



Bureau of Transport Economics

INFORMATION PAPER
45

COASTAL FREIGHT IN AUSTRALIA,
1997–98

The Bureau of Transport Economics undertakes applied economic research relevant to the portfolio of Transport and Regional Services. This research contributes to an improved understanding of the factors influencing the efficiency and growth of these sectors and the development of effective policies.

A list of recent publications appears on the inside back cover of this publication.

Bureau of Transport Economics

INFORMATION PAPER
45

COASTAL FREIGHT IN AUSTRALIA,
1997–98

© Commonwealth of Australia 1999
ISSN 1440-9585
ISBN 0642 41404 1

This work is copyright. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without prior written permission. Requests and inquiries concerning reproduction rights should be addressed to the Manager, Legislative Services, AusInfo, GPO Box 84, Canberra, ACT 2601.

This publication is available free of charge from the Bureau of Transport Economics, GPO Box 501, Canberra, ACT 2601, or by phone 02 6274 6846, fax 02 6274 6816 or e-mail bte@dotrs.gov.au

<http://www.bte.gov.au>

Disclaimer

The BTE seeks to publish its work to the highest professional standards. However, it cannot accept responsibility for any consequences arising from the use of information herein. Readers should rely on their own skill and judgment in applying any information or analysis to particular issues or circumstances.

Printed by the Department of Transport and Regional Services

FOREWORD

This is the latest in a series of papers that provide information on coastal freight movements between Australian ports. The paper covers cargoes loaded and discharged in Australian ports during 1997–98. It does not include information about international cargo movements to and from Australian or overseas ports. The previous paper in this series covers coastal freight movements during 1996–97.

The data and tables were compiled by Daniel Miller and Lara Smigielski under the supervision of Stephen Wheatstone.

As the BTE intends to continue to produce annual updates of this publication to meet the needs of users, comments would be greatly appreciated. A feedback form is enclosed for your comments.

Should you wish to know more about these statistics, or related publications, please phone 02 6274 6751 or write to:

Manager,
Coastal Shipping Database
Bureau of Transport Economics
GPO Box 501
Canberra ACT 2601

Joe Motha
Deputy Director
Sea, Air and Safety

Bureau of Transport Economics
Canberra
July 1999

ACKNOWLEDGMENTS

The assistance by staff of the various port authorities in the production of tables in this paper is gratefully acknowledged. In particular, we would like to thank the following organisations:

Albany Port Authority	King Island Ports Corporation Pty Ltd
Australian Association of Ports and Marine Authorities	Mackay Port Authority
BHP Manganese Gemco	Marine Board of Circular Head
Bunbury Port Authority	Melbourne Port Corporation
Bundaberg Port Authority	Ministry of Forests and Marine Administration, New South Wales
Burnie Port Corporation	Newcastle Ports Corporation
Cairns Port Authority	Perkins Shipping Pty Ltd
Coal Operations, Australia Ltd	Port Hedland Port Authority
Dampier Port Authority	Port Kembla Port Corporation
Darwin Port Authority	Port of Brisbane Corporation
Department of Marine and Harbours, Western Australia	Port of Devonport Authority
Department of Transport, Western Australia	Port of Launceston Pty Ltd
Derby-West Kimberley Shire Administration	Port of Portland Pty Ltd
Esperance Port Authority	Ports Corporation of Stanley
Flinders Island Ports Company	Ports Corporation Queensland
Fremantle Port Authority	Ports Corporation South Australia
Geelong Port Pty Ltd	Robe River Associates
Geraldton Port Authority	Rockhampton Port Authority
Gippsland Ports	Sealink
Gladstone Port Authority	Sydney Ports Corporation
Hobart Ports Corporation	TOLL Westernport
	Townsville Port Authority
	West Australian Petroleum Pty Ltd

CONTENTS

	<i>Page</i>
FOREWORD	iii
ACKNOWLEDGMENTS	iv
EXPLANATORY NOTES	1
Scope and coverage	1
Sources	1
Definitions and Abbreviations	1
Statistical Issues	2

TABLES

1	Australian coastal freight summary, 1993–94 to 1997–98	3
2	Coastal freight loaded by major commodity, 1993–94 to 1997–98	3
3	Total coastal freight flows, 1997–98	3
4	Coastal freight flows between Australian ports, 1997–98	4
5	Coastal freight loaded by port and pack type, 1997–98	5
6	Coastal freight discharged by port and pack type, 1997–98	5
7	Tasmanian freight loaded and discharged by commodity, 1997–98	6
8	Coastal freight loaded by major commodity groups, 1997–98	7
9	Coastal freight loaded by pack type, 1997–98	10

EXPLANATORY NOTES

SCOPE AND COVERAGE

This publication contains details of interstate and intrastate cargo loaded and discharged at Australian ports for the financial year 1997–98. It excludes trade from small craft at isolated locations in northern and western regions of Australia. Cargo loaded or discharged at Christmas Island, the Cocos (Keeling) Islands and Norfolk Island is also excluded.

SOURCES

Tonnage figures and pack details have been derived from data supplied by port authorities.

To obtain tonne-kilometre figures, a port-to-port distance figure (including pilotage) was applied to individual port tonnages. Where optional routes within Australia could reasonably be used, the shorter distance has been used. The main reference for distances was *The Ports of Australia*, 13th edition, 1993, published by the Australian Chamber of Shipping.

DEFINITIONS AND ABBREVIATIONS

Australian Transport Freight Commodity Code Classification (ATFCC)

A systematic classification of commodities transported by sea, air, road, rail and pipeline, developed jointly by the former Commonwealth Department of Transport and the Australian Bureau of Statistics. It has been designed to facilitate standardised classification of goods carried by these modes to, from and within Australia. The ATFCC is aligned with the Standard International Trade Classification (SITC) at divisional (2-digit)¹ level of classification.

¹ The ATFCC is a four-tiered classification. At the most detailed level there are about 300 commodity categories each identified by a four-digit item code. At the next level there are about 160 categories each identified by a three-digit group code. The commodity groups are assembled into 67 commodity divisions at the two-digit level of the classification, which, in turn, are aggregated to 10 sections at the broadest level of the ATFCC. Sections of the ATFCC are identified by a one-digit code.

Freight Includes all cargo lifted, including empty containers, but excludes ship stores and bunkers.

nes not elsewhere stated.

nmfd not more finely designated.

State of origin or destination Includes Northern Territory.

tonne All figures are measured in mass tonnes (1000 kilograms).

tonne-kilometres The product of tonnes of freight carried between two ports and the sea route distance, including pilotage, between the two ports.

Transhipped cargo Recorded for both inbound and outbound to the port of transshipment and assigned to Australian Transport Freight Commodity Code Classification (ATFCC), Division 93.

STATISTICAL ISSUES

Statistics provided by port authorities on tonnages loaded and discharged do not always balance. The most common reasons for this lack of consistency are:

- Port authorities record cargo as having been discharged during the month the vessel arrives in port. Similarly, cargo loaded is recorded against the month of the vessel's departure. Consequently, cargo loaded at the end of June and discharged in early July will not be recorded in the same financial year by the two ports. The effect of this may be offset to some degree at the end of the financial year, when the reverse applies.
- A port authority's record of cargo loaded and discharged is based on information provided by the ships' agents. This information could be incorrect because the agent may provide only summary statistics for different types of cargo. The agent may also not know the true origin or destination of particular consignments, and may therefore record the last or next port of call respectively. This particularly applies to liquid and dry bulk commodities, where the cargo originates from, or is destined for, several ports.
- The commodity recorded by the agent may not be classified in the same way at the ports of loading and discharge. For example, gypsum loaded in South Australia is classified as fertiliser at NSW ports, and petroleum products are classified as kerosene in Cairns.

The BTE has endeavoured to reconcile some of these data problems as far as possible, but takes no responsibility for correctness or accuracy. Reconciliation was not attempted for many of the smaller shipments.

Figures in tables may not add to totals due to rounding.

For example, iron and steel wire (6794) at 4-digit level is a member of the iron and steel basic products subdivision (679), which is a member of iron and steel division (67), which in turn is a member of the manufactured goods classified chiefly by materials (6).

Coastal Freight in Australia, 1997–98

TABLE 1 AUSTRALIAN COASTAL FREIGHT SUMMARY, 1993–94 TO 1997–98

Year	Loaded (kilotonnes)			Discharged (kilotonnes)		
	Interstate	Intrastate	Total	Interstate	Intrastate	Total
1993–94	30 769	14 505	45 274	31 748	14 228	45 976
1994–95	33 692	15 498	49 190	34 180	16 286	50 466
1995–96	31 982	15 815	47 798	31 808	16 229	48 037
1996–97	32 581	16 562	49 144	32 505	17 530	50 035
1997–98	34 322	18 200	52 522	34 741	18 968	53 710

Note: Reasons for discrepancies between loaded and discharged tonnages in this and other tables are listed in the section 'Statistical Issues' on page 2.

Source Australian port authorities - personal communications.

TABLE 2 COASTAL FREIGHT LOADED BY MAJOR COMMODITY, 1993–94 TO 1997–98

ATFCC code	Commodity	1993–94	1994–95	1995–96	1996–97	1997–98
<i>tonnes (millions)</i>						
281	Iron ore	8.1	8.4	9.0	8.3	8.2
282	Bauxite/alumina	9.6	10.2	9.6	10.1	10.3
331	Crude oil	6.1	7.2	7.6	8.3	8.9
33	Petroleum products ^a	6.5	6.3	6.5	6.9	7.2
	Other cargo	15.6	17.1	15.1	15.6	18.0
	Total	45.3	49.2	47.8	49.1	52.5
<i>tonne-kilometres (billions)</i>						
281	Iron ore	37.3	38.7	40.4	38.1	40.9
282	Bauxite/alumina	21.5	22.5	21.1	22.2	22.4
331	Crude oil	10.7	13.2	16.3	18.8	13.5
33	Petroleum products ^a	9.2	10.3	9.7	12.9	10.3
	Other cargo	20.2	24.5	18.6	20.7	19.6
	Total	98.8	109.2	106.1	112.7	106.8

a. Excludes crude oil (ATFCC code 331) in row above.

Source Australian port authorities - personal communications.

TABLE 3 TOTAL COASTAL FREIGHT FLOWS, 1997–98

State of origin	State of destination (kilotonnes)							TOTAL
	NSW	Vic	Qld	SA	WA	Tas	NT	
NSW	3 088	1 366	718	1 135	100	437	28	6 872
Vic	3 516	57	1 985	244	373	1 733	70	7 978
Qld	1 736	515	10 539	195	50	74	48	13 157
SA	2 328	1 512	698	1 682	204	267	0	6 691
WA	8 142	1 498	184	1 050	2 562	109	201	13 746
Tas	825	2 231	0	41	89	248	2	3 435
NT	96	4	0	29	45	443	25	643
Total	19 731	7 183	14 125	4 375	3 424	3 310	374	52 522

Source Australian port authorities - personal communications.

Information Paper 45

TABLE 4 COASTAL FREIGHT FLOWS BETWEEN AUSTRALIAN PORTS, 1997–98

<i>Port of origin</i>	<i>Port of destination (kilotonnes)</i>							
	<i>Sydney</i>	<i>Rest of NSW</i>	<i>Melbourne</i>	<i>Rest of Vic</i>	<i>Brisbane</i>	<i>Rest of Qld</i>	<i>Adelaide</i>	<i>Rest of SA</i>
Sydney	0	1 445	44	45	302	40	10	0
Rest of NSW	3	1 640	147	1 130	164	212	21	1 103
Melbourne	338	18	49	0	129	242	120	63
Rest of Vic	3 122	38	0	8	1 581	33	61	0
Brisbane	175	2	24	14	1	1 820	9	0
Rest of Qld	285	1 274	349	128	169	8 549	0	186
Adelaide	124	90	710	27	445	0	8	36
Rest of SA	421	1 692	775	0	253	0	1 638	0
Fremantle	0	30	55	806	162	4	23	0
Rest of WA	1 256	6 856	276	362	18	0	1 026	0
Hobart	0	0	378	0	0	0	0	0
Rest of Tas	352	473	1 853	0	0	0	1	40
Darwin	0	1	0	4	0	0	0	0
Rest of NT	0	96	0	0	0	0	29	0
Total	6 076	13 655	4 660	2 524	3 225	10 900	2 947	1 428

(Continued)

<i>Port of origin</i>	<i>Port of destination (kilotonnes)</i>						<i>Total</i>
	<i>Fremantle</i>	<i>Rest of WA</i>	<i>Hobart</i>	<i>Rest of Tas</i>	<i>Darwin</i>	<i>Rest of NT</i>	
Sydney	74	1	32	284	13	0	2 290
Rest of NSW	0	26	16	104	15	0	4 582
Melbourne	108	240	158	1 185	70	0	2 719
Rest of Vic	25	0	212	177	0	0	5 259
Brisbane	23	0	0	18	9	0	2 096
Rest of Qld	28	0	5	51	39	0	11 061
Adelaide	9	162	0	0	0	0	1 612
Rest of SA	0	33	138	129	0	0	5 079
Fremantle	0	963	10	99	200	0	2 353
Rest of WA	1 188	410	0	0	1	0	11 393
Hobart	0	0	0	0	0	0	378
Rest of Tas	48	41	224	23	2	0	3 057
Darwin	6	39	11	0	16	0	77
Rest of NT	0	0	0	433	9	0	566
Total	1 509	1 915	807	2 503	374	0	52 522

Source Australian port authorities - personal communications.

Coastal Freight in Australia, 1997–98

TABLE 5 COASTAL FREIGHT LOADED BY PORT AND PACK TYPE, 1997–98

<i>Port of origin</i>	<i>Bulk (kilotonnes)</i>		<i>Non bulk (kilotonnes)</i>		<i>Total (kilotonnes)</i>
	<i>Dry bulk</i>	<i>Liquid bulk</i>	<i>Container</i>	<i>Other</i>	
Sydney	1 661	522	90	16	2 290
Rest of NSW	3 021	112	162	1 287	4 582
Melbourne	18	1 384	787	530	2 719
Rest of Vic	124	5 084	51	0	5 259
Brisbane	40	2 014	38	3	2 096
Rest of Qld	10 854	99	76	32	11 061
Adelaide	647	945	14	7	1 612
Rest of SA	4 703	324	5	47	5 079
Fremantle	834	1 430	82	8	2 353
Rest of WA	6 948	4 401	37	7	11 393
Hobart	67	161	68	82	378
Rest of Tas	1 658	1	653	746	3 057
Darwin	15	7	1	54	77
Rest of NT	537	29	0	0	566
Total	31 126	16 512	2 064	2 820	52 522

Source Australian port authorities - personal communications.

TABLE 6 COASTAL FREIGHT DISCHARGED BY PORT AND PACK TYPE, 1997–98

<i>Port of destination</i>	<i>Bulk (kilotonnes)</i>		<i>Non bulk (kilotonnes)</i>		<i>Total (kilotonnes)</i>
	<i>Dry bulk</i>	<i>Liquid bulk</i>	<i>Container</i>	<i>Other</i>	
Sydney	945	5 136	12	0	6 094
Rest of NSW	13 518	207	73	15	13 813
Melbourne	1 122	1 470	902	794	4 288
Rest of Vic	977	623	47	997	2 645
Brisbane	1 563	1 968	31	0	3 562
Rest of Qld	8 317	2 531	55	48	10 951
Adelaide	1 684	1 173	16	34	2 908
Rest of SA	1 421	148	0	88	1 657
Fremantle	286	1 724	258	70	2 338
Rest of WA	68	1 174	14	20	1 276
Hobart	506	303	69	8	885
Rest of Tas	1 358	462	661	450	2 932
Darwin	18	250	44	42	353
Rest of NT	0	0	9	2	10
Total	31 784	17 169	2 189	2 567	53 710

Source Australian port authorities - personal communications.

Information Paper 45

TABLE 7 TASMANIAN FREIGHT LOADED AND DISCHARGED BY COMMODITY, 1997–98

<i>ATFCC code</i>	<i>Description</i>	<i>Loaded in Tasmania (kilotonnes)</i>	<i>Discharged in Tasmania (kilotonnes)</i>
00	Food and live animals	72	3
01	Meat and meat preparations	25	0
02	Dairy products and birds eggs	42	4
03	Fish crustaceans and molluscs	7	1
04	Cereals and cereal preparations	2	60
05	Vegetables and fruit	301	31
06	Sugars sugar preparations and honey	26	5
07	Coffee, tea, cocoa, spices	1	0
08	Feeding stuff for animals	0	5
09	Miscellaneous edible products & preparations	34	32
11	Beverages	23	27
20	Crude materials, inedible, except fuels	0	0
21	Hides skins and furskins	6	0
24	Cork and wood	111	2
25	Pulp and waste paper	27	103
26	Textile fibres	14	0
27	Crude fertilisers and crude minerals	8	62
28	Metalliferous ores and metal scrap	639	1 461
29	Crude animal & vegetable materials nes	10	0
31	Coal - Black	0	68
32	Coal coke and briquettes	0	128
33	Petroleum and petroleum products	7	730
34	Gases natural and manufactured	0	26
41	Animal oils and fats	1	0
50	Chemicals and related materials nes	3	7
51	Organic chemicals	0	9
52	Inorganic chemicals	161	0
56	Fertilisers - manufactured	27	17
59	Chemical materials & products nes	1	21
60	Manufactured goods classified chiefly by material	0	54
62	Rubber manufactures, nes	0	0
63	Cork & wood manufactures (exc furniture)	14	7
64	Paper paperboard & articles of paper	436	25
65	Textile yarn fabrics made-up articles	2	2
66	Non-metallic mineral manufactures nes	1 030	54
67	Iron and steel	5	26
68	Non-ferrous metals	122	1

Coastal Freight in Australia, 1997–98

TABLE 7 TASMANIAN FREIGHT LOADED AND DISCHARGED BY COMMODITY, 1997–98
(Continued)

<i>ATFCC code</i>	<i>Description</i>	<i>Loaded in Tasmania (kilotonnes)</i>	<i>Discharged in Tasmania (kilotonnes)</i>
70	Machinery and transport materials	0	0
72	Machinery specialised for a particular industry	1	1
74	General industrial machinery & equip nes	6	7
78	Road vehicles	12	31
82	Furniture and parts thereof	7	7
89	Miscellaneous manufactured articles nes	0	0
91	Mail and postal packages	1	9
93	Special transactions and commodities	173	747
99	Other commodities and transactions	79	42
Total		3 435	3 816

nes Not elsewhere stated.

Source Australian port authorities - personal communications.

TABLE 8 COASTAL FREIGHT LOADED BY MAJOR COMMODITY GROUPS, 1997–98

<i>State of origin</i>	<i>State of destination (kilotonnes)</i>							<i>Total</i>
	<i>NSW</i>	<i>Vic</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas</i>	<i>NT</i>	
Food and live animals								
NSW	9	0	6	22	10	32	0	78
Vic	5	0	37	0	34	115	0	191
Qld	218	271	24	0	31	0	1	545
SA	0	0	0	47	1	0	0	48
WA	0	30	21	0	2	27	3	83
Tas	0	491	0	0	13	5	0	510
NT	0	0	0	0	0	0	0	0
Sub total	232	792	88	69	91	178	4	1 455
Beverages and tobacco								
NSW	0	0	0	0	2	0	0	2
Vic	1	0	0	0	1	27	0	29
Qld	0	0	0	0	1	0	8	9
SA	0	0	0	0	1	0	0	1
WA	0	0	0	1	0	0	1	3
Tas	0	20	0	0	2	0	0	23
NT	0	0	0	0	0	0	0	0
Sub total	1	20	1	1	7	27	9	66

TABLE 8 COASTAL FREIGHT LOADED BY MAJOR COMMODITY GROUPS, 1997–98
(Continued)

State of origin	State of destination (kilotonnes)							Total
	NSW	Vic	Qld	SA	WA	Tas	NT	
Crude materials inedible except fuels								
NSW	1	116	170	0	13	319	0	618
Vic	37	0	0	0	7	124	0	169
Qld	1 111	177	8 167	24	2	5	1	9 488
SA	1 983	598	219	1 588	1	232	0	4 620
WA	6 869	821	5	0	52	1	2	7 750
Tas	338	197	0	40	4	236	0	814
NT	96	0	0	0	0	443	9	548
Sub total	10 435	1 908	8 561	1 652	79	1 360	12	24 007
Mineral fuels lubricants and related materials								
NSW	3 014	125	456	1 024	0	61	13	4 693
Vic	3 439	0	1 911	169	261	620	70	6 471
Qld	393	14	1 812	171	0	67	0	2 457
SA	295	900	40	44	14	35	0	1 328
WA	1 273	600	141	1 026	2 465	69	185	5 759
Tas	0	0	0	0	7	0	0	7
NT	0	4	0	29	0	0	3	36
Sub total	8 414	1 643	4 360	2 463	2 748	853	270	20 752
Animal and vegetable oils fats and waxes								
NSW	0	0	3	0	0	0	0	3
Vic	0	0	2	0	2	1	0	5
Qld	6	1	25	0	0	1	0	33
SA	0	0	0	0	0	0	0	0
WA	0	1	0	3	0	0	0	3
Tas	0	1	0	0	0	0	0	1
NT	0	0	0	0	0	0	0	0
Sub total	6	2	30	3	2	2	0	45
Chemicals and related materials nes								
NSW	0	26	24	9	23	18	0	100
Vic	4	8	23	65	20	66	0	186
Qld	0	46	1	0	9	0	0	56
SA	46	9	0	0	11	0	0	66
WA	0	43	17	17	11	3	4	96
Tas	0	192	0	0	0	0	0	192
NT	0	0	0	0	0	0	0	0
Sub total	51	324	64	91	74	88	4	696

Coastal Freight in Australia, 1997–98

TABLE 8 COASTAL FREIGHT LOADED BY MAJOR COMMODITY GROUPS, 1997–98
(Continued)

<i>State of origin</i>	<i>State of destination (kilotonnes)</i>							<i>Total</i>
	<i>NSW</i>	<i>Vic</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas</i>	<i>NT</i>	
Manufactured goods classified chiefly by material								
NSW	60	1 099	38	80	35	4	10	1 326
Vic	6	0	3	1	28	126	0	163
Qld	0	6	431	0	5	0	16	458
SA	1	0	438	0	169	0	0	608
WA	0	3	0	2	8	3	3	18
Tas	486	1 061	0	0	60	0	2	1 609
NT	0	0	0	0	39	0	13	53
Sub total	554	2 168	910	82	343	133	44	4 233
Machinery and transport materials								
NSW	0	1	0	0	3	0	0	4
Vic	2	0	0	1	2	44	0	49
Qld	0	0	6	0	2	0	0	8
SA	0	0	0	0	2	0	0	3
WA	0	1	0	0	3	0	1	5
Tas	0	19	0	0	0	0	0	19
NT	0	0	0	0	5	0	0	5
Sub total	2	20	7	1	17	44	1	92
Miscellaneous manufactured articles								
NSW	2	0	0	0	2	0	0	4
Vic	3	0	2	4	12	563	0	585
Qld	0	0	0	0	0	0	0	0
SA	0	0	0	0	0	0	0	0
WA	0	0	0	0	1	0	0	1
Tas	0	7	0	0	1	0	0	7
NT	0	0	0	0	0	0	0	1
Sub total	5	7	3	4	16	563	0	598
Commodities and transactions nes								
NSW	1	0	20	0	13	2	5	43
Vic	19	49	6	4	6	47	0	131
Qld	7	0	74	0	0	0	23	104
SA	2	5	1	4	6	0	0	18
WA	0	0	1	1	20	5	2	28
Tas	1	243	0	0	2	7	0	253
NT	0	0	0	0	0	0	0	8
Sub total	30	298	102	9	48	62	30	578
Total	19 731	7 183	14 125	4 375	3 424	3 310	374	52 522

Source Australian port authorities - personal communications.

Information Paper 45

TABLE 9 COASTAL FREIGHT LOADED BY PACK TYPE, 1997–98

<i>State of origin</i>	<i>State of destination (kilotonnes)</i>							<i>Total</i>
	<i>NSW</i>	<i>Vic</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas</i>	<i>NT</i>	
Dry bulk								
NSW	2 947	26	250	1 045	9	404	0	4 681
Vic	38	8	21	61	0	13	0	142
Qld	1 526	462	8 621	186	28	56	17	10 895
SA	2 047	600	657	1 606	174	267	0	5 350
WA	6 869	855	4	0	52	2	0	7 782
Tas	814	640	0	40	7	224	0	1 725
NT	96	0	0	0	0	443	13	552
Sub total	14 336	2 591	9 554	2 938	269	1 409	30	31 126
Liquid bulk								
NSW	77	145	376	9	0	14	13	634
Vic	3 440	0	1 913	173	261	611	70	6 468
Qld	173	45	1 868	9	0	18	0	2 113
SA	278	907	40	44	0	0	0	1 269
WA	1 273	636	150	1 045	2 469	73	185	5 830
Tas	0	161	0	0	0	0	0	161
NT	0	4	0	29	0	0	3	36
Sub total	5 241	1 899	4 348	1 309	2 730	715	270	16 512
Container								
NSW	3	96	68	1	67	13	5	252
Vic	37	0	50	9	101	640	0	838
Qld	34	8	21	0	21	0	31	115
WA	2	4	1	5	7	0	0	19
SA	0	6	30	4	31	34	12	119
Tas	9	680	0	1	19	12	0	721
NT	0	0	0	0	1	0	0	1
Sub total	85	794	170	20	246	700	49	2 064
Non bulk								
NSW	61	1 099	23	80	25	6	10	1 304
Vic	1	49	0	1	11	469	0	530
Qld	3	0	29	0	2	0	1	35
SA	1	1	0	28	23	0	0	54
WA	0	1	0	0	10	0	4	15
Tas	3	750	0	0	63	11	2	828
NT	0	0	0	0	44	0	9	54
Sub total	69	1 900	53	108	178	486	25	2 820
Total	19 731	7 183	14 125	4 375	3 424	3 310	374	52 522

Source Australian port authorities - personal communications.

BUREAU OF TRANSPORT ECONOMICS

RECENT PUBLICATIONS

REPORTS

- 95 *General aviation flying in Australia* (1996) \$24.95 (96 0691 2)
- 96 *Quality of rail freight service: The customer's perspective* (1997) \$11.95 (96 1017 0)
- 97 *Transport synergies between eastern Indonesia and Northern Australia* (1998) \$12.95 (0 642 30504 8)

OCCASIONAL PAPERS

- 107 *Modelling the land use-transport-environment interaction* (1993) \$9.95 93 2564 6
- 108 *Greenhouse gas emissions and the demand for urban passenger transport: design of the overall approach* (1993)
- 110 *Greenhouse gas emissions in Australian transport 1900 and 2000* (1995)

INFORMATION PAPERS

- 39 *Alternative fuels in Australian transport* (1994) \$24.95 (94 2110 9)
- 40 *Analysis of the rail deficit* (1995)
- 41 *BTCE road construction and maintenance price index* (1997)

WORKING PAPERS (Free from BTE)

- 33 *Benefits of private sector involvement in road provision: A look at the evidence* (1997)
- 34 *Taxes and charges in Australian transport: A transmodal overview* (1997)
- 35 *Roads 2020* (1997)
- 37 *Tradable permits in transport?* (1998)

ELECTRONIC BULLETINS

Available from <http://www.dotrs.gov.au/bte/btehome.htm>
Transport Indicators (Quarterly)
Waterline (Quarterly)

INFORMATION SHEETS (Free from BTE)

- 4 *Costs of road crashes in Australia – 1993* (1995)
- 5 *Costs of aviation crashes in Australia – 1993* (1995)
- 6 *Deregulation of domestic aviation in Australia 1990–1995* (1995)
- 7 *Costs of rail accidents in Australia – 1993* (1995)
- 8 *Costs of maritime accidents in Australia – 1993* (1995)
- 9 *Public road related expenditure and revenue in Australia* (1997)
- 10.1 *Externalities in the transport sector: Key issues* (1998)
- 11 *Public road related expenditure and revenue in Australia* (1998)

INTERNET

<http://www.dotrs.gov.au/bte/btehome.htm>

To order free publications write to BTE GPO Box 501 Canberra ACT 2601 Australia telephone 02 6274 6846 or e-mail bte@dotrs.gov.au. Other titles are on sale from AusInfo GPO Box 84 Canberra ACT 2601 Australia telephone toll-free 132 447 (AusInfo catalogue number or ISBN is in brackets).