rec=;term=

Peak legislation for local government sector.

Land Use Planning and Approvals Act 1993:

www.thelaw.tas.gov.au/tocview/index.w3p;cond=;doc_id=70%2B%2B1993%2BAT%40EN%2B20150929000000;histon=;prompt=;rec=;term=

Peak legislation for local government sector. To be amended by outcomes of State Planning Review in new legislation due for completion by 2017.

Environmental Management and Pollution Control Act 1994:

www.thelaw.tas.gov.au/index.w3p

Resource Management and Planning Appeal Tribunal Act 1993

Local Government (Highways) Act 1982

Roads and Jetties Act 1935

Traffic Act 1925

State Grants Commission:

www.treasury.tas.gov.au/domino/DTF/DTF.NSF/V-STATEGRANTS/HOME

Makes recommendations to the Treasurer re distribution of Australian Government financial assistance grants to local government under the *Local Government (Financial Assistance) Act 1995*.

Tasmanian Aboriginal Relics Act 1975:

www5.austlii.edu.au/au/legis/tas/consol_act/ara1975159/

Revised Bill abandoned 2013.

Wellington Park Management Plan 2013:

www.wellingtonpark.org.au/management-plan-2013/

State Policies and Projects Act 1993:

cg.tas.gov.au/home/major_projects/projects_of_state_significance

Major Infrastructure Development Approvals Act 1999:

www.thelaw.tas.gov.au/tocview/index.w3p;cond=;doc_id=108%2B%2B1999%2BAT%40EN%2B20151008000000;histon=;prompt=;rec=;term=

Southern Regional Land Use Strategy 2010–2035:

stca.tas.gov.au/rpp/wp-content/uploads/2011/05/land_use_strategy_Gazettal-version.pdf

Declared by the Minister for Planning (Section 30C of the LUPAA), including Background Reports.

State Coastal Policy 1996:

[dpipwe.tas.gov.au/Documents/Tasmanian State Coastal Policy 1996 revised.pdf](http://dpipwe.tas.gov.au/Documents/Tasmanian_State_Coastal_Policy_1996_revised.pdf)

No action on this for several years.

State Policy on the Protection of Agricultural Land 2009:

[www.dpac.tas.gov.au/divisions/policy/state policies](http://www.dpac.tas.gov.au/divisions/policy/state_policies)

Tasmania's Road Safety Strategy 2007–2016:

www.transport.tas.gov.au/roadsafety/tasmanian_road_safety_strategy

To be superseded by Towards Zero 2017–2026.

Tasmania's Affordable Housing Strategy 2015–25 Ministerial Statement:

[www.premier.tas.gov.au/releases/ministerial statement affordable housing strategy](http://www.premier.tas.gov.au/releases/ministerial_statement_affordable_housing_strategy)

Tasmanian Open Space Policy and Planning Framework 2010:

[www.dpac.tas.gov.au/_data/assets/pdf file/0007/234691/Tasmanian Open Space Policy - Summary.pdf](http://www.dpac.tas.gov.au/_data/assets/pdf_file/0007/234691/Tasmanian_Open_Space_Policy_-_Summary.pdf)

Positive Provision Policy for Cycling Infrastructure 2013:

www.transport.tas.gov.au/?a=112630

Tasmanian Walking and Cycling for Active Transport Strategy 2014:

[www.stategrowth.tas.gov.au/_data/assets/pdf_file/0004/88780/Tasmanian Walking and Cycling for Active Transport Strategy.pdf](http://www.stategrowth.tas.gov.au/_data/assets/pdf_file/0004/88780/Tasmanian_Walking_and_Cycling_for_Active_Transport_Strategy.pdf)

Greater Hobart Congestion Summit Ministerial announcement, March 2016:

[www.premier.tas.gov.au/releases/greater hobart traffic congestion summit](http://www.premier.tas.gov.au/releases/greater_hobart_traffic_congestion_summit)

Timeframe unknown. All Southern Regional Councils and Tasmanian Government.

Passenger Transport Reviews:

[www.stategrowth.tas.gov.au/passenger/reviews/legislation-implementation/safe community transport review](http://www.stategrowth.tas.gov.au/passenger/reviews/legislation-implementation/safe_community_transport_review)

Metro Tasmania New Timetables:

www.metrotas.com.au/media/new-metro-timetables-starting-on-10-january-2016-available-now/

New routes/timetables part of discussions with Tasmanian Government on traffic congestion.

Metro Tasmania Draft Main Road Transport Corridor Plan 2013:

[www.stategrowth.tas.gov.au/_data/assets/pdf file/0004/89158/Main Road from Glenorchy to Hobart CBD Draft Transit Corridor Plan.pdf](http://www.stategrowth.tas.gov.au/_data/assets/pdf_file/0004/89158/Main_Road_from_Glenorchy_to_Hobart_CBD_Draft_Transit_Corridor_Plan.pdf)

Unknown status.

Metro Tasmania Disability Action Plan:

www.metrotas.com.au/corporate/publications/disability-action-plan/

The Taxi and Hire Vehicle Industries and Amendment Bill 2016:

[www.parliament.tas.gov.au/bills/pdf/4 of 2016.pdf](http://www.parliament.tas.gov.au/bills/pdf/4_of_2016.pdf)

Taxi and Hire Vehicle Industries Act 2008 amendments to allow a person to operate a vehicle as a ride-sourcing service, subject to similar rules that apply to a luxury hire-car licence.

Taxis and hire vehicles Regulations:

www.transport.tas.gov.au/passenger/taxi

Tourism operators vehicles Regulations:

www.transport.tas.gov.au/passenger/operators

State Road Hierarchy 2007:

www.stategrowth.tas.gov.au/_data/assets/pdf_file/0003/88563/Tasmanian_State_Road_Hierarchy_2007.pdf

Tasmanian Local Government Road Hierarchy 2015

Arising from Auditor General's Report No 5/2013 Infrastructure & Financial Accounting in Local Government, to be adopted by all Tasmanian local governments. Unclear status across local government sector.

Greater Hobart Household Travel Survey 2010:

www.transport.tas.gov.au/_data/assets/pdf_file/0003/109731/Household_Travel_Survey_Summary_-_Final.pdf

Data out of date.

Journey To Work Report:

www.stategrowth.tas.gov.au/passenger/journey

Data from Australian Bureau of Statistics 2011.

Heavy vehicle PBS Network Access Regulations:

www.transport.tas.gov.au/_data/assets/pdf_file/0004/109633/State_Road_Access_Policy_for_PBS_Heavy_Vehicles_2.pdf

High Productivity Vehicle Network 2010:

www.transport.tas.gov.au/_data/assets/pdf_file/0014/110714/Review_of_Gazetted_Route_Network_Current_Version_-_FINAL_at_10-06-2011.pdf

Tasmanian National Heavy Vehicle Reform Project:

www.transport.tas.gov.au/?a=112543

Regulate all heavy vehicles more than 4.5 tonnes GVM, including special purpose vehicles and buses. Includes monitoring of heavy vehicles on road network through Intelligent Access Program and Transport Certification Australia.

Southern Integrated Transport Plan 2010:

www.transport.tas.gov.au/_data/assets/pdf_file/0004/112468/DIER_Southern_Integrated_Transport_Plan_2010.pdf

Current status unknown — with Infrastructure Tasmania.

Tasmanian Infrastructure Strategy:

www.stategrowth.tas.gov.au/infrastructure

Brooker Highway Transport Plan 2011:

www.stategrowth.tas.gov.au/_data/assets/pdf_file/0011/88535/Brooker_Highway_Transport_Plan.pdf

and

www.stategrowth.tas.gov.au/_data/assets/pdf_file/0003/88536/Brooker_Highway_Transport_Plan_Partnership_Agreement.pdf

Significant infrastructure investment involved.

Tasmanian Urban Passenger Transport Framework:

www.stategrowth.tas.gov.au/passenger/framework

Greater Hobart Infill Development Report:

www.stategrowth.tas.gov.au/passenger/framework/infill-development

Main Road Transit Corridor Plan (Glenorchy to Hobart CBD):

www.stategrowth.tas.gov.au/passenger/framework/transit-corridors/background-information

Light Rail Business Case 2016:

www.stategrowth.tas.gov.au/_data/assets/pdf_file/0004/129613/Light_Rail_Strategy_210116.pdf

Infrastructure Tasmania completed report. A federal election year. Would have a high impact on transport planning in the relevant transport corridors.

Tasmanian Freight Survey 2014–2015:

www.stategrowth.tas.gov.au/_data/assets/pdf_file/0004/88564/Tasmanian_Freight_Survey_Data_Summary_Report_2013.pdf

Data still reflects forestry heavy vehicle transport task from Southern Forests through city centre.

Draft Tasmanian Integrated Freight Strategy 2016:

www.stategrowth.tas.gov.au/home/about_us/infrastructure/freight

Consultation completed January 2016.

Tasports 30 Year Plan 2043:

www.tasports2043.com.au/

Tasports Cruise and Tourism:

www.tasports.com.au/port_services/cruise_shipping.html

Tasports Waterside Restriction Zones, Port of Hobart:

www.tasports.com.au/pdf/security-maps-may-2010/waterside-restriction-zones-port-of-hobart.pdf

Under the provisions of the *Maritime Transport and Offshore Facilities Security Act 2003*.

Macquarie Point Development Corporation Act 2012:

www.austlii.edu.au/au/legis/tas/consol_act/mpdca2012422/

Macquarie Point Master Plan 2015–2030:

masterplan.macquariepoint.com/static/pdf/masterplan_full.pdf

Tasmanian Government Sullivans Cove Master Plan 2010:

www.justice.tas.gov.au/_data/assets/pdf_file/0011/151796/SCMP_maindoc_FINAL_web_a3.pdf

Planning Reform Taskforce 2014–2017:

www.stategrowth.tas.gov.au/_data/assets/pdf_file/0010/124399/Fact_Sheet.pdf

Delivering a statewide consistent planning framework. To be clarified, if it will incorporate existing plans for City of Hobart, such as Sullivan's Cove Master Plan, Capital City planning process etc. Proposals to maintain current planning function with local government.

Land Use Planning and Approvals Amendment (Tasmanian Planning Scheme) Bill 2015:

www.justice.tas.gov.au/community-consultation/previous_consultations/new-tasmanian-planning-scheme

Amendments giving effect to a statewide consistent planning framework. Includes 'Local Provisions Schedules'.

Macquarie Point Railyards Precinct Remediation Project 2013:

www.federalfinancialrelations.gov.au/content/npa/infrastructure/macquarie_point_railyards_precinct_remediation/Project-Agreement.pdf

Funding of \$50 million. Progress on removal of toxic waste held up due to delays with C Cell development at Copping.

Tasmanian Government Tourism Tasmania Events Strategy 2015–2020:

events.tas.gov.au/_data/assets/pdf_file/0015/107007/Tasmania_Events_Strategy_Web.pdf

Related to annual growth figures for tourism in Tasmania and impacts on tourism infrastructure.

AUSTRALIAN GOVERNMENT

National Land Transport Act 2014:

www.austlii.edu.au/au/legis/cth/consol_act/nlta2014258/

Key Commonwealth Land Transport Funding Act.

Local Government (Financial Assistance) Act 1995:

www.comlaw.gov.au/Details/C2009C00214

Administered by State Grants Commission.

COAG Reform Agenda (infrastructure, transport regulation, cities, road reform (incl heavy vehicles), National Ports Strategy etc), Homelessness and Housing, Seamless Economy, NDIS, etc:

www.coag.gov.au/reform_agenda

COAG agreed to develop a new competition reform agreement, drawing on the Harper Competition Policy Review, for its consideration in 2016. This will include the potential for productivity payments for delivery of reforms, recognising the need for a flexible approach and noting there is no 'one size fits all' solution. Consideration will also be given to new ways to apply competition policy in regional and remote Australia.

COAG Reform Agenda Capital City Planning Project – Greater Hobart: Draft at June 2010
Prepared by Tasmanian Planning Commission.

COAG Reform Agenda Macquarie Point Railyards Precinct Remediation Agreement:

www.coag.gov.au/node/383 and <http://macquariepoint.com/wp-content/uploads/2013/04/Doc-I.pdf>

Dept of Infrastructure & Regional Development Financial Assistance Grants:

regional.gov.au/local/assistance/index.aspx

Contributes approx 7 per cent revenue to the City's budget.

Dept of Infrastructure & Regional Development Infrastructure Investment Program, includes Bridges Renewal, Black Spot, Investment Road & Rail, Roads to Recovery, Heavy Vehicle Safety & Productivity, National Highway Upgrade:

investment.infrastructure.gov.au/

Through the Infrastructure Investment Program made up of a number of individual programmes, each providing targeted funding for land transport projects.

Dept of Infrastructure and Regional Development investment programmes specifically available to local government:

regional.gov.au/local/programmes-for-local-government.aspx

Includes Black Spot road safety funding.

Department of Infrastructure and Regional Development 'State of Australian Cities' 2014–2015:

infrastructure.gov.au/infrastructure/pab/soac/

National Cycling Strategy 2011–16:

www.austroads.com.au/road-operations/bicycles/resources/national-cycling-strategy

Infrastructure Australia Audit Report 2014–2015:

infrastructureaustralia.gov.au/policy-publications/publications/Australian-Infrastructure-Audit.aspx

Recent announcement to update audit report.

Infrastructure Australia Projects:

infrastructureaustralia.gov.au/projects/

Environment Protection and Biodiversity Conservation Act 1999:

www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/

The primary environmental legislation in Australia.

Infrastructure Australia Rapid Transit public transport report 2015:

infrastructureaustralia.gov.au/policy-publications/publications/Rapid-Transit-Investing-in-Australias-Transport-Future-March-2014.aspx

Infrastructure Australia Urban Transport Strategy 2013:

infrastructureaustralia.gov.au/policy-publications/publications/Infrastructure-Australias-Urban-Transport-Strategy-December-2013.aspx

Our Cities, Our Future — A National Urban Policy for a productive, sustainable and liveable future 2011:

infrastructureaustralia.gov.au/policy-publications/publications/Our-Cities-Our-Future-2011.aspx

Regional Development Australia Tasmanian Development Plan 2013–2016:

www.rdatasmania.org.au/client-assets/documents/documents-and-reports/RDA%20Tasmania%20Regional%20Plan_2015%20-%202016_FINAL.pdf

National Heavy Vehicle Reform /Heavy vehicle National Law:

www.nhvr.gov.au/

Under implementation across all jurisdictions.

Hobart International Airport Master Plan 2015:

hobartairport.com.au/corporate/environment-planning/master-plan-2/

Includes landside transport.

Antarctic Division – shipping, freight, air 2015:

www.antarctica.gov.au/living-and-working/travel-and-logistics/shipping-and-air-schedules

CSIRO Hobart RV Investigator:

www.csiro.au/en/Research/Facilities/Marine-National-Facility/RV-Investigator

Institute of Marine and Antarctic Studies:

www.imas.utas.edu.au/antarctic-gateway-partnership

University of Tasmania 10 Year Strategic Plan 2015:

www.utas.edu.au/_data/assets/pdf_file/0003/263874/OPEN-TO-TALENT-STRATEGIC-PLAN.PDF



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EXCEPT AS SIGNED



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ATTACHMENT 2

BACKGROUND PAPERS

AND FURTHER READING

- Australian Automobile Association, 'homepage', viewed 22 November 2016, <www.aaa.asn.au>.
- Australian Automobile Association, *Transport Affordability Index*, August 2016.
- Australian Bicycle Council, 'homepage', viewed 22 November 2016, <www.bicyclecouncil.com.au>.
- Australian Bicycle Council, *National Cycling Strategy Implementation Report*, 2015.
- Australian Council of Learned Academies, *Delivering Sustainable Urban Mobility Final Report*, 2015.
- Australian Motorcycle Council, 'homepage', viewed 22 November 2016, <www.amc.asn.au/web/>.
- Austroads, 'homepage', viewed 22 November 2016, <www.austroads.com.au>.
- Austroads, 'National ITS Architecture', viewed 22 November 2016, <www.austroads.com.au/road-operations/network-operations/national-its-architecture>.
- City of Fremantle, *Integrated Transport Strategy*, February 2015.
- City of Greater Geelong, *Integrated Comprehensive Transport Plan*, March 2015.
- City of Hobart, *Hobart's Capital City Strategic Plan 2015–2025*, 2015.
- City of Hobart, *Inner City Action Plan: preliminary report to the Hobart City Council*, undated.
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- City of Newcastle, *Newcastle Transport Strategy*, 2014.
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- Department of Infrastructure and Regional Development, *State of Australian Cities 2014–2015*, Commonwealth of Australia, Canberra, 2015.
- Department of State Growth, *Glenorchy to Hobart CBD Transit Corridor Assessment Report: Demographic Influences and Travel Patterns*, July 2012.
- Department of State Growth, Tasmanian Government, *Population Growth Strategy*, 2015.
- Department of State Growth, *Hobart Congestion Traffic Analysis – 2016*, 2016.
- Department of State Growth, Tasmania, *State Road Hierarchy*, undated.
- J Dodson, B Gleeson, R Evans and N Sipe, *Transport Disadvantage in the Australian Metropolis*, Griffith University, 2006.

- J Dodson and N Sipe, *Shocking the Suburbs: Urban Location, Housing Debt and Oil Vulnerability in the Australian City: Urban Research Paper*, Griffith University, 2006.
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- Greater Hobart Councils, (Brighton, Clarence, Glenorchy, Hobart, Kingborough and Cycling South), *Hobart Regional Arterial Bicycle Network Plan*, 2009.
- Heart Foundation, *Healthy by Design: a guide to planning and designing environments for active living in Tasmania*, 2009.
- Hobart Airport Tasmania, *Hobart International Airport Master Plan*, 2015.
- Infrastructure Australia, *Australian Infrastructure Plan: Priorities and reforms for our nation's future Report February 2016*, Australian Government.
- Infrastructure Tasmania, *State Roads Audit*, undated.
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- Macquarie Point Corporation, *Macquarie Point Redevelopment Master Plan*, 2016.
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- Donald Shoup, *The High Cost of Free Parking*, 2005.
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