Pre-Budget Submission 2013-14

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PUBLIC TRANSPORT USERS ASSOCIATION

Contents

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1 Executive Summary

1.1 Introduction

Public transport is vital for an inclusive society and for sustainable, productive and liveable cities. Public transport improvements are a top transport priority for Australians, and the Commonwealth should provide meaningful and sustained support for public transport to preserve the productivity and liveability of Australia's nationally-significant cities.

1.2 Road safety

Rail freight and passenger transport is many times safer than road transport, however an ongoing funding imbalance in favour of roads has eroded rail's share of the transport task and is placing the lives of Australians at risk. The Australian Government should focus its support for freight transport on correcting this imbalance so that rail can deliver safe and competitive freight services to Australian businesses and reduce the risk of trauma on our roads.

1.3 Climate change

Although initial steps have been taken to reduce emissions from the stationary energy sector, transport sector emissions continue to rise. Current policy settings will not achieve the scale of emission reductions required to preserve a safe climate. A more significant shift away from car use to walking, cycling and public transport is required.

To ensure more sustainable transport options are available, transport expenditure should be redirected to improving the availability and quality of public transport and rail freight.

1.4 Savings

The revenue forgone due to Fringe Benefits Tax concessions for car use could instead contribute to a significant ongoing investment in improving public transport networks. These concessions should be abolished, with the savings directed to improving access to alternative transport options that are cleaner, healthier and safer.

1.5 Transport spending

Commonwealth transport spending has long been heavily biased towards roads which has given road transport a huge head-start over public transport and rail freight. Although substantial improvements are needed in public transport and rail freight networks to correct the cumulative transport funding imbalance, some state governments continue to prioritise road building programs and seek Commonwealth funding for road projects with costs that exceed the benefits.

The Commonwealth should rebalance transport spending away from roads, and redirect expenditure to improving public transport and rail freight networks. This reprioritisation

would allow greater investment in more efficient, sustainable and safer transport without adding to pressure on the Commonwealth budget.

1.6 Cleaner, safer transport for Australia

1.6.1 Expanding coverage of fast, frequent public transport

1.6.1.1 New and extended metropolitan railway lines

The following investments in the heavy rail network are considered higher priorities than a line to Avalon airport:

- Extending the South Morang line to Mernda;
- Constructing a new railway line from Victoria Park to Doncaster East;
- A new railway line to Rowville via Monash University;
- Electrification and duplication of the existing line to Melton;
- Duplicating and extending the Frankston line to Baxter and beyond;
- Duplicating and extending the Cranbourne line to Clyde; and
- Alamein line reconfiguration and extension.

1.6.1.2 Completing missing links in the tram network

These modest tram extensions would enhance links between different routes and modes, greatly increasing the range of journeys able to be shifted from cars to public transport:

- Extend Route 3 to East Malvern station, and then onto Chadstone;
- Extend Route 48 from North Balwyn to Doncaster Hill;
- Extend Route 8 to Camberwell Road;
- Extend Route 57 to East Keilor;
- Complete Route 75 extension from Vermont South to Knox City;
- Extend Route 16 to Kew Junction;
- Extend Route 6 to Ashburton station;
- Extend Route 72 north to Doncaster Road (route 48) and then to Ivanhoe station;
- Extend Burke Road track south to Caulfield station;
- Extend Park Street South Melbourne track to St Kilda Road;
- Extend Route 67 to Carnegie station;
- Extend Route 82 via Footscray Road to Docklands and the City;
- Extend Route 5 to Darling station;
- Extend Route 86 to South Morang; and
- Extend Route 112 to Reservoir station.

1.6.2 Cutting delays

The following investments would boost the ability of public transport to provide a time-competitive alternative to low-occupancy car journeys.

1.6.2.1 Track duplication

Single track sections of line constitute a severe constraint on train operations. The following track duplications will boost reliability and capacity across the Melbourne rail network:

- Duplication of the Altona loop (Altona Junction to Laverton Junction);

- Upfield line (Northern group): Gowrie to Somerton Road;
- Hurstbridge line (Clifton Hill group): Heidelberg to St James Road and Greensborough to Eltham;
- Belgrave line (Burnley group): Ferntree Gully to Belgrave;
- Lilydale line (Burnley group): Mooroolbark to Lilydale;
- Alamein line (Burnley group): Ashburton to Alamein/East Malvern;
- Cranbourne line (Caulfield group): Pakenham line junction to Clyde;
- Melton line (Northern group and Ballarat line): Deer Park to Melton.

1.6.2.2 Traffic signal priority

GPS-based dynamic signal priority would improve journey times, reliability and capacity on road-based public transport in Melbourne and should be implemented across all tram and SmartBus routes.

1.6.2.3 Bus lanes and headstart lanes

Bus headstart lanes and 'B' lights would help buses to cut through congestion and should be rolled out across all SmartBus routes.

1.6.2.4 Level crossing elimination on tram and SmartBus routes

Grade separation of the following level crossings would allow higher speeds for trains and reduce delays for road users:

- Glenferrie Road, Kooyong;
- Toorak Road, Malvern;
- Glenhuntly and Neerim roads, Glenhuntly;
- Clayton Road, Clayton;
- Burke Road, Gardiner;
- Springvale Road, Springvale;
- Riversdale Road, Camberwell;
- Balcombe Road, Mentone;
- Bell Street and Munro Street, Coburg;
- Bell Street, Cramer Street and Murray Road, Preston;
- Buckley Street, Essendon;
- Camp Road, Campbellfield;
- North Road, Ormond, McKinnon Road, McKinnon and Centre Road, Bentleigh;
- Cherry Street, Werribee;
- Ferguson Street, North Williamstown;
- Keon Parade, Keon Park; and
- Mount Derrimut Road/Station Road, Deer Park.

1.6.3 Freight transport

An enhanced role for rail freight is vital to the productivity and sustainability of the Australian economy. The existence of incompatible rail gauges inhibits interoperability across Australia's freight infrastructure and harms productivity. Removing this inefficiency through gauge standardisation should be a key part of a Commonwealth *Bringing our rail network up to standard* program.

Along with increasing axle load ratings, optimising alignments and creating additional passing opportunities, we suggest the following indicative sequence for standardisation within Victoria:

1. Melbourne to Cobram, Tocumwal and Dookie via Shepparton;
2. Geelong to Mildura, Yelta, Pinnaroo, Kulwin and Robinvale, via Ballarat and Maryborough;
3. Melbourne to Piangil, Moulamein and Deniliquin via Bendigo, including Bendigo to Inglewood and Maryborough;
4. Heywood to Mount Gambier;
5. Melbourne to Ararat via Ballarat;
6. Geelong to Dennington;
7. Melbourne to Bairnsdale, Maryvale and Leongatha.

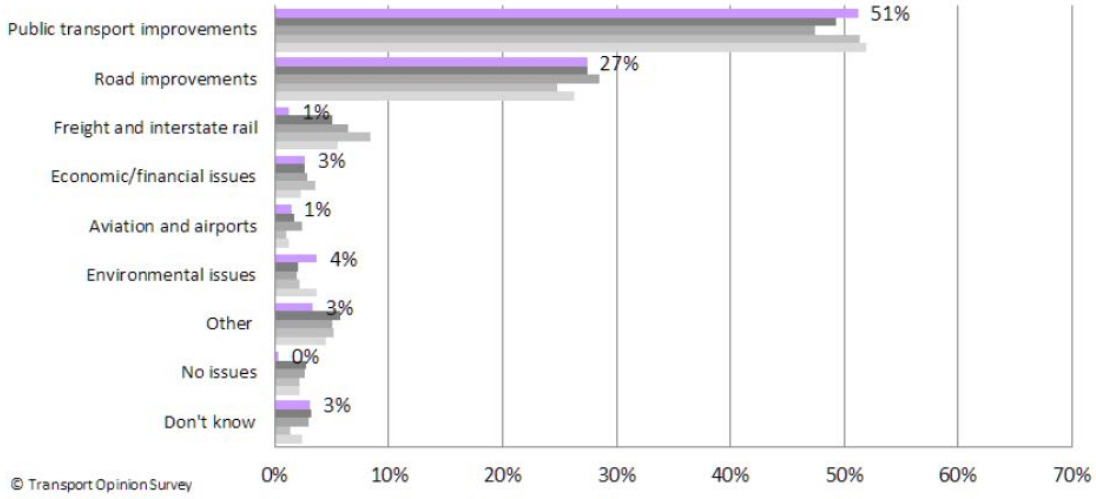
2 Introduction

2.1 Public transport

Public transport is vital for an inclusive society and for sustainable, productive and liveable cities (PTUA 2007a; PTUA 2008c; PTUA 2009a).

Public transport improvements remain a top transport priority for Australians, as more and more people recognise that the only lasting solution to congestion and pollution is quality transport alternatives that can entice people out of their cars (see Figure 2-1).

Figure 2-1: Highest priority transport issue in Australia – June 2011-September 2012



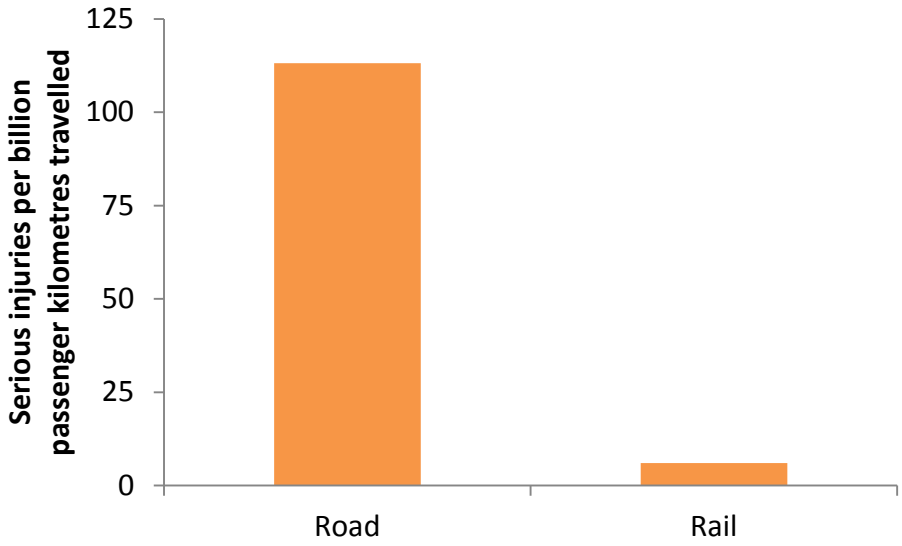
Source: Institute of Transport and Logistics Studies Transport Opinion Survey

The Australian Government's commitment of funds to public transport infrastructure in recent years, while overdue, is a welcome recognition of its importance in meeting national objectives in areas such as productivity, sustainability and health. However, these objectives will be best met through a significant and ongoing program of investment in public transport that allows longer-term network planning to be undertaken and implemented. In other words, the Commonwealth's support for public transport must now be meaningful and sustained - not just a stimulus measure - if Australia's nationally-significant cities are to remain productive and liveable.

3 Road safety

Rail freight and passenger transport is many times safer than road transport (PTUA 2011b).

Figure 3-1: Serious injury rate by transport mode



Source: BITRE 2012, p.114

Road freight operators have benefitted from a long-running and extensive program of taxpayer-supported highway improvements, including duplications and realignments, which has greatly increased the competitiveness of moving freight by road. Meanwhile, rail networks remain largely based on steam-era alignments with widespread bottlenecks such as single tracks and breaks of gauge. Proposals for further highway expansion and new urban motorways would result in even greater incentive to use road transport instead of rail, and to base logistics facilities around major road networks at the expense of access to rail.

Furthermore, a range of social costs are not reflected in commercial freight rates, leading to inefficient and harmful decisions. Prominent among these are the greenhouse gas emissions from road transport and the death and permanent disfigurement of Australian road users. The Commonwealth Government has an obligation to correct these market failures by proactively tilting the playing field back in the favour of rail freight.

The historical bias towards road funding that has eroded rail's share of the freight task is placing the lives of Australians at risk. The Australian Government should focus its support for freight transport on correcting this imbalance so that rail can deliver safe and competitive freight services to Australian businesses and reduce the risk of trauma on our roads.

4 Climate change

4.1 The need for stronger action

Due to climate change, extreme weather events are becoming the new normal (Cubby 2013; Karoly *et al* 2013). With warming so far of less than 1 degree above pre-industrial conditions, costly disasters are already hitting Australia with increasing regularity, such as the Black Saturday bushfires in 2009, flooding across eastern Australia in each of 2010, 2011 and 2012, and the record-breaking heatwave, floods and bushfires of early 2013. As noted by the Prime Minister, "over time as a result of climate change we are going to see more extreme weather events" (Darby 2013).

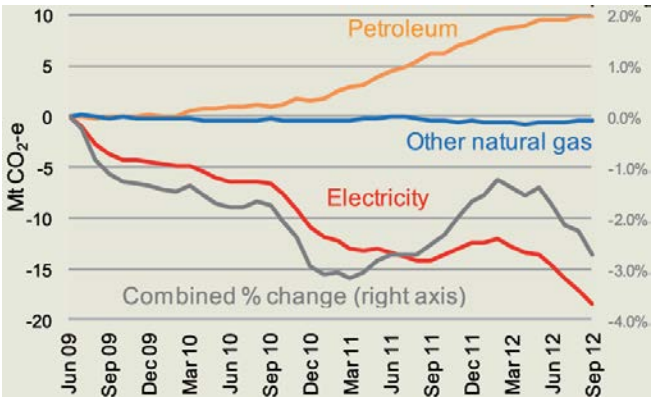
Current climate policies will result in warming of between 4 to 6 degrees by the end of the century, with catastrophic consequences for water supplies, food production and regional stability (Lynas 2008; Morton *et al* 2012). On top of their harmful direct effects, these impacts would obviously overwhelm the capacity of government to deliver in other important policy areas such as health and education. The Australian Government must therefore make domestic and international emission reductions a top priority.

The window of opportunity for keeping warming below the 2 degree 'guardrail' is rapidly closing (Hatfield-Dodds 2013). Each year of delay magnifies the costs - and narrows the chances - of keeping below this threshold (Rogelj *et al* 2013; Reuters 2013; Bawden 2013). However, a number of measures can boost our chances of preserving a safe climate.

> "The report also showed that greener policies, such as more efficient public transport or better-insulated buildings, would raise the chances of meeting the 2C goal." (Reuters 2013)

Although initial steps have been taken to reduce emissions from the stationary energy sector, transport sector emissions continue to rise (see Figure 4-1). Given current policy settings, this should not come as a surprise (see Table 4-1). While stronger vehicle efficiency standards have a role, these will take many years to proliferate through the Australian vehicle fleet, and will not achieve the scale of emission reductions required to preserve a safe climate without a more significant shift away from car use to walking, cycling and public transport (PTUA 2008a, pp.12-17; Transport & Environment 2013; Tziovaras 2011).

Figure 4-1: Change in emissions since June 2009



Source: Pitt & Sherry 2012

Table 4-1: Policies affecting greenhouse gas emissions by sector

Electricity generation	***Transport***
• Clean Energy Future package including carbon price • Renewable Energy Target including Solar Credits • Feed in tariffs • Energy efficiency requirements	• Rail fuel use subject to carbon price (via fuel tax) but road transport and some off-road uses not subject (see Section 4.2) • FBT concessions for cars and car parking, but not public transport (see Section 5.2) • Cumulative transport spending imbalance in favour of roads (see Section 6) • Avgas tax concession

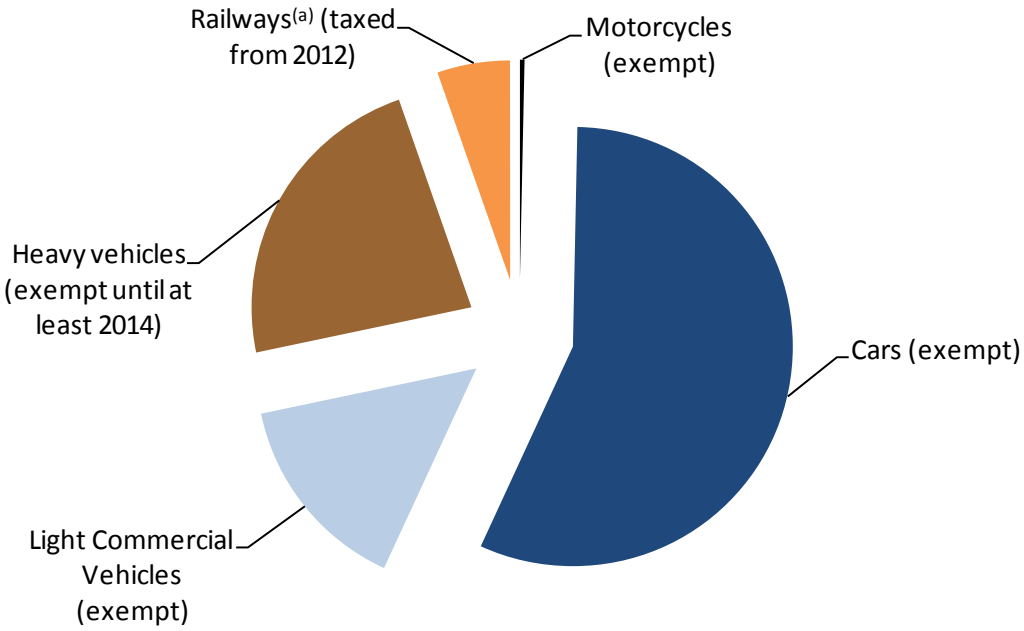
4.2 Transport and the carbon pricing mechanism

As users of electricity, the passenger rail systems of Australia's major cities are subject to the carbon price. In contrast, light passenger vehicles are currently exempt from the carbon price, placing a greater burden on other sectors to achieve Australia's emission reduction target. This omission has the perverse effect of discouraging public transport use relative to private motor vehicle use.

Meanwhile, rail freight has been disadvantaged by a reduction in fuel tax credits equivalent to the carbon price, while heavy road vehicles have retained their existing fuel tax credit entitlements. This also has the effect of discouraging use of the more fuel-efficient and sustainable mode of transport.

These perverse effects are obviously not intended, nor are they inherent to carbon pricing, but are the result of exemptions for the major sources of transport emissions.

Figure 4-2: Land transport greenhouse gas emissions and carbon tax treatment



(a) includes direct emissions (e.g. diesel locomotives) and indirect emissions from electric railways
Source: BITRE 2009

The first best solution to this particular distortion is obviously the inclusion of all forms of transport under the carbon pricing mechanism. However, until such time as the carbon price is broadened, a second best solution would be a large reallocation of transport spending away from roads in recognition of the additional road use that is induced by road capacity expansion (PTUA 2008c, pp.16-20; Næss, Nicolaisen & Strand 2012). To ensure more sustainable transport options are available, transport expenditure should be redirected to improving the availability and quality of public transport and rail freight networks around Australia.

5 Savings opportunities

5.1 Fuel excise

Fuel excise has been falling in real terms since indexation was abolished in 2001 and is now close to the lowest in the OECD. The incidence of fuel excise is skewed towards high income earners due to their higher petrol usage (PTUA 2009b, pp.18-21). The majority of driving also takes place in cities where fuel consumption is typically higher per kilometre than rural driving and where alternatives such as public transport are generally more developed. In effect, fuel excise can be a demand management tool to shift fuel-intensive urban travel from car to more sustainable modes, thus reducing congestion, fuel consumption, oil imports and vehicle emissions.

Just as it would be inappropriate to use revenue from tobacco excise to promote smoking, there is no need to direct revenue from fossil fuel excise to road expenditure. Especially given the huge magnitude of external costs resulting from road use and fuel consumption (PTUA 2009b), fuel excise indexation should be re-introduced and revenue directed to alternative forms of transport. Fuel tax credits for heavy goods vehicles should also be reduced at least to the extent that fuel tax credits for rail have been reduced (see Section 4.2).

Efforts to improve affordable mobility for low income households should focus on reducing car dependence and 'forced car ownership' by expanding transport alternatives that reduce the total burden of car expenses beyond fuel taxation, and that facilitate greater social inclusion among people who are unable to drive or afford a car.

5.2 Fringe Benefits Tax

At an individual level, the potential value of FBT concessions for one employee's salary-packaged car could instead pay for free public transport travel and a new bicycle each year for every member of a typical family (see Table 5-2). The availability of this sizable tax concession for car use, but not for more sustainable forms of transport, must inevitably distort travel behaviour and result in higher levels of traffic and pollution. Company cars make up an estimated 40 per cent of peak hour traffic.

At an aggregate level, the revenue currently forgone by the Commonwealth Government due to these concessions for car use could instead contribute to a significant ongoing investment in improving public transport networks around Australia (see Table 5-1).

Table 5-1: Tax expenditures distorting travel behaviour ($ million)

	2008-09	***2009-10***	***2010-11***	***2011-12***	***2012-13***	***2013-14***	***2014-15***
Statutory formula to value car benefits	910	900	1,070	1,220	970	800	690
Discounted valuation for car parking benefits	13	14	15	16	17	18	20
Small business employee car parking	9	10	11	12	13	14	15
Total annual cost	***932***	***924***	***1,096***	***1,248***	***1,000***	***832***	***725***

Source: The Treasury 2012

These behavioural and fiscal impacts should be addressed by abolishing concessions for car use, with the savings directed to improving access to alternative transport options that are cleaner, healthier and safer. For Victoria, we propose those outlined in section 7 below.

Table 5-2: Illustrative example of value of tax concessions for company cars

A - Operating cost method			**B - Statutory formula method**		
Car cost price	50,000	A1	Car cost price	50,000	B1
Deemed depreciation (25%)	12,500	A2			
Deemed interest (7.4%)	3,700	A3			
Servicing	750	A4			
Tyres	150	A5			
Rego, insurance, etc	2,080	A6			
Total operating cost	19,180	A7	Base value	50,000	B2
Private use	100%	A8	Statutory percentage	20%	B3
Taxable Value	19,180	A9 = A7 x A8	Taxable value	10,000	B4 = B2 x B3
Less employee contributions			*Less employee contributions*		
Fuel	1,500	A10	Fuel	1,500	B5
Other recipient's payments	17,680	A11	Other	8,500	B6
Total contributions	19,180	A12	Total contributions	10,000	B7
Taxable value of car benefits	0	A13 = A9 – A12	Taxable value of car benefits	0	B8 = B4 – B7
Remuneration package	150,000	A14		150,000	B9
Motor vehicle benefit	19,180	A15 = A9		19,180	B10 = A9
Car parking benefit	1,848	A16		1,848	B11
Taxable salary	128,972	A17 = A14 - A15 - A16		128,972	B12 = B9 - B10 - B11
Less tax and Medicare Levy	37,601	A18		37,601	B13
Net salary	91,371	A19 = A17 - A18		91,371	B14 = B12 - B13
Less employee contributions	19,180	A20 = A12		10,000	B15 = B7
Remaining salary	72,191	A21 = A19 - A20		81,371	B16 = B14 - B15
Tax concession provided by statutory method				9,180	B17 = B16 - A21
Tax concession on parking benefit - compared to paying from post-tax income (i.e. tax paid on after-tax income of $1,848)	1,157	A22		1,157	B18
Total tax concession				10,337	B19 = B17 + B18

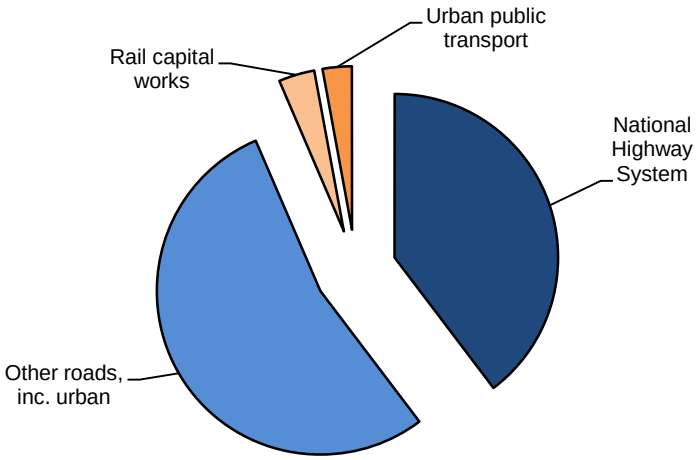
C - Compared to alternative transport options			
- 4 x Malvern Star Vektor 5.0 bicycles	3,600		
- 2 x adult Zone 1&2 365 day Myki pass	4,316		
- 2 x child Zone 1&2 365 day Myki pass	2,158	10,074	C1

Notes:
A16: Local parking rates are below the car parking threshold and thus not subject to FBT.
B17: Value of tax concession provided by statutory formula over and above operating cost method.
B18: Additional gross salary required if A16 was paid from after-tax income.
B19: This employee received tax concessions for his company car worth over $10,000 for the year.
C1: A typical family could be provided with unlimited public transport travel and new bicycles each year for less cost than the tax concessions for one company car shown above.

6 Transport spending

Commonwealth transport spending has long been heavily biased towards roads which has given road transport a huge head-start over public transport and rail freight (PTUA 2009a, pp.13-14; ACF 2011). Despite more recent Commonwealth investment in rail, substantial improvements are still needed in public transport and rail freight networks to correct the cumulative transport funding imbalance and allow sustainable transport to compete on a more level playing field.

Figure 6-1: Federal Transport Funding - 1974-2004



Source: Laird 2004

The safety and environmental benefits of public transport and rail freight will be maximised to the extent they replace, rather than supplement, road transport. Adding new journeys without substituting away from cars and trucks will not reduce the environmental damage and human cost currently imposed by road transport. This underscores the need to rebalance transport spending away from roads, and redirect expenditure to improving public transport and rail freight networks. This reprioritisation would allow greater investment in more efficient, sustainable and safer transport without adding to pressure on the Commonwealth budget.

The importance of shifting the balance away from roads is heightened by the poor economics of many state government road priorities. It is now firmly established in the transport literature that expanding road network capacity encourages more traffic so that congestion ends up just as bad as before. Despite this, roads and transport authorities continue to pursue road building programs based on unrealistic congestion reduction assumptions (Victorian Auditor General 2011) while seeking Commonwealth support for road projects with costs that exceed the benefits (Lucas 2010).

For example, based on conventional cost-benefit analysis the east-west motorway proposed for Melbourne's inner north would cost nearly $4 billion dollars more than any supposed benefits it may deliver, thus having a negative economic impact and squandering resources that could be used more productively elsewhere. Understandably the enthusiastic Victorian Government chose not to explicitly state the appalling Benefit-Cost Ratio for its favoured project in its study into East-West transport needs, however we have calculated the BCR in

Table 6-1 below. The emphasis on this costly project by the Victorian Government speaks volumes about the dubious merits of other major road proposals, such as the North-East motorway through the green wedge immortalised in the works of the Heidelberg school of painting. The Victorian Government's new approach of not revealing cost estimates also raises the prospect of major projects being pursued without demonstrating a robust economic case (Gordon 2013).

Table 6-1: Summary of Cost Benefit Analysis of Proposed East-West Motorway

		$ million
Present Value of costs		
Combined public transport and roads		15,000
Less public transport costs		-7,900
Sub-total - Present Value of road costs		**7,100**
Present Value of benefits		
Combined public transport and roads		11,100
Less public transport benefits		-7,900
Sub-total - Present Value of road benefits		**3,200**
Wider Economic Benefits (WEB)		
Combined public transport and roads		3,300
Less public transport WEB		-1,300
Sub-total - Wider Economic Benefits - roads only		**2,000**
Present Value of benefits incorporating WEB		
Combined public transport and roads		14,400
Less public transport WEB		-9,200
Sub-total - Present Value of road benefits incorporating WEB		**5,200**
Conventional Benefit Cost Ratio - roads only:	**3,200/7,100 =**	**0.45**
Benefit Cost Ratio incorporating WEB - roads only:	**5,200/7,100 =**	**0.73**

Source: East West Needs Assessment Economic Benefits and Costs Analysis – Technical Report, Meyrick and Associates, March 2008

The Commonwealth can help to ensure the sustainability, liveability and productivity of our cities by rebalancing transport funding away from the traditional roads-based predict and provide approach - that has delivered congestion, costly car-dependence and pollution - to an approach based on access to high quality public transport. Doing so would go a long way to funding the public transport investments outlined below.

7 Cleaner, safer transport for Australia

7.1 Expanding coverage of fast, frequent public transport

About two thirds of Melbourne residents do not currently have access to the rail network which is a key determinant of road congestion levels (PTUA 2008c, pp.16-19).

There is a need to boost coverage of the rail network to ensure more people have access to time-competitive public transport that can relieve pressure on known congestion hotspots (PTUA 2006, pp.21-23) and reduce emissions.

7.1.1 New and extended metropolitan railway lines

The priority investments for expanding coverage of heavy rail are outlined below. We consider all of these projects to be more deserving of Commonwealth funding than a new line to Avalon airport.

7.1.1.1 Extending the South Morang line to Mernda

This extension would serve a rapidly growing area of Whittlesea, which is one of the fastest growing municipalities in Australia. A reservation is already in place ensuring that construction could commence promptly following approval of funding.

7.1.1.2 Constructing a new railway line from Victoria Park to Doncaster East, following the alignment of the Eastern Freeway as far as Bulleen

A heavy rail line into Manningham would finally offer a fast, high capacity public transport alternative to an area that currently has much lower public transport patronage than comparable parts of Melbourne due to the inadequacy of existing services (PTUA 2007b, pp.12-14). A 1991 report to the Victorian Minister for Transport (Russell 1991) found that heavy rail to Doncaster would provide "both the best service to residents and have the best chance of offsetting the problems of road congestion" compared to a range of other road and public transport enhancements. The report also recommended that this option be pursued if favourable costing advice was obtained.

Despite inflated costings, a 2001 study for the Victorian Government found that the Benefit Cost Ratio (BCR) of heavy rail to Doncaster was nearly twice that of the westwards extension of the Eastern Freeway proposed as part of the East West Link Needs Assessment (EWLNA) (PTUA 2008b, pp.16-20) and included in the Victorian Government's 2011 and 2012 submissions to Infrastructure Australia.

Based on actual costs for comparable projects outside Victoria, a recent report for local governments in the Doncaster corridor found that "the cost of constructing the Doncaster rail, complete with a heavy rail down the Eastern Freeway from Doncaster to Victoria Park, or Collingwood, and new buses and new trams required to complete the cross-corridor linkages, would be something in the order of $850 million" (Newman 2012, p.iii). This costing suggests a BCR much higher than the East-West motorway proposal.

The EWLNA reconfirmed that the majority of Eastern Freeway traffic is heading to the CBD and surrounds (EWLNA, p.131). These travel patterns would be well-served by a heavy rail

line to Doncaster, while the minority of journeys to destinations beyond the vicinity of the CBD would also be served by virtue of such a rail link connecting at inner city stations with services to other parts of Melbourne[1]. A railway line along our suggested alignment would also enable connections with buses at Hoddle Street, Burke Road, Chandler Highway, High Street and Bulleen, Thompsons, Williamsons and Blackburn roads (and possibly Springvale Road), including most or all of the orbital SmartBus routes.

Although not directly relevant to passenger services, we also note that proposals have been raised to run a railway line to Dandenong via the Eastern and Eastlink freeways for freight purposes. Such proposals would obviously add to the benefits of constructing a railway line to Doncaster, and could also provide an alternative route to Gippsland if the existing route via Caulfield is unavailable due to standardisation works, grade separation or other disruption.

7.1.1.3 A new railway line to Rowville via Monash University

A heavy rail line to Rowville would improve access to the Stud Park Major Activity Centre and the Monash Science Technology Research and Innovation Precinct incorporating Monash University, the CSIRO and Australia Synchrotron. Journey times from Rowville on the current SmartBus service are about 30 minutes to Monash University and an hour and a quarter to the CBD, both of which compare poorly to driving. A heavy rail line could cut journey times from Rowville to Monash University and the CBD to around 10 minutes and 30 minutes respectively. By offering an attractive, time competitive public transport option to this area of outer eastern Melbourne, a heavy rail line would provide significant relief to the Monash freeway corridor, comfortably absorbing the equivalent of three full lanes of Monash Freeway traffic.

A 2004 study found that a railway line to Rowville would offer many benefits such as reduced travel times, reduced congestion and vehicle emissions, employment generation, more affordable mobility and reduced pressure on car parking (Russell *et al* 2004). A heavy rail line would also offer greater capacity, thereby addressing overcrowding issues experienced on existing bus services and providing greater scope for patronage growth, and improve reliability by separating services from congested road conditions.

7.1.1.4 Electrification of the existing line to Melton, adding a new station serving Caroline Springs

Electrification of the line to Melton would enable higher capacity metropolitan rolling stock to access train paths along the corridor that are currently taken up by lower capacity regional services and thereby ease overcrowding in the west of the city right through to central Melbourne. Construction of a station at Caroline Springs would greatly improve access to the public transport network in an important growth area and ease pressure on Sunbury line services (and station parking) which are currently among the most crowded in

[1] "The heavy railway option opens up more opportunities for inter-regional travel growth than the light rail option. Possibly because the heavy rail design integrates better with other heavy rail services.
External transit travel growth is mainly from the South and East to and from [Northern Central City Corridor]. Again this is a wider impact than the light rail option and is due to better inter regional connectivity provided by operating DART as heavy rail and hence better connecting with other regional rail services.", *Northern Central City Corridor Study Appraisal of Transit Strategy Results*, August 2002, p.41

Melbourne. This line could also connect with the Green Orbital SmartBus route planned by the Victorian Government, providing a link between the outer west of Melbourne and other parts of the city.

In order to enhance capacity and reliability on this corridor, single track sections of line beyond Deer Park West should also be duplicated in conjunction with electrification works.

A more attractive and time-competitive public transport option for outer western Melbourne enabled by electrification would relieve pressure on both the Western Ring Road and Westgate corridors, delivering significant productivity benefits for business.

7.1.1.5 Duplicating and extending the Frankston line to Baxter and beyond

This extension provides improved mobility within the Urban Growth Boundary to the southeast of Frankston, and enables improved access to the Monash University campus at Leawarra.

Electrification work should be carried out simultaneously with track duplication to ensure adequate capacity for more frequent passenger services and freight services.

7.1.1.6 Duplicating and extending the Cranbourne line to Clyde

Combined with duplication of existing single track, a short extension of this line would better connect new communities to the public transport backbone and improve access to a number of existing and proposed educational institutions and recreational facilities in the area. A station at Cranbourne East was proposed under *Melbourne 2030* and could be easily achieved given the existing reservation for the South Gippsland railway line.

7.1.1.7 Alamein line

Stations on the Alamein line could be reconfigured to better integrate with intersecting routes (e.g. tram route 75 on Toorak Road), and a short extension (with duplication from Ashburton) to meet the Glen Waverley line investigated to allow connections at East Malvern station, including with the proposed tram route 3 extension. The Alamein line extension should also continue to Oakleigh if a proposed expansion of Chadstone shopping centre is to proceed.

7.1.2 Completing missing links in the tram network

For historical reasons, Melbourne currently boasts a large number of tram routes terminating as little as 500 metres short of the nearest railway station. The following short extension projects would release disproportionate value by increasing the utilisation of existing infrastructure at the suburban ends of tram lines.

These projects would be comparable in scale to the many small federally-funded road projects undertaken each year. Integrating tram routes more effectively with train and bus routes would create a network better able to serve a diverse range of journeys and provide better access to major trip generators.

7.1.2.1 Extend Route 3 to East Malvern station, and then onto Chadstone

A modest extension that provides a more logical terminus for tram route 3, linking it with the Glen Waverley train line and the Warrigal Road SmartBus (route 903). This provides an improved link to Chadstone Shopping Centre which is a Principal Activity Centre and major trip generator that is notorious for creating traffic congestion in the area. By connecting with the Glen Waverley line, fixing this missing link also provides improved connectivity between the Waverley area and the inner south (such as East St Kilda and Caulfield North).

7.1.2.2 Extend Route 48 from North Balwyn to Doncaster Hill

This extension provides a more logical terminus for tram route 48, linking the Principal Activity Centre at Doncaster Hill with the light rail network and inner east residential areas. The extended route would also connect with and feed into Eastern Freeway public transport services.

7.1.2.3 Extend Route 8 to Camberwell Road

Extending tram route 8 to Camberwell Road would complete coverage along Toorak Road, providing a connection with the Alamein train line which also connects with the Belgrave and Lilydale train lines at Camberwell.

This extension would offer a public transport connection between the inner east and the inner south. The extension would serve significant trip generators such as Tooronga Village and the Coles HQ, and also connect with tram route 75 to Vermont South.

7.1.2.4 Extend Route 57 to East Keilor

Provides access to the Principal Activity Centre at Highpoint from residential areas across the Maribyrnong River and connects with the Red Orbital SmartBus (route 903) at Milleara Shopping Centre.

7.1.2.5 Complete Route 75 extension from Vermont South to Knox City

Extending tram route 75 from Vermont South to Stud Road would provide a direct east-west link from Knox City and the Stud Road SmartBus (route 901) to residential areas and trip generators to the west, including Deakin University, PLC and Tally Ho Business Park.

The extension would also provide access to the inner city on the tram itself or by connecting to the intersecting Alamein train line.

7.1.2.6 Extend Route 16 to Kew Junction

A simple extension along Cotham Road to the Kew Junction Major Activity Centre that would allow connections with High Street buses and route 48 trams and hence greatly facilitate non-radial journeys. This would complement the extension of route 48 to Doncaster and offer connections between the inner east and Manningham.

7.1.2.7 Extend Route 6 to Ashburton station

A modest extension that provides better coverage of High Street and offers links to both Alamein and Glen Waverley train lines.

7.1.2.8 Extend Route 72 north to Doncaster Road (tram 48) and then to Ivanhoe station

The initial extension would provide more a significant north-south service and allow direct connections with tram route 48. A further extension to Ivanhoe railway station would enable connections with Eastern Freeway public transport services to the CBD or Doncaster as well as provide a link between the inner east and northeast of Melbourne.

7.1.2.9 Extend Burke Road track south to Caulfield station

Extending the Burke Road tram track south to Caulfield railway station would provide a north-south link between the Frankston, Cranbourne/Pakenham, Glen Waverley and Belgrave/Lilydale train lines.

This extension would improve access to the Caulfield activity centre, racecourse and Monash University campus from the north, and access to inner eastern Melbourne from the south.

7.1.2.10 Extend Park Street South Melbourne track to St Kilda Road

A very simple and cheap augmentation to permit creation of a new east-west tram route linking Albert Park, South Melbourne and South Yarra and creating a stronger network effect in an area otherwise dominated by north-south services.

7.1.2.11 Extend Route 67 to Carnegie station

A modest extension that provides a more logical terminus for tram route 67, linking it with Cranbourne/Pakenham line trains, and giving improved access to the inner south from south-eastern Melbourne.

7.1.2.12 Extend Route 82 via Footscray Road to Docklands and the City

This connection would significantly improve access to the rapidly developing Docklands area from the CBD as well as from Footscray and Maribyrnong. The extension would also provide access to the Footscray transit city from the CBD and Docklands.

7.1.2.13 Extend Route 5 to Darling station

This short extension would provide an improved link between the inner south and the Glen Waverley line which serves the eastern suburbs and connects with SmartBus routes along Warrigal, Blackburn and Springvale roads.

7.1.2.14 Extend Route 86 to South Morang

This extension would provide improved access from outer northern Melbourne to educational institutions in Bundoora and other destinations in inner and middle northern Melbourne. Completing this link would allow connections with the South Morang railway line and Yellow Orbital SmartBus (route 901) running through northern Melbourne.

7.1.2.15 Extend Route 112 to Reservoir station

Extending tram route 112 to Reservoir railway station would improve public transport options in the area and allow connections with train services along the South Morang line.

7.1.3 Cutting delays

Even if it carries a minority of journeys, the speed of public transport can have a significant impact on general traffic flows (PTUA 2008c, pp.16-19). Where only a slow and unappealing public transport system is offered (such as across large areas of Melbourne), road users will (reluctantly) choose to endure severe congestion and add to road traffic volumes.

However, where more attractive alternatives to private car use are available, potential road users will opt for them rather than endure the congestion they would otherwise be exacerbating. As a result, road travel times will tend to converge with the time taken by equivalent public transport journeys (Mogridge 1997; PTUA 2008c, pp.16-19). The implications of this convergence are dire for areas with slow, infrequent or unreliable public transport.

Although a comprehensive rail network is fundamental to providing an attractive alternative to congested roads, buses and trams are vital to provide access to the heavy rail backbone, as well as serve journeys off the rail network. Measures outlined below would enhance the contribution of both rail and road-based public transport.

7.1.3.1 Track duplication

A lack of investment in Melbourne's rail network has left numerous single track sections of railway that limit train capacity and frequencies. Duplication will enhance capacity and reliability on the lines themselves and flow through to improved reliability and flexibility on other lines in the same group.

Werribee line (Northern group and Geelong line): The Werribee line serves some of the fastest growing areas in Melbourne, but it offers poor service levels relative to other railway lines. Duplication of the Altona loop (Altona Junction to Laverton Junction) would boost capacity and reliability on the line, and indirectly benefit Geelong and South Western Victoria services by allowing greater operational flexibility.

Upfield line (Northern group): Gowrie to Somerton Road. The proposed extension of the Upfield line to Roxburgh Park increases the proportion of single track along the route and thereby constrains frequencies, flexibility and reliability. The enhanced network effect resulting from the extension should also encourage patronage growth which will require higher service levels.

Even without an extension, poor service levels are already a problem on this line needing rectification. Duplication beyond Gowrie would support improved service levels and reliability on the line.

Hurstbridge line (Clifton Hill group): Duplication of the single track sections of railway line from Heidelberg to St James Road and from Greensborough to Hurstbridge would facilitate improved frequencies and reliability on the Hurstbridge line.

Belgrave line (Burnley group): Ferntree Gully to Belgrave. Belgrave services are often delayed by having to wait for services heading in the opposite direction along the single track section beyond Ferntree Gully. Duplication of the single track section would help to avoid disruptions such as this. It would also boost capacity on the Belgrave line and have capacity and reliability benefits across the broader Burnley group (which comprises the Lilydale, Belgrave, Alamein and Glen Waverley lines).

Lilydale line (Burnley group): Mooroolbark to Lilydale. Passengers report that Lilydale services are sometimes terminated at Mooroolbark due to city-bound trains using the single track section beyond Mooroolbark. Duplication of the single track section would help to avoid disruptions such as this. It would also boost capacity on the Lilydale line, allowing more frequent services, and have capacity and reliability benefits across the broader Burnley group (which comprises the Lilydale, Belgrave, Alamein and Glen Waverley lines).

Alamein line (Burnley group): Ashburton to Alamein/East Malvern. Significant network enhancements proposed elsewhere have the potential to substantially boost patronage on this line and necessitate higher service levels which may be constrained by the single track section of line.

Cranbourne line (Caulfield group): Pakenham line junction to Clyde. This line serves one of the fastest growing areas in Australia, however the single track sections between Dandenong and Cranbourne constrain frequencies on Cranbourne line services and limit operational flexibility right across the Caulfield group of lines.

Melton line (Northern group and Ballarat line): Deer Park to Melton. Duplication would significantly boost the capacity and reliability of both metropolitan and regional services in this corridor. Rapid population growth, as well as clear potential to increase mode share, both underline the need to cater for higher service levels to the expanding metropolitan area. This proposal will also cater for more frequent and dependable regional rail services to Ballarat and beyond.

Regional rail enhancement (Ballarat and Bendigo lines): (see also Section 7.2).
Second platform at Bacchus Marsh to allow trains to cross, and enhance short-starting.
An additional passing loop near Ballan.
Re-duplication of the parallel sections of single track between Ballarat and Warrenheip.
Re-duplication of track between Melbourne and Bendigo that was reduced to single track as part of the Regional Fast Rail project.

7.1.3.2 Traffic signal priority

Trams can spend as much as one third of their time waiting unnecessarily at traffic lights (Morton 2007), making services uncompetitive with private motor vehicles and thereby limiting their contribution to minimising congestion. Travel time savings of around 20 per cent have been achieved in Munich, Germany by enabling trams to activate green lights as part of a “Stop only at stops” program that has also boosted the productivity of rolling stock and delivered savings in operating costs. Similar improvements to travel times and capacity could be gained by implementing GPS-based dynamic signal priority to reduce traffic light delays for road-based public transport in Melbourne (Lund 2012). Traffic control systems should be upgraded to provide road-based public transport with dynamic signal priority.

7.1.3.3 Bus lanes and headstart lanes

On-road priority measures for buses could reduce travel times by around 20 per cent, thus making much more effective use of bus fleets and enticing more people out of low occupancy private motor vehicles.

Head-start lanes with 'B' lights are a relatively easy and low-cost option for helping buses to cut through congestion, and should be rolled out across all SmartBus routes, and included as a standard feature of all road works along bus routes.

7.1.3.4 Level crossing elimination on tram and SmartBus routes

While the main beneficiaries of level crossing eliminations are road users, the following grade separations should be prioritised to allow higher speeds for trains and reduce delays for road-based public transport.

Glenferrie Road, Kooyong: Facilitate increased speed and frequencies on Glen Waverley line, which would ease pressure on Monash freeway corridor, and reduce delays for route 16 trams.

Toorak Road, Malvern: Facilitate increased frequencies on Glen Waverley line, which would ease pressure on Monash freeway corridor, and reduce delays for route 8 trams once extended.

Glenhuntly and Neerim roads, Glenhuntly: Facilitate increased frequencies and higher speeds for both passenger and freight trains on the Frankston line (currently limited to 20 km/h crossing Glenhuntly Road). This would ease pressure on Nepean Highway corridor, and would also reduce delays for route 67 trams and the 623 and 624 bus routes. Simultaneously re-locating the station to mid-way between Glenhuntly and Neerim roads would improve passenger interchange between trains and trams (on Glenhuntly Road) and buses (on Neerim Road), and improve pedestrian amenity in the suburb.

Clayton Road, Clayton: Removal of the level crossing at Clayton Road would facilitate increased frequencies on the Cranbourne and Pakenham lines, which serve growth areas in southeast Melbourne, and ease traffic flow on Clayton Road.

Improved train services in south east Melbourne would ease traffic pressure on the Monash Freeway corridor.

Burke Road, Gardiner: Facilitate increased speed and frequencies on Glen Waverley line, which would ease pressure on Monash Freeway corridor, and reduce delays for route 72 trams.

Springvale Road, Springvale: Removal of the level crossing at Springvale Road would facilitate increased frequencies on the Cranbourne and Pakenham train lines, which serve growth areas in southeast Melbourne, and ease traffic flow on Springvale Road.

Riversdale Road, Camberwell: Facilitate increased frequencies on Alamein line and reduce delays for route 70 trams.

Balcombe Road, Mentone: Facilitate increased frequencies on the Frankston line and reduce delays for the route 903 SmartBus and 708 and 825 buses. Improved train services on the Frankston line would ease traffic pressure in the Nepean Highway corridor.

Bell Street and Munro Street, Coburg: Removal of the level crossings at Bell and Munro streets would facilitate improved frequencies on the Upfield line.

Doing these adjacent crossings as a single project would allow for more gentle gradients and reduce delays for the route 903 SmartBus and 512, 513 and 527 buses.

Bell Street, Cramer Street and Murray Road, Preston: Elimination of the level crossings at Bell and Cramer streets and Murray Road would facilitate improved frequencies on the South Morang line.

Doing these adjacent crossings as a single project would allow for more gentle gradients and reduce delays for the route 903 SmartBus and 513 and 527 buses.

Buckley Street, Essendon: Facilitate increased frequencies on the Craigieburn line and reduce delays for the route 903 SmartBus and 475 bus.

Camp Road, Campbellfield: Removal of the level crossing at Camp Road would facilitate increased frequencies on the Upfield line and reduce delays for the route 902 SmartBus and 538 bus.

Combining level crossing elimination with construction of a new railway station would enable train passengers to connect with route 902 and 538 buses.

North Road, Ormond, McKinnon Road, McKinnon and Centre Road, Bentleigh: Doing these adjacent crossings as a single project would allow for more gentle gradients, facilitate increased frequencies on the Frankston line and reduce delays for the route 703 SmartBus and 625 and 630 buses.

Cherry Street, Werribee: Removal of the level crossing at Cherry Street would facilitate increased frequencies on the Werribee and Geelong lines and reduce delays for route 439, 443, 441 and 446 buses.

Improved train services in western Melbourne would ease traffic pressure in the West Gate corridor.

Ferguson Street, North Williamstown: Elimination of the level crossing at Ferguson Street would facilitate increased frequencies on the Williamstown line and reduce delays for route 415 and 472 buses, as well as the proposed 904 Blue Orbital SmartBus route.

Keon Parade, Keon Park: Elimination of the level crossing at Keon Parade would facilitate increased frequencies on the South Morang line which serves one of the fastest growing areas in Australia.

Mount Derrimut Road/Station Road, Deer Park: Grade separation would support higher frequencies on the Melton line and reduce delays for the route 400 bus and proposed extension of the route 902 Green Orbital SmartBus. This crossing will also see an increase in train services as a result of the Regional Rail Link (RRL) project.

7.2 Freight transport

The impact on freight rates of last year's disruption of the Adelaide-Darwin railway demonstrates the importance of rail freight to ensuring a competitive Australian economy (Masters 2012). Similarly, logistical complications and additional road damage and risk of road trauma are natural consequences of neglecting rail infrastructure (ABC 2012; Carey 2012).

The PTUA believes an enhanced role for rail freight is vital to the productivity and sustainability of the Australian economy. Our response to the National Land Freight Strategy discussion paper outlines recommendations for strengthening the contribution of rail to the freight sector (PTUA 2011a). In particular, rail is unlikely to fulfil its potential while different rail gauges inhibit the efficient movement of freight.

A Grain Logistics Taskforce report (Grain Logistics Taskforce 2011) recommended the assessment of opportunities to standardise Victoria's rail network, which followed a Victorian Freight & Logistics Council report (VFLC 2010, pp.50-60) that found benefits with a Net Present Value of $100 million from standardisation of a number of regional lines in Victoria.

In Australia's integrated national economy, supply chains are now largely national in scope. Therefore intrastate freight movements are often just a component of a longer national supply chain. As noted in our land freight strategy submission (PTUA 2011a), the existence of incompatible rail gauges inhibits interoperability across Australia's freight infrastructure and harms productivity. Removing this inefficiency through gauge standardisation should be a key priority for the Commonwealth. Consistent with the findings of the Grain Logistics Taskforce report, the opportunity should also be taken during standardisation works to increase axle load ratings. Similarly, alignments should be optimised where they currently inhibit speed, and additional passing opportunities created to expand capacity and reduce delays for both freight and regional passenger services.

The PTUA proposes a national *Bringing our rail network up to standard* program that focuses on track upgrades and the standardisation of rail gauges, thereby helping to ensure that fast, high-capacity rail freight services can be run from as close as possible to where the freight is generated to as near as possible to its destination (PTUA 2009c, pp.10-18). The program should also ensure that ports (including Webb Dock) and intermodal facilities are seamlessly integrated with the national standard gauge rail network.

7.2.1 A program of standardisation

We suggest the following sequence for standardisation in Victoria (Batchelor 2001), to be accompanied by work to improve rail alignments, create additional passing lanes on single-track lines, and allow increased axle loadings (PTUA 2009c, pp.6-17).

Future standardisation would also be aided by ensuring ongoing track work (e.g. Regional Rail Link; metropolitan maintenance; etc) includes gauge convertible sleepers as have been included as part of Adelaide's rail revitalisation program. This should be a standard condition of all Commonwealth transport funding to states with non-standard gauges.

7.2.1.1 Melbourne to Cobram, Tocumwal and Dookie via Shepparton

Standardisation of these lines in the north east of Victoria would allow the entire Melbourne to Albury corridor to be converted to standard gauge, providing greater capacity and reliability for passengers and freight on this major interstate route and ensure a more cohesive rail system in the region.

7.2.1.2 Geelong to Mildura, Yelta, Pinnaroo, Kulwin and Robinvale, via Ballarat and Maryborough

A 2008 study found that the lack of an effective rail freight service to Mildura costs over $100 million per annum (GHD 2008). Despite re-conditioning of the Geelong to Mildura line, the lack of gauge conversion will mean that the full potential of the upgrade will not be realised.

If the Mildura line was standardised, the capacity of the interstate rail network could be considerably enhanced by building a new standard gauge line from Mildura to Broken Hill, thereby connecting with the main east-west standard gauge line between Sydney and the western seaboard. With some minor infrastructure adjustments, this route would allow the running of double-stacked container trains to Melbourne from other states, something that is currently impossible, due to insurmountable infrastructure restraints on the existing interstate lines from Sydney and Adelaide.

The standardisation of western and north western Victorian lines would improve standard gauge access to the Port of Geelong via Ballarat, and make more effective use of the dual-gauge Corio Independent Goods Line, which will enhance standard gauge access to the Port of Geelong.

Standardisation of these lines would also enhance their potential to carry significant tonnages of mineral sands from the north west of Victoria to Geelong or Portland.

Standardisation of the Pinnaroo branch also provides enhanced capacity and network resilience for east-west interstate services, by re-establishing the former connection with the rail network in South Australia at that point.

7.2.1.3 Melbourne to Piangil, Moulamein and Deniliquin via Bendigo, including Bendigo to Inglewood and Maryborough

Standardisation of the remaining central Victorian and Riverina lines would naturally follow the conversion of the routes mentioned above, and provide a seamless rail network from Melbourne to all northern regions of the state.

7.2.1.4 Heywood to Mount Gambier

This would reopen access to the Port of Portland from the South Australian border region and allow rail to regain a larger share of the freight task which was lost when the Ararat to Portland line was standardised. This may also offer another east-west route between Melbourne and Adelaide, if the Wolseley to Mount Gambier line was to be included, providing greater interstate capacity and network resilience.

7.2.1.5 Melbourne to Ararat via Ballarat

This would complete the standardisation of western Victoria and provide greater capacity and network resilience for east-west interstate rail freight movements, by connecting the line though Ballarat with the existing interstate standard gauge line at Ararat, providing an alternative route to the present one via Geelong.

7.2.1.6 Geelong to Dennington

With all other western lines standardised, and given the existing standard gauge line from Melbourne to Geelong, this would bring the south west of Victoria into the growing standard gauge network.

7.2.1.7 Melbourne to Bairnsdale, Maryvale and Leongatha

This would complete standardisation of Victoria's regional rail infrastructure and ensure the state is properly integrated into a seamless national rail freight network.

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