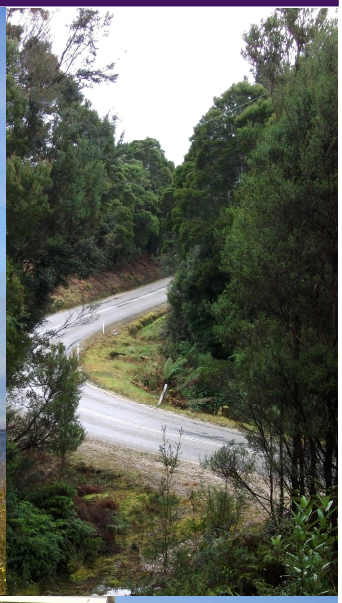
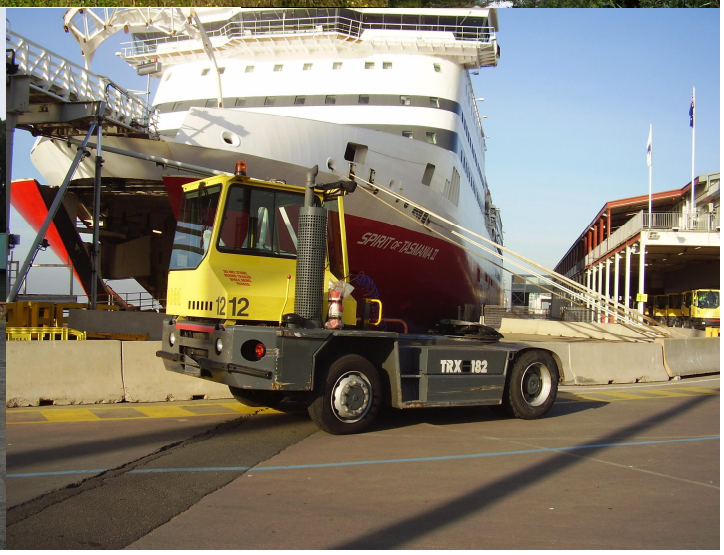
Freight Rates Update 2012-13

BASS STRAIT SHIPPING AND TASMANIAN FREIGHT EQUALISATION SCHEME

Final report

SB19764 | 28 March 2013





SINCLAIR KNIGHT MERZ

SKM

Freight Rates Update 2012-13

Bass Strait Shipping and Tasmanian Freight Equalisation Scheme
Final report

Document title:	BITRE Freight rates update for TFES 2012-13
Version:	Final
Date:	28 March 2013
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Approved by:	Andrew Young
File name:	C:\Users\SManders\Documents\Projects\SB19764 - BITRE Shipping rates and TFES\Deliverables\Reports\2013\Final\130320 R02 BITRE Freight Rates and TFES Update-FINAL.docx

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1. Executive Summary

SKM was engaged to assist the Bureau of Infrastructure, Transport and Regional Economics (BITRE) with provision of freight rate data and information to provide more recent data points in various time series data sets, used for a wide variety of transport economics projects. The study also examined Bass Strait shipping arrangements, including assessment of the impact of changes which have occurred in the past two years.

1.1 Freight rates

This report provides current and available historic freight rate information on routes requested, covering commodity types carried by road, rail, sea and air. This information has been drawn from a variety of sources, primarily SKM's freight rate database, supplemented with shadow quotes and industry discussions. Rates are expressed in cents per net tonne.kilometre in $ of the day, and trends in real terms, adjusting for CPI inflation rates.

Overall trends in freight rates since 1996 are summarised below. This shows short and medium haul road and rail rates (eg Adelaide – Melbourne, Melbourne – Sydney, Sydney– Brisbane) and sea freight rates for routes on which sea services are still available, principally eastern states to Perth. These are typical rates for large shippers, exclude backloading rates and do not allow for empty running.

		Road			Rail			Sea		
Year	CPI (change from previous year)	c/ntk	c/ntk discounted to 1996 values	% increase on 1996 values	c/ntk	c/ntk discounted to 1996 values	% increase on 1996 values	c/ntk	c/ntk discounted to 1996 values	% increase on 1996 values
1996	0.00	3.06	3.06	-	1.82	1.82	-	1.98	1.98	-
1997	0.00	3.46	3.46	13.3%	2.29	2.29	25.9%	2.01	2.02	1.9%
1998	0.02	3.71	3.66	19.6%	2.65	2.62	43.9%	1.96	1.94	-2.2%
1999	0.02	3.86	3.74	22.2%	2.94	2.84	56.3%	1.88	1.82	-8.3%
2000	0.06	4.60	4.18	36.8%	3.68	3.35	83.9%	2.06	1.87	-5.3%
2001	0.03	5.62	4.91	60.7%	4.18	3.65	100.6%	2.00	1.75	-11.7%
2002	0.03	5.46	4.59	50.1%	5.31	4.46	145.3%	2.67	2.24	13.2%
2003	0.02	5.60	4.55	48.9%	5.51	4.48	146.2%	3.07	2.49	25.9%
2004	0.03	5.93	4.64	51.8%	5.67	4.43	143.6%	3.06	2.40	21.0%
2005	0.03	6.79	5.08	66.2%	6.29	4.70	158.5%	3.12	2.33	17.8%
2006	0.03	7.20	5.09	66.5%	6.58	4.65	155.6%	3.45	2.44	23.2%
2007	0.03	7.29	4.88	59.5%	6.61	4.42	143.1%	3.46	2.32	17.0%
2008	0.04	8.13	5.04	64.9%	6.86	4.26	133.8%	3.63	2.25	13.6%
2009	0.02	9.41	5.56	81.9%	7.61	4.50	147.2%	3.43	2.03	2.5%
2010	0.03	9.80	5.43	77.5%	8.00	4.43	143.3%	3.95	2.19	10.6%
2011	0.03	10.04	5.11	67.1%	8.24	4.19	130.4%	4.05	2.06	4.1%
2012	0.02	10.52	5.01	63.8%	8.47	4.04	121.7%	4.15	1.98	-0.2%

Source: SKM

The clear trend from this is that both road and rail rates have risen more quickly than sea rates, which have remained steady in real terms. Cumulative increases in freight rates over the 16 years 1996 – 2012 are:

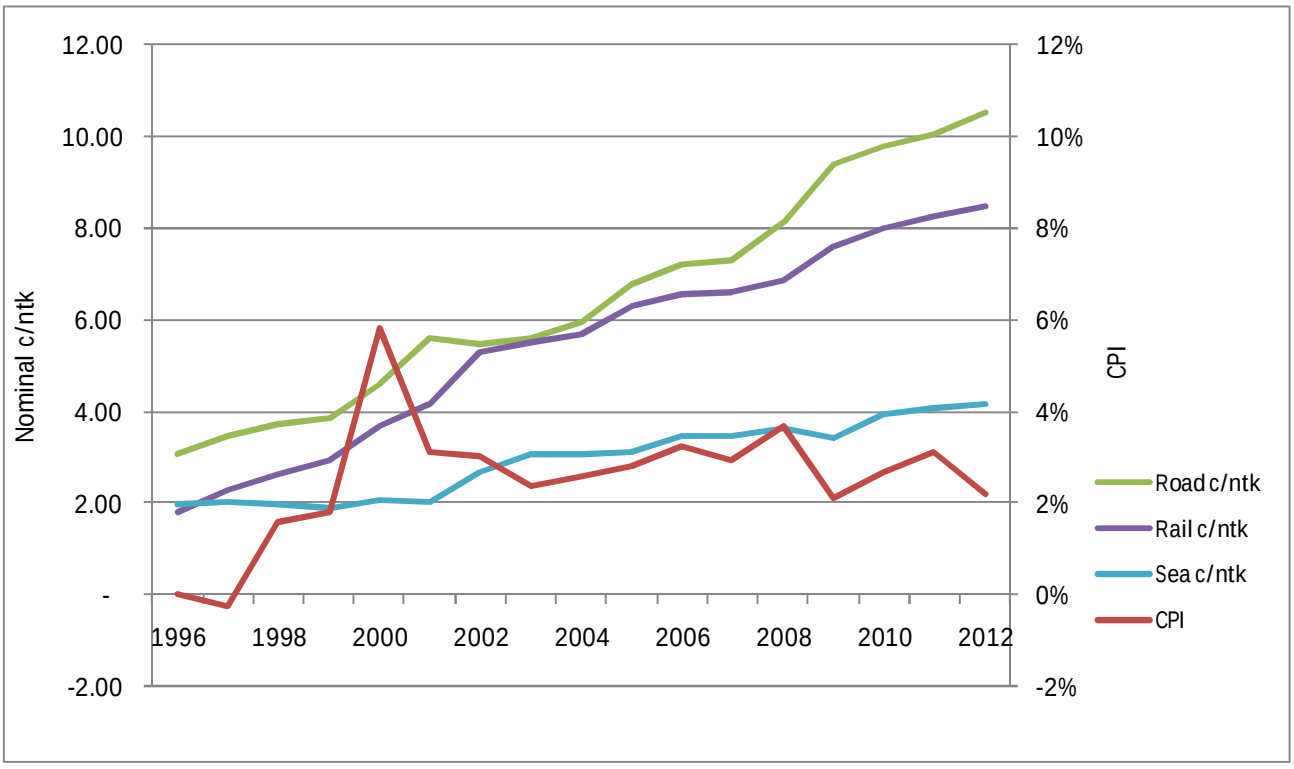
- Road: 63.8%
- Rail: 121.7%
- Sea: -0.2%

As Figure 1.1 and Figure 1.2 show, the bulk of the increase in costs for road and rail occurred in the period from 1996 until 2003, and they have been relatively steady from then.

The main influencing factors for these cost increases include:

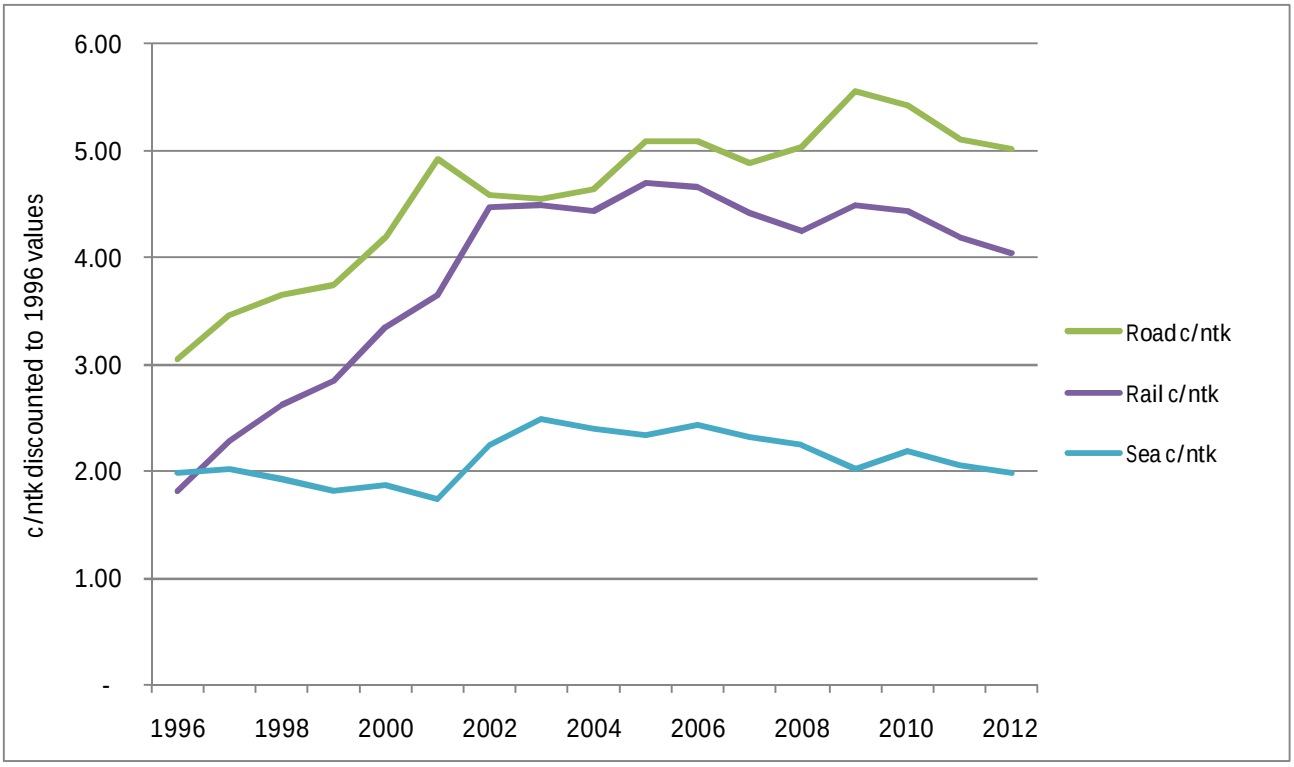
- Fuel and driver costs (particularly for road and rail)
- Increasing regulatory compliance costs (particularly for road operations)
- Increasing profitability targets for rail, following privatisation and corporatisation of virtually all former government freight rail businesses
- Loss of market share by rail on shorter haul corridors
- Drought adversely affecting grain volumes on rail for much of the time period
- Increasing rail maintenance expenditure in recent years, much of which is “catch up” expenditure following periods of underinvestment and deterioration in track condition.

Figure 1.1 : Nominal freight rates trends



Source: SKM and ABS (CPI)

Figure 1.2 : Real freight rates trends



Source: SKM

1.2 Bass Strait shipping arrangements

There are three companies operating six vessels, all roll on, roll off (RoRo), between Melbourne and northern Tasmania:

- SeaRoad, with the *SeaRoad Tamar* and *SeaRoad Mersey* sailing between Webb Dock and Devonport
- Toll ANL, operating the *Tasmanian Achiever* and *Victorian Reliance* between Webb Dock and Burnie
- TT Line, with the *Spirit of Tasmania I* and *II* operating between Station Pier and Devonport.

Capacity of shipping services between the mainland and Tasmania has remained stable in the past two years, with no changes in the vessel fleet in that time. There has been some growth in volumes shipped despite reductions in manufacturing in Tasmania, resulting in all vessels being close to full for much of the year, and demand exceeding supply slightly in the pre Christmas peak.

Bell Bay port no longer has any regular coastal container ship calls, as the former ANL Bass Trader service operating from Bell Bay ceased when the Toll ANL service was established in 2009, retaining only the two Toll vessels calling at Burnie on the route.

The withdrawal of the weekly AAA Consortium vessel calls to Bell Bay left Tasmania without any direct international container shipping services, and required all imports and exports to be transhipped in Melbourne between Bass Strait and international services. This added between $450 and $600 per TEU to international shipping costs (see section 5.4).

Swire Shipping has announced the commencement of a monthly multi purpose vessel based service from Bell Bay to Hong Kong and Shanghai with the first sailing in late March 2013. This will carry aluminium ingots in break bulk ingots from Bell Bay Aluminium as the main customer, with limited capacity for other shippers' freight. TEU capacity was stated as being limited to 50 – 100 TEU. Swire Shipping has also stated it is

investigating a separate container service from Tasmania to North Asia using vessels of around 2,000 TEU, but that this would require support from the Tasmanian government or others.

Rates paid for Bass Strait shipping vary substantially between large shippers with consistent, well organised arrangements, and smaller and one off shippers, who pay much more.

King Island receives a weekly call by the *SeaRoad Mersey*, on its Sunday voyage from Devonport to Melbourne. Rate schedules are no longer published, but it is understood that increases have been limited to CPI and standard fuel surcharges following quite noticeable increases in the period 2008 – 2010. With the closure of the JBS King Island abattoir and transfer of King Island operations to Longford, near Launceston, livestock services have been provided by LD Shipping and SeaRoad.

SeaRoad Mersey at Grassy Harbour, King Island

Services to King Island will require substantial reconsideration if SeaRoad replaces its vessels in the next few years with larger ones as planned. These are unlikely to fit existing port infrastructure, and the Tasmanian government (DIER 2013) has stated it cannot justify the estimated $40 - $60 m expenditure (GHD 2008) required for the port upgrades at Grassy that would be required to accommodate vessels of the size planned by SeaRoad. This is despite the positive financial evaluation outcome reported by GHD. The Tasmanian government is about to commission a study to investigate and recommend on these issues (DIER 2013). Furneaux Freight expects to commission a new vessel in April 2013 which is likely to have potential to service King Island.

Matthew Flinders III
Source: http://furneauxfreight.com.au/matthew-flinders-iii-2/

Services to Flinders Island and the Furneaux Group have become more stable with Furneaux Freight acquiring assets including the *Matthew Flinders III* from the failed Southern Shipping company. Furneaux Freight is now operating the *Matthew Flinders III*, with a new vessel under construction also proposed for the route. DL Shipping's *Statesman* provides an on demand service, particularly for livestock to Tasmania and the mainland. Rates have reduced and the general conclusion is that services have improved.

It has been commonly stated that the extension of TFES to shippers on Bass Strait islands for intrastate journeys has been a substantial benefit to the island economies. This was enacted from 1 July 2008.

2. Introduction

SKM was engaged to assist the Bureau of Infrastructure, Transport and Regional Economics (BITRE) with provision of freight rate data and interpretive information, to continue various time series analyses of Australia's freight transport arrangements.

This study extends time series freight rates provided to BITRE in 2008 and 2010 in the context of a review of the Tasmanian freight equalisation schemes underway at that time. These data series have informed a variety of transport economic projects and assessments.

This report provides current and available historic freight rate information on routes requested, covering commodity types carried by road, rail, sea and air. This report provides a summary of the information provided in detailed excel spreadsheets, as well as discussion of the methodology, interpretation and issues which should be considered when using this information. It also includes information on Bass Strait shipping services, where a number of substantial changes have occurred in the last few years.

One of the more significant changes was the withdrawal in 2011 of the last direct international container shipping service calling at any Tasmanian port, necessitating exporters to tranship containers from domestic Bass Strait service to international lines in Melbourne, increasing both costs and transit times. Issues associated with this are addressed in this report for the first time.

3. Background, objectives and approach

3.1 Background

BITRE has maintained time series datasets covering most Australian freight routes and operations for many years, which are used for a wide variety of transport economics projects and assessments. This study extends these using similar approaches, to provide comparable data.

These datasets included shipping services between the mainland and Tasmania, principally between Melbourne and northern Tasmanian ports. More detailed investigation into Tasmanian freight arrangements and costs was undertaken in 2008 (BITRE 2008), in the context of a parameter review of the Tasmanian freight subsidy schemes then underway. An update of this work was undertaken in 2010 (BITRE, 2010).

It has been recognised for many years that interstate trade between Tasmania and the mainland incurs higher costs than would apply for similar distances on the mainland where direct land transport alternatives exist. Schemes have been in place since at least 1976, and are designed to provide compensation to companies and individuals in certain industries incurring these higher costs. The Tasmanian Freight Equalisation Scheme (TFES) was implemented in 1976, and the Tasmanian Wheat Freight Scheme (TWFS) was re-established in 2004 replacing a number of schemes first established in 1959 to provide assistance to bulk shippers of wheat to Tasmania.

There have been a number of reviews of these schemes, some recalculating the rates at which payments are made, and others the overall structure, commodity coverage and administrative mechanisms used. The Productivity Commission's 2006 Report 39 and BITRE (2010) project being the most recent. Regular reviews of the rates at which payments are made have been a feature of these schemes, and this report summarises research which will inform this process.

There have been a number of changes in Bass Strait shipping service provision since 2008, and these have potential to influence rates and services available to shippers. One of the more significant since 2010 was the withdrawal of the last direct international container service in April 2011, necessitating Tasmanian exporters and importers to tranship containers in Melbourne.

3.2 Objectives

The objectives of the project were to provide:

- Updated freight rates covering most mainland freight corridors, and to determine rates for comparable all land transport movements of similar distances to Bass Strait moves between Melbourne and northern Tasmania
- A summary of shipping arrangements servicing Tasmania and Bass Strait Islands
- A specific examination of the impacts of the withdrawal of direct international container services to Tasmania.

3.3 Approach adopted

The approach adopted was:

- Obtaining freight rates for all the movements by modes required.
- Examination of the current Bass Strait shipping freight task, including service providers and estimates of volumes handled.
- Undertaking market research with providers and users of Bass Strait shipping services to gain insights and specific case study examples of actual experiences.

3.3.1 Data Sources

Data sources used for this project were:

- Discussion with a range of transport industry service providers, industry associates and other stakeholders
- SKM's database of freight rates, assembled from a wide variety of available sources including:
  - Data from projects where clients were assisted to seek freight services
  - Data from projects assisting freight service providers lodge quotations and submissions to provide transport services
- Discussion with industry contacts and others with useful information
- Data from "shadow quotations" sought specifically to supplement data, fill gaps or investigate anomalies
- Publicly available information such as Pacific National's annually published "Book Rates" for rail services.

The freight rates data base aims to provide rates typically paid by substantial, regular users of freight services, typically spending at least $60,000 - $120,000 per month.

All rates shown are expressed as dollars of the day, without any adjustment for inflation or changes in value of Australian currency.

The basis and approach adopted is the same as that used for SKM's 2008 and 2010 reports for BITRE. More information on specific data issues and interpretation is provided in Appendix A.

4. Freight rate data

This section summarises information from the separate freight rate spreadsheet model which contains a wide variety of tabular information from which the summary presented here is drawn.

Rates here are expressed in AUD cents per net tonne.kilometre ($ / ntk). That is, the rate paid to move one tonne of freight one kilometre. This provides a consistent base for the comparison of costs for difference journey lengths and across modes.[1] Calculations of cents / ntk use applicable distances for the mode concerned – road distances for road rates, rail distances for rail rates, etc.

It should be noted however that freight rates are most commonly expressed and negotiated using the units set out below:

- Road:
  - $ / t for the origin destination pair
  - $ / full truckload for the origin destination pair
- Rail:
  - $ / t for the origin destination pair
  - $ / container for the origin destination pair (often with a flat $ figure which includes the first 3 to 5 t plus $ / t for additional tonnes
- Sea:
  - $ / 20’ or 40’ container for the full door to door journey
  - $ / t for the journey
  - $ / hold for the journey
  - $ / linear metre of length of the vehicle or unit to be transported for the journey

Rates are in dollars of the day, without adjustment for inflation or changes in currency value.

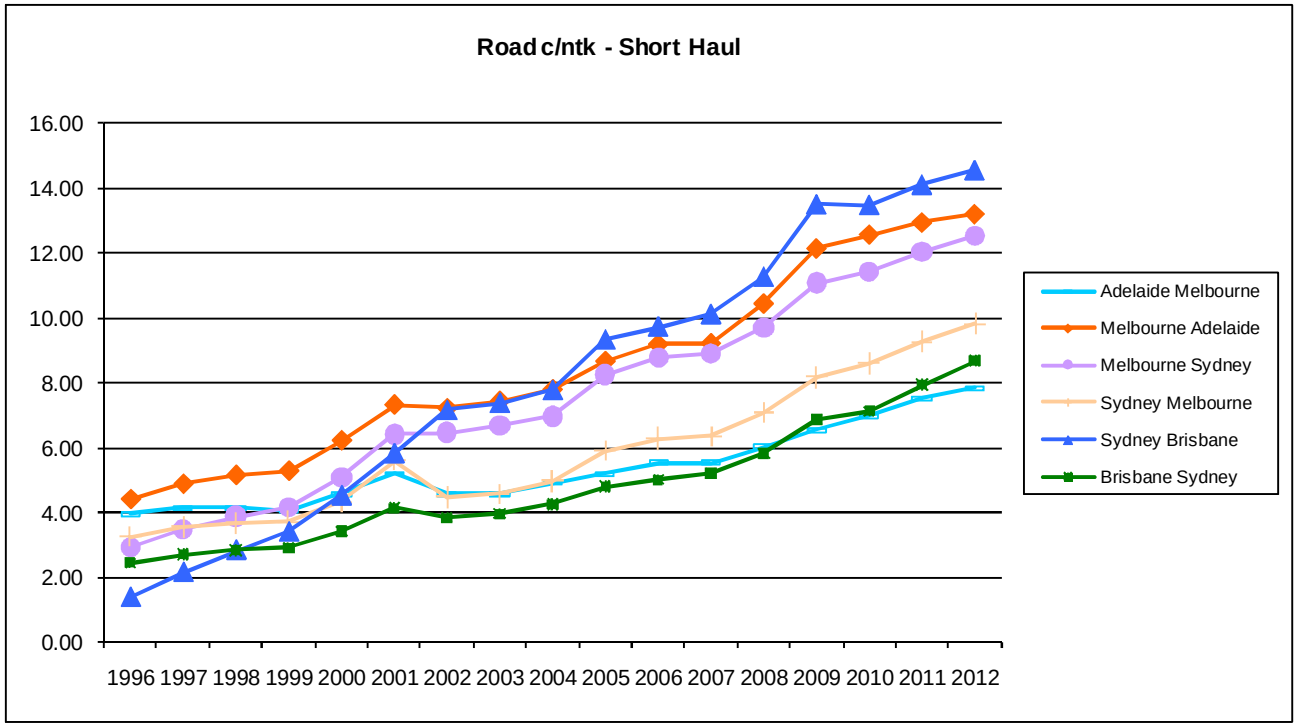
Freight rates shown for all years 1996 – 2009 and 2011 – 2012 are as at December of the year concerned (ignoring any seasonally related fluctuations that may occur near Christmas). 2010 rates are at June 2010.

4.1 Mainland intercapital routes

Freight rates for mainland inter capital routes from 1996-2012 are shown in Figure 4.1 to Figure 4.7.

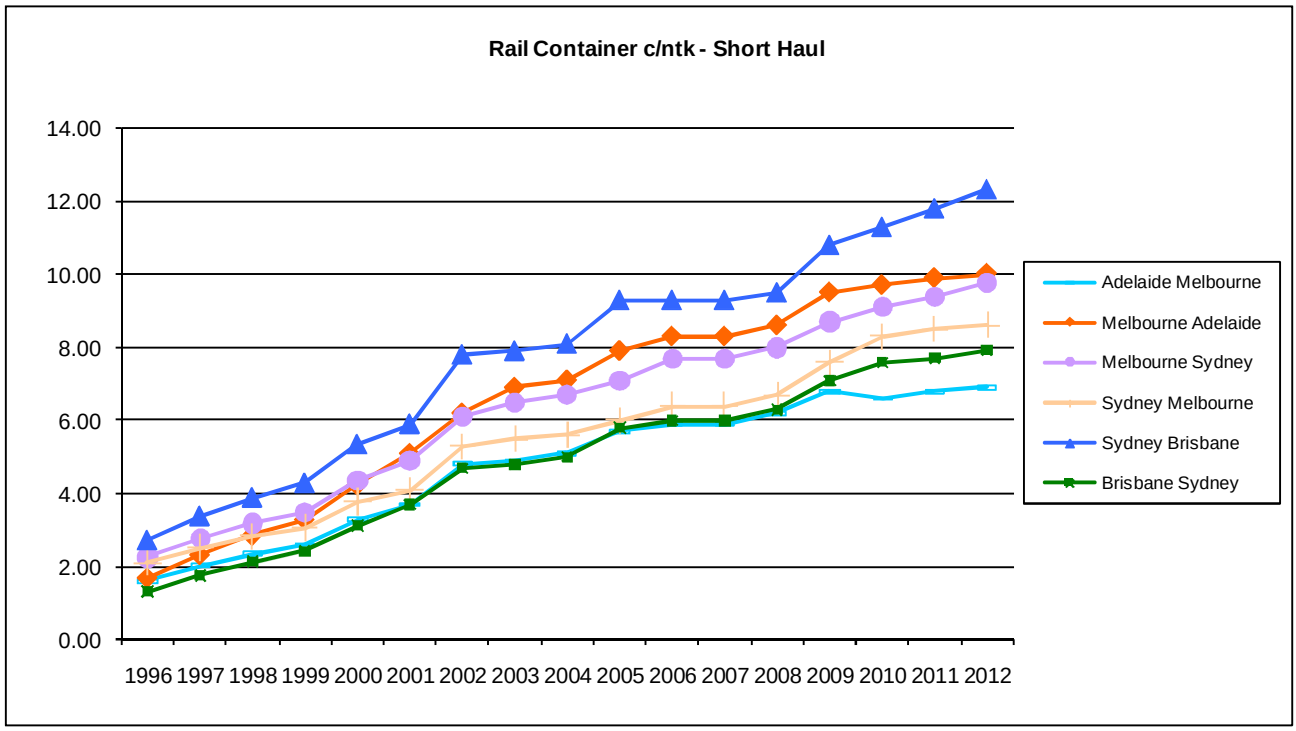
[1] The term “net” refers to the weight of the goods and immediate packaging only. It contrasts with gross tonne kilometres, commonly used in rail transport, where it refers to the gross weight of the train (including freight, locos, wagon tare weight, and also the tonne.kilometres involved in returning empty trains for the next forward journey).

Figure 4.1 : Road freight rates – short haul



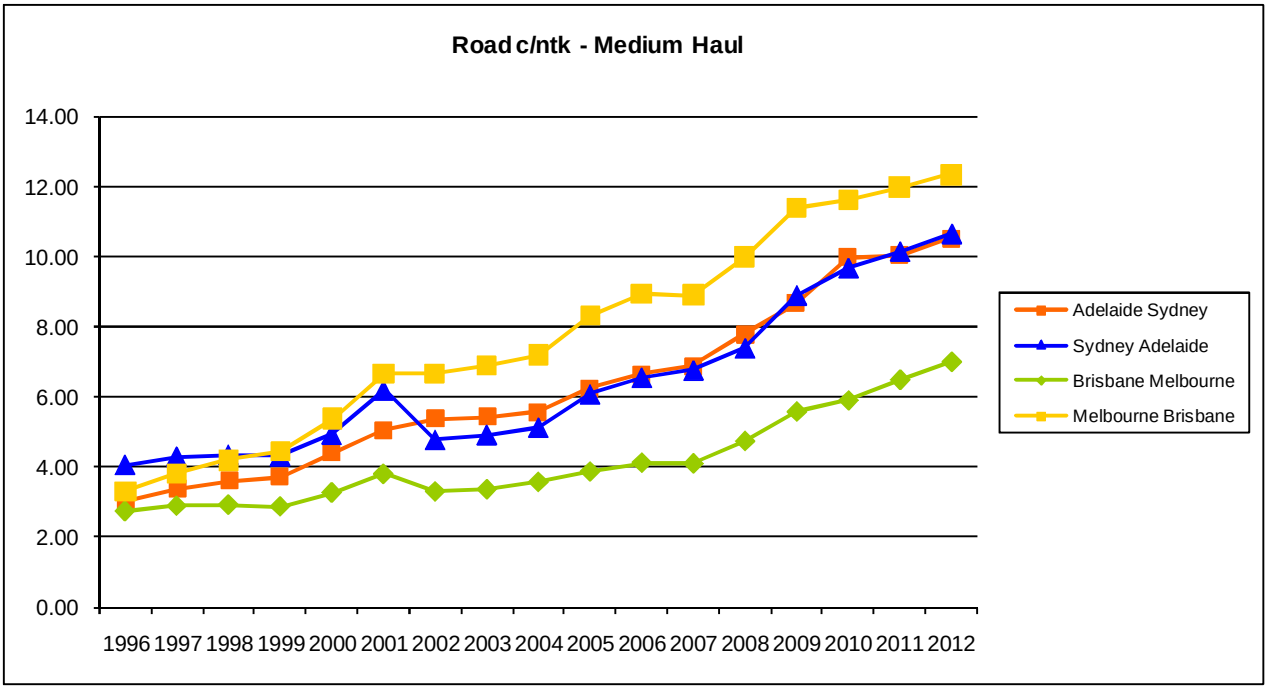
Source: SKM

Figure 4.2 : Rail freight rates containers and intermodal – short haul



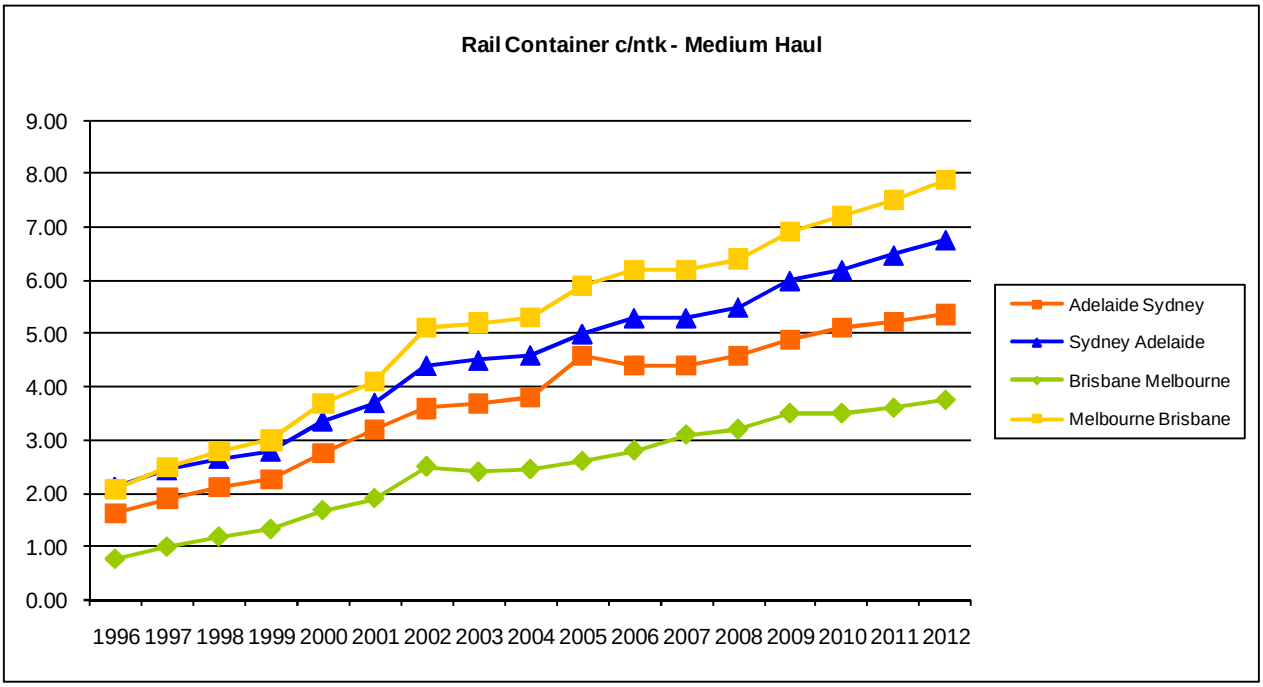
Source: SKM

Figure 4.3 : Road freight rates – medium haul



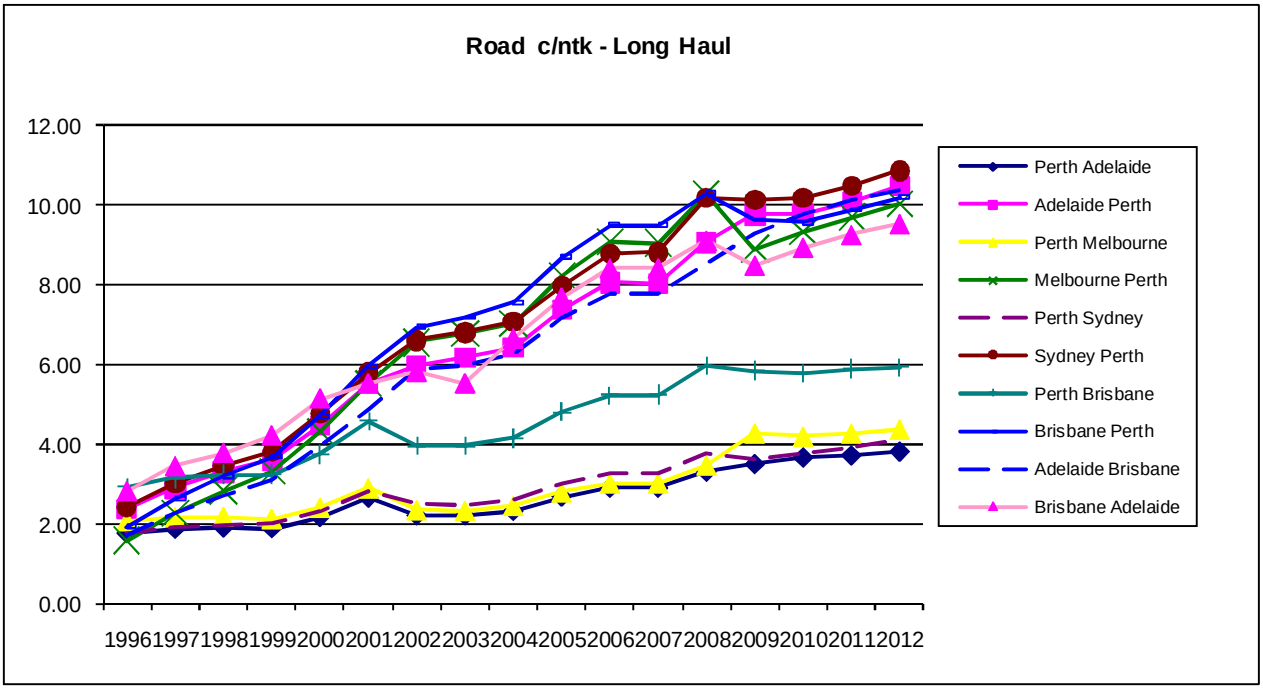
Source: SKM

Figure 4.4 : Rail freight rates containers and intermodal – medium haul



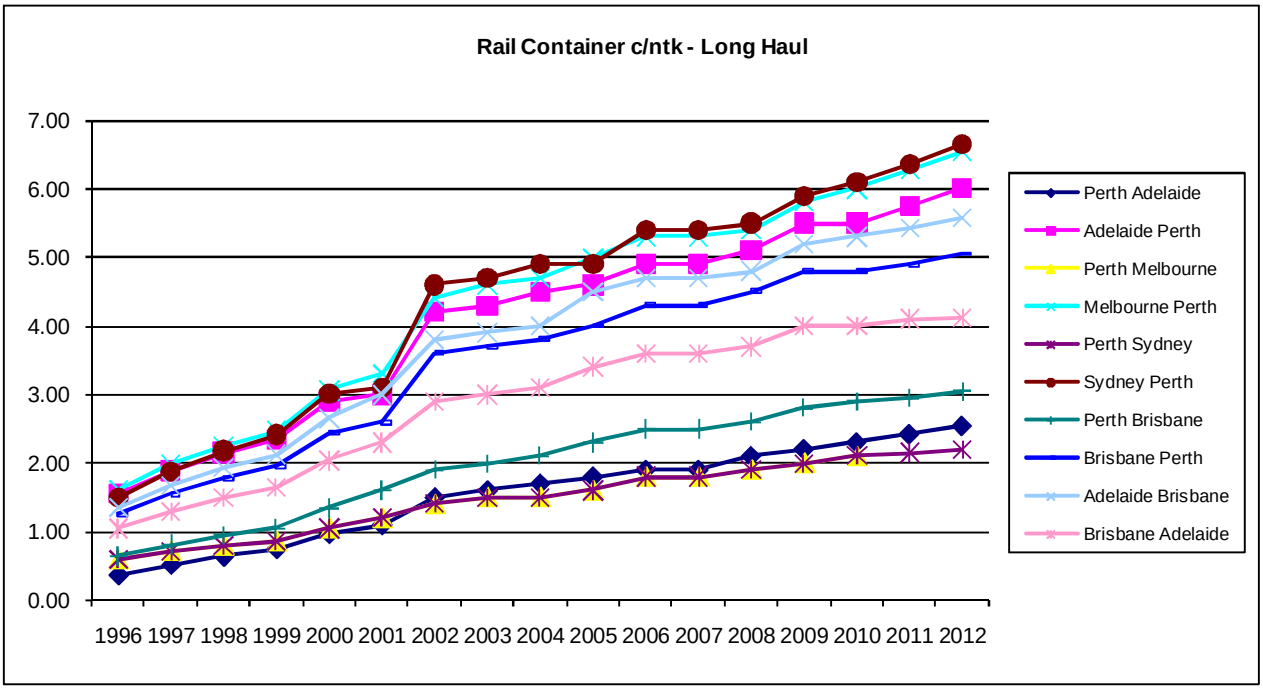
Source: SKM

Figure 4.5 : Road freight rates – long haul



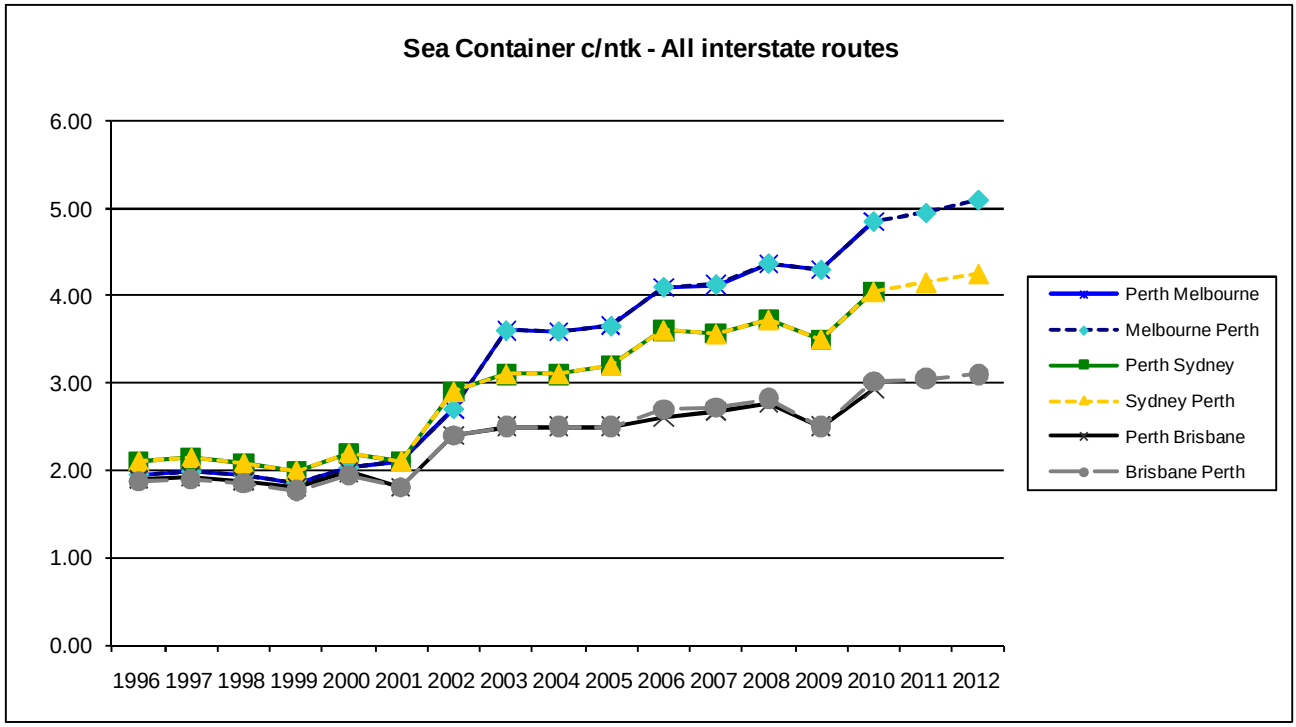
Source: SKM

Figure 4.6 : Rail freight rates containers and intermodal – long haul



Source: SKM

Figure 4.7 : Sea freight rates coastal containerised – long haul



Source: SKM

4.1.1 Refrigerated rates

Most goods transported and stored in temperature controlled conditions are generally either frozen (typically –36º C) or chilled (+1º C) although there are a few others, such as chocolate, which generally requires around +16º C) and some fresh produce items which are best transported at higher temperatures than +1˚ C. Refrigerated containers and trailers are generally referred to as 'reefer' units.

Refrigerated rates have always attracted a premium, recognising higher costs from:

- Greater capital from refrigeration motor and routine use of insulated containers, solid sided pantechnicon trailers, rather than general containers, curtainsided tautliner trailers etc
- Costs for diesel fuel or electricity to operate the refrigeration motor
- Reduction in payload, from the weight and space occupied by the refrigeration equipment
- Longer loading and unloading times, from pantechnicons rather that tautliner trailers
- Maintenance related costs in refrigeration system checking and repair, and greater downtime when equipment is not in service
- Additional driver time in temperature monitoring and reporting (this is diminishing with automatic monitoring and reporting equipment becoming more common)
- Higher protective clothing uniform costs.

Road transport nearly always uses diesel powered refrigeration with a separate fuel tank and motor for the refrigeration unit. Sea almost always requires electrically powered refrigeration motors, powered from onboard generators, which avoids diesel exhaust in ship holds. Rail generally accepts both alternatives, with separate generator 'power cars' included in the train consist to run refrigerated containers. Refrigerated rail rates are generally the same regardless of the power source used.

Premiums for temperature controlled freight have been reducing, and are now typically 8 – 10% for frozen goods and 5 – 8% for chilled goods. However they vary widely from zero to 15% or more according to supply

and demand factors. Most transport companies now have some temperature controlled equipment and capability, but also reflect reducing costs and improving performance for refrigeration equipment. Refrigeration motors are less expensive, more reliable and more fuel efficient than in the past, and automatic temperature loggers reduce driver effort in monitoring and reporting on temperature. Longer trips tend to attract a slightly lower premium, due to the flagfall aspects of loading, unloading and establishing reporting protocols for temperature maintenance.

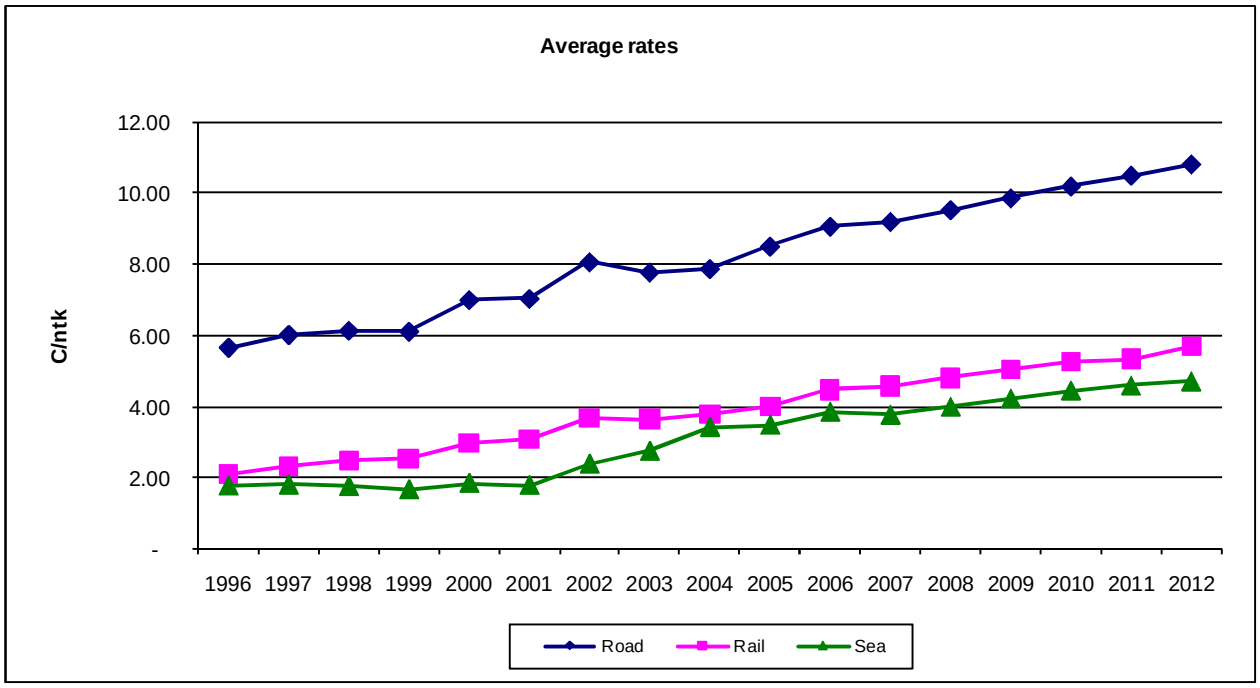
4.2 Dry bulk rates (wheat)

Rates for movement of wheat from major growing areas to export ports are shown in Figure 4.8 and rates for the main routes are shown in Table 4.1.

Grain volumes have rebounded from better seasonal conditions in the last two years following severe drought in most grain growing areas for several years, except Western Australia. Rail has regained market share, and is now carrying around 50%, although targets are generally higher. Between 5 – 10% of grain is now exported in containers, up from virtually zero less than a decade ago.

Many rail rates are structured on so called 'take or pay' arrangements, which reduce the risk for rail service providers from inadequate volumes and equipment utilisation.

Figure 4.8 : Grain freight rates national average



Source: SKM

Table 4.1 : Grain rates for major routes (c/ntk)

		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Western Australia to	**Kwinana**																	
(300 km)	Road	4.43	4.84	5.05	5.14	6.01	6.13	7.20	7.34	7.00	7.97	8.60	8.60	9.87	11.10	11.60	11.90	12.10
	Rail	2.36	2.59	2.70	2.75	3.22	3.29	3.90	3.78	4.00	4.14	4.65	4.70	5.20	5.80	6.50	6.75	7.10
South Australia to	**Port Lincoln**																	
(200 km)	Road	6.31	6.62	6.66	6.54	7.41	7.35	8.20	7.87	8.10	8.48	8.92	8.90	10.14	10.80	10.80	11.50	11.70
	Rail	2.65	2.95	3.12	3.21	3.79	3.91	4.70	4.70	4.70	5.13	5.75	5.80	6.10	6.90	7.30	7.62	7.91
NSW/SA to	**Port Pirie**																	
(400 km)	Road	5.59	5.89	5.95	5.87	6.67	6.65	7.50	7.20	7.30	7.80	8.24	8.20	9.32	10.20	10.70	10.90	11.40
	Rail	2.12	2.33	2.43	2.48	2.91	2.97	3.50	3.49	3.60	3.79	4.21	4.20	4.95	5.40	5.80	6.03	6.29
South Australia to	**Adelaide**																	
(350 km)	Road	5.60	5.89	5.95	5.86	6.66	6.62	7.50	7.20	7.10	7.78	8.22	8.20	9.35	10.10	10.50	10.70	10.90
	Rail	2.26	2.48	2.60	2.66	3.12	3.20	3.80	3.79	3.80	4.13	4.58	4.60	4.95	5.80	6.20	6.45	6.73
NSW/Vic to	**Geelong**																	
(350 km)	Road	5.77	6.18	6.34	6.35	7.32	7.38	8.60	8.17	8.40	9.19	9.70	9.70	10.81	11.70	12.20	12.40	12.80
	Rail	1.91	2.18	2.36	2.47	2.97	3.10	3.80	3.77	4.00	4.26	4.75	4.70	5.13	6.00	6.40	6.55	6.75
NSW/Vic to	**Melbourne**																	
(350 km)	Road	5.74	6.16	6.32	6.33	7.30	7.37	8.60	8.17	8.40	9.19	9.72	9.70	10.74	11.70	12.10	12.20	12.40
	Rail	1.91	2.18	2.36	2.47	2.97	3.10	3.80	3.77	4.00	4.26	4.75	4.10	4.45	5.20	5.60	6.15	6.55
NSW to	**Port Kembla**																	
(300 km)	Road	5.75	6.16	6.32	6.32	7.28	7.33	8.50	8.16	8.40	8.91	9.70	9.70	10.92	12.10	12.60	13.00	13.60
	Rail	1.62	1.85	2.01	2.12	2.54	2.66	3.30	3.27	3.40	3.71	4.14	3.90	4.20	4.80	5.20	5.60	6.35
NSW to	**Newcastle**																	
(400 km)	Road	6.20	6.56	6.65	6.58	7.50	7.49	8.50	8.16	8.40	8.80	9.46	9.50	10.62	11.50	11.90	12.20	12.50
	Rail	1.89	2.08	2.19	2.24	2.64	2.71	3.20	3.18	3.40	3.46	3.89	3.90	4.14	4.70	5.10	5.60	6.25

Source: SKM

4.3 Parcels and smalls

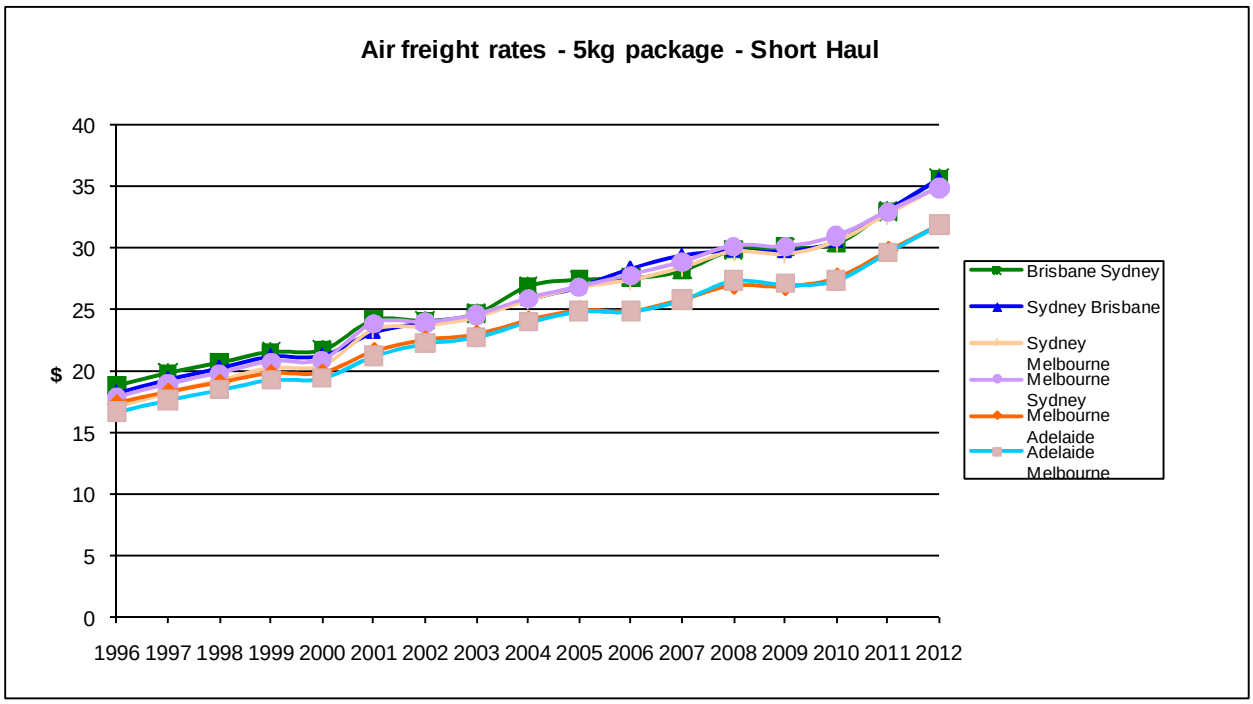
This section contains available information on airfreight rates for parcels and smalls. Most transport companies offer relatively simple rating scales for parcels and smalls, accepting that there will be a degree of cross-subsidisation across routes. The analyses presented in Table 4.2 are based on typical 5 kg parcels send by air or road express (over shorter distances) to provide next morning delivery between capital cities. Most parcels moving by air are moved on passenger planes. Rates are highly dependent on volumes and the sizes of planes used, resulting in much higher rates (and slower transit) times to and from regional areas.

Table 4.2 : Parcel rate trends

		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Brisbane	Sydney	$18.89	$19.89	$20.74	$21.62	$21.74	$24.20	$24.15	$24.70	$26.95	$27.50	$27.60	$28.20	$29.90	$30.10	$30.40	$33.03	$35.65
Brisbane	Melbourne	$21.35	$22.71	$23.92	$25.16	$25.58	$27.31	$30.20	$32.10	$32.20	$32.41	$33.40	$34.80	$36.20	$35.80	$35.90	$39.28	$42.65
Brisbane	Adelaide	$22.04	$23.48	$24.77	$26.09	$26.63	$28.36	$29.80	$30.78	$32.43	$33.76	$34.90	$36.19	$37.86	$37.90	$39.20	$41.55	$43.90
Brisbane	Perth	$37.06	$39.59	$41.98	$44.39	$46.05	$48.45	$50.96	$53.02	$54.63	$56.99	$60.90	$61.00	$63.81	$63.70	$64.60	$70.00	$75.40
Sydney	Brisbane	$18.30	$19.38	$20.30	$21.25	$21.32	$23.20	$23.99	$24.61	$25.91	$26.88	$28.40	$29.45	$29.90	$29.80	$30.60	$33.13	$35.65
Sydney	Melbourne	$17.18	$18.31	$19.29	$20.29	$20.48	$23.40	$23.69	$24.38	$25.76	$26.81	$27.40	$28.41	$29.72	$29.50	$30.50	$32.70	$34.90
Sydney	Adelaide	$22.64	$23.83	$24.87	$25.94	$26.13	$28.29	$29.51	$31.20	$32.50	$32.80	$32.90	$34.12	$35.69	$35.12	$35.90	$39.28	$42.65
Sydney	Perth	$36.52	$38.67	$40.66	$42.68	$43.89	$47.22	$49.12	$50.83	$55.12	$55.32	$58.34	$60.50	$63.28	$62.10	$63.20	$65.68	$68.15
Melbourne	Brisbane	$20.51	$21.96	$23.25	$24.58	$25.08	$26.90	$30.33	$32.45	$31.99	$32.33	$33.40	$34.64	$36.23	$35.60	$36.40	$39.53	$42.65
Melbourne	Sydney	$17.86	$18.92	$19.83	$20.76	$20.90	$23.90	$23.95	$24.58	$25.88	$26.86	$27.80	$28.83	$30.16	$30.10	$30.95	$32.93	$34.90
Melbourne	Adelaide	$17.40	$18.30	$19.05	$19.82	$19.86	$21.60	$22.53	$23.00	$24.14	$24.96	$24.90	$25.82	$27.01	$26.90	$27.60	$29.75	$31.90
Melbourne	Perth	$31.47	$33.33	$35.03	$36.77	$37.62	$40.46	$43.55	$44.54	$46.78	$48.99	$49.21	$52.45	$54.87	$53.20	$54.70	$56.30	$57.90
Adelaide	Brisbane	$22.91	$24.26	$25.45	$26.68	$27.17	$28.76	$30.11	$31.01	$32.57	$33.81	$34.90	$36.19	$37.86	$36.90	$38.40	$41.15	$43.90
Adelaide	Sydney	$21.62	$22.92	$24.06	$25.23	$25.50	$27.80	$29.12	$31.00	$31.51	$32.73	$32.90	$34.12	$35.69	$35.20	$35.90	$39.28	$42.65
Adelaide	Melbourne	$16.73	$17.70	$18.51	$19.36	$19.46	$21.27	$22.27	$22.80	$24.01	$24.89	$24.90	$25.82	$27.40	$27.10	$27.40	$29.65	$31.90
Adelaide	Perth	$26.69	$28.42	$29.99	$31.60	$32.40	$35.03	$36.79	$38.08	$39.25	$40.86	$42.40	$43.97	$45.99	$44.80	$47.20	$49.93	$52.65
Perth	Brisbane	$37.25	$39.77	$42.12	$44.51	$46.19	$48.52	$51.02	$53.05	$54.63	$56.97	$60.90	$58.99	$64.21	$64.20	$65.20	$70.30	$75.40
Perth	Sydney	$38.00	$40.01	$41.85	$43.73	$44.77	$47.70	$49.73	$51.29	$53.78	$55.43	$57.21	$59.33	$61.20	$59.90	$62.80	$65.48	$68.15
Perth	Melbourne	$31.47	$33.33	$35.03	$36.77	$37.62	$40.46	$42.35	$43.77	$45.96	$48.22	$49.88	$54.22	$56.12	$55.60	$57.22	$57.56	$57.90
Perth	Adelaide	$26.69	$28.42	$29.99	$31.60	$32.40	$35.03	$36.79	$36.12	$40.70	$40.86	$42.40	$43.97	$45.99	$45.20	$46.80	$49.73	$52.65

Source: SKM

Figure 4.9 : Express parcel freight rates (5 kg) – intercapital short haul

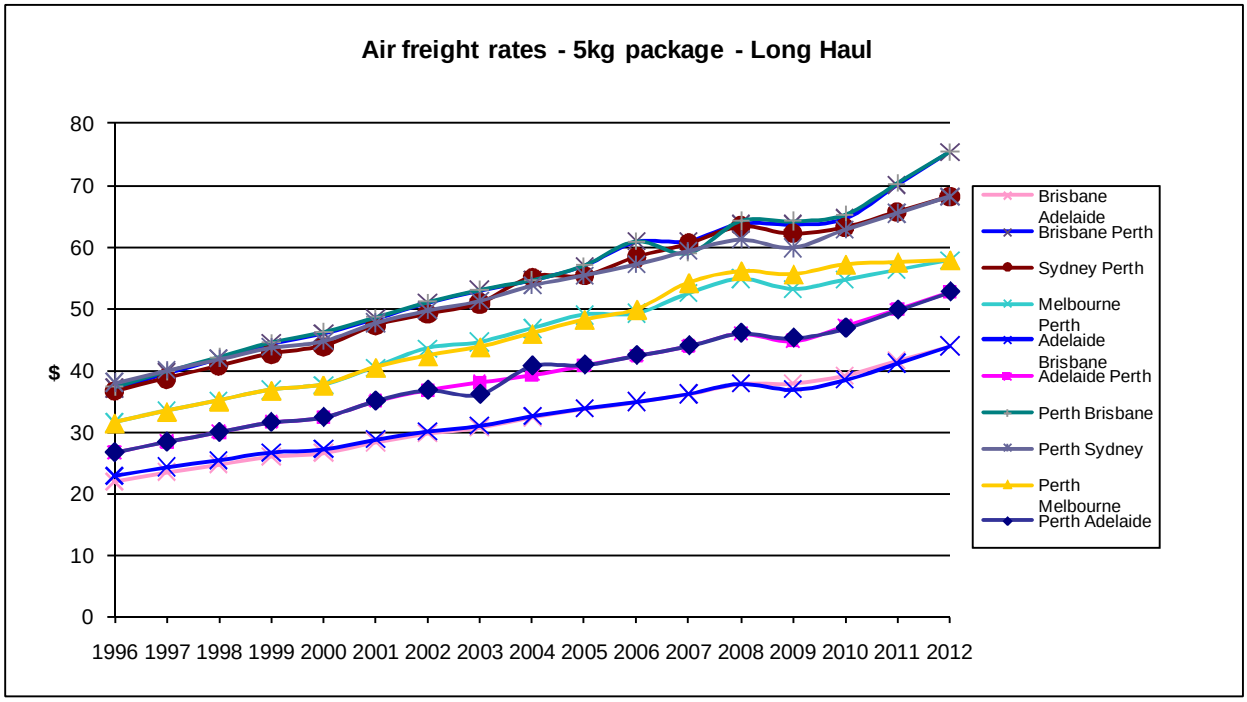


Source: SKM

Figure 4.10 : Express parcel freight rates (5 kg) – intercapital medium haul

Source: SKM

Figure 4.11 : Air parcel freight rates (5 kg) – intercapital long haul



Source: SKM

Rates for parcels and smalls have generally increased faster than inflation, reflecting declining market volumes, with greater use of electronic document transfer. There have been substantial increases in home delivery with internet ordering direct to wholesalers and internet retailers. The majority of these deliveries are handled by Australia Post, as most air express services do not have well developed networks to handle re-delivery or other arrangements when no one is at home to receive and sign. Further, many private freight companies use Australia Post for domestic deliveries, while undertaking commercial ones with their own resources.

Despite the international base of the internet and many of the highest profile online retailers being based overseas, available data suggests that two thirds to three quarters of all home delivery parcels are despatched from Australian locations, not overseas ones. The explanation is in major international online retailers establishing stockholding distribution centres in Australia, enabling more responsive service and cheaper linehaul freight costs to Australia.

4.4 Live animals

Historic information on rates for movement of live animals has been difficult to obtain, and estimates below are based on current rates for typical movements from livestock production areas to nearest abattoir-meat processing centre or export port. The SKM database had few records for live animals. Available information is shown in Table 4.3.

Table 4.3 : Live animal movement rates – 2006 -2012

			2006	2007	2008	2009	2010	2011	2012
Origin	**Destination**	**Distances**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**
Roma	Brisbane	563 km	16.84	17.34	17.98	18.36	18.85	19.05	19.35
Dubbo	Sydney	407 km	18.38	18.92	19.62	20.03	20.57	20.97	21.42
Hamilton	Melbourne	288 km	19.72	20.31	21.05	21.50	22.07	22.51	22.98
Sale	Melbourne	212 km	19.72	20.31	21.05	21.58	22.17	22.68	23.09

Source: SKM

4.5 Typical b-double and semitrailer road rates

Typical road rates for b-doubles and semitrailers (expressed in cents per tonne-kilometre) for journeys of around 420 kilometres on the mainland are estimated to be as follows:

- B-doubles, typical carrying capacity 39 t: 11.78
- Semitrailers, typical carrying capacity 26 t: 13.65

More detail is provided in Appendix B and in excel based vehicle cost models submitted separately.

Typical b-double with curtain sided trailers

Typical semitrailer with 40' shipping container

Typical Tasmanian semitrailers are limited to 19 m and carrying 42.5 t GCM and b-doubles to 26 m and 62.5 t Gross Combination Mass, making them a little smaller and lighter on average than most mainland equivalents. (Transport Tasmania 2012 and Tasmanian Consolidated Regulations 2010). B-doubles are limited to an identified network of highways and main arterial roads, mostly between Hobart, Launceston and Burnie, and routes that connect major operating plants, mines etc to this spine. The proportion of freight carried on b-doubles in Tasmania is lower than on the mainland (estimated at about 25%) but continues to increase. TasRail is in the process of replacing its entire loco fleet and making substantial investments in track and rollingstock, and its market impact could increase when this is well underway.

Typical road rates in Tasmania (in cents per tonne-kilometre) are estimated at:

- B-doubles, typical carrying capacity 38 t: 13.43
- Semitrailers, typical carrying capacity 24 t: 18.03

The differences between Tasmania and the mainland reflect smaller Tasmanian vehicle sizes and generally shorter operating hours per week. Cost models for these vehicle types were submitted separately, and are summarised in Appendix B.

4.6 Container rates between Melbourne and northern Tasmanian ports

Typical container rates between northern Tasmanian ports and Melbourne are shown in These average weights were calculated by BITRE from the TFES database for 2011-12, excluding records with zero tonnes, blank tonnes or invalid data, plus 1.5 tonnes for the tare weight of the box. More recent data was not available, but shipping industry discussions suggested that they remain reasonably accurate. Trends are likely to be for decreasing freight density, particularly northbound, with the closure of Australian Paper's plants removing 16,000 heavy TEUs from the total task.

Until 2010, this analysis had assumed a standard trailer mass of 22 t. The 2011 and 2012 assessment below uses average trailer mass estimates from shipping company discussions, which are believed to be more representative.

Table 4.4, sourced from discussions with shipping industry representatives and major shippers. Rates are similar between all ports, and differences generally reflect the proximity of the Tasmanian origin / destination to the competing ports. Sea freight rates involving a more distant port will have to offer lower rates to compensate for greater road costs in Tasmania to arrive at a competitive door to door price. These rates are noticeably lower than others identified through the TFES claims database. This tends to confirm that the small number of larger shippers obtain more favourable rates.

These average weights were calculated by BITRE from the TFES database for 2011-12, excluding records with zero tonnes, blank tonnes or invalid data, plus 1.5 tonnes for the tare weight of the box. More recent data was not available, but shipping industry discussions suggested that they remain reasonably accurate. Trends are likely to be for decreasing freight density, particularly northbound, with the closure of Australian Paper's plants removing 16,000 heavy TEUs from the total task.

Until 2010, this analysis had assumed a standard trailer mass of 22 t. The 2011 and 2012 assessment below uses average trailer mass estimates from shipping company discussions, which are believed to be more representative.

Table 4.4 : General Bass Strait freight rates between Melbourne and northern Tasmania (c/ntk) 2006 – 2010

	Distance	***2011/12 average net mass***		**2006**		**2007**		**2008**		**2009**		**2010**		**2011**		**2012**	
		Dry	**Reefer**	**Dry**	**Reefer**	**Dry**	**Reefer**	**Dry**	**Reefer**	**Dry**	**Reefer**	**Dry**	**Reefer**	**Dry**	**Reefer**	**Dry**	**Reefer**
	km	***t***	***t***	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**	**c/ntk**
TEU																	
Northbound	**420**	**14.5**	**11.3**	8.5	9.6	9.2	9.8	9.5	9.9	10	11.8	11.9	12.6	12.93	15.52	13.96	18.44
Southbound	**420**	**17.9**	**15.9**	7.1	9.6	7.8	9.7	7.7	9.9	8	11.2	8.2	12.9	9.82	13.08	11.44	13.25
Trailer load																	
Northbound	**420**	**15.0**	**20.0**	14.1	14.6	14.7	14.8	14.9	14.9	15.1	18.1	15.4	18.3	21.19	19.57	26.98	20.83
Southbound	**420**	**25.0**	**24.0**	15.7	16.2	15.4	17.1	16.2	17.4	15.2	20.1	15.3	20.2	15.84	18.88	16.38	17.56

Source: SKM. Rates and trailer mass from shipping company discussions; container mass from BITRE (TFES database)

Table 4.5 : Average tonnes per TEU: 2011-2012

Northbound	Dry	Reefer	Average
Average tonnes per TEU	14.5	11.3	13.4
Gross mass per TEU	16.0	12.8	14.9
Southbound			
Average tonnes per TEU	17.9	15.9	17.9
Gross mass per TEU	19.4	17.4	19.4
North and southbound			
Average tonnes per TEU	15.6	11.4	14.5
Gross mass per TEU	17.1	12.9	16.0

Notes
Based on TFES claims data for 2011-12 Excludes records with null tonnes or zero tonnes
For records with 1 TEU or more Tare weight of 1.5 t / TEU added to net tonnes
Source: BITRE

4.7 Freighting arrangements to King Island and Flinders Island

King Island receives a weekly service from the SeaRoad Mersey calling at the Port of Grassy en route from Melbourne to Devonport each Sunday. With the recent closure of the JBS abattoir on King Island, the need to transport some 28,000 head of cattle to Longford near Launceston has arisen. It is understood that LD Shipping has been providing a service to Burnie with onforwarding by road to meet this need.

Flinders Is (Lady Barron) receives a regular service from Bridport operated by Furneaux Freight, with at least weekly and up to four services per week depending on demand. There are also roughly monthly services to Welshpool in Gippsland, Victoria, depending on demand. Furneaux Freight operates the Matthew Flinders III, a 44.67 m, 375 DWT (dead weight tonne) roll on roll off (RoRo) vessel. It also has a second vessel under construction, to be a 35 m RoRo with longer range and higher speed scheduled for launch 2 April 2013.

Distances between ports are shown in Table 4.6. Shipping rates between King Island, Flinders Island and Tasmania and Victoria are shown in Table 4.7 and Table 4.8

Table 4.6 : Bass Strait shipping distances

	Bell Bay	Bridport	Burnie	Devonport	King Island	Welshpool
Melbourne	455 km	-	405 km	445 m	285 km	-
King Island	-	-	-	300 km	-	360 km
Flinders Island	-	115 km	-	-	-	230 km

Source: SKM

Rates in cents per net tonne kilometre have been calculated based on 15 t per TEU to and from King Island. Flinders Island freight is based on 15 t per TEU both ways, a combination of groceries, produce and empties. This also reflects the limited lift capacity on the island. Livestock is a large component of trade for Flinders Is, and livestock rates have been based on 450 kg cows / steers, 45 kg sheep and published scheduled rates.

These tables show higher rates to King Island and much higher rates to Flinders Island (compared with Bass Strait and road trips for similar distances), both reflecting scale economies and possibly also competition issues.

The Tasmanian Freight Equalisation Scheme applies to intrastate movements between Tasmania and Bass Strait islands (King Island and any island in the Furneaux Group (Department of Human Services 2013).

Table 4.7 : Shipping rates Victoria to / from King Island and Flinders Island

	Distance	2008				2010				2012			
		South bound		North bound		South bound		North bound		South bound		North bound	
		Freight unit	c/ntk	Freight unit	c/ntk	Freight unit	c/ntk	Freight unit	c/ntk	Freight unit	c/ntk	Freight unit	c/ntk
King Island (to / from Melbourne) – 20' containers	285 km	$750 / box	17.54	$750 / box	17.54	$1,235/ box	30.95	$1,235/ box	30.95	$1,300/ box	30.41	$1,300/ box	30.41
Flinders Island (to / from Welshpool) – 20' containers	230 km	$2,317 / box	67.15	$2,317 / box	67.15	$2,100/ box	60.87	$2,100 / box	60.87	$2,200/ box	63.77	$2,130/ box	61.74
Livestock (cows / heifers)	230 km	$88.50 / head	109.94	$88.50 / head	109.94	$91.00/ head	113.04	$91.00/ head	113.04	$110 / head	137	$110 / head	137
Livestock (sheep)	230 km	$13.75 / head	132.85	$13.75 / head	132.85	$13.00 / head	125.6	$13.00 / head	125.6	$15.75 / head	152	$15.75 / head	152

Table 4.8 : Shipping rates Tasmania to / from King Island and Flinders Island

	Distance	2008				2010				2012			
		South bound		North bound		South bound		North bound		South bound		North bound	
		Freight unit	c/ntk	Freight unit	c/ntk	Freight unit	c/ntk	Freight unit	c/ntk	Freight unit	c/ntk	Freight unit	c/ntk
King Island (to / from Devonport – 20' containers	300 km	$950 / box	21.11	$950 / box	21.11	$1,235/ box	29.4	$1,235/ box	29.4	$1,300/ box	30.41	$1,300/ box	30.41
Flinders Island (to / from Bridport – 20' containers	115 km	$1,860 / box	107.83	$1,860 / box	107.83	$1,500/ box	86.95	$1,500/ box	86.95	$1,590 / box	92.17	$1,590 / box	92.17
Livestock (cows / heifers)	115 km	$60.45 / head	150.18	$60.45 / head	150.18	$65.00 / head	161.49	$65.00 / head	161.49	$85.00 / head	211.20	$85.00 / head	211.20
Livestock (sheep)	115 km	$6.60 / head	127.54	$6.60 / head	127/54	$6.50 / head	125.6	$6.50 / head	125.6	$7.75 / head	149.80	$7.75 / head	149.80

Sources: SKM from shipping industry discussions and rate schedules provided by and Furneaux Freight (Flinders Island).

5. Bass Strait shipping arrangements

This section summarises information obtained during discussions with shipping service providers undertaken as part of this project. It is included as it was felt it may be of use or interest, although was not a specific deliverable from the study.

5.1 Melbourne – Northern Tasmanian shipping service providers

Regular Bass Strait shipping services are provided by the following companies:

- **Sea Road** – operates two RoRo vessels between Webb Dock Melbourne and Devonport, including one call on Sundays at King Island. Generally 12 crossings per week. Sea Road offers a sea / rail service between Melbourne and Hobart, various integrated land transport services from related companies.
- **Toll ANL** Bass Strait Shipping operates two Ro-Ro vessels between Webb Dock Melbourne and Burnie. Generally 12 crossings per week.
- **TT Line** operates two passenger ferries between Station Pier and Devonport which also carry freight. Generally 14 sailings per week, but more in peak passenger periods (summer / autumn) and fewer in winter.
- **Furneaux Freight** operates the Matthew Flinders III providing a sea freight and passenger service between Bridport and Flinders Island with sailings typically each month to Port Welshpool. The service to Flinders Island operates weekly at a minimum, but is largely "on demand", subject to volumes. It appears up to four sailings per week can be operated in peak periods. A second vessel is under construction.
- **LD Shipping** operates the *Statesman* from Bell Bay to various destinations on demand. Typical frequencies include Flinders Island weekly, Welshpool each month and Eden each 4 – 6 weeks.

The major dimensions of these services are summarised in Table 5.1. Changes in the last two years include:

- **AAA Consortium**, the last international container line servicing Tasmania (at Bell Bay) withdrew from Tasmanian calls. This means that import and export containers must use a domestic Bass Strait shipping service to Melbourne with transhipping to international services there.
- **Agility** ran a service between Bell Bay, Melbourne and various domestic and international ports for a short time in 2010-2011, but the service was not successful.
- **Swire Shipping** has announced the commencement of a monthly multi purpose vessel based service from Bell Bay to Hong Kong and Shanghai with the first sailing in late March 2013. This will carry aluminium ingots in break bulk bundles from Bell Bay Aluminium as the main customer, with limited capacity for other shippers' freight. TEU capacity was stated as being limited to 50 – 100 TEU.
- **Swire Shipping** has also stated it is investigating a second container service from Tasmania to North Asia using vessels around 2,000 TEU, but that this would require support from the Tasmanian government or others.
- **Furneaux Freight** commenced providing services to Flinders Island in 2009 after the previous operator's business failed.

Table 5.1 : Bass Strait shipping services – 2012-13

	Northern Tasmania – Melbourne services							Furneaux Freight
	Sea Road		Toll ANL		TT Line		TOTAL	
Vessels Type Cap (TEU)	**Tamar RoRo 260**	**Mersey RoRo 180**	**Tasman Achiever RoRo 450**	**Victorian Reliance RoRo 450**	**Spirit of Tas I and II RoRo (Drive through) 170**		**6 vessels 1,680 tot TEU 280 av TEU**	**Matthew Flinders III New vessel under construction**
Services	• Webb Dock • Devonport	• Webb Dock • Devonport • King Island	• Webb Dock • Burnie	• Webb Dock • Burnie	• Station Pier • Devonport	• Station Pier • Devonport		Bridport – Flinders Is Flinders Is – Welshpool Bridport - Cape Barren Is
Sailings/ Calls	3 per week	Devonport 3 / wk King Is - weekly	3 per week	3 per week	Nightly (2)	Nightly (2)	Melb – Northern Tas ~ 19 sailings / wk Melb King Is 1 / wk	B – Fl weekly + on demand Fl – W on demand (~ monthly) CBI monthly + on demand
Commodities	containers, dairy, timber, cement, hazardous chemicals, trailers		zinc, beer, chocolate, processed food, containers, trailers		groceries, trailers, containers fresh produce			Groceries, general supplies, meat, timber, livestock
Sailing Capacity (TEU cap x voyages)	132,000 total both vessels		270,000 total both vessels		135,000 total both vessels		537,000	Around 1,000 TEU / vessel / annum
TEU Carried	85,000 (SKM est)		190,000 (Toll)		91,826 (annual report 2010-11)		358,288	600 (SKM estimate)
Other freight	10,000 cars (1)		10,000 cars (1)		10,000 cars (1) 407,636 passengers 182,889 pax cars (3)		30,000 cars as freight 407,636 passengers 182,889 pax cars (3)	A few passengers + their cars Agricultural and business equipment
Total TEU	95,000		200,000		100,000 (3)		395,000 (3)	Unknown
Est utilisation	72%		74%		74%		72.3%	60% (SKM estimate)

(1) Converted at 1 car = 1 TEU
(2) Generally one south bound and one north bound crossing each night, seven days per week. No Sunday sailings June and July. One crossing day / night July August while one vessel in dry dock. Two crossings day / night and weekends late December – mid April according to demand
(3) Passenger cars not counted as freight

Source: SKM, from published information, industry discussion and estimates where firm information unavailable.

5.2 Shipping service users

There are two distinct segments among users of Bass Strait shipping services:

- A very small number of very large users, such as Cadbury, Cascade, McCain, Norske Skog and Simplot
- A very large number of small to medium users.

Large users generally have consistent usage patterns, are well organised to minimise costs in meeting their needs and have substantial negotiating power, resulting in competitive rates. The smaller users tend to be the reverse: they generally have little negotiating power, often paying full scheduled rates for irregular usage patterns. Many use freight forwarders to provide full door to door services.

Connections to other domestic and international ports are available through intermodal connections or transhipment. Domestic freight movements with interstate origins or destinations are generally sent by road to SA and NSW; road or rail to Queensland, and rail or sea to WA and Darwin. International transhipment generally requires road transfer of containers between Webb Dock and Swanson Dock (about 6 kilometres).

5.3 Services to King Island, Flinders Island and Cape Barren Island

King Island receives a weekly service from the *SeaRoad Mersey*, en route Devonport – Webb Dock on Sundays. These services will require substantial reconsideration if SeaRoad replaces its vessels in the next few years with larger ones as planned. These are unlikely to fit existing Grassy port infrastructure on King Island, and the Tasmanian government (DIER 2013) has stated it cannot justify the estimated $40 - $60 m expenditure (GHD 2008) required for the port upgrades at Grassy that would be required to accommodate vessels of the size planned by SeaRoad, despite the positive financial evaluation outcome reported by GHD. The Tasmanian government is about to commission a study to investigate and recommend on these issues (DIER 2013). Furneaux Freight expects to commission a new vessel in April 2013 which is likely to have potential to service King Island.

SeaRoad stated that retention of the SeaRoad Mersey to service King Island would not be viable once new vessels were commissioned, and that any service to King Island must provide an adequate financial outcome considered in isolation. SeaRoad modelling had not been successful in devising a service that met its financial outcome requirements, and it appears likely that SeaRoad will cease servicing King Island when the planned new vessels are commissioned.

Services to Flinders Island have become more stable with Furneaux Freight acquiring assets including the *Matthew Flinders III* from the failed Southern Shipping. Furneaux Freight has a new vessel under construction also proposed for the route. DL Marine's *Statesman* provides an on demand service, particularly for livestock to Tasmania and the mainland. Rates have reduced and the general conclusion is that services have improved.

It has been commonly stated that the extension of TFES to shippers on Bass Strait islands for intrastate journeys has been a substantial benefit to the island economies. This Labor policy announced by then shadow minister for transport Martin Ferguson on 2 November 2007 and was enacted from 1 July 2008.

5.4 Withdrawal of direct international container shipping services from Tasmania

AAA Consortium, the last direct international container shipping service calling at any Tasmanian port ceased this service in May 2011[2] requiring importers and exporters to use Bass Strait services and tranship to and from international services in Melbourne. While AAA (consisting of MISC, OOCL, Mitsui OSK and PAE) was the last to withdraw, other shipping lines, including MISC and Maersk had done so in the preceding years.

The main reason advanced for this decision was inadequate container volumes, but the likely introduction of larger vessels on the run which could not be accommodated at Bell Bay due to draught and swinging basin

[2] Eg SeaRoad News 2011 http://www.searoadholdings.com.au/news/?p=385 Viewed 14 February 2013

limitations may have been a factor. It is understood AAA volumes were around 30,000 TEU per annum, or about 600 TEU average for a weekly sailing. This represents about a quarter of the typical 2,400 TEU vessels that were used. Another factor may have been the imbalance of imports and exports, with exports far exceeding loaded imports. This necessitated substantial numbers of empty container relocations, which also would contribute to poor financial outcomes.

Anecdotal reports from Tasmanian based exporters stated that effective international shipping rates had increased very substantially as a result of the need to tranship in Melbourne and use Bass Strait services.

This issue has been investigated, with typical international shipping rates paid by larger shippers from Tasmania and other Australian ports from 2006 to 2012 shown in Table 5.2. Standard or 'book' rates are discussed below.

The following may be relevant in interpreting this table:

- Shipping rates have been generally very stable over the period to 2010, including declining in real terms, due to increasing volumes enabling larger, more cost effective vessels to be operated.
- The withdrawal of AAA consortium led to:
  - Increases of around $1,000 per forty foot container. Increases were less for 20' containers, with anomalies in the way repositioning costs were treated offered as an explanation
  - A virtual doubling of transit time, from around 14 days to 28 days
- Agility offered a similar direct international service for a few months in 2011, but this was hampered by poor reliability, vessel breakdowns and limited capacity.
- Rates are very similar for 20' and 40' containers. It is understood that the need to reposition 40' containers from Tasmania enables shipping lines to offer discounts on 40' shipping. Nevertheless, the worldwide trend towards 40' containers is partly explained by rates for many 40' container activities being much less than double the 20' rate. While 40' containers take up twice as much space as 20', for most other functions costs are commonly around 1.2 times the 20' cost.
- Shipping rates from major Australian ports are very similar, with slight differences in Port Services Fees by location, plus the Port Licence Fee in Melbourne, introduced in 2012. The following are typical:

Port	20'	40'	Unit
Melbourne	85	170	AUD
Sydney	75	150	AUD
Brisbane	96	183	AUD
Adelaide	87	153	AUD

Table 5.2 : International shipping rates from Tasmania and other Australian ports

		Rates (USD per container)																
Origin	Destination	Jun-06		Jun-07		Jun-08		Jun-09		Jun-10		Jun-11		Jun-12		Sailing frequency	Transit time	Comments
		20'	40'	20'	40'	20'	40'	20'	40'	20'	40'	20'	40'	20'	40'			
Melbourne	Singapore	950	1050	950	1050	950	1050	950	1050	950	1050	950	1050	985	1120	twice weekly	14 days	$35 / TEU Port Licence Fee from 1 July 2011
Sydney	Singapore	950	1050	950	1050	950	1050	950	1050	950	1050	950	1050	950	1050	twice weekly	13 days	
Brisbane	Singapore	950	1050	950	1050	950	1050	950	1050	950	1050	950	1050	950	1050	twice weekly	12 days	
Adelaide	Singapore	950	1050	950	1050	950	1050	950	1050	950	1050	950	1050	950	1050	weekly	16 days	
Bell Bay	Singapore	560	560	570	570	580	580	590	590	600	600	n/a	n/a	n/a	n/a	weekly	14 days	AAA Consortium rate for direct service until withdrawal April 2011; Agility rates not known. Major repositioning task for 40' from Tas and Aust, hence substantial discount
Bell Bay	Singapore											1200	1600	1200	1600	weekly	28 days	Bass Strait to Melbourne and transhipto international connection (from 2011 or 2012,)
Melbourne	Hong Kong	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1035	1170	weekly	21 days	Typically $35 / TEU Port Licence Fee from 1 July 2011
Sydney	Hong Kong	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	weekly	20 days	
Brisbane	Hong Kong	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	weekly	19 days	
Adelaide	Hong Kong	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	fortnightly	23 days	
Bell Bay	Hong Kong	760	800	770	810	780	820	790	830	800	850	n/a	n/a	n/a	n/a	weekly	21 days	AAA Consortium rate for direct service until withdrawal April 2011 with transhipping in Singapore for onforwarding to Hong Kong. Agility rates not known.
Bell Bay	Hong Kong											1250	1650	1250	1650	weekly	28 days	Bass Strait service to Melbourne then transhipfor international service to Hong Kong
Melbourne	Yokohama	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1035	1170	weekly	28 days	Typically $35 / TEU Port Licence Fee from 1 July 2011
Sydney	Yokohama	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	weekly	27 days	
Brisbane	Yokohama	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	weekly	26 days	
Adelaide	Yokohama	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	1000	1100	fortnightly	30 days	
Bell Bay	Yokohama	810	850	820	860	830	870	840	885	850	900	n/a	n/a	n/a	n/a	weekly	28 days	AAA Consortium rate for direct service until withdrawal April 2011 with transhipping in Singapore for onforwarding to Tokyo. Agility rates not known.
Bell Bay	Yokohama											1300	1750	1300	1750	weekly	28 days	Bass Strait service to Melbourne then transhipfor international service to Tokyo

Source: SKM, from published information, industry discussion and estimates where firm information unavailable

While there are standard or 'book' rates, only naïve one off shippers pay them. The following, for Melbourne to Japan, is typical of book rates.

Component	20'	40'	Unit	Comments
Base shipping rate (CAF)	350	450	USD	
Bunker Adjustment Factor (BAF)	600	1200	USD	Fuel
Terminal Handling Charge (THC)	255	350	AUD	
Port Services Charge (PSC)	83	166	AUD	
Equipment Handling Charge (EHC)	45	55	AUD	'lift on lift off' – referring to empty container park services
General Dock Charge (GDC)	80	80	AUD	
Melbourne Port Licence Fee (PLF)	35	70	AUD	
Total	**1368**	**2371**	**AUD**	
Typical total commonly paid	***1035***	***1170***	***AUD***	

This shows that around 60% of shipping rates are charged in USD, and the balance in AUD. This means that reductions in effective cost over the last two years from increases in the value of the Australian dollar will not be quite as great as might otherwise be expected, as around 40% are calculated and billed in AUD.

5.5 Swire Shipping announcements

Swire Shipping announced the commencement of a monthly 30 – 35,000 t multi purpose vessel based service from Bell Bay to Hong Kong and Shanghai in February 2013. The first sailing is scheduled for late March 2013. This will carry aluminium ingots in break bulk ingots from Bell Bay Aluminium as the main customer, with limited capacity for other shippers' freight. TEU capacity was stated as being limited to 50 – 100 TEU. The monthly service would include calls at Bell Bay, Newcastle, Brisbane, Gladstone, Darwin, Hong Kong and Shanghai, plus possibly Townsville. Discussion notes from Swire Shipping discussions are in **Error! Reference source not found.**.

New S Class vessels are planned to commence on the run later in 2013. These are 199.9 m LOA, 10.5 m draught 31,000 DWT multi purpose vessels with capacity up to 1400 TEU.

Swire Shipping has also stated it is investigating a second new international service for containers between Tasmania and North Asia using vessels around 2,000 TEU, but that this would require support from the Tasmanian government or others. It is understood Swire is awaiting the Tasmanian government's response to a proposal submitted in early 2013.

Appendix A. Freight rate sources, methodologies and assumptions

A.1 Typical freight rates

The freight rates presented here are designed to show the rates that would typically be paid by a substantial shipper of goods, spending around AUD $60,000 - $120,000 per month through transport contracts. Achieved freight rates are very sensitive to bargaining power, and small shippers often pay multiples of the rates paid by the largest consignors. Similarly, large shippers generally have more ability to arrange their affairs to minimise costs through more efficient load consolidation, greater potential for two way loadings and generally better understanding the costs in freighting, and acting to minimise those costs.

The rate information presented is mostly guided by actual rates as negotiated and paid, gained from consultancy tasks where we have assisted shippers with logistics arrangements or transport service providers gain work or respond to tenders. Actual rates paid are usually a little lower than tendered prices, through post tender negotiation processes. Where shadow quotation prices have been used to supplement freight rate database information or investigate anomalies, this post tender negotiation process and typical outcomes have been taken into account. The amount of difference depends on the relative negotiating power of each side, the availability of alternatives (both for transport companies in terms of other freight) and shippers (other transport service providers).

There will always be rates paid that are substantially greater and substantially less than typical rates quoted. These can arise for numerous reasons, but are most commonly related to specific requirements of the task, or specific circumstances applying at the time of the negotiation. Backloading rates, which can be less than half of the forward rate (ie opposite direction on the same route), are a common example. These relate to the fact that on many Australian freight routes, there is a lot more freight flowing in one direction than the other.

In all cases, rates quoted are for typical commodities carried in the typical way for the corridor. Some examples include:

- The largest road vehicle capable of doing the job, consistent with the economies of direct origin to destination journeys versus depot to depot journeys in a larger vehicle which require separate pick up and delivery movements.
- Rail freighting in standard domestic or international shipping containers, terminal to terminal, with road pickup and delivery for capital city journey ends, and rail linehaul for country origins and destination movements exceeding around 250 km.
- Sea freighting in standard shipping containers, within loading gauge (ie no goods protruding outside the allowable loading volume dimensions).
- Airfreight with courier pickup and delivery, airport to airport air linehaul for typical parcels and small most commonly sent by air.

Rates quoted are for the most common level of urgency. Most transport services have a “general” service, at which most freight travels. Most also have an express service, usually achieved by fewer transhipments at depots or terminals, priority pickup and delivery, more direct door to door etc. These generally attract a loading of 15% up to 50% or more, but the proportion of goods moving this way is typically less than 15%. At the other end of the scale, some transport services offer a “deferred” or lower priority where despatch of goods can be deferred for up to a specified period (commonly a week) for rates often around 25% less. The hope is that they can fill otherwise unused space at a less popular time. Again, relatively little freight is carried this way (perhaps 20%), although with better planning, it is likely that more could use such services without adverse consequences.

All rates shown are expressed as dollars of the day, without any adjustment for inflation or changes in value of Australian currency.

A.2 Specific assumptions

Road

- All rates are exclusive of GST.
- All rates include an appropriate fuel levy, as quoted by their respective transport providers. The average fuel surcharge at the time of this survey was around 11%, up from around 7 – 8% applying during the 2008 study.
- All rates are expressed in $ per tonne and cents per net tonne kilometre.
- Distances for c/ntk equivalent rates use actual distance for that mode – road uses road distance, rail uses rail distances etc.
- Palletised freight assumes vehicle configuration typically used on the route (relevant mix of semitrailer, b-double, double road trains), with tautliner and pantechnicon trailers.
- Standard road industry transit times for general freight (eg sometime next day for east coast short haul legs). General freight rates (rather than road express) were used for comparison, as this is the road market that most directly competes with rail. There is little differentiation between general and express service levels for the large contracted movements being considered here.
- Contract rates for regular and substantial freight movements.

Rail

- All rates are exclusive of GST.
- All rates include applicable fuel surcharges.
- Intermodal freight (containerised goods and breakbulk freight on container flats).
- Mix of container sizes and weights as typically carried on the route.
- Standard rail industry transit times for general freight (eg. 15 - 24 hours for short haul legs).
- Pricing is based on average net tonnes of 15 tonnes per 20’ 19.5 t per 40’, and 23 t per Trailerail or similar trailer.
- Generally carried on intermodal trains (Superfreighter type services).
- Rates from Perth do not include the $100 - $200 per TEU imbalance charge for empty return containers. This will have the effect of slightly increasing from Perth rates (around $5 - 10 per loaded tonne) in the unusual circumstance where a freight forwarder has more freight from Perth than to Perth.

Sea

Containerised freight

- All rates are exclusive of GST.
- Rates based on total all up cost for the movement from despatch origin to delivery destination (door to door), including road pickup, stevedoring, sea freight, wharfage, pilotage and similar charges.
- Rates include road pickup and delivery, and insurance.
- Rates based on the mix of container sizes and weights typically sent on the route
- Contract rates for regular and substantial freight movements.
- Typical maritime industry transit times for origin destination and route, considering frequency of sailing, sailing time and terminal time.
- All rates expressed in $ per tonne and cents per net tonne kilometre.
- Distances for c/ntk use rail distances throughout.

A.3 Fuel surcharge

- Fuel surcharges can vary significantly within a 12 month period. Average road fuel levies are now around 11 – 13%, slightly up from those applying during the 2010 study.
- Reductions in fuel excise rebates may have had an impact in this.
- Road fuel surcharges are slightly above rail, although fuel makes a substantially greater component of operator costs.
- Sensitivity to fuel price changes is proportional to the fuel component in total costs, with modes increasing from sea, through rail and road to air. Air passenger transport has continued to apply fuel surcharges this year, and increases appear likely in the short term.
- Fuel surcharges are nearly universally applied and recovered from customers.
- Rates quoted include fuel surcharges.

A.4 Dry bulk freight (including wheat and grain)

- Unpackaged, dry bulk materials.
- Sea rates based on typical Tasmanian wheat movements in last 10 years, of parcels of around 10,000 tonnes Victoria to Devonport. Continuous conveyor loader and conveyor or grab discharge to port elevators and silo storage.
- Rail rates based on top load, bottom discharge rail wagons loaded to maximum achievable, given typical wagon tare weights and axle load limits on the corridor.
- Typical tipper road vehicles with configuration as typically used on the route (semitrailer, b-double, double road train).
- Contract rates for regular freight movements.
- Transit times based on typical corridor and transport mode performance (eg dedicated vehicle utilisation for road, rail typical for origin / destination etc.
- All rates expressed in cents per net tonne kilometre.

Appendix B. Vehicle cost models

Detailed cost models were submitted separately as part of this project, and a high level summary of the assumptions and major cost components is given here.

Dimension	Typical mainland b-double	Typical mainland semitrailer	Typical Tasmanian b-double	Typical Tasmanian semitrailer
Description	26 m b-double with curtainsided 20' A trailer and 40' B trailer	19 m semitrailer with 48' curtainsided trailer	26 m b-double with curtainsided 20' A trailer and 40' B trailer	19 m semitrailer with 48' curtainsided trailer
Carrying capacity	39 t	26	37	24
Days worked per year	300	300	275	275
Annual kilometres	300,000	300,000	140,000	150,00
Vehicle purchase	$475,000	$380,000	$375,000	$330,000
Service life (prime mover / trailers)	4 / 10 years	5 / 10 years	10 / 15 years	10 / 15 years
Residual value % of new (prime mover / trailers)	35% / 25%	30% / 25%	25% / 20%	25% / 20%
Interest rate	8%	8%	8%	8%
Fuel l / 100 km / retail base price	64 / $1.45	52 / $1.45	62 / $1.57	50 / $1.57
Maintenance ($ per 15,000 km / unplanned per annum	$1,750 / $7,500	$1,600 /$6,000	$1,750 / $7,500	$1,600 / $6,000
Tyres	New steer, retreads all others 2.5 retreads / case 80,000 km steer, 100,000 all other positions			
Drivers	2, totalling 96 hrs / week	2, totalling 96 hrs / week	1 + relief, totalling 66 hrs / week	1 + relief, totalling 66 hrs / week
Driver wage	TWU grade 7 + 20% overaward	TWU grade 6 + 15% overaward	TWU grade 7 + 10% overaward	TWU grade 6 + 10% overaward
Effective cost / ntk	11.78	13.72	13.85	18.07

Definitions and abbreviations

ANL	Formerly Australian government owned Australian National Line (shipping line) but now wholly owned by French based CMA CGM
AUD	Australian dollars
b-double	Road truck with two trailers; typically lead (A) trailer of around 20' and tag (B) trailer around 40'. Typically up to 26 m long and payload of around 36 – 38 tonnes. The largest road truck routinely registered in Victoria and Tasmania.
BITRE	Bureau of Infrastructure, Transport and Regional Economics
CVP	Continuing Voyage Permit – permit allowing an internationally flagged ship to undertake shipping trade between domestic Australian ports. Issuance of CVPs is dependent upon there being no Australian flagged vessel available to undertake the task. CVPs are valid for three months.
Demurrage	Charges levied on shippers paying for freight services resulting from delays to trucks, ships and other freight vehicles and resources.
Dry (goods)	Goods freighted at ambient temperature (not temperature controlled)
FCL	Full Container Load
GCM	Gross combination mass (entire loaded weight of a combination vehicle such as semi trailer, b-double etc)
gtk	Gross tonne.kilometre – a widely used measure for charging train operators for rail access. Gross tonne refers to the total weight of the train (including locos, wagon tare weight and payload) plus return journeys of empty trains.
ISC	Inter-State Commission (federal government body defined in Australian constitution, but currently not in operation).
LCL	Less than container load (ie smaller item/s for shipping, such as a pallet, drum or carton, loaded with other smaller items into a container shared between several consignees
ntk	Net tonne.kilometre – moving one tonne of payload freight one kilometre. A convenient method to compare freight costs over different routes and distances.
Reefer	Refrigerated (container)
Road Freight Equivalent	Standard road journey which is assumed to be used if a land bridge was available between Tasmania and the mainland. Used as the basis for calculating sea freight disadvantage.
SVP	Single Voyage Permit – permit allowing an internationally flagged ship to undertake shipping trade between domestic Australian ports. Issuance of SVPs is dependent upon there being no available Australian flagged vessel to undertake the task. SVPs last for one journey between Australian ports.
TEU	Twenty foot Equivalent Unit (means of adding containers of different sizes – 1 x 40' container = 2 TEU
TFES	Tasmanian Freight Equalisation Scheme
TWFS	Tasmanian Wheat Freight Scheme
USD	United States of America dollars

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