

The Senate

Rural and Regional Affairs
and Transport
References Committee

Role of public transport in delivering
productivity outcomes

December 2014

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Table of contents

Membership of the Committee	iii
Abbreviations	vii
List of recommendations	ix
Chapter 1.....	1
Introduction and background	1
Referral of inquiry	1
Conduct of inquiry.....	1
Acknowledgement.....	2
Public transport use in Australia.....	2
Population density, public transport and access to employment.....	5
Relationship between public transport and well-functioning cities	7
COAG National Urban Policy.....	9
Chapter 2.....	11
The costs and benefits of private and public transport	11
Economic costs and benefits	11
Social and health benefits of public transport	18
Environmental benefits of public transport	21
Relative costs and benefits of current major infrastructure projects	22
Chapter 3.....	29
The need for an integrated approach to future transport needs	29
From a 'private car versus public transport' debate to an integrated approach.....	29
Maximising existing public transport resources.....	36
Public transport funding	38
Road user charges including congestion charges	41
Land value capture	43

Committee view.....	45
Australian Greens' Additional Comments	47
Coalition Senators' Dissenting Report.....	49
Appendix 1	53
Submissions received.....	53
Appendix 2.....	55
Public hearings and witnesses	55

Abbreviations

ACF	Australian Conservation Foundation
ARA	Australasian Railway Association
BIC	Bus Industry Confederation
BITRE	Bureau of Infrastructure, Transport and Regional Economics
CBD	central business district
COAG	Council of Australian Governments
Committee	Senate Rural and Regional Affairs and Transport References Committee
CSSA	Catholic Social Services Australia
EWL	East West Link
GDP	gross domestic product
Km	kilometres
Pkm	passenger-kilometre
PTUA	Public Transport Users Association
RTBU	Rail, Tram and Bus Union
STCWA	Sustainable Transport Coalition of Western Australia
SCOTI	Standing Council on Transport and Infrastructure
TRN	Transport Reform Network
TTF	Tourism and Transport Forum
UTP	Urban public transport
VKT	kilometres travelled
YCAN	Yarra Climate Action Now

List of recommendations

Recommendation 1

2.59 The committee recommends that public transport infrastructure should be considered as nationally-significant infrastructure, alongside private transport infrastructure such as road construction.

Recommendation 2

2.60 The committee recommends that wider economic costs and benefits, including social and economic connectivity, environmental factors, active lifestyle benefits, safety factors and avoided costs and benefits be factored into transport project analysis.

Recommendation 3

3.70 The committee recommends that, given the productivity cost of capital city congestion, all levels of government interested in increasing national productivity consider backing solutions to congestion, including public transport.

Recommendation 4

3.71 The committee recommends that when addressing congestion and other transport problems, a range of reasonable solutions be examined, including the publication of cost-benefit analysis, before decisions on funding are made by government.

Recommendation 5

3.72 The committee recommends that smaller cost projects, especially so-called smart projects involving the more efficient use of existing infrastructure, or the more effective integration of routes and modes, be prioritised according to the positive benefits they produce.

Recommendation 6

3.73 The committee recommends that the Australian Government fund transport – including road and rail projects – on a mode-neutral basis, based on assessed merit.

Recommendation 7

3.74 The committee recommends that the Australian Government take a leadership role on urban policy, working with the states and territories, given the strong link between transport and urban planning.

Chapter 1

Introduction and background

Referral of inquiry

1.1 On 12 December 2013 the Senate referred the following matter to the Senate Rural and Regional Affairs and Transport References Committee (committee) for inquiry and report by 27 March 2014:

The role of public transport in delivering productivity outcomes;

- a. the need for an integrated approach across road and rail in addressing congestion in cities, including Sydney, Melbourne, Brisbane, Adelaide and Perth;
- b. the social and environmental benefits of public transport projects compared to road infrastructure projects such as Westconnex and the East-West Link;
- c. the national significance of public transport;
- d. the relationship between public transport and building well-functioning cities;
- e. the decision of the Federal Government to refuse to fund public transport projects;
- f. the impact on user charges arising from requiring states to fund public transport projects; and
- g. any related matter.

1.2 On 27 March, the Senate granted an extension of time for reporting to the committee. The committee was required to report by 4 December 2014.

Conduct of inquiry

1.3 The committee advertised the inquiry on its webpage and in *The Australian*, calling for submissions to be lodged by 30 January 2014. The committee also wrote directly to a range of organisations and individuals likely to have an interest in the matters under consideration, drawing their attention to the inquiry and inviting them to make written submissions. Details of the inquiry and associated documents are available on the committee's webpage at:

http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Rural_and_Regional_Affairs_and_Transport

1.4 The committee received 45 submissions which are listed at Appendix 1. The submissions were published on the committee's webpage.

Acknowledgement

1.5 The committee thanks those organisations and individuals who made submissions and provided evidence to the committee's inquiry.

Public transport use in Australia

1.6 Public transport is defined as all transport systems that are available to the public which charge set fares and run on fixed routes.¹

1.7 Urban public transport (UPT) was once the dominant means of passenger transport around major capital cities. However, the growth of private vehicle travel over the last 65 years has contributed to a situation in which UPT now accounts for only approximately 10 per cent of all urban passenger travel.²

1.8 According to census data, in 2012, approximately seven in 10 people (71 per cent) aged 18 years and over travelled to work or full time study primarily by passenger vehicle as either a passenger or driver. Only 16 per cent of Australians used public transport while four per cent walked and two per cent cycled.³

1.9 The relatively low usage of UPT correlates with high usage of private cars. Indeed, it is Australians' love affair with the car that characterises the country's transport story. A downward trend in public transport use began in the 1950s with the rise in private car ownership particularly in Sydney, Melbourne and Brisbane. Over the 58 years from 1955 to 2013, the number of passenger vehicles registered in Australia increased from 1.4 million to 13 million, an average annual growth of 4 per cent. In 2013, passenger vehicles accounted for over three quarters (76 per cent) of all registered vehicles.⁴

1.10 Australia now has the second highest level of car ownership per capita in the world and the third highest per capita rate of fuel consumption in the world. Perth, Adelaide and Brisbane are rated as among the most car-dependent cities in the world with Sydney and Melbourne not far behind.⁵

1 Cambridge Advanced Learners Dictionary, Cambridge University Press.

2 Department of Infrastructure and Transport, *Public transport use in Australia's capital cities: Modelling and forecasting*, Report 129, 2013, p. 9, http://www.bitre.gov.au/publications/2013/report_129.aspx (accessed 5 August 2014)

3 Australian Bureau of Statistics, 4102.0 – Australian Social Trends, July 2014, Car Nation, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4102.0Main+Features40July+2013> (accessed 5 August 2014).

4 Australian Bureau of Statistics, 4102.0 – Australian Social Trends, July 2014, Car Nation.

5 Department of Infrastructure and Transport, *Public transport use in Australia's capital cities: Modelling and forecasting*, Report 129, 2013, p. 31.

1.11 In 2008, private road vehicles represented approximately 90 per cent of city motorised passenger transport.⁶ The 2013 motor vehicle census revealed that 13 million Australian passenger vehicles were registered that year (amounting to one vehicle per 1.37 people of driving age). By way of comparison, in 1955, there were 153 passenger vehicles per 1000 people and by 2013, this rate had increased to 568 people per 1000 people.⁷ In Brisbane, which is expected to have the highest congestion growth rate of all Australian capital cities over the next decade, an estimated 80 per cent of all commuter trips are currently taken by private car.⁸

1.12 However, the overall growth in car ownership is expected to flatten by 2020 for reasons including the involved costs.⁹ One demographic sector for which car use has already stagnated, if not dropped, is among youth. In 2008 only 51 per cent of this age group owned a car and the figure continues to decline.¹⁰ At the same time, studies have revealed that the number of license holders under 30 years is declining at a rate of more than one per cent a year.¹¹ In 1991, of all persons aged 20–24 years in NSW, 79 per cent had a driver's license. Consequently, young people tend to use public transport at a higher rate than older generations.¹² These changing factors must be taken into account in policy decisions regarding transport investment.

1.13 Evidence suggested that it ended in the late 1970s when UPT patronage began to increase again. According to the Department of Infrastructure and Regional Development (department), the resumption of UPT growth was triggered by rising petrol prices, increasing traffic congestion, parking problems, and since 1985, an increase in the price of new cars.¹³ From 1977 to 2010, UPT grew annually by 1.96 per cent from 10.1 billion passenger kilometres in 1977 to 19.1 billion in 2010, thereby almost doubling over the three decades.¹⁴

6 Bureau of Infrastructure, Transport and Regional Economics, *Urban passenger transport: how people move about in Australian cities*, Information sheet 31, March 2009, p. 2, http://www.bitre.gov.au/publications/2009/files/is_031.pdf (accessed 20 January 2014).

7 Australian Bureau of Statistics, 4102.0 – Australian Social Trends, July 2014, Car Nation; Australasian Railway Association, *Submission 7*, p. 3. The McCrindle Blog, Getting to Work, 3 February 2014, <http://mccrindle.com.au/the-mccrindle-blog/tag/census/> (accessed 5 August 2014).

8 Australasian Railway Association, *Submission 7*, p. 5.

9 Bureau of Transport and Regional Economics, *Report 107: Greenhouse Gas Emissions from Transport – Australian Trends to 2020*, Australian Government, 2002.

10 City of Yarra, *Submission 30*, p. 4.

11 City of Yarra, *Submission 30*, p. 4.

12 Dr Tony Morton, Public Transport Users Association, *Committee Hansard*, 18 February 2014, p. 42.

13 Department of Infrastructure and Transport, *Public transport use in Australia's capital cities: Modelling and forecasting*, Report 129, 2013, p. 14.

14 Moving People 2030 Taskforce, *Moving Australia 2013: A Transport Plan for a Productive and Active Australia*, 2013, p. 40.

1.14 From 2001 to 2010, UPT grew at an average rate of 2.57 per cent per annum, thereby outstripping population growth of 1.58 per cent per annum.¹⁵ According to the Bureau of Infrastructure, Transport and Regional Economics (BITRE), UPT use increased from 9.8 per cent to 10.9 per cent over this period. The key determinants of this growth were falling UPT fares and increasing discretionary income constraints, including the effects of the global financial crisis on the savings rate.¹⁶ By 2011, the overall public transport mode share for commuter travel in the country's 18 major cities had risen to 15 per cent with Sydney the highest at 22.5 per cent and Albury-Wodonga the lowest with 1.1 per cent.¹⁷

Urban public transport demand

1.15 According to the department, UPT demand is expected to grow by approximately one third from 2011 to 2030.¹⁸ Population growth in Australia's capital cities is a key driver of this growth.¹⁹ In Perth, as a case in point, public transport patronage grew 67 per cent from 1999 to 2009 at a time when the population grew by 22 per cent.²⁰ Over this period, annual train patronage in Perth grew from 9.7 million to 54.7 million passengers and reached 63 million in 2011.²¹

1.16 Yet, growth in the public transport task is not only expected in Australia's most populated cities. Estimates based on analysis conducted over ten years (2001–2011) revealed that other cities and areas such as the Gold Coast, Canberra, Hobart and Geelong will also experience added demand for future services.²²

1.17 Taking the nation as a whole, the department noted the following about the projected growth of the overall metropolitan transport task in terms of passenger-kilometres (pkm):

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- 15 Moving People 2030 Taskforce, *Moving Australia 2013: A Transport Plan for a Productive and Active Australia*, 2013, p. 40.
- 16 D. Gargett and A. Hossain, *Public Transport Use in Australia's Capital Cities: Modelling and Forecasting*, ATRF, 2012, Bureau of Infrastructure, Transport and Regional Economics, p. 8.
- 17 Department of Infrastructure and Regional Development, *Submission 11*, p. 7.
- 18 Department of Infrastructure and Transport, *Public transport use in Australia's capital cities: Modelling and forecasting*, Report 129, 2013, p. 7, http://www.bitre.gov.au/publications/2013/report_129.aspx
- 19 D. Gargett and A. Hossain, *Public Transport Use in Australia's Capital Cities: Modelling and Forecasting*, ATRF, 2012, Bureau of Infrastructure, Transport and Regional Economics, p. 8.
- 20 Western Australia Department of Transport, *Public Transport for Perth in 2031, Draft for Consultation*, July 2011, p. 14, http://www.transport.wa.gov.au/mediaFiles/about-us/ABOUT_P_PT_Plan2031.pdf (accessed 14 August 2014).
- 21 Western Australia Department of Transport, *Public Transport for Perth in 2031, Draft for Consultation*, July 2011, p. 14; Mr Cole Hendrigan, *Submission 26*, Attachment 1, p. 17.
- 22 Department of Infrastructure and Regional Development, *Submission 11*, p. 6.

Although motor vehicles still dominate urban passenger travel, it is estimated that by 2030 the aggregate metropolitan passenger transport task will rise from 195 billion pkm in 2012 to 290 billion pkm; about a 50 per cent increase in 18 years, and the metropolitan public transport task will grow by 44 per cent from 2012 levels, primarily through population growth rather than a significant shift in the proportion of people using public transport.²³

Population density, public transport and access to employment

1.18 With approximately 65 per cent of the total estimated resident population of Australia living in capital cities (14.5 million of 22.3 million people), Australia is currently one of the most urbanised countries in the world.²⁴ The four largest cities, Sydney, Melbourne, Brisbane and Perth, accounted for almost 60 per cent of national population growth from 2001 to 2010, despite substantial migration from the cities to other cities and regions.²⁵ By 2061, Australia's population is expected to reach between 36.8 and 48.3 million with 74 per cent expected to live in these capital cities.²⁶

1.19 Australia's major cities generate approximately 80 per cent of the country's gross domestic product (GDP) and employ 75 per cent of the nation's workforce.²⁷ The central business districts (CBDs) remain the largest concentration of employment across Australian cities. The department noted that of all jobs offered in metropolitan areas of Australia's five largest capital cities, 10 to 21 per cent are located within a CBD, resulting in very high employment density.²⁸

1.20 With the historical concentration of business activity in CBDs, transport infrastructure has also tended to emanate from CBDs in a radial pattern, designed to transport employees from broader metropolitan areas to the city centre.²⁹ This phenomenon is reflected in commuter transport usage whereby inner sector workers using the public system to access inner city jobs account for between 74 and 82 per

23 Department of Infrastructure and Regional Development, *Submission 11*, p. 4.

24 Australian Bureau of Statistics, 1370.0 – Measures of Australia's Progress, 2010, 15 September 2010, [http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1370.0~2010~Chapter~Population%20distribution%20\(3.3\)](http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/1370.0~2010~Chapter~Population%20distribution%20(3.3))

25 Australian Bureau of Statistics S Cat. 5220.0 Treasury, 2011, Gross State Product 2010-2011.

26 Australian Bureau of Statistics cited in Australasian Railway Association, *Submission 7*, p. 2.

27 Department of Infrastructure and Regional Development, *Submission 11*, p. 3; Department of Infrastructure and Transport, *Our Cities, Our Future: A national urban policy for a productive, sustainable and liveable future*, May 2011, p. 7, http://www.infrastructure.gov.au/infrastructure/pab/files/Our_Cities_National_Urban_Policy_Paper_2011.pdf (accessed 28 January 2014).

28 Department of Infrastructure and Regional Development, *Submission 11*, p. 3.

29 Department of Infrastructure and Regional Development, *Submission 11*, p. 7.

cent of total public transport use by commuters in Sydney, Melbourne, Brisbane and Perth.³⁰ In comparison, the public transport mode share is typically low for outer suburban jobs at 2–3 per cent in Perth, Brisbane and Melbourne and at 5 per cent in Sydney.³¹

1.21 The centralisation of businesses in CBDs enhances productivity as many industries continue to agglomerate to central areas and gain greater access to potential employees, customers, collaborating firms, suppliers and ideas. However, Australia's CBD's will only remain prosperous as long as the benefits of agglomeration outweigh the cost of congestion. As the department cautioned:

Therefore, strong economic growth will remain contingent on the ability to effectively move hundreds of thousands of people every day on public transport during the peak commuter period.³²

1.22 In some cities, the location of city-based jobs has continued to undergo change with the central CBD no longer the focal point for employment. A study of the Melbourne CBD revealed that in 2006, only 28 per cent of metropolitan jobs were located in the inner city (i.e. within a five kilometre radius of the town hall) with a further 50 per cent located within a 13 kilometre radius. The study found that the average job was located 15.6 km from the centre. It concluded that the centre of mass had moved 2 km further towards the vicinity of Tooronga or 7.9 km from the CBD. Additionally, the geographical location of jobs varies across employment sectors:

While over 80% of Retail and Manufacturing jobs were located more than 5 km from the centre, Commercial Services jobs were split roughly 50/50 between the inner city and the suburbs. This sector consists mainly of finance, insurance, business services and property services jobs. Those located in the CBD and inner city include major financial institutions and high level producer services jobs servicing corporate clients. Those in the suburbs however tend to service the resident population, for example, real estate agents and personal financial advisers.³³

1.23 The trends observed in Melbourne are set to continue. According to BITRE projections of population and jobs to 2031, the outer sector of each city will contribute the largest share of population growth and be the fastest growing in terms of employment.³⁴ These projections suggest that short commutes within the outer sector will account for the largest proportion of increased commutes in Perth, Sydney,

30 Department of Infrastructure and Regional Development, *Submission 11*, p. 8.

31 Department of Infrastructure and Regional Development, *Submission 11*, p. 8.

32 Department of Infrastructure and Regional Development, *Submission 11*, p. 3.

33 Alan Davies, 'Suburban Employment Trends: A Melbourne Case Study', *M/C Journal*, Vol. 14, No. 4, 2011, <http://journal.media-culture.org.au/index.php/mcjournal/article/viewArticle/358/0> (accessed 21 January 2014).

34 Department of Infrastructure and Regional Development, *Submission 11*, p. 8.

Brisbane and Melbourne.³⁵ An increase in the relative importance of same-subregion commutes was also forecast along with a decline in the relative importance of inward commuting flows. At present, inward commuting accounts for about three-quarters of public transport use. The department outlined the implications of these projections for public transport:

These forecasts of rapid outer suburban job growth pose a challenge for increasing the future overall public transport mode share, as public transport is typically not as mature or well served in these outer metropolitan locations. However, these more complex trip demands (increased employment in outer suburbs and overall reduction in the dominance of commuting to and from CBDs) are not unique internationally. Overseas experience suggest that a reorientation of the dominant public transport operating paradigm – to better service those making trips within outer suburban subregions will be needed to avoid a mismatch between workers pursuing affordably priced homes and their desired places of employment.³⁶

1.24 By 2030, estimates suggest that Australia's population will grow to 31 million from 23 million with more than 90 per cent of Australians living in cities, towns and near-city regions. This will put Australia behind only Argentina as the highest urban population as a percentage of the country's total population.³⁷ With population and economic growth set to continue, Australia's cities will have to face the growing challenge of mitigating congestion and maintaining accessibility. As the department noted in evidence:

In what is already a highly urbanised society, the increasing trend of urbanisation of Australia's population will result in denser cities challenging how our transport networks are designed and operated, and risks a proportion of the population being 'locked out' of their city's prosperity by a steepening inner-city house price gradient and longer commutes.³⁸

Relationship between public transport and well-functioning cities

1.25 Evidence to the committee highlighted the importance of efficient, accessible and reliable transport networks as fundamental to well-functioning cities and productive populations. According to the Australasian Railway Association (ARA), a well-functioning city is one that is sustainable and capable of meeting the needs of the population into the future.³⁹

35 Perth–51 per cent; Sydney–47 per cent; Brisbane– 40 per cent; and Melbourne –34 per cent. Department of Infrastructure and Regional Development, *Submission 11*, p. 9.

36 Department of Infrastructure and Regional Development, *Submission 11*, p. 8.

37 Moving People 2030 Taskforce, *Moving Australia 2013: A Transport Plan for a Productive and Active Australia*, 2013, p. 13.

38 Department of Infrastructure and Regional Development, *Submission 11*, p. 4.

39 Australasian Railway Association, *Submission 7*, p. 7.

1.26 Catholic Social Services Australia (CSSA) argued that a well-functioning city is one where citizens, including low income and disadvantaged people, can have the opportunity to fully participate in the social and economic fabric of the community. CSSA upheld the view that public transport is a critical element to foster this participation.⁴⁰ Similarly, Professor Currie made the point that cities, as the powerhouses of the economy, function 'almost entirely because there are public transport systems available to get people there'. Public transport is very efficient in handling large volumes of people and when public transport systems are closed, congestion results.⁴¹

1.27 The Committee for Perth emphasised that cities are the major drivers of economic growth and productivity in Australia and that there is a strong and well-established link between transport efficiency and city productivity.⁴² Given the importance of cities to Australia's economy, the productivity and competitiveness of Australia's cities is an issue of national significance.⁴³

1.28 The Grattan Institute emphasised that as cities are crucial to national productivity, ensuring that businesses across cities have access to a range of skilled workers is more important to growth and productivity than ever before. However, it argued that transport infrastructure too often holds productivity back. This is a particular challenge in the outer suburbs of Sydney, Melbourne, Brisbane and Perth where residents can reach fewer than 10 per cent of all metropolitan jobs within a reasonable commuting time. In fact, according to the Organisation for Economic Co-operation and Development (OECD) Sydney is so badly connected that its economy functions more like a city of one million than that of its 4.5 million population.⁴⁴

1.29 According to the Sustainable Transport Coalition of Western Australia (STCWA), one of the key elements to a well-functioning city is that of walkability. It argued that walkability benefits from good public transport, while public transport is totally reliant upon walkability given that almost all public transport trips require walking at each end. Pedestrians provide 'eyes on the street' and therefore increased personal security for local communities, enjoy health benefits and provide custom to local shops. Therefore, the point was made that simply providing more public transport would not in itself lead to well-functioning cities. STCWA maintained that what is required for a well-functioning city is integrated locality design which supports walking and cycling and operates in unison with public transport.⁴⁵

40 Catholic Social Services Australia, *Submission 8*, p. 1.

41 Professor Graham Currie, Monash University, *Committee Hansard*, 18 February 2014, p. 1.

42 Committee for Perth, *Submission 6*, p. 1.

43 Committee for Perth, *Submission 6*, p. 2.

44 Grattan Institute, *Submission 5*, p. [1].

45 Mr David Rice, Sustainable Transport Coalition of Western Australia, *Committee Hansard*, 19 February 2014, p. 2.

COAG National Urban Policy

1.30 The Council of Australian Governments (COAG) has acknowledged the importance of cities to growth and productivity, sustainability and liveability as well as their importance to accommodating demographic change and population growth. In recognition of the importance of city planning to sustainable growth and productivity, COAG introduced capital strategic planning system reforms in December 2009. As part of these reforms, COAG announced the national objective for future strategic planning capital cities along with criteria for capital city strategic planning. The objective is to ensure Australian cities are 'globally competitive, productive, sustainable, liveable and socially inclusive and are well placed to meet future challenges and growth'.⁴⁶

1.31 COAG included as its first criteria integration across functions, including land-use and transport planning, economic and infrastructure development, environmental assessment and urban development, as well as across government agencies.⁴⁷ As part of its reform agenda, COAG asked the COAG Reform Council to review capital strategic planning systems and in December 2011, the council submitted its final report to COAG. Of the three areas suggested by the council for future development, the second was that of public transport and:

Putting more emphasis on public transport to combat congestion and address social inclusion by integrating transport planning with land use decisions.⁴⁸

1.32 COAG responded to the council's report in April 2012 and agreed that continued intergovernmental collaboration be taken forward by the Standing Council on Transport and Infrastructure (SCOTI). SCOTI had been established in September 2011, bringing together Commonwealth, state and territory as well as New Zealand ministers responsible for transport and infrastructure issues as well as the Australian Local Government Association with the objective to:

...achieve a co-ordinated and integrated national transport and infrastructure system that is efficient, safe, sustainable, accessible and

46 Council of Australian Governments, COAG Meeting, 7 December 2009, Attachment B National Objective and Criteria for Future Strategic Planning of Capital Cities, <http://www.coag.gov.au/node/90#4> (accessed 28 January 2014).

47 Council of Australian Governments, COAG Meeting, 7 December 2009, Attachment B National Objective and Criteria for Future Strategic Planning of Capital Cities, <http://www.coag.gov.au/node/90#4> (accessed 28 January 2014).

48 COAG Reform Council, *Review of capital city strategic planning systems*, December 2011, <http://www.coagreformcouncil.gov.au/reports/capital-cities/review-capital-city-strategic-planning-systems> (accessed 28 January 2014).

competitive. Achieving this objective will support and enhance Australia's economic development and social and environmental well-being.⁴⁹

1.33 In 2011, the National Urban Policy was introduced with the objective of reinforcing COAG's national objective for Australian cities.⁵⁰

49 Standing Council on Transport and Infrastructure, *Policy Framework for Intelligent Transport Systems in Australia*, March 2012, p. 1, http://www.scoti.gov.au/publications/files/ITS_Framework.pdf (accessed 28 January 2014).

50 Department of Infrastructure and Transport, *Our Cities, Our Future: A national urban policy for a productive, sustainable and liveable future*, May 2011, p. 3, http://www.infrastructure.gov.au/infrastructure/pab/files/Our_Cities_National_Urban_Policy_Paper_2011.pdf (accessed 28 January 2014).

Chapter 2

The costs and benefits of private and public transport

2.1 This chapter considers the economic, social and environmental benefits of public transport and seeks to relate them to major infrastructure projects.

2.2 Evidence before the committee suggested that the economic, social and environmental benefits of public transport in comparison to roads are well established nationally and internationally. They include increased equity and personal mobility in cities; reduced fuel consumption and congestion; decreasing air pollution; provision of economic and land use development opportunities; increased property values and a reduction of the city's urban footprint; as well as providing community well-being and health benefits.¹

2.3 The International Association of Public Transport identified some of the benefits of public transport over individual transport modes. It argued that public transport:

- costs less to the community;
- needs less urban space;
- is less energy-intensive;
- pollutes less;
- is the safest mode;
- improves accessibility to jobs; and
- offers mobility for all.²

Economic costs and benefits

2.4 According to the Tourism and Transport Forum (TTF), the economic benefits of public transport include the:

- effective connection of wealth and labour to the marketplace;
- removal of productivity bottlenecks; and
- maximising opportunities for individuals, business and government to increase income and asset value.³

1 Committee for Perth, *Submission 6*, p. 2; Committee for Melbourne, *Submission 27*, p. 3; Yarra Climate Action Now, *Submission 12*, p. 1; Transport Reform Network, *Submission 32*, Attachment 1, p. [2].

2 International Association of Public Transport, Introduction, <http://www.uitp.org/Public-Transport/why-public-transport/index.cfm> (accessed 5 March 2014).

3 Tourism and Transport Forum, *The Benefits of Public Transport*, May 2010, p. 1, <http://www.ttf.org.au/Content/benefitsofpublictransport.aspx> (accessed 5 March 2014).

2.5 Car-based transport costs individual commuters and their cities more than public transport. Heavily car-based cities spend an estimated 12 to 15 per cent of their wealth on transport services whereas public transport-based cities spend 5 to 8 per cent.⁴ A national study of transportation costs revealed that the average commuter working in a CBD in one of Australia's major cities could save more than \$5490 per year by leaving the car at home and commuting to work on public transport five days a week.⁵

2.6 Private transport costs rank as a major household expenditure item along with food and other household costs. CSSA noted that while the average Australian household spends \$193 a week on transport (including the costs associated with the purchase and maintenance of a private car), the Disability Support Pension for a single person currently provides \$388.35 maximum a week while those on the Newstart Allowance receive a maximum of \$257.80 a week.⁶ The costs therefore of owning a private car for those on income support and their families are prohibitive.⁷

2.7 A recent study undertaken by UnitingCare Australia found that 53 per cent of respondents using its emergency relief and financial counselling services stated that transport and vehicle costs were among the top three items that they were unable to afford alongside food and energy/utilities.⁸ In Melbourne, over \$133.37 is spent per week on average on car transport while housing expenditure averages at \$144 a week. As the City of Yarra noted, such high expenditure on car use contributes to household stress and 'detracts from liveability especially in newer outer suburbs where housing may be more affordable but car use is essential'.⁹ In comparison, where good public transportation connections exist, a lower proportion of household budgets are invested in transport. According to the City of Yarra:

This is a major social equity consideration as inner areas of metropolitan cities well served by public transport, are becoming the preserve of those on higher incomes leaving those on low incomes in public transport poor outer suburbs, paying far higher transport costs based on running private vehicles.¹⁰

2.8 Strong pressures from population increases combined with traffic congestion, freight bottlenecks, declining housing affordability and the sprawling nature of recent urban development impact on the productivity and liveability of a city.¹¹ Therefore the

4 Australian Conservation Foundation, *Submission 13*, p. 2.

5 Australasian Railway Association, *Submission 7*, Attachment 2, p. [1].

6 Department of Human Services, Payment rates for Disability Support Pension and Payment rates for Newstart Allowance, www.humanservices.gov.au/ (accessed 31 October 2014).

7 Catholic Social Services Australia, *Submission 8*, p. 2.

8 UnitingCare Australia, *Submission 16*, p. [2].

9 City of Yarra, *Submission 30*, p. 5.

10 City of Yarra, *Submission 30*, p. 5.

11 Committee for Melbourne, *Submission 27*, p. [1].

efficient movement of people around Australia's cities, as the engine rooms for economic growth and innovation, is critical to productivity.¹² Submitters to the inquiry emphasised that in order to maximise productivity, urban regions must have adequate and integrated public transport infrastructure and services. Otherwise resident populations will not maximise their quality of life and Australia's cities may become less globally competitive.¹³

2.9 For reasons including its contribution to enhancing economic productivity and the national economy, many submissions to the inquiry supported the view that public transport is a matter of national significance. The City of Yarra argued that investment in Melbourne and Sydney's public transport systems was as vital to the national economy as investment in freight as the 'economic power houses of finance and tourism require this support to maintain their competitive edge in a globally challenging environment'.¹⁴

2.10 Therefore, the point was made that a lack of public transport funding can undermine the economic capacity of Australia's major cities to contribute to national productivity and hinder Australia's ability to compete globally.¹⁵ As the majority of Australians live in urban areas, their ability to access employment, education, health and recreation are collectively of national significance.¹⁶

2.11 The department noted that:

An effectively functioning public transport system can increase productivity for the economy as a whole by enhancing access to jobs, increasing business and freight movement efficiently, and through easing growing road congestion pressures.¹⁷

2.12 The Planning Institute of Australia made the point that the country's transport systems play a vital role in meeting the challenges associated with population growth and ensuring that Australia remains a prosperous nation.¹⁸

2.13 Another key factor is that efficient transport. Given the costs involved in private transport as well as other factors, an estimated 30 per cent of Australians do not own or use a car. For them, public transport provides the only means to access employment, education and services.¹⁹ If this sector of the population were to be

12 Department of Infrastructure and Regional Development, *Submission 11*, p. 3.

13 Committee for Perth, *Submission 6*, p. 2.

14 City of Yarra, *Submission 30*, pp 1–2.

15 Councillor Jackie Fristacky, City of Yarra, *Committee Hansard*, 18 February 2014, p. 46.

16 Mr David Rice, Sustainable Transport Coalition of Western Australia, *Committee Hansard*, 19 February 2014, p. 1.

17 Department of Infrastructure and Regional Development, *Submission 11*, p. 3.

18 Ms Emma de Jager, Planning Institute of Australia, *Committee Hansard*, 19 February 2014, p. 47.

19 City of Yarra, *Submission 30*, p. 4.

excluded from accessing employment, education and other opportunities for reasons of lack of efficient transportation, national productivity would inevitably suffer.

2.14 As the department explained:

As transport infrastructure underpins the competitiveness and liveability in our major cities, then ensuring that our nation's public transport systems and infrastructure work as efficiently as possible will be key to combatting congestion, supporting clusters of economic activity and realising the gains of future job creation.²⁰

2.15 With 53 per cent of Australia's economic activity taking place in Sydney, Melbourne and Brisbane and a further 15 per cent in Perth and Adelaide, efficient public transportation systems offer compelling benefits to the Australian economy, community and to the environment.²¹

Congestion

2.16 Congestion, and specifically road congestion that affects business travel and freight, is recognised as a productivity bottleneck. In 2010, estimates suggested that the avoidable cost of urban traffic congestion in Australian capital cities was \$12.9 billion.²² The Grattan Institute made the point that increasing congestion and limited access to public transport make it harder and more time-consuming for businesses to connect with customers, potential employees and each other. Therefore, poor transport links are a 'drag on our economy, especially when employers frequently cite a lack of skilled workers as a barrier to growing their business'.²³

2.17 The Bureau of Transport and Regional Economies (BTRE) estimated that in 2005, the annual avoidable cost of congestion in Australia's capital cities (where the benefits to road users of some travel in congested conditions are less than the costs imposed on other road users and wider community) was \$9.4 billion. The \$9.4 billion comprised:

- \$3.4 billion in private time costs;
- \$3.6 billion in business time costs;
- \$1.2 billion in extra vehicle operating costs; and
- \$1.1 billion in extra air pollution damage costs.²⁴

20 Department of Infrastructure and Regional Development, *Submission 11*, p. 14; Infrastructure Australia, *Submission 2*, Attachment 1, p. 5.

21 Afzal Hossain and David Gargett, 'Public transport use in Australia's capital cities: Modelling and forecasting', Bureau of Infrastructure, Transport and Regional Economies, 2012, pp 1–2.

22 Tourism and Transport Forum, *The Benefits of Public Transport*, May 2010, p. 1, <http://www.ttf.org.au/Content/benefitsofpublictransport.aspx> (accessed 5 March 2014).

23 Grattan Institute, *Submission 5*, p. [2].

24 Bureau of Transport and Regional Economies, *Estimating urban traffic and congestion cost trends for Australian cities*, Working Paper No. 71, 2007, p. xv, http://www.bitre.gov.au/publications/2007/files/wp_071.pdf (accessed 21 January 2014).

2.18 STCWA pointed out that, assuming the extra vehicle operating costs are split between private and business travel in the same proportions as the time travel, Australian businesses bear 45 per cent of the cost of congestion in Australia's capital cities.²⁵

2.19 The \$9.4 billion in congestion costs exclude the public health and social costs associated with traffic congestion. As the Bus Industry Confederation (BIC) noted, congestion not only impacts national productivity but also the productivity and quality of life of individuals.²⁶ A study commissioned by ARA found that a 50 per cent reduction in congestion would give the average Brisbane and Perth commuter an extra 73 hours per year, the equivalent of almost two weeks annual leave.²⁷

2.20 In terms of the comparative economic costs of public transport, the Rail, Tram and Bus Union (RTBU) argued that the transport infrastructure multiplier, which seeks to capture the economic benefits of transport infrastructure investment, demonstrates that public transport investment is effectively self-financing. According to RTBU, based on an investment of \$100 million in transport infrastructure, the impact of significant multiplier benefits would be the equivalent of a \$400 to \$700 million increase in GDP. While the benefits of investment in public transport are maximised when local procurement opportunities and capabilities are fully utilised, the direct and related benefits of public transport to the economy provides for a return of four to seven times the initial investment. RTBU continued:

For example, increased investment in public transport can assist many domestic industries supplying goods and services, which form part of the manufacturing supply chain. These include steel, aluminium, cement, plastics and glass and a range of related services such as design, engineering and project management. And by generating higher incomes it also boosts economic activity throughout the economy and lifts revenues to government.²⁸

2.21 In 2011, research commissioned by RTBU found that the cost of *not* funding public transport infrastructure amounted to losses of \$18 billion in additional income in NSW, almost \$20 billion in Victoria and around \$48 billion around the country. These losses were a result of lost productivity stemming from a failure to maintain 1984 relativities on investment in public transport infrastructure.²⁹

2.22 According to the Tourism and Transport Forum (TTF), given the projected growth in urban traffic over the next decade, the avoidable cost of urban traffic congestion is expected to increase to over \$20 billion if current trends in transport

25 Sustainable Transport Coalition of Western Australia, *Submission 4*, p. 3.

26 Bus Industry Confederation, *Submission 17*, p. 5.

27 Australasian Railway Association, *Submission 7*, p. 6.

28 Rail, Tram and Bus Union, *Submission 33*, p. 9.

29 Rail, Tram and Bus Union, *Submission 33*, p. 13.

continue unabated.³⁰ Given these circumstances, the Moving People 2030 Taskforce observed that:

Without significant reform, the compounded cost of every extra person on Australia's often at-capacity transport networks will impact on the employment opportunities, productivity and social well-being of the next generation.³¹

2.23 A survey conducted in Perth found that 71 per cent of companies recognised congestion in the CBD as having a negative impact on business productivity. Congestion resulted in staff commonly being late for work while delays brought about by congestion forced companies to have to pay additional costs of moving produce around the city.³² Estimates suggest that at present, Perth commuters lose up to 14 million hours each year due to congestion.³³ Perth's traffic delays are second only to Sydney, which in turn, experiences more delays than most cities in the United States (US).³⁴

2.24 Left unchecked, congestion in Perth is set to get worse given that its population of two million is projected to reach five million by 2050. Without investment in transport modes which reach Perth's metropolitan areas, congestion in the city is set to cost Perth \$33 billion in economic and social costs over 2014–2031.³⁵ According to ARA, to halve Perth's current traffic congestion through road investment, \$40 billion and 2000 lane kilometres would be required. In comparison, the same congestion reduction could be achieved with a 38 per cent lower investment of \$25 billion in rail, resulting in the removal of an estimated 163,000 cars from Perth's roads during peak hour.³⁶

2.25 Most commuting activity, and therefore congestion, takes place at peak hours. A 2013 study demonstrated that it may be through the relief of such congestion that transport improvements and especially UPT have their 'primary effect on economic productivity'.³⁷ This argument is based on evidence from various submitters which suggested that:

30 Tourism and Transport Forum, *The Benefits of Public Transport*, May 2010, p. 1.

31 Moving People 2030 Taskforce, *Moving Australia 2013: A Transport Plan for a Productive and Active Australia*, 2013, p. 12.

32 The Hon. Alannah MacTiernan, Member for Perth, *Committee Hansard*, 19 February 2014, p. 16.

33 Australasian Railway Association, *Submission 7*, p. 6. That is despite the fact that an estimated 20 per cent of the distance travelled by commuters during peak period in Perth is on public transport. Department of Infrastructure and Regional Development, *Submission 11*, p. 3.

34 Committee for Perth, *Submission 6*, p. 3.

35 Australasian Railway Association, *Submission 7*, p. 6.

36 Australasian Railway Association, *Submission 7*, p. 6.

37 Tim Hazledine, Stuart Donovan and John Bollard, *The contribution to public transport to economic productivity*, NZ Transport Agency research report 514, January 2013, p. 7.

- passenger journeys on rail reduces congestion, safety and carbon emission costs, amounting to savings of \$3.11 in Brisbane and up to \$8.41 in Sydney per journey;³⁸
- a typical bus is capable of removing 50 to 100 cars off the roads while a passenger train can replace up to 1000 cars, thereby reducing congestion as well as transport-related carbon emissions and road accidents;³⁹
- at capacity, a two-track passenger railway can carry up to 25,000 passengers per hour in each direction, which is the equivalent of more than 20 lanes of freeway;⁴⁰ and
- one suburban train can remove 5 km of cars from congested roads while benefit-cost analysis indicates that for every \$1 invested in passenger rail transport, \$1.80 is returned to the economy.⁴¹

2.26 Professor Graham Currie, Professor of Public Transport at Monash University, made the point that the biggest costs of congestion occurred in areas surrounding central areas or CBDs rather than directly within them. He argued that 80 per cent of a given city is not in the centre and as a result, congestion relief in terms of public transport is necessary in the middle and outer suburbs.⁴²

2.27 The department noted that if left unchecked, urban congestion will become a greater obstacle to economic growth and quality of life.⁴³ While in the short term, traffic will continue to be influenced by fuel prices, unemployment and recovery from the effects of the global financial crisis, in the longer term, it is most likely to grow at the same rate as the population. To this end, road traffic in Australia is estimated to rise by an aggregate from 55 billion kilometres travelled (VKT) per quarter in 2011 to more than 68 billion VKT per quarter in 2020. This rise represents an additional 4.5 per cent growth per year and a 24 per cent net increase in traffic with consequences for both congestion and infrastructure investment.⁴⁴

2.28 Therefore, as the department noted:

38 ARA noted that the social inclusion, reduced infrastructure maintenance costs and fuel security benefits that greater rail travel provides are not incorporated into these figures but would otherwise increase the benefits of rail travel. Australasian Railway Association, *Submission 7*, p. 4.

39 Australasian Railway Association, *Submission 7*, p. 4.

40 Tourism and Transport Forum, 'Position Paper: Public Transport and Climate Change', Tourism and Transport Forum, 2009.

41 City of Yarra, *Submission 30*, pp 5–6.

42 Professor Graham Currie, Monash University, *Committee Hansard*, 18 February 2014, p. 3.

43 Department of Infrastructure and Regional Development, *Submission 11*, p. 4; Moving People 2030 Taskforce, *Moving Australia 2013: A Transport Plan for a Productive and Active Australia*, 2013, p. 44.

44 Department of Infrastructure and Regional Development, *Submission 11*, p. 4.

...any significant contribution that public transport can make to addressing modal share of anticipated traffic growth will also have a flattening effect on the escalation in road congestion costs.⁴⁵

Space efficiency

2.29 A number of submitters made the point that transport solutions which created more road space for cars can simply encourage more traffic. Some argued that road-based congestion solutions were not viable in Melbourne for this reason, as well as the fact that it entailed the poor use of scarce inner-city land. According to the City of Yarra, the expansion of motor vehicle use in cities has led to over 30 per cent of land use devoted to vehicles.⁴⁶ It argued that accommodating an additional 200,000 people in the Melbourne CBD with car-based transport would require an additional 65 freeway lanes and 782 hectares of parking space. Such a solution would therefore be inefficient in terms of land use and far more costly than meeting the demand for travel by public transport modes.⁴⁷

2.30 In comparison to road transport, Professor Peter Newman from Curtin University argued that public transport is far more space efficient:

There is a kind of space productivity: about 800 people an hour can go down a suburban street; about 2500 an hour down a lane of freeway; about 5000 on a bus way; about 10,000 on a light rail; about 50,000 on a heavy rail – they are highly efficient in space terms. So more than 20 times the productivity, in space, terms if you have a railway, which is why cities everywhere are building railways.⁴⁸

Social and health benefits of public transport

2.31 A number of submitters made the point that public transport assists Australians to access employment opportunities, education and professional development, health services, recreational facilities and provides opportunities to engage with and participate in local communities.⁴⁹ The social impacts of limited or no public transport include noise pollution, distance from neighbours, increased driving time and reduced opportunities for walking and other forms of recreation as well as social isolation.⁵⁰ These impacts have negative repercussions in terms of community wellbeing, social engagement and health which in turn impact national productivity and competitiveness as well as social cohesion.

2.32 By providing a communal access point to vital goods and services, it was submitted that public transport is a 'vehicle for social cohesion' between diverse

45 Department of Infrastructure and Regional Development, *Submission 11*, p. 5.

46 City of Yarra, *Submission 30*, p. 2.

47 City of Yarra, *Submission 30*, p. 2.

48 Professor Peter Newman, Curtin University, *Committee Hansard*, 19 February 2014, p. 9.

49 Greater Shepparton City Council, *Submission 45*, p. [1].

50 Mr Cole Hendrigan, Curtin University Sustainability Policy Institute, *Committee Hansard*, 19 February 2014, p. 23; Australasian Railway Association, *Submission 7*, p. 5.

demographics in society.⁵¹ Public transport provides for equal access, as the unemployed, elderly, disabled and those at risk of social isolation resulting from poor transport options have greater access to employment, education, health and community services.⁵²

2.33 Some of the key considerations in relation to transportation infrastructure into the future relate to Australia's changing demographic and ageing population. Access to public transport for the elderly, many of whom cannot access private transport for reasons including affordability, is vital to the health and wellbeing of Australia's aged community. By 2030, one in five Australians will be over 60 years and the ratio of workers to retirees will have fallen as a consequence from 5:1 to 3:1.⁵³ This means that a smaller proportion of the population will have to fund the transport needs of the whole country. Therefore, the ageing of Australia's population will have a significant impact on the sustainability of the nation and how people move around it. Supporting mobility and social inclusion will become an increasingly important responsibility of public transport for these reasons. However, a decline in proportional income tax revenue brought about by this demographic shift will ensure that funding transport infrastructure will become a growing challenge.⁵⁴

2.34 Lack of access to public transport can pose as a significant barrier for people seeking full participation in society and the economy, thereby curbing productivity and limiting life choices.⁵⁵ Therefore, the benefits of enhancing accessibility, mobility and encouraging economic participation of those without other transport options can be substantial.⁵⁶ In fact, public transport usage is high amongst the unemployed and those not engaged in the labour force. A 2011 study on public transport usage in Melbourne (zones 1 and 2) found that public transport patrons included 55 per cent of the city's unemployed, 38 per cent of those not in the labour force and 44 per cent of Melbourne's part-time workers.⁵⁷

Health costs of car transport

2.35 Yarra Climate Action Now (YCAN) argued that the loss of sports grounds and passive recreation space resulting from the construction of new freeways which utilise public space will have a negative impact on community health and wellbeing

51 Tourism and Transport Forum, *The Benefits of Public Transport*, May 2010, p. 1; Catholic Social Services Australia, *Submission 8*, p. 2.

52 Australasian Railway Association, *Submission 7*, p. 5; Catholic Social Services Australia, *Submission 8*, pp 2–3.

53 Australian Bureau of Statistics, *Australian Demographic Statistics 2010–2011*; Moving People 2030 Taskforce, *Moving Australia 2013: A Transport Plan for a Productive and Active Australia*, 2013, p. 16.

54 Moving People 2030 Taskforce, *Moving Australia 2013: A Transport Plan for a Productive and Active Australia*, 2013, p. 12.

55 UnitingCare Australia, *Submission 16*, p. [1].

56 Infrastructure Australia, *Submission 2*, Attachment 1, p. 7.

57 Catholic Social Services Australia, *Submission 8*, p. 2.

across metropolitan areas. It argued that Melbourne's East West Link project, as a case in point, will have adverse health impacts on the elderly and the young, given the close proximity of the road project to schools and aged care facilities.⁵⁸

2.36 In terms of health effects, available evidence indicated that each additional hour spent driving a car increases the likelihood of obesity by six per cent.⁵⁹ According to the Australian Conservation Foundation (ACF), physical inactivity due to car dependence costs over \$10 billion per year in direct health costs.⁶⁰ At the same time, a study by Medibank Private revealed that the Australian healthcare system could save \$1.5 billion annually if more people were physically active.⁶¹ STCWA drew on a study conducted in the US which found that car drivers who switched to using public transport dropped an average of five pounds in weight. The study found that an estimated 60 per cent of residents in a 'low-walkable' neighbourhood were overweight compared to 35 per cent in a 'high-walkable' neighbourhood.⁶² The study concluded that commuting between home and school or work was an effective strategy to increase and maintain population-wide physical activity levels.⁶³

2.37 In terms of health safety costs, road transport generates almost eight times the accident costs of rail.⁶⁴ Each year there are about 1450 fatalities and 30,000 serious injuries on Australia's roads.⁶⁵ The cost of road crashes on a cents per km basis is approximately 965 per cent higher than rail crash costs. As a result, if 1000 people transferred from cars onto rail, the road crash costs would be reduced by \$650,000 to \$760,000 per year depending on the city.⁶⁶

2.38 ACF argued that as a result factors including road crashes and air pollution, health budgets suffer directly from inefficient transport systems. In 2005, air pollution from cars alone resulted in health costs from morbidity (cardio-vascular and respiratory diseases and bronchitis) and mortality of between \$1.5 and \$4 billion. ACF noted that if public transport use increased by 45 per cent there would be a 28 per cent

58 Yarra Climate Action Now, *Submission 12*, p. 2.

59 Doctors for the Environment Australia, Submission to Senate Rural and Regional Affairs and Transport References Committee Inquiry into the investment of Commonwealth and State funds in public passenger transport infrastructure and services, *Submission 70*, p. 2, <http://dea.org.au/images/uploads/submissions/submission70.pdf> (accessed 21 January 2014).

60 Australian Conservation Foundation, *Submission 13*, p. 2.

61 Ms Emma de Jager, Planning Institute of Australia, *Committee Hansard*, 19 February 2014, p. 47.

62 Sustainable Transport Coalition of Western Australia, *Submission 4*, p. 2.

63 Ms Emma de Jager, Planning Institute of Australia, *Committee Hansard*, 19 February 2014, p. 47.

64 Australasian Railway Association, *Submission 7*, p. 4.

65 Bus Industry Confederation, *Submission 17*, p. 3.

66 Australasian Railway Association, *Submission 7*, p. 4.

decrease in exposure to photochemical smog, which would reduce the resulting air pollution human health impacts.⁶⁷

Environmental benefits of public transport

2.39 The 2007 National Greenhouse Accounts ranked transport as a major source of greenhouse gas emissions related to the combustion of fossil fuels. Of transport:

Road transport was the main source of transport emissions in 2007, accounting for 68.5 Mt CO₂-e or 11.5% of national emissions. Passenger cars were the largest transport source, contributing 41.9 Mt CO₂-e.⁶⁸

2.40 In terms of environmental impact, during peak traffic periods, bus and rail are up to six times less greenhouse gas emissions intensive per passenger kilometre than private vehicles.⁶⁹ Rail-based freight transport uses one third of the fuel of road transport and is approximately four times as energy efficient as road-based freight transport.⁷⁰ Per passenger kilometre travelled, road produces more than 40 per cent more carbon emissions than rail.⁷¹

2.41 ACF noted the wider benefits of investment in green infrastructure including a reduction in air pollution, carbon sequestration, improved water quality and river flow. Other suggested benefits included reduced wastewater treatment costs, lower impact from natural disasters, reduced heat island effect in cities as well as health benefits including lower obesity where there more green space and non-car options are available.⁷²

2.42 In light of these significant environmental benefits, ARA suggested amending cost-benefit-analysis evaluation methods to take the wider environmental, social and economic benefits of transport modes into account.⁷³ However, part of the challenge in determining such benefits are the complexities involved in costing them. As Ms Kate Roffey, CEO of the Committee for Melbourne expressed, 'How do you cost clean air versus dirty air?'⁷⁴

67 Australian Conservation Foundation, *Submission 13*, p. 2.

68 Australian Bureau of Statistics, 4613.0 – Australia's Environment: Issues and Trends, Jan 2010, Climate Change in Australia, January 2010, <http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4613.0Feature+Article1Jan+2010> (accessed 5 March 2014).

69 Tourism and Transport Forum, 'Public Transport and Climate Change', Position Paper, Tourism and Transport Forum, Sydney, November 2009, p. 8, <http://www.ttf.org.au/Content/ptclimatechange.aspx> (accessed 5 March 2014).

70 City of Yarra, *Submission 30*, p. 5.

71 Australasian Railway Association, *Submission 7*, p. 4.

72 Australian Conservation Foundation, *Submission 13*, p. 2.

73 Australasian Railway Association, *Submission 7*, p. 7.

74 Ms Kate Roffey, Committee for Melbourne, *Committee Hansard*, 18 February 2014, p. 21.

Relative costs and benefits of current major infrastructure projects

This chapter now turns to an analysis of Melbourne's East West Link and Sydney's WestConnex. It considers the expected economic, social and environmental impacts of these two major infrastructure projects in light of the benefits of alternative public transport initiatives.

Melbourne's East West Link

2.43 The East West Link (EWL), which is an 18 kilometre cross-city road connection across Melbourne from the Eastern Freeway to the Western Ring Road, has raised concerns regarding the financial, economic and environmental impact of the project.

2.44 Stage one, the eastern section of the EWL, is expected to cost \$6.8 billion to build with reports suggesting that Victorian taxpayers will contribute \$2 billion.⁷⁵ Consistent with the Coalition's 5 September pre-election commitment to fund roads, not public transport, the federal government contributed \$1.5 billion in the EWL.⁷⁶ In late June 2014 and under the terms of an MOU, \$1 billion of Commonwealth funding was provided to the Victorian government in respect of stage two of the project in the form of a grant. The terms of the MOU stipulate the need for a cost/benefit analysis to be undertaken by Infrastructure Australia and the return of the funding to the Commonwealth if the project does not proceed.⁷⁷

2.45 In a newspaper article, Kenneth Davidson stated that the financial, economic and environmental arguments in favour of the EWL are 'fallacious'.⁷⁸ According to the first major analysis of the EWL carried out by a group of ten transport planners and financial analysts, the entire project may end up costing Victorian taxpayers between \$13.6 and \$15.6 billion.⁷⁹ In a report titled 'Tunnel Vision or World Class Public Transport', the group stated:

We argue that there are viable alternatives to improving Melbourne's transport that are less costly and can deliver results much more quickly than the EWL. These options avoid expensive and unnecessary infrastructure

75 Alison Savage, 'East West Link: Stage one to cost \$6.8 billion, Victorian Government releases tunnel's final design', *ABC News*, 30 September 2014; <http://www.abc.net.au/news/2014-09-30/east-west-link-cost-to-taxpayers/5778086> (accessed 2 October 2014); Richard Willingham, 'East West Link stage one to cost Victoria \$2 billion', *The Age*, 30 September 2014, <http://www.theage.com.au/victoria/east-west-link-stage-one-to-cost-victoria-2-billion-20140930-10ny7e.html> (accessed 2 October 2014).

76 The Coalition's Policy to Deliver the Infrastructure for the 21st Century, September 2013.

77 Ms Lyn O'Connell, Department of Infrastructure and Regional Development, *Estimates Hansard*, 20 October 2014, p. 25.

78 Kenneth Davidson, 'East West Link: The case against this road gets even stronger', *Sydney Morning Herald*, 28 July 2014.

79 Professor Jago Dodson et al, *Tunnel Vision or World Class Public Transport?*, p. 2, <http://mams.rmit.edu.au/eupxwm692zjq1.pdf> (accessed 17 November 2014).

construction and would ensure a more efficient use of public funds with fairer distribution of transport improvements across Melbourne.⁸⁰

2.46 Another concern repeatedly raised in relation to the project is the lack of transparency accompanying EWL decision making and traffic modelling. As a case in point, the full business case for the project is yet to be made public. The Victorian government provided Infrastructure Australia with a 'short form business case' for stage one in June 2013. In this document, the Victorian government claimed the project had a benefit-cost ratio of 1:4 if wider economic benefits were included and 0:8 without wider benefits included.⁸¹ However, according to the transport planners and financial analysts group, as the details of the modelling have not been released for public scrutiny, it is 'impossible to be sure what the final benefit-cost ratio is'.⁸²

2.47 The City of Yarra, which advocating for rail to Doncaster as an alternative project, argued that the EWL is considered to be the 'wrong project, in the wrong place at the wrong time'.⁸³ Other witnesses held similar views. The City of Melbourne suggested that the traffic problem that the EWL is purported to address could be solved with the introduction of a congestion levy. Director of City Design at the City of Melbourne, Professor Robert Adams further argued that increasing the capacity of the rail system was a greater priority than the EWL.⁸⁴

2.48 The group of ten transport planners and financial analysts suggested that the funds set aside for the EWL could be used for more effective transport options including a tripling of the *SmartBus* network to improve suburban public transport networks.⁸⁵ Similarly Professor Adams argued that funds saved from proceeding with the EWL could be reinvested into initiatives including a rapid bus network, which would be a more efficient investment given the number of commuters who would utilise those services.⁸⁶

2.49 In terms of the social impact of the EWL, the City of Yarra argued that:

The East-West Link project is proving to be a very divisive project socially. Communities from across Melbourne have expressed great concern that funding this one "mega" project will prevent the funding of many other

80 Professor Jago Dodson et al, *Tunnel Vision or World Class Public Transport?*, p. 3.

81 Infrastructure Australia, Answer to question on notice from Senate Rural and Regional Affairs and Transport Legislation Committee Supplementary Budget Estimates Hearing, November 2013, http://www.aph.gov.au/~media/Estimates/Live/rrat_ctte/estimates/sup_1314/infra/IA.ashx (accessed 6 August 2014).

82 Professor Jago Dodson et al, *Tunnel Vision or World Class Public Transport?*, p. 7.

83 City of Yarra, *Submission 30*, p. 4.

84 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, p. 13.

85 Professor Jago Dodson et al, *Tunnel Vision or World Class Public Transport?*, p. 14.

86 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, p. 13.

smaller more worthy projects, which cumulatively would cost less, and deliver better distributed benefits to the greater Victorian community.⁸⁷

2.50 In terms of environmental impact, Professor Adams noted that the proposed tunnel will damage an estimated nine hectares of parkland and impact the water system. While the city of Melbourne currently derives 20 per cent of its water from stormwater recapture, the East West Link tunnel will take out of commission one of the biggest water purification systems at Royal Park.⁸⁸

2.51 Evidence suggested that the Doncaster rail project, which has been put forward as a viable alternative to the EWL, would attract an estimated 100,000 passenger trips per day when fully operational. According to the City of Yarra, this is equivalent to the number of people projected to be carried by cars in the competing East West tunnel.⁸⁹ It also noted that the EWL provides only limited value for freight movement given its limited industrial and commercial catchment, while likely to increase transport economic costs by inducing additional car-based congestion, greater emissions and undermining higher value land use in inner Melbourne.⁹⁰ Similarly, the Public Transport Users Association (PTUA) noted that, according to traffic modelling on the proposed motorway, traffic is likely to get worse on various key roads if the project proceeds.⁹¹

2.52 YCAN raised concern that the massive costs involved in the EWL will 'swallow all transport funding for decades' precluding any and all public transport development.⁹² Furthermore:

Spending the \$14 billion earmarked for the East West Link on public transport would mean that every single item on the public transport wish-list (Doncaster Rail, Airport Link, Metro Rail, signalling upgrades, railway crossing upgrades) can be completed.⁹³

Sydney's WestConnex

2.53 Sydney's 33-kilometre WestConnex motorway is the biggest transport project in Australia. It will link Sydney's west with the airport and the Port Botany precinct, and include the M4 extension and duplication of the M5 East to King Georges Road.⁹⁴ At approximately thirteen kilometres long, the WestConnex stage one tunnel between

87 City of Yarra, *Submission 30*, p. 3.

88 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, p. 13.

89 City of Yarra, *Submission 30*, p. 4.

90 City of Yarra, *Submission 30*, p. 4.

91 Public Transport Users Association, *Submission 34*, p. 2.

92 Yarra Climate Action Now, *Submission 12*, p. 1.

93 Yarra Climate Action Now, *Submission 12*, p. 2.

94 WestConnex, <http://www.westconnex.com.au/> (accessed 3 February 2014).

the M4 and St Peters will be the longest road tunnel in Australia, three times the size of Sydney's M5 East tunnel.⁹⁵

2.54 Prior to the federal election, the Coalition committed \$1.5 billion to the \$11 billion project.⁹⁶ In May 2014, the federal government committed an additional \$2 billion through a concessional loan to the NSW government to enable work on stage two of the project, which duplicates the M5 East, to begin in mid-2015. The concessional loan is expected to be underpinned by state guarantees.⁹⁷

2.55 There are three stages of construction of the WestConnex:

- Stage 1: M4 East project – Homebush Bay Drive to Haberfield – estimated cost of \$4.1 billion and expected to open in 2019;
- Stage 2: M5 East duplication from Beverly Hills to St Peters – estimated cost of \$5.3 billion and expected to open in 2020; and
- Stage 3: M4 South from Haberfield to St Peters – estimated cost of \$5.5 billion and expected to open in 2023.⁹⁸

2.56 Concerns in relation to the WestConnex project have focused on the financial and social costs as well as the extent of transparency regarding the project. It came in for criticism in 2013 when the full business case was withheld from publication on commercial-in-confidence grounds and only limited traffic forecasts were made public.⁹⁹ According to newspaper reports, traffic projections upon which the business case relies were provided from two companies that supplied forecasts for toll roads in

95 National Roads and Motorists Association, *WestConnex: getting it right*, July 2014, http://www.mynrma.com.au/images/About/20140710_WestConnex_Report.pdf (accessed 6 August 2014).

96 Liberal Party, 'Tony Abbott Press Release – Coalition affirms support for Sydney's WestConnex Project', 6 October 2012, <http://www.liberal.org.au/latest-news/2012/10/06/tony-abbott-press-release-coalition-affirms-support-sydneys-westconnex>; The Hon Tony Abbott MP, Prime Minister and The Hon Mike Baird MP, Premier of NSW, 'Funding Agreement to Fast-Track Construction of WestConnex', *Joint Press Release*, 16 May 2014, http://www.rms.nsw.gov.au/news/ministerial/news2014/downloads/140516_westconnex_funding_agreement.pdf (accessed 5 August 2014); Ms Lyn O'Connell, Department of Infrastructure and Regional Development, Senate Rural and Regional Affairs and Transport Legislation Committee, *Estimates Hansard*, 20 October 2014, p. 10.

97 Mr Mike Mrdak, Department of Infrastructure and Regional Development, Senate Rural and Regional Affairs and Transport Legislation Committee, *Estimates Hansard*, 20 October 2014, p. 8.

98 NSW Minister for Roads and Freight, 'Funding agreement to fast-track construction of WestConnex', *Media Release*, 16 May 2014, http://www.rms.nsw.gov.au/news/ministerial/news2014/140516_westconnex_funding_agreement.html (accessed 5 August 2014); Mr Mike Mrdak, Department of Infrastructure and Regional Development, *Estimates Hansard*, 20 October 2014, p. 57.

99 Jacob Saulwick, 'Drivers face \$7.35 toll on new \$11.5b WestConnex', *Sydney Morning Herald*, 20 September 2013.

Brisbane that ended in multibillion-dollar failures.¹⁰⁰ The accuracy of traffic forecasts in relation to the WestConnex will be essential in determining the success of the project. In October 2014, the department expressed the view that a significant amount about the project was publicly available with only some documents remaining withheld for commercial-in-confidence reasons.¹⁰¹

2.57 Nonetheless, media analysts have made the point that one of the problems with the WestConnex is that there is very little detail in the public domain about what the project entails, what it will do and what problems it is supposed to solve.¹⁰² In July 2014, newspaper reports suggested that plans for the WestConnex were in a state of flux with the state government extending the release of detailed plans for the contentious M4 East section of the project under Parramatta Road into late 2015.¹⁰³ Concerns have been raised that there is no public assessment of the impact of the motorway on other local roads or details of how the project will fit in with the government's desire to increase housing development or boost the public transport system.¹⁰⁴

2.58 In terms of the social and environmental impact of the project, Action for Public Transport (NSW) raised concern that the WestConnex and motorway-style projects like it form a barrier to safe pedestrian movement. It noted that they physically divide communities and sever important connections while also undermining public transport usage which is dependent on good pedestrian connectivity.¹⁰⁵ Other groups such as the NoWestConnex Action Groups continue to protest the project on the grounds that a tunnel is not a solution to the congestion along the Parramatta Road and that the project overall is a waste of tax-payers money.¹⁰⁶

100 Geoff Winestock, 'Query on WestConnex numbers', *Australian Financial Review*, 28 January 2014, http://www.afr.com/p/national/query_on_westconnex_numbers_FKWR86cFcpQBwzRcBZeAtJ (accessed 3 February 2014).

101 Mr Andrew Jagers, Department of Infrastructure and Regional Development, Senate Rural and Regional Affairs and Transport Legislation Committee, *Estimates Hansard*, 20 October 2014, p. 36.

102 'Detailed planning, not slogans, needed to cure transport paralysis', *Sydney Morning Herald*, 7 July 2014, <http://www.smh.com.au/comment/smh-editorial/detailed-planning-not-slogans-needed-to-cure-transport-paralysis-20140706-zsxtt.html> (accessed 7 August 2014).

103 Sean Nicholls and Jacob Saulwick, 'Government bid to keep WestConnex documents secret', *Sydney Morning Herald*, 27 July 2014, <http://www.smh.com.au/nsw/government-bid-to-keep-westconnex-documents-secret-20140727-zwf70.html> (accessed 29 July 2014).

104 'Detailed planning, not slogans, needed to cure transport paralysis', *Sydney Morning Herald*, 7 July 2014.

105 Action for Public Transport (NSW), *Submission 21*, p. 2.

106 Jacob Saulwick, 'Sydney protest groups line up against road and rail projects', *Sydney Morning Herald*, 1 November 2014, <http://www.smh.com.au/nsw/sydney-protest-groups-line-up-against-road-and-rail-projects-20141031-11e1u4.html> (accessed 15 November 2014).

Recommendation 1

2.59 The committee recommends that public transport infrastructure should be considered as nationally-significant infrastructure, alongside private transport infrastructure such as road construction.

Recommendation 2

2.60 The committee recommends that wider economic costs and benefits, including social and economic connectivity, environmental factors, active lifestyle benefits, safety factors and avoided costs and benefits be factored into transport project analysis.

Chapter 3

The need for an integrated approach to future transport needs

3.1 This chapter considers the need to move towards an integrated approach to transport, transport funding and urban development.

From a 'private car versus public transport' debate to an integrated approach

3.2 Evidence to the committee highlighted the importance of integration at a number of different levels. These include an integrated approach to congestion utilising all transport modes, transport planning within infrastructure development (which takes into consideration factors including employment hubs and land use), and an integrated and mutually supportive approach to transport pricing mechanisms.

3.3 In its Urban Transport Strategy, Infrastructure Australia acknowledged that debates in Australia about urban transport have focused on either roads or public transport.¹ It recognised that urban transport has not been viewed as an integrated system dealing with both people and freight flows. Similarly, the Committee for Perth noted that planning for urban transport in Australia had mainly focused on either roads (especially car use) or public transport with both functions often undertaken in isolation of each other. It argued that urban transport has not been viewed as an integrated system dealing with people, cars and freight flows (by road, rail, sea and air) while:

Little consideration has also been given to the impact of transportation on economic productivity, including its impact on the location, form and function of the city's employment and activity centres and on its urban form.²

3.4 Infrastructure Australia acknowledged that any discussion of urban transport needs to consider roads and public transport together given that 'greater use of one may result in less use of the other, and funds allocated to one are not able to be allocated to the other'.³

3.5 Mr Cole Hendrigan of the Curtin University Sustainability Policy Institute, made the point that integration of road and rail was fundamental if only to maximise investments already made in both modes of transport.⁴

3.6 Professor Currie noted that integration across road and rail was important for reasons including the fact that car access to public transport systems is a significant

1 Infrastructure Australia, *Submission 2*, Attachment 1, p. 5.

2 Committee for Perth, *Submission 6*, p. 2.

3 Infrastructure Australia, *Submission 2*, Attachment 1, p. 5.

4 Mr Cole Hendrigan, Curtin University Sustainability Policy Institute, *Committee Hansard*, 19 February 2014, p. 22.

but often undervalued commuter requirement. He explained that as public transport systems don't cover most of Australia's cities, with approximately half of the city of Sydney without public transport, about 40 per cent of rail users access railway networks by car. At the same time, most public transport available in Australia's cities is road-based as approximately 70 per cent of public transport services comprise buses rather than trains and trams. For these reasons, prioritising on-road transport requires consideration of the trade-off between road space and road time.⁵ Professor Currie argued that there were three primary problems in relation to public transport in Australia:

The first is the congestion we have in our railways in central areas...The second is that our trams in Melbourne, or streetcars, are stuck in traffic. The third is that the bus coverage of our outer suburbs is very poor.⁶

3.7 ARA also submitted that Australian cities have traditionally invested in roads to combat congestion despite the fact that investing in additional roads to accommodate more cars is not a long-term solution.⁷ The department also recognised the need for an integrated approach to address congestion, which, is otherwise set to increase. The department acknowledged that both urban road and rail systems are an essential part of both urban passenger and freight networks and do not operation in isolation of each other.⁸

3.8 ARA drew on a railway study in Sydney which found that if rail absorbed 30 per cent of the forecast increase in urban travel then congestion, carbon emissions and safety costs could be reduced by approximately \$1 billion a year by 2025.⁹ It also noted that concentrating investment in one mode of transport would create an 'unbalanced, inefficient transport system that is unable to meet the growing needs of the population' whereas:

An integrated transport system with service connectivity between transport modes is critical. It allows more people to use public transport as they can move from more origins to more destinations which in turn increases the productivity of the city and therefore the nation.¹⁰

3.9 The Transport Reform Network (TRN) also acknowledged that many transport projects are planned in isolation of a broader transport vision and system.¹¹ The introduction of a new mode or extension of an existing mode will be directed at solving a particular problem rather than contributing to an integrated solution. The Committee for Melbourne gave an example whereby one piece of road is fixed only to

5 Professor Graham Currie, Monash University, *Committee Hansard*, 18 February 2014, p. 1.

6 Professor Graham Currie, Monash University, *Committee Hansard*, 18 February 2014, p. 13.

7 Australasian Railway Association, *Submission 7*, p. 3.

8 Department of Infrastructure and Regional Development, *Submission 11*, p. 4.

9 Australasian Railway Association, *Submission 7*, p. 3.

10 Australasian Railway Association, *Submission 7*, pp 3–4.

11 Transport Reform Network, *Submission 32*, p. [1].

create a bottleneck further down the same road.¹² What is missing is planning at a system level across all geographical jurisdictions.¹³ As TRN argued, the issue was not one of rail versus roads, or cars versus buses, but rather how to finance, fund and deliver transport solutions that benefit all users.¹⁴

Integrated transport and urban productivity

3.10 The integration of transport planning as part of city infrastructure development was a key theme of the inquiry. The committee received considerable evidence which highlighted the impact of urban transport on city productivity and national competitiveness.¹⁵

3.11 Defining competitiveness as a 'set of institutions, policies, and factors that determine the level of productivity of a country' the World Economic Forum (WEF) identified extensive and efficient infrastructure as the second of twelve pillars of economic competitiveness.¹⁶ WEF noted that:

Well-developed infrastructure reduces the effect of distance between regions, integrating the national market and connecting it at low cost to markets in other countries and regions. In addition, the quality and extensiveness of infrastructure networks significantly impact economic growth and affect income inequalities and poverty in a variety of ways. A well-developed transport and communications infrastructure network is a prerequisite for the access of less-developed communities to core economic activities and services.¹⁷

3.12 In 2010–11, Australia was ranked by WEF on its global competitiveness scale in sixteenth position. WEF noted that if Australia is to progress further, the country would need to increase the sophistication of its businesses and strengthen its innovation capacity.¹⁸ In terms of infrastructure, Australia was ranked twenty-second in the world which, according to the Committee for Perth, is proof that investing in infrastructure is vital to Australia's international competitiveness.¹⁹

12 Ms Kate Roffey, Committee for Melbourne, *Committee Hansard*, 18 February 2014, p. 17.

13 Mr Philip Davies, Transport Reform Network, *Committee Hansard*, 18 February 2014, p. 25.

14 Transport Reform Network, *Submission 32*, p. [1].

15 Committee for Melbourne, *Submission 27*, p. [2]; Greater Shepparton City Council, *Submission 45*, p. [1].

16 World Economic Forum, *Global Competitiveness Report 2010–11*, p. 4, http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2010-11.pdf (accessed 3 February 2014).

17 World Economic Forum, *Global Competitiveness Report 2010–11*, p. 4.

18 Switzerland was ranked first followed by Sweden and Singapore. World Economic Forum, *Global Competitiveness Report 2010–11*, p. 28.

19 World Economic Forum, *Global Competitiveness Report 2010–11*, p. 18; Committee for Perth, *Submission 6*, Attachment 1, p. 2.

3.13 According to the Committee for Perth, the measures of competitiveness are generally based on pragmatic indicators including public transport infrastructure and internal connectivity.²⁰ It noted that the competitive success of cities or city-regions depends on their economic diversity, skills and human capital, quality of life, environment, innovation and connectivity.²¹

3.14 If public transport is to deliver connectivity and productivity enhancements, an understanding of the location of growth areas and employment hubs is fundamental. This way, future investment can be targeted to deliver better outcomes for the national economy.²² As the physical limits of major urban environments become more evident, and widening roads and increasing the number of public transport services is no longer effective in combating congestion, major cities will require wholesale reform and planning in order to transform how people move, work and live.²³

3.15 Evidence to the committee highlighted that Australia's CBDs will be unable to absorb expected population and jobs growth, thereby requiring secondary and tertiary hubs to take up much of the demand. Ms Emma de Jager, Executive Officer of the Planning Institute of Australia argued that this would require initiatives to improve the interconnectivity of major regional centres outside of the CBD. However, one of the major challenges to creating multiple-centre cities is that of the current radial mass transit network. Transport corridors are generally centred on the CBD and radiate outwards to the suburbs, thereby requiring commuters to travel via the CBD to access other parts of a city. This in turn causes long delays and added congestion.²⁴ In the case of Perth, which has a radial rail and radial road system, there is little in the way of orbital link-up.²⁵ The establishment of a more interconnected and multi-centred urban environment would therefore require a rethink of the traditional CBD-centric networks and establishment of secondary and tertiary population hubs.²⁶

3.16 The integration of residential and employment hubs resulting from connected hub-and-spoke public transport networks would increase the ability of those in the outer suburbs to access jobs and create wealth. The transformation of cities in this way would ensure that Australians are not excluded from some job markets on the basis of where they live. The Planning Institute of Australia explained that:

20 Committee for Perth, *Submission 6*, Attachment 1, p. 2.

21 Committee for Perth, *Submission 6*, Attachment 1, p. 1.

22 Department of Infrastructure and Regional Development, *Submission 11*, p. 6.

23 Moving People 2030 Taskforce, *Moving Australia 2013: A Transport Plan for a Productive and Active Australia*, 2013, p. 13.

24 Moving People 2030 Taskforce, *Moving Australia 2013: A Transport Plan for a Productive and Active Australia*, 2013, p. 20.

25 Ms Marion Fulker, Committee for Perth, *Committee Hansard*, 19 February 2014, p. 43.

26 Ms Emma de Jager, Planning Institute of Australia, *Committee Hansard*, 19 February 2014, p. 47.

There are several studies which document that public transport investment will be needed along major corridors to cater for the high density, mixed-use developments and capacity expansion that will be required in several CBD oriented public transport services to cater for patronage growth. Failure to provide such capacity carries risks of CBD job loss, with the associated losses of agglomeration economics for which CBDs are important from an economic perspective.²⁷

3.17 The need to maximise benefits to dense city populations by ensuring that new residential and commercial zones are developed around major transport hubs and nodes was a central theme of the inquiry.²⁸

3.18 The point was made that those who live on the outskirts and on the fringes may pay less for their housing in contrast to those in inner city areas, but will have to spend considerably more money and time on transport. Professor Adams drew on research conducted by Griffith University which found that increasing numbers of people, many of whom are not in poorly paid employment, are time poor given the time it takes them to travel to work or to make household purchases.²⁹

3.19 However, evidence provided by Infrastructure Australia indicated that there is a direct link between low-income households and the need to travel greater distances in order to get to places of employment, services and activities.³⁰ As many parts of Australia's cities provide poor transport access to employment, travel times continue to expand. In some parts of Sydney, a journey of 45 minutes by car or 60 minutes on public transport will provide a commuter access to only 10–20 per cent of all jobs available in the metropolitan area.³¹

3.20 Part of the problem is that outside of metropolitan areas, transport options are increasingly limited.³² In Melbourne, rail reaches an estimated 30 per cent of the population and trams reach 25 per cent. Therefore, for 70 per cent of the population, buses are the only option. However, buses are as infrequent as 40 minutes apart during peak periods and 50 minutes at other times. Therefore, 95 per cent of the transport task from outer metropolis growth areas reliant on buses is undertaken by people driving cars.³³

3.21 Professor Adams noted that as Australian cities will have to almost double their urban accommodation capacity over the next 40 years in parallel with population

27 Ms Emma de Jager, Planning Institute of Australia, *Committee Hansard*, 19 February 2014, p. 47.

28 These matters are discussed at greater length in the context of agglomeration economics later in this chapter.

29 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, p. 9.

30 Infrastructure Australia, *Submission 2*, Attachment 1, p. 7.

31 Ms Jane-Frances Kelly, Grattan Institute, *Committee Hansard*, 18 February 2014, p. 54.

32 Ms Kate Roffey, Committee for Melbourne, *Committee Hansard*, 18 February 2014, p. 22.

33 Councillor Jackie Fristacky, City of Yarra, *Committee Hansard*, 18 February 2014, p. 47.

growth, new ways must be found to address the challenges of urban transport.³⁴ He emphasised that the future sustainability of cities is of critical importance given that over 50 per cent of the world's population live in cities. Up to 75 per cent of greenhouse gasses emanate from those cities while the GDP of most economies is driven by urban areas. Despite the need to ensure the sustainability of Australia's cities, he argued that the matter has been relegated to a state and local government discussion. Even then, cities are considered within the context of issues such as health, education, transport or land use rather than holistically.³⁵

3.22 According to the Moving People 2030 Taskforce, without significant reform, the compounded cost of every extra person on Australia's often at-capacity transport networks will impact on the employment opportunities, productivity and social well-being of the next generation.³⁶ Melbourne's train system is as a case in point. By 2016–17, some of the train lines will be at maximum capacity in peak hour. By 2021, the entire train system will be at maximum capacity.³⁷

3.23 Professor Currie from Monash University informed the committee that despite substantial growth in public transport services in Australia, mass transit in its cities had been significantly underfunded and required considerable investment. He emphasised the need for efficient transport modes such as railways, noting that the capacity of the proposed Melbourne Metro Rail would be equivalent to about five West Gate freeways full of traffic.³⁸ He argued that while the standard federal approach had been to leave public transport to state governments, public transport initiatives are projects of national significance which require federal involvement.³⁹ In the US, for example, federal funding for urban public transport systems is derived from a modest tax on fuel. Professor Currie noted that until cost-effective investment into current public transport systems takes place, Australia will continue to experience low public transport usage in the outer suburbs coupled with car domination and the consequent problems created for the inner suburbs.⁴⁰

Pricing mechanisms

3.24 One of the primary challenges in relation to financing public transport into the future is that of pricing mechanisms. The department noted that ticket revenue in

34 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, p. 9.

35 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, p. 9.

36 Moving People 2030 Taskforce, *Moving Australia 2013: A Transport Plan for a Productive and Active Australia*, 2013, p. 12.

37 Ms Kate Roffey, Committee for Melbourne, *Committee Hansard*, 18 February 2014, p. 19.

38 The Metro Rail Capacity Project, formerly known as Melbourne Metro, is a planned metropolitan rail infrastructure project. Up to 200,000 vehicles travel on the West Gate Bridge every day. Victorian Government, CityLink Tulla Widening Project Overview, http://www.transport.vic.gov.au/_data/assets/pdf_file/0013/120730/CityLink-Tulla-Widening-Project-Overview.pdf (accessed 6 November 2014).

39 Professor Graham Currie, Monash University, *Committee Hansard*, 18 February 2014, p. 2.

40 Professor Graham Currie, Monash University, *Committee Hansard*, 18 February 2014, p. 2.

Australia's public transport system has always fallen short of the cost of providing the service. Consumers don't pay any of the involved capital costs with the balance funded by state and Commonwealth tax payers.⁴¹ The true cost of service delivery is approximately four times the price that consumers currently pay in fares. Furthermore:

...fare recovery in Australian urban mass transit systems is already well below international benchmarks and continues to decline. A preliminary analysis by BITRE estimates that Sydney's mass transit system recovers 24 per cent of its operating costs through the fare box while Melbourne recovers at 31 per cent, while Perth recovers 38 per cent. For Canberra's bus only system, users pay only 17 per cent of operating costs.⁴²

3.25 According to TNR, the price that consumers pay for transport infrastructure and services has evolved 'haphazardly' and remains a legacy of the complicated layering of government responsibilities. With revenues, expenditures and pricing remaining a shared responsibility across various agencies at national, state and local government levels, there is little consistency and transparency in transport pricing in Australia today.⁴³ At the same time, there is competitive tension between the different modes of transport which is driven by a view that investment in one mode takes place at the expense of another. However, a holistic approach to transport pricing, with pricing signals that encourage greater use of public transport, can benefit all such modes because they stimulate the system as a whole to operate more efficiently. According to TRN:

The challenge, therefore, isn't just about the physical integration of public and private transport modes and infrastructure; it's demonstrating to the community the system-wide benefits of an integrated, transparent and mutually supportive approach to pricing.⁴⁴

3.26 The point was made that an integrated public transport system could play a key role in alleviating transport disadvantage and car dependence, thereby addressing a significant barrier to workforce participation and access to training and services.⁴⁵ An integrated approach that considered land use planning (including parking), employment and active travel (including walking and cycling) as well as road and rail is essential for productivity gains, income generation and quality of life in Australia's major cities.⁴⁶

41 Department of Infrastructure and Regional Development, *Submission 11*, p. 10.

42 Department of Infrastructure and Regional Development, *Submission 11*, p. 10.

43 Transport Reform Network, *Submission 32*, p. [2].

44 Transport Reform Network, *Submission 32*, p. [2].

45 UnitingCare Australia, *Submission 16*, p. [4].

46 Bus Industry Confederation, *Submission 17*, p. 5; Mr David Rice, Sustainable Transport Coalition of Western Australia, *Committee Hansard*, 19 February 2014, p. 1; Infrastructure Australia, Answer to question on notice taken during Senate Rural and Regional Affairs and Transport Legislation Committee Supplementary Budget Estimates Hearing, November 2013.

Maximising existing public transport resources

3.27 Another matter raised during the inquiry was the need to maximise existing public transport resources. Professor Adams noted that if public transport is to be a viable option in addressing congestion in Melbourne, a range of changes were required, including the need to improve rail system signalling to the metro link as well as effective and harmonised timetabling.⁴⁷ Yet, such improvements cannot take place in isolation. For example, to provide maximum efficiency in the context of Melbourne's public transport system, improved signalling needs to take place at the same time as grade separations and initiatives to address congestion on the CBD train loop.⁴⁸

3.28 Ms Roffey of the Committee for Melbourne also emphasised the need to consider what existing infrastructure can be used more efficiently. Of the transport situation in Melbourne, she noted that:

There are places where rail and tram just do not work. It is too expensive to put in a couple of kilometres of rail, but a bus that does a small loop is very effective. Unfortunately, we have buses that go all the way from Dandenong to the north of the city and that route just takes too long. But if you have small looping buses that link public transport conductivity nodes, I think we would have a much better system operating. At the moment, the buses, the trams and the trains operate independently of each other.⁴⁹

3.29 Harmonisation of existing public transport services was recognised as a key practical step towards an integrated transport system. A number of submitters argued in favour of a hub-and-spoke model which would permit greater complementarity between services and thereby enable commuters to catch a bus to get to a train to the city as opposed to driving a car.⁵⁰ As a case in point, Western Australia has a fully integrated public transport system which allows for centralised planning in relation to timetabling. The integration of the bus and train timetable enables complementarity of service. This system is further supported by a common ticketing system whereby passengers can catch a bus, train or ferry and transfer between them on the one ticket.⁵¹

3.30 However, complementarity is a particular challenge in Melbourne where respective timetables may not match or complement each other partly because each of the transport services are contracted to separate entities.⁵² The lack of coordination between these services demonstrates the extent to which the effective operation of each service depends on the other. In the case of Melbourne, the tram network cannot

47 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, p. 11.

48 Ms Kate Roffey, Committee for Melbourne, *Committee Hansard*, 18 February 2014, p. 19.

49 Ms Kate Roffey, Committee for Melbourne, *Committee Hansard*, 18 February 2014, p. 21.

50 Ms Kate Roffey, Committee for Melbourne, *Committee Hansard*, 18 February 2014, p. 22.

51 Mr Mark Burgess, Public Transport Authority of Western Australia, *Committee Hansard*, 19 February 2014, p. 31.

52 Ms Kate Roffey, Committee for Melbourne, *Committee Hansard*, 18 February 2014, p. 21.

work without an efficiently operated road network, and without a good road network, an efficient public transport network is not possible.⁵³

3.31 A major challenge in coordinating transport timetables is the impact of congestion. According to Mr Dennis Cliche, Chair of TRN, during peak periods, trams run late 25 per cent of the time as a consequence of road congestion.⁵⁴ Furthermore, complementarity is also made extremely difficult if not impossible when different services operate at different frequencies. For example, where trains run every 20 minutes and buses every 30 minutes.⁵⁵

3.32 Yet, practical steps can have a significant impact. A study commissioned by the Greater Shepparton City Council found that by increasing the frequency of passenger travel to Melbourne and improving timetabling, the uptake of passenger rail services by both business and leisure commuters increased. Other benefits from these practical changes included improved accessibility to public transport for the disabled and elderly, reduced vehicle congestion and emissions on the roads, increased population growth and with it increased investment in Greater Shepparton.⁵⁶

3.33 Another mechanism which seeks to address peak-hour traffic is that of providing free or reduced price tickets during pre-peak periods. In one such initiative, the Victorian government made train rides into the Melbourne CBD free to commuters before 7 am. According to Professor Adams:

Two thousand six hundred people took advantage of that. That was the equivalent of buying five new trains, which would have cost \$100 million. If you then take off the subsidy, which was \$15 million, you still have \$85 million in front.⁵⁷

3.34 Evidence suggested that demand elasticity for off-peak travel is typically up to two times higher than for peak periods. Therefore, peak-hour commuters are more likely to absorb fare increases than off-peak commuters. However, according to the Moving Australia 2030 Taskforce, for pricing to be an effective mechanism to balance demand, off-peak tickets have to be at least 20 per cent cheaper than the peak alternative.⁵⁸

3.35 TRN's Mr Cliche made the point that these initiatives use pricing and transparency of pricing as a signal to drive behaviour. Such initiatives lead to better utilisation of all transport modes and greater efficiency of services. To this end, what is important is to make the costs of the various modes more transparent and known to

53 Mr Dennis Cliche, Transport Reform Network, *Committee Hansard*, 18 February 2014, p. 24.

54 Mr Dennis Cliche, Transport Reform Network, *Committee Hansard*, 18 February 2014, p. 25.

55 Mr Dennis Cliche, Transport Reform Network, *Committee Hansard*, 18 February 2014, p. 26.

56 Greater Shepparton City Council, *Submission 45*, p. [2].

57 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, p. 12.

58 Moving People 2030 Taskforce, *Moving Australia 2013: A Transport Plan for a Productive and Active Australia*, 2013, p. 20.

commuters in order that they make informed decisions about transport modes and potentially modify their commuting behaviour accordingly.⁵⁹

Agglomeration economics

3.36 One means of maximising existing infrastructure resources which received attention during the inquiry was that of agglomeration economics (AE). AE describes the benefits that arise from special concentrations of economic activity.⁶⁰ A 2013 report on the contribution of public transport to economic productivity made the following observations:

PT [Public transport] can both encourage and enable increased employment in central city locations, by reducing commuting costs in congested transport networks and freeing up space that would otherwise be required for car parking. Through these two channels PT is able to make a somewhat unique contribution to economic productivity in denser urban environments.⁶¹

3.37 The committee heard evidence that by obtaining maximum use of existing infrastructure and related resources rather than constructing new infrastructure, savings can be achieved and public transport made more accessible. Professor Adams argued that if accommodation of up to eight storeys is constructed along railway lines in central Melbourne, 860,000 people can be accommodated within walking distance of railway stations.⁶² Furthermore, the savings that result from constructing housing units within existing infrastructure rather than on the fringes (where infrastructure needs to be built), is estimated at \$300 million per 1000 dwellings. In Melbourne, for every million people added to the city and accommodated within its existing infrastructure, the savings are estimated at \$110 billion.⁶³ Additional savings flow from this maximisation of available resources in areas such as property rates as the tax load is spread across a broader base as the population grows.⁶⁴

Public transport funding

3.38 Regional transit networks have traditionally been funded by government from consolidated government taxation revenue and market rate loans.⁶⁵ Evidence put to the committee suggested that Australian governments can no longer afford to continue relying on an allocation from general government funds for public transport

59 Mr Dennis Cliche, Transport Reform Network, *Committee Hansard*, 18 February 2014, p. 24.

60 Tim Hazledine, Stuart Donovan and John Bollard, *The contribution to public transport to economic productivity*, NZ Transport Agency research report 514, January 2013, p. 8.

61 Tim Hazledine, Stuart Donovan and John Bollard, *The contribution to public transport to economic productivity*, NZ Transport Agency research report 514, January 2013, p. 8.

62 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, p. 10.

63 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, p. 10.

64 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, pp 10-11.

65 Professor Newman, *Submission 36*, Attachment 1, p. 1.

improvements and infrastructure investments.⁶⁶ Infrastructure Australia also noted that there was a risk that Commonwealth infrastructure funding was seen as a 'gift' to assist in the delivery of a project or support a state rather than an exchange to improve national outcomes.⁶⁷

3.39 For these reasons, it was emphasised that alternative funding sources for public transport must be found alongside private sector contributions to financing transport infrastructure.⁶⁸ Whether Australians travel by public transport or not, the entire community still benefits from its existence and use by others. As the previous chapter has demonstrated, effective public transport has a direct impact on national productivity, global competitiveness and quality of life.

3.40 It was suggested to the committee that public transport has often 'taken a back seat' to roads because it can be difficult to establish how public transport will pay its way, particularly in the short term.⁶⁹ The greatest challenge is that of the ongoing operational costs of public transport.⁷⁰ The Committee for Melbourne argued that the construction of roads is comparatively easier than the establishment of public transport systems because a toll can be imposed on road use which is attractive to private investors who can potentially enjoy a return on their investment.⁷¹

3.41 Nevertheless, Curtin University's Professor Newman made the point that public transport was no different to freeways to the extent that neither modes pay for themselves unless proper charges are imposed. He highlighted that the public transport systems of Japan and Hong Kong not only pay for themselves but actually make a profit, derived from the payment of fares and application of the value capture method on properties constructed along rail lines.⁷²

3.42 The City of Yarra held the view that there was a huge 'catch-up' required in public transport and rail freight infrastructure across Australia because taxation treatment and investment has traditionally been heavily biased to favour motor vehicles at the expense of alternatives. It argued that this approach has left Australian cities, and the nation as a whole, economically and social disadvantaged.⁷³ It held the view that as the trucking industry has received the benefit of road infrastructure funding, taxation and other advantages, rail freight has suffered. The City of Yarra suggested that when external costs are included, road freight has expanded through the

66 Australasian Railway Association, *Submission 7*, Attachment 1, p. 3.

67 Infrastructure Australia, *Submission 2*, Attachment 1, p. 8.

68 Transport Reform Network, *Submission 32*, p. [2]; Australasian Railway Association, *Submission 7*, Attachment 1, p. 3.

69 Ms Kate Roffey, Committee for Melbourne, *Committee Hansard*, 18 February 2014, p. 16.

70 Ms Kate Roffey, Committee for Melbourne, *Committee Hansard*, 18 February 2014, p. 19.

71 Ms Kate Roffey, Committee for Melbourne, *Committee Hansard*, 18 February 2014, p. 21.

72 Professor Peter Newman, Curtin University, *Committee Hansard*, 19 February 2014, p. 11.

73 City of Yarra, *Submission 30*, p. 7.

use of hidden public subsidies which have led to a major decline in competitiveness and the use of rail freight while:

It is estimated that the additional cost to the community of funding road transport over public transport, is at least \$30 billion annually per annum.⁷⁴

3.43 RTBU argued that while public transport infrastructure received heavy investment during the post-war years, investment began to decline in the 1980s as public transport infrastructure spending came to be viewed as a cost rather than investment.⁷⁵ According to RTBU, in the immediate post-war decade, the total transport investment was 70 per cent of all non-primary investment. By the 1980s, this figure had fallen to 30 per cent and is now less than 10 per cent.⁷⁶

Implications of state government funding of public transport

3.44 The Committee for Perth held that any decision not to provide national funding to public transport is not only seriously remiss but will have long term negative consequences on the economic productivity, competitiveness and liveability of Australia's cities.⁷⁷ Similarly, the Committee for Melbourne held the view that:

The nation's competitiveness and attractiveness is dependent on the quality of this infrastructure and as national priorities compete, the role of the Commonwealth to provide efficient provision of infrastructure increases.⁷⁸

3.45 Professor Adams took the view that Australia's cities will undergo social and financial breakdown if federal funding is not invested into public transport. He explained:

If we decide that public transport is not worth investing in, very quickly our cities become less livable. We sit on that livability index – I do not want to flirt with Melbourne's livability – right on the cusp of losing that. If we start to get greater congestion and greater social disharmony, all of that will see us slide back on those scales.⁷⁹

3.46 The City of Yarra also challenged the argument that public transport should be exclusively a state matter and raised concern that such an approach has left investment in public transport neglected, especially when the Commonwealth has provided substantial funding for road networks in urban and regional areas. It was submitted that Australia is the only developed country in the world whose national government does not substantially fund urban public transport systems, and that this approach was to the disadvantage of public transport investment.⁸⁰

74 City of Yarra, *Submission 30*, p. 7.

75 Rail, Tram and Bus Union, *Submission 33*, p. 3.

76 Rail, Tram and Bus Union, *Submission 33*, p. 4.

77 Committee for Perth, *Submission 6*, p. 3.

78 Committee for Melbourne, *Submission 27*, p. [1].

79 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, p. 15.

80 City of Yarra, *Submission 30*, pp. 5-6.

3.47 UnitingCare Australia argued that federal funding for roads and not public transport provided a 'perverse incentive' to state governments to favour road projects over public transport infrastructure.⁸¹ UnitingCare Australia suggested that the East West Link project was a case in point. Similarly, the Committee for Melbourne argued that if directed just to roads, federal funding will 'skew' state priorities to major motorway projects whether they are the most important or not.⁸² It raised concern that the federal government's position on public transport may lead to an inconsistent approach to the evaluation, planning and funding of transport types, particularly urban public transport. As an alternative, it argued that Commonwealth funding should be based on the contribution of transport projects to the national economy and enhancement of national productivity.⁸³

3.48 A further point was made that, in terms of capacity spending, the federal government receives 80 per cent of national tax revenue in comparison to 16 per cent which goes to the states and territories and the 3.5 per cent to local government. The City of Yarra made the point that if state governments only receive 16 per cent of national tax revenue, they cannot be expected to fully fund rail.⁸⁴

3.49 According to the City of Yarra, while state planning processes repeatedly discuss the need to integrate transport projects with development plans, the 'scale of investment now required prevents meaningful delivery of these plans without federal Government contribution to public transport funding'.⁸⁵ It challenged the argument that public transport is too costly when compared to road transport infrastructure on the basis that it fails to properly cost externalities, opportunity costs and market distortion in favour of motor vehicles.⁸⁶ Furthermore, noting the need for a framework for cities to evolve, the City of Yarra made the point that in the 1930s, Melbourne's rail spine was double its current size and has contracted, particularly in regional areas, ever since. The rail network was established when Melbourne had a population of 300,000 whereas now Victoria is home to five million people.⁸⁷

Road user charges including congestion charges

3.50 Road user charges were recognised by some submitters as an important mechanism to address congestion and fund public transport investment. STCWA argued that state governments should plan location- and time-specific road user charges for all major cities as a means of congestion management.⁸⁸

81 UnitingCare Australia, *Submission 16*, p. [2].

82 Committee for Melbourne, *Submission 27*, p. [2].

83 Committee for Melbourne, *Submission 27*, p. [2].

84 Councillor Fristacky, City of Yarra, *Committee Hansard*, 18 February 2014, p. 51.

85 City of Yarra, *Submission 30*, p. 3.

86 City of Yarra, *Submission 30*, p. 7.

87 Councillor Fristacky, City of Yarra, *Committee Hansard*, 18 February 2014, p. 52.

88 Mr David Rice, Sustainable Transport Coalition for Western Australia, *Committee Hansard*, 19 February 2014, p. 2.

3.51 However, CSSA cautioned that any increased user charges for public transport would affect the disadvantaged and those on lower incomes who have limited capacity to pay for additional fees.⁸⁹ The City of Yarra also expressed concern that where road user charges are applied in the absence of any feasible public transport alternative, such charges 'operate as an unfair taxation mechanism' to those who already suffer the high economic costs of transport disadvantage.⁹⁰

3.52 However, ARA suggested that road user charges could be applied to fund public transport initiatives:

As demonstrated in Perth, a charge for road users (in this case through a parking levy) which can be used to fund public transport initiatives can be successfully. The broader issue of applying a charge to road users which could partly be used to fund public transport and manage congestion in city centres is something the Committee may wish to consider.⁹¹

3.53 The point was made by STCWA that while road user charges are a matter for state governments, the federal government could play an important role by developing guidelines for consistent nationwide application.⁹²

3.54 Some witnesses argued in favour of the introduction of congestions charge such as that applied in the London CBD. The committee heard evidence from Mr Philip Davies, former director of Transport for London who presided over the introduction of London's congestion charge. Mr Davies explained that when the congestion charge was introduced, traffic was almost gridlocked in central London with authorities facing growing pressure from businesses in the CBD to address the problem. The congestion charge was hypothecated to support the funding of 300 new buses and paid for the upgrade of the bus network. As a consequence of the charge's introduction, London's bus network was expanded to meet growing demand. The combined effect of such initiatives resulted in a 30 per cent reduction in congestion.⁹³

3.55 The London congestion charge currently generates almost £200 million a year of additional revenue for the city. Mr Davies noted that while congestion levels are now comparative to the pre-charge era, through investment in buses and other initiatives, the network is able to respond.⁹⁴

3.56 Congestion charging practices are also applied in Singapore and Norway. ARA explained that the Singapore congestion charge system, introduced in 1975, is

89 Catholic Social Services Australia, *Submission 8*, p. 3.

90 City of Yarra, *Submission 30*, p. 8.

91 Australasian Railway Association, *Submission 7*, p. 10.

92 Mr David Rice, Sustainable Transport Coalition for Western Australia, *Committee Hansard*, 19 February 2014, p. 2.

93 Mr Philip Davies, Transport Reform Network, *Committee Hansard*, 18 February 2014, p. 26.

94 Mr Philip Davies, Transport Reform Network, *Committee Hansard*, 18 February 2014, p. 26.

believed to generate \$150 million annually with all revenue reinvested into the city's transport system.⁹⁵

3.57 Professor Currie argued that some Australian cities including Sydney, Perth and Melbourne already apply similar charges to that of a congestion fee by way of parking levies. In Perth, revenue derived from the parking levy is directed to fund the public transport system. In Sydney, the parking levy is hypothecated to fund investment in suburban railway stations. However, in Melbourne, the \$50 million derived from parking revenue is directed to general revenue.⁹⁶

3.58 Professor Adams noted that a congestion tax should be considered as a mechanism to shift or spread the peak load over a greater part of the day.⁹⁷ Such a mechanism would encourage a change in behaviour whereby commuters leave for work earlier or later than the peak period. According to Professor Adams taking a modest 10 per cent of commuters off the roads (which generally happens during school holiday periods in capital cities) had a positive effect on the roads during peak periods.⁹⁸

3.59 The point was made, however, that greater flexibility in traveling times also requires substantial changes to work patterns and movement away from the standard working day.⁹⁹ The Hon. Alannah MacTiernan, federal Member for Perth noted that peak periods in Perth had been extended rather than flattened as a consequence of more flexible workplaces and the development of the night-economy.¹⁰⁰

Land value capture

3.60 As a method of deriving funding for public transport, land value capture was the focus of considerable discussion throughout the inquiry. Founded on an integrated approach to transport and urban infrastructure development, land value capture arguably provides a mechanism to accumulate revenue by bringing land value, transport and finance together. The concept of land capture is based on the principle that if the land values around new rail lines are included in any investment package, they can provide the basis for funding urban rail. The mechanism is based on evidence that land within the vicinity of urban rail is more valuable.¹⁰¹

3.61 Australia does not apply a value capture approach. However, value capture is applied in a growing number of other jurisdictions including North America, Hong Kong, the United Kingdom (UK) and Japan where strategic land-based levies, similar

95 Australasian Railway Association, *Submission 7*, p. 10.

96 Professor Graham Currie, Monash University, *Committee Hansard*, 18 February 2014, p. 7.

97 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, p. 12.

98 Professor Robert Adams, City of Melbourne, *Committee Hansard*, 18 February 2014, p. 12.

99 Ms Kate Roffey, Committee for Melbourne, *Committee Hansard*, 18 February 2014, p. 18.

100 The Hon. Alannah MacTiernan, Member for Perth, *Committee Hansard*, 19 February 2014, p. 20.

101 Professor Peter Newman, *Submission 36*, p. [2].

to other utilities and infrastructure, are applied.¹⁰² It was applied in the US to build railway systems and in the UK to fund half of the Crossrail system. Over the next 30 years, infrastructure funding in Manchester will be funded through land value capture.¹⁰³

3.62 Professor Newman described the land value capture method as a beneficiary payment rather than a tax. Studies he conducted in Perth considered factors including views, proximity transport, water and schools as determinants of land value. His work demonstrated that land value along the southern railway increased over a five year period by 42 per cent in an area within 1200 metres of railway stations all the way down the line. The study demonstrated that 60 to 80 per cent of funding for the southern railway could have been derived from land value capture.¹⁰⁴ Professor Newman noted that in contrast, freeways did not have the same impact on land values. He explained how the mechanism can be applied:

That value increase translates into a range of rates and taxes, which are land based: the stamp duty, the land taxes, the federal taxes relating to capital gains tax and even the GST on the sale of a property. These are going to increase naturally, because the value is going up. If you do not build the infrastructure, they do not go up by that special extra amount. So all you need to do is hypothecate them, which is the word the treasuries do not like. In fact, in this state, they like this concept, because it is a new source of revenue that can enable this to work.

So what you do is you find out exactly where the values are going to go up and you can do that scientifically. You then enable the extra value flows that are going through all those taxes to be drawn into a fund. That fund can be used to finance the railway. And it goes on, so it can finance the operations. So, you can actually build, own and operate with a private sector involvement – if you want to – or it could be done by the state raising the finance from that. If you want to go down the track of separating it completely – so that only the money is raised and then that is used and given to a consortium that wants to build, own and operate and do land developments around stations – the whole thing could be off the books and not affect credit ratings at all.¹⁰⁵

3.63 Professor Newman noted that value capture not only provided a means of raising revenue but also contributed to productivity in general given that it helps to prevent suburban sprawl.¹⁰⁶ However, the key to attracting finance is by packaging land and railway infrastructure development together. Without growth in both the demand for land development and a railway, it is difficult to raise the finance.¹⁰⁷

102 Professor Peter Newman, *Submission 36*, Attachment 1, p. 1.

103 Professor Peter Newman, Curtin University, *Committee Hansard*, 19 February 2014, p. 9.

104 Professor Peter Newman, Curtin University, *Committee Hansard*, 19 February 2014, p. 10.

105 Professor Peter Newman, Curtin University, *Committee Hansard*, 19 February 2014, p. 10.

106 Professor Peter Newman, Curtin University, *Committee Hansard*, 19 February 2014, p. 10.

107 Professor Peter Newman, Curtin University, *Committee Hansard*, 19 February 2014, p. 12.

3.64 Councillor Bradley Pettitt, Mayor of the City of Freemantle recognised the significance of value capture as a means of funding public transport. However, he cautioned that such a mechanism would be challenging in Perth because the relationship between density and land value is not straightforward for reasons including building costs.¹⁰⁸

3.65 ARA supported value capture, arguing that light rail has proven to be a 'powerful tool' for urban renewal and regeneration with studies demonstrating a demand for commercial and residential property closer to train stations.¹⁰⁹ It noted that the preference to live in close proximity to existing train stations can be capitalised on through transport-oriented developments, while system extensions and new stations can implement value capture mechanisms to assist with funding.¹¹⁰

3.66 Professor Currie also argued in favour of a user-pays system or rather the-one-who-benefits-pays system. He noted evidence indicating that in Australia's cities, the public transport user was not always the person who benefited the most, as all traffic users enjoy considerable benefit from public transport. The greatest area for capturing the value of public transport is the CBD. He explained:

We have some of the most expensive real estate in Australia in the Sydney and Melbourne CBDs. The reason it is expensive is that the commercial entities who pay for it make profits out of being there, because being next to similar businesses is a very effective way of doing business – you can really make money and be efficient. Those CBDs only exist because of railways, yet those people who benefit do not pay any money towards the railways. They do contribute very indirectly through taxes, but everybody pays the same taxes. So I think there is a role for moving closer towards what I call value capture – the people who are benefiting paying.¹¹¹

3.67 TRN also argued the case for a user pays system as long as it was hypothecated. That is, that the funds derived from an extra charge to use the particular transport mode are channelled exclusively into the funding of transportation improvements.¹¹²

Committee view

3.68 The costs and impact of urban congestion on the economic productivity of the nation, as well as the health and wellbeing of its citizens, require immediate address. Without an integrated approach to urban development which incorporates transportation planning, congestion is set to continue undermining national productivity.

108 Councillor Bradley Pettitt, Mayor of the City of Freemantle, *Committee Hansard*, 19 February 2014, p. 55.

109 Australasian Railway Association, *Submission 7*, p. 7.

110 Australasian Railway Association, *Submission 7*, p. 7.

111 Professor Graham Currie, Monash University, *Committee Hansard*, 18 February 2014, p. 2.

112 Mr Dennis Cliche, Transport Reform Network, *Committee Hansard*, 18 February 2014, pp 25-26.

3.69 This report has detailed some of the many benefits of public transport which extend far beyond the immediate issue of transporting people efficiently from one place to another. As transport infrastructure projects can have a significant economic, social and environmental impact on the national economy and the quality of life of citizens, these factors must be considered as part of any project cost-benefit analysis.

Recommendation 3

3.70 The committee recommends that, given the productivity cost of capital city congestion, all levels of government interested in increasing national productivity consider backing solutions to congestion, including public transport.

Recommendation 4

3.71 The committee recommends that when addressing congestion and other transport problems, a range of reasonable solutions be examined, including the publication of cost-benefit analysis, before decisions on funding are made by government.

Recommendation 5

3.72 The committee recommends that smaller cost projects, especially so-called smart projects involving the more efficient use of existing infrastructure, or the more effective integration of routes and modes, be prioritised according to the positive benefits they produce.

Recommendation 6

3.73 The committee recommends that the Australian Government fund transport – including road and rail projects – on a mode-neutral basis, based on assessed merit.

Recommendation 7

3.74 The committee recommends that the Australian Government take a leadership role on urban policy, working with the states and territories, given the strong link between transport and urban planning.

**Senator Glenn Sterle
Chair**

Australian Greens' Additional Comments

1.1 The Australian Greens are committed to building clean, rapid and reliable transport infrastructure that serves the needs of all in the community efficiently and effectively, while eliminating our dependence on oil and reduces greenhouse gas emissions.

1.2 The committee report is an excellent summary of the role of public transport in delivering productivity outcomes, and is a clear exposition of the superior economic, social and environmental benefits that investment in appropriate public transport as a rule has compared with major new road infrastructure.

1.3 It is clear from the evidence presented to the committee that that large sections of Australia's rail and public transport networks require substantial upgrades and mass transit services in most urban areas are so poor that driving is the only option for many people. Current investment in public transport does not match the projected increase in the urban public transport task, which the report notes is growing at a rate that outstrips population growth.¹

1.4 Clear themes of serious concern have emerged from the evidence provided, including the legacy of an imbalance between funding for motorways and public transport. The recommendations contained in the committee report do not reflect the full extent of the relative value of investment in public transport over large road projects when these road projects are proposed to largely to serve passenger travel, particularly commuter travel.

1.5 We note the superior economic and social benefits and efficacy in reducing congestion that investment in appropriate public transport as a rule has, compared with major new road infrastructure.

1.6 The Australian Greens support the recommendation that Australian Government should fund transport including road and public transport projects on a mode neutral basis. However we also consider that decisions on which projects to fund should be made in the context of the legacy of underinvestment in public transport in comparison with major road infrastructure projects in Australian cities over the last 30 years. Because of this underinvestment and the significant social, economic and environmental benefits of investing in public transport, the Australian Greens consider that urban public transport should be prioritised for consideration for funding by the Australian Government.

1.7 While we support the recommendations contained in the report, the Australian Greens feel that stronger emphasis needs to be placed in order to take into account the issues noted in these comments. We propose the following recommendations in addition to those included in the report.

1 Moving People 2030 Taskforce, Moving Australia 2013: A Transport Plan for a Productive and Active Australia, 2013, p.40.

Recommendation 1

1.8 Given the productivity cost of capital city congestion, the Australian Greens recommend that all levels of government should take action to reduce congestion.

Recommendation 2

1.9 We recommend that transport infrastructure projects being considered for funding by the Australian Government must have a comparative benefit cost analysis undertaken, in particular comparing major proposed road projects with other options available to address the identified transport needs. These options should include mobility management and public transport options.

Recommendation 3

1.10 The Australian Greens recommend that smaller cost projects, involving the more efficient use of existing infrastructure and more efficient integration of routes and modes, be prioritised according to the positive benefits they produce. This would include mobility management measures which provide people with real choices in the way they travel, and encourage the use of modes of transport other than single occupancy private vehicle use.

Recommendation 4

1.11 The Australian Greens recommend that investments in public transport should be prioritised for consideration for funding by the Australian Government, given the legacy of underinvestment over the last 30 years.

Senator Janet Rice
Australian Greens

Coalition Senators' Dissenting Report

The Coalition Government does not disagree that public infrastructure can deliver productivity outcomes.

While the Government agrees with the majority of the report, it disagrees with the underlying assumption that current government policies do not support the development of public transport infrastructure and notes that many Government initiatives underway have not been taken into account in the drafting of the report.

The Coalition's infrastructure policy is designed to ensure all levels of government are in a better position to focus on their core responsibilities in infrastructure investment.

There is no doubt that all levels of government are facing considerable fiscal constraints. This has become a significant impediment to the provision of the infrastructure Australia needs. Years of economic mismanagement by the former Federal Labor Government has meant the Coalition Government has had to make difficult decisions in its first term. The right decision under trying economic circumstances is for all levels of government to focus on their core responsibilities and work collaboratively to deliver on them. That is what the Coalition Government is doing.

The Government is specifically responding to the needs of the economy by building infrastructure that will drive economic growth, create jobs and improve productivity.

It is incumbent on a Federal Government to look at the big picture. No state or territory government is going to value the interstate road and rail freight networks as much as the Commonwealth will from its unique perspective. These networks are not just important for interstate private and freight transport but for moving Australian products efficiently to port and, in doing so, increasing our global competitiveness as an export market. This is an important economic outcome for all Australians. The Government's 2014-15 Budget has therefore unashamedly focussed on interstate networks and those significant urban and regional projects that will unlock productivity for the benefit of the whole country, not just those that dwell in our cities.

The Government decided to invest in the right infrastructure, not just any infrastructure. The right infrastructure increases productivity, eases congestion and delivers freight and logistics networks into our capital cities, our major regional centres and the outback. This has been done to ensure all Australians can reap the benefit of trade - to ensure industry has the infrastructure necessary to get their products to market and to ensure all Australians have access to the networks they need to receive goods and services.

Infrastructure is not cheap. Despite its historic commitment to infrastructure investment, and despite focusing on its core responsibilities, the Federal Government would welcome the opportunity to be in a position to fund more economic infrastructure, including those public transport projects that unlock the economic potential of our cities. The current economic circumstances however dictate otherwise. Australia currently faces a monthly interest bill of over \$1 billion and is burdened with a debt rising to \$667 billion if left unchecked. In this fiscal and economic context it would be irresponsible to borrow yet more money to undertake projects that states should be funding themselves.

The former federal Labor government's confused infrastructure policy interfered directly in the responsibilities of states and territories. States have - and should be held responsible for - many functions. Public intra-state transport, for example, is one of them yet the former government insisted on dictating inner city planning to states and then offered to fund such plans, leaving interstate freight and logistics road and rail networks to languish and turning its back on the needs of regional and rural Australia.

The Coalition's plan for infrastructure investment logically and responsibly considers the needs and responsibilities of all levels of government. This Government is about constructive federalism. For state and territory governments we have re-introduced the 80:20 funding split for new road and rail projects on the national network outside of metropolitan areas. Under Labor these networks were

effectively abandoned. For example, the Coalition committed to pay 80 per cent of the cost to complete the four-laning of the Pacific Highway by 2020. Labor made no credible commitment to complete the task, offered funding that was inadequate for the job and demanded that New South Wales increase its contribution to 50 per cent.

Likewise the Coalition committed \$6.7 billion to the Bruce Highway whereas Labor offered just \$4.1 billion and again demanded Queensland pay 50 per cent toward each project.

The Coalition's unprecedented infrastructure investment programme frees up state and territory governments to spend their money on areas of infrastructure where they have particular expertise and responsibility, including public transport.

Notwithstanding this fact, Labor is now insisting we abandon projects important for interstate freight and logistics and for global trade to spend more money on urban public transport.

The Federal Government's decision to focus on core responsibilities and bring infrastructure funding back on course has resulted in states responding positively to their own responsibility for public transport infrastructure. States are now spending record amounts on public transport. Since the federal election, State Governments have announced \$36 billion in public transport projects including:

- The Bus and Train Tunnel in Queensland (\$5b);
- In New South Wales: The North West Rail Link (\$8.3b); CBD and South East Light Rail (\$1.6b); Sydney Rapid Transit Network (includes a second harbour rail crossing) (\$7b); Parramatta Light Rail (\$1b committed); Western Sydney Rail upgrade program (\$1b);
- The Melbourne Rail Link (\$8.5-11b) and Cranbourne Pakenham Rail Corridor (\$2-2.5b) in Victoria; and
- Forrestfield Airport Link (\$2b) in Western Australia.

State budgets across Australia provide evidence that the states are prepared to invest in urban rail projects without a co-investment from the Australian Government.

Furthermore, public transport projects contracted prior to the election that have formal Australian Government approval are continuing such as the Moreton Bay Rail Link Project due for completion in 2016. The Coalition Government does not rip up contracts.

In addition the states benefit from this Government's Asset Recycling Initiative.

The 2014-15 Budget included \$5 billion to establish the Asset Recycling Initiative to provide incentive payments to states and territories that sell assets and reinvest the sale proceeds to fund world-class infrastructure across Australia.

Under this historic partnership, states and territories are encouraged to unlock capital in their balance sheets to fund new investment in productive infrastructure across the country. This includes public transport projects.

The Asset Recycling Initiative will create opportunities for investors, including Australian superannuation funds, to invest in quality infrastructure assets around Australia. This Initiative will leverage a significant increase in private sector investment by putting assets previously owned by the government in private hands. Over time these investors are likely to increase capital investment in the newly privatised entities to improve market share and to grow their businesses.

All governments signed the National Partnership Agreement on Asset Recycling at the Council of Australian Governments meeting on 2 May 2014. This unanimous support for the agreement demonstrates constructive and cooperative federalism at work.

The Coalition Government is not road-centric. It has needed to bring road infrastructure funding to the fore in this term of government because of the lack of investment provided by the previous

government to tackle congestion in our cities. Trucks need to be moved off local roads. The Coalition's policies also support the movement of freight onto rail through targeted investments in major rail freight corridors. The importance that an effective rail network has on national productivity cannot be underestimated. For this reason we are delivering the Melbourne to Brisbane Inland Rail project to cater for the freight needs of the future. It will also encourage movement of freight from roads to rail, improving safety and efficiency of the road networks.

Building, maintaining and improving the corridors that drive the nation's economic prosperity is of paramount importance to the Government. Safe, efficient, connected and comprehensive transport now and into the future is a vital concern as we accept that by 2030 Australia's population will grow to \$30 million, our freight task is expected to double – and treble along the eastern seaboard – and based on current trends, congestion costs the economy \$15 billion each year.

The Government's policies do not preclude public transport infrastructure being considered nationally significant. It is within the mandate of Infrastructure Australia (IA) to assess public transport infrastructure projects if they deem them to be nationally significant. The Government will not dictate to IA what it should or shouldn't consider to be nationally significant.

Similarly IA has an existing role in causing the method of cost benefit analyses to be reviewed. In addition to, and to support the reforms the Government committed to and made to the governance arrangements for Infrastructure Australia, the Government is committed to undertaking further reforms to promote good governance and robust project selection.

The best practice transport planning and appraisal framework in Australia is defined jointly by the *National guidelines for transport system management in Australia* (NGTSM 2006) and Infrastructure Australia's *Better infrastructure decision-making*. What the committee may not have been aware of at the time of drafting this report is the work the Government has undertaken to make more sense of the myriad of views put by interested parties as to what factors a cost benefit analyses should include.

The Government, in conjunction with the states and territories and in consultation industry and the public has published a national best practice framework for evaluating projects. This framework provides for a nationally consistent approach to the use of benefit cost analysis, as well as providing a framework for considering broader benefit and cost assessments, including assessing productivity gains and wider economic impacts. The project appraisal framework was released last month. This work will underpin key elements of the updated National Guidelines on Transport System Management (the NGTSM) to be finalised in 2015. It is anticipated that IA will use the NGTSM as part of its method for evaluating infrastructure projects. An overview of project appraisal for land transport is available on the Department of Infrastructure and Regional Development's website: www.infrastructure.gov.au. Information about the review of the NGTSM can be found at: www.austroads.com.au.

The Government also acts as a catalyst for reform of urban planning through COAG. Through this forum the Government encourages infrastructure and transport planning policies that are productivity enhancing. Specifically, the Transport and Infrastructure Council aims to achieve a co-ordinated and integrated national transport and infrastructure system that is efficient, safe, sustainable, accessible and competitive. Achieving this objective will support and enhance Australia's economic development and social and environmental well-being.

The Council considers and undertakes critical reforms for Australia that will drive future prosperity.

Improved transport and infrastructure across Australia will help to create a more liveable Australia, with transport and infrastructure integrated into urban and regional planning to foster an inclusive Australia. Further information on the work of the Transport Infrastructure Council, including is available at: www.transportinfrastructurecouncil.gov.au/about/

The Government looks forward to providing a full response to the report.

Senator Bill Heffernan

Senator John Williams

Appendix 1

Submissions received

Submission Number	Submitter
1	Mr Peter Moore
2	Infrastructure Australia
3	Planning Institute of Australia
4	Sustainable Transport Coalition of Western Australia
5	Grattan Institute
6	Committee for Perth
7	Australasian Railway Association
8	Catholic Social Services Australia
9	Mr Jeff Addison
10	Mr Brian O'Connor
11	Department of Infrastructure and Regional Development
12	Yarra Climate Action Now
13	Australian Conservation Foundation
14	Cycling Promotion Fund
15	Mr Peter Quick
16	UnitingCare Australia
17	Bus Industry Confederation
18	Council of Social Service of NSW (NCOSS)
19	Mr Matt Mushalik
20	Associate Professor Philip Laird
21	Action for Public Transport (NSW) Inc
22	Urban Development Institute of Australia (National)
23	Council of Capital City Lord Mayors
24	Dr Matthew Burke
25	Mr Nick Bishop
26	Mr Cole Hendrigan
27	Committee for Melbourne
28	Green Building Council of Australia
29	Transport for NSW
30	City of Yarra
31	Ms Rebecca Temple
32	Transport Reform Network
33	Rail, Tram and Bus Union Australia
34	Public Transport Users Association
35	Future Transport Tasmania
36	Professor Peter Newman AO
37	Infrastructure Partnerships Australia
38	ACT Government

39	South West Group
40	RAC WA
41	Doctors for the Environment Australia
42	Ms Trudy Golding
43	Dr David Bissell
44	Mr Malcolm Moore JP BE(Elect.)
45	Greater Shepparton City Council

Additional information received

- Received on 18 February 2014, from the Public Transport Users Association. Correspondence to the Committee clarifying statements made at 18 February 2014 hearing.
- Received on 20 February 2014, from the Planning Institute of Australia. Realising Development Oriented Transit – Perth Light Rail Masterclass report.
- Received on 20 February 2014, from the Planning Institute of Australia. Metro Area Express Planning Framework – Light Rail for Perth Metro Area report.
- Received on 20 February 2014, from the Planning Institute of Australia. PIA Moving Australia 2030. A report from the Moving People 2030 Taskforce.
- Received on 27 February 2014, from Mr Cole Hendrigan. Two maps.

TABLED DOCUMENTS

18 February 2014, Melbourne, VIC

- Tabled by Professor Rob Adams, City of Melbourne. Transforming Australian Cities and rates history.
- Tabled by the Committee for Melbourne.
 - Making the Future a Success
 - Prioritising investment to support our economy
 - Moving Melbourne
- Tabled by the Yarra Campaign for Action on Transport. Introductory Comments on the role of public transport in delivering productivity outcomes.
- Tabled by the City of Yarra.
 - The Economics of Transport
 - Annual costs to run a car in the Melbourne CBD
 - Map comparison transport infrastructure
 - National General Assembly of Local Government

19 February 2014, Perth, WA

- Tabled by the Sustainable Transport Coalition of Western Australia.
 - Sustainable Oil – Living with Less
 - Statement on Light Rail
- Tabled by Mr Cole Hendrigan, Four maps.
- Tabled by the Committee for Perth. Presentation to Senate Rural and Regional Affairs and Transport References Committee.

Appendix 2

Public hearings and witnesses

18 February 2014, Melbourne, VIC

- CURRIE, Professor Graham, Professor of Public Transport, Institute of Transport Studies, Monash University
- ADAMS, Professor Robert John, AM, Director of City Design, City of Melbourne
- ROFFEY, Ms Kate, Chief Executive Officer, Committee for Melbourne
- CLICHE, Mr Dennis, Chair, Transport Reform Network
- DAVIES, Mr Philip, Member, Transport Reform Network
- GOODMAN, Mr Chris, Committee Member, Yarra Campaign for Action on Transport
- KOPPEL, Ms Jill, Committee Member, Yarra Campaign for Action on Transport
- STAR, Ms Chris Lynch, Committee Member, Yarra Campaign for Action on Transport
- BOSLER, Ms Danae, Campaign Manager, Public Transport Users Association
- MORTON, Dr Tony, President, Public Transport Users Association
- SALISBURY, Ms Gwyneth, Yarra Climate Action Now
- WILKINSON, Ms Carole, Local Action Coordinator, Yarra Climate Action Now
- FRISTACKY, Councillor Jackie, Mayor, City of Yarra
- MUNROE, Councillor Andrew, City of Whitehorse; Deputy Chair, Metropolitan Transport Forum
- WALDOCK, Ms Jane, Manager, Sustainability and Strategic Transport, City of Yarra
- DONEGAN, Mr Paul, Senior Associate, Cities, Grattan Institute
- KELLY, Ms Jane-Frances, Cities Program Director, Grattan Institute

19 February 2014, Perth, WA

- KER, Mr Ian, Deputy Convenor,
Sustainable Transport Coalition of Western Australia
- RICE, Mr David, Convenor,
Sustainable Transport Coalition of Western Australia
- ROSE, Mr Benjamin John, Committee Member,
Sustainable Transport Coalition of Western Australia
- NEWMAN, Professor Peter, AO,
Curtin University
- MacTIERNAN, The Hon. Alannah,
Member for Perth, Commonwealth Parliament
- HENDRIGAN, Mr Cole, PhD candidate, Land Use and Transport Integration,
Curtin University Sustainability Policy Institute
- BEYER, Mr Steve, Executive Director, Integrated Transport Planning,
Western Australian Department of Transport
- BURGESS, Mr Mark, Managing Director,
Public Transport Authority of Western Australia
- WHITE, Mr Martin, Executive Director, Transperth System, Regional and
School Bus Services, Public Transport Authority of Western Australia
- FULKER, Ms Marion, Chief Executive Officer,
Committee for Perth
- DE JAGER, Ms Emma, Executive Officer,
Planning Institute of Australia
- OUTHRED, Mr Stuart, Strategic Transportation Planner,
City of Fremantle
- PETTITT, Councillor Bradley William, Mayor,
City of Fremantle
- ST JOHN, Mr Philip, Director Planning and Development,
City of Fremantle