



YEAR ENDED 31 MARCH 2001

9220.0

Reissue

FREIGHT MOVEMENTS

**AUSTRALIA
SUMMARY**

EMBARGO: 11:30AM (CANBERRA TIME) FRI 6 SEP 2002

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- For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070.

NOTES

REISSUE

This publication was first released on Friday 15 March 2002. Some published rail data have been subsequently found to be incorrect due to error in the aggregation of rail data from a number of respondents.

Correction of these errors has resulted in revisions to both tonnes and tonne-kilometres figures for the rail and all modes components. All tables in the publication (with the exception of tables 16 and 17) were affected by these revisions and a reissue was therefore considered necessary.

ABOUT THIS PUBLICATION

This publication presents results from the 2000 Freight Movements Survey (FMS 2000) and provides estimates of freight moved by road, rail, sea and air for the period 1 April 2000 to 31 March 2001. The Australian Bureau of Statistics (ABS) wishes to acknowledge the Commonwealth and each of the state/territory transport departments for their funding contributions which assisted in the conduct of this survey.

The statistics for the road component of the collection were based on a sample survey of articulated vehicles that were registered with a motor vehicle registry. Rigid trucks and other commercial vehicles were excluded from the scope of the survey. Articulated vehicles account for approximately 77% of total tonne-kilometres travelled and approximately 46% of total tonnes moved by road within Australia (see *Survey of Motor Vehicle Use, Australia, 12 months ended 31 October 2000* (cat. no. 9208.0)).

Data for the other modes were compiled from information provided by all rail, sea and air freight operators. However, data for rail freight movements in Tasmania are confidential for the 12 months ended March 2001 and not available for release. In 1994–95, the ABS published data showing that 2.5 million tonnes of freight were moved by rail in Tasmania (see *Experimental Estimates of Freight Movements, Australia* (cat. no. 9217.0)).

The statistics relating to freight moved by road in this publication are the first results produced using a new survey methodology. The methodology was developed to improve upon previous efforts by the ABS to collect and compile accurate statistics on the movement of freight by road in Australia. Further information on past surveys is provided in Appendix 1. The change to the methodology means that direct comparisons should not be made between data from the FMS 2000 and previous surveys.

Estimates on freight moved by road have been adjusted to compensate for under-reporting by respondents. These adjustments are based on a careful analysis of the data and are designed to improve the estimates at the Australian level (see Technical Note 2).

Dennis Trewin
Australian Statistician

SUMMARY OF FINDINGS

INTRODUCTION

Freight is moved in Australia across vast distances, because of the size of the country and the disperse locations of its agricultural, mining, production and population centres.

The Freight Movements Survey was designed to provide statistics about the size and characteristics of the transport task, including freight flows between geographic areas. This statistical information will assist in the development of transport policies and the efficient allocation of related resources.

FREIGHT MOVEMENTS

Tonne-kilometres is one key measure that can be used to capture the freight transport task, representing mass moved over distance. The calculation of tonne-kilometres is detailed in the Glossary.

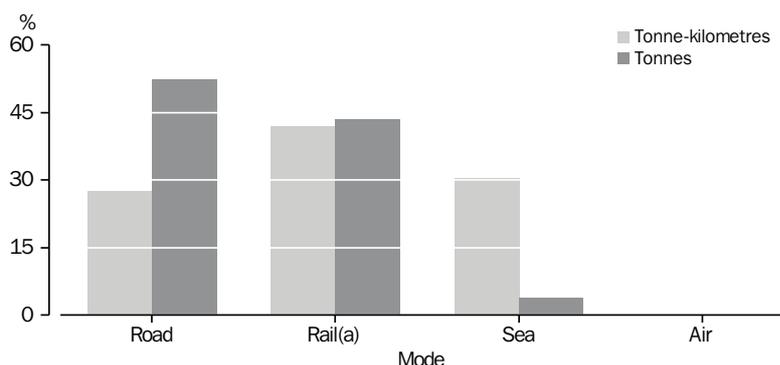
In the 12 months ended 31 March 2001, the transport network in Australia, comprising the modes of road (articulated vehicles only), rail, sea and air accounted for an estimated 320,108 million tonne-kilometres and handled 1,171 million tonnes of freight.

Mode of transport

The road, rail and sea networks shared similar proportions of total tonne-kilometres travelled, with rail accounting for the highest proportion at 42% (134,108 million), followed by sea (30%) and road (28%) (graph S1). By contrast, air accounted for less than 1% of the freight task.

When combined, freight moved by road and rail accounted for 96% of the total tonnage moved (614 and 509 million tonnes respectively). Due to the long average hauls for domestic shipping, sea freight accounted for a much higher proportion of total tonne-kilometres travelled than for total tonnage moved.

S1 TONNE-KILOMETRES TRAVELLED AND TONNES CARRIED, Percentage of total



(a) Excludes rail freight movements in Tasmania.

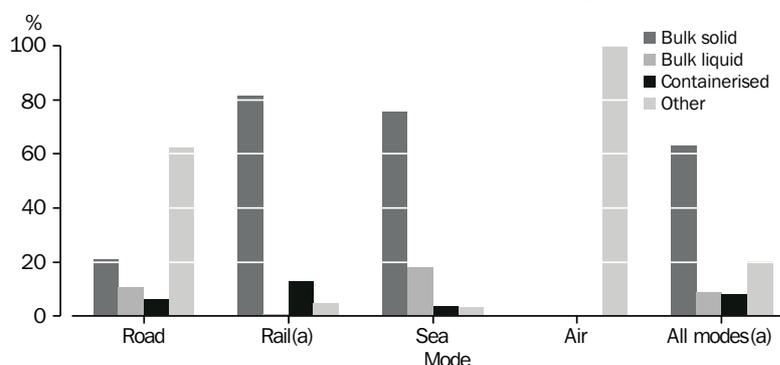
Method of transport Methods by which freight was carried were classified as solid bulk, liquid bulk, containerised and other. Refer to the Glossary for more detail.

Almost two-thirds (63%) of the total tonne-kilometres travelled in Australia (201,591 million) was classified as solid bulk freight, with a further 9% (27,931 million) classified as liquid bulk freight. Of the remainder, 8% was classified as containerised and 20% as other (graph S2). Similarly, of the total tonnes moved in Australia, the most common form of freight was solid bulk (68% of total tonnes).

Solid bulk constituted 82% of the total tonne-kilometres (109,309 million) travelled by rail freight and 76% of the total tonne-kilometres travelled by sea freight.

In contrast, 62% of all tonne-kilometres travelled on road, and all freight on the air network was reported as being moved in ways other than in bulk or in containerised form.

S2 TONNE-KILOMETRES TRAVELLED BY METHOD, Percentage of mode



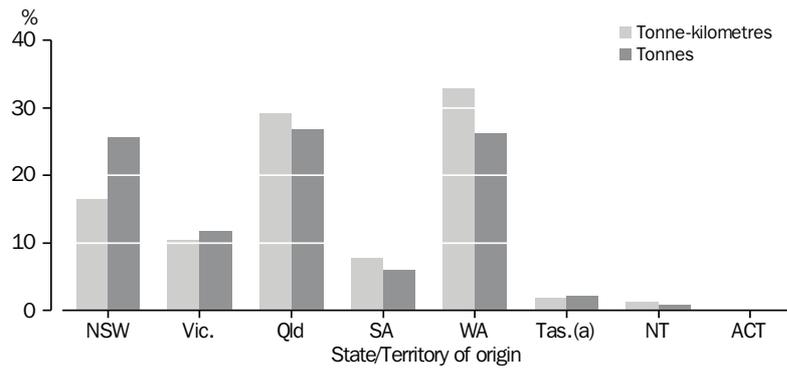
(a) Excludes rail freight movements in Tasmania.

STATE/TERRITORY OF ORIGIN Of the total tonne-kilometres travelled in Australia, 33% (105,446 million) originated in Western Australia (WA) (graph S3). Factors contributing to this high percentage were movements of heavy commodities, such as iron ore from WA mine sites, and long trip distances.

Freight originating in Queensland (Qld) accounted for 29% of the total tonne-kilometres travelled (93,416 million). This was due mainly to large shipments of commodities, such as coal and livestock, over long distances from the central and western areas of the state.

More than three-quarters (79%) of the total tonnes moved originated from Qld, WA and New South Wales (NSW) combined. Whilst there was a reasonably even distribution of tonnes moved from these three states, tonne-kilometres travelled varied, with freight originating from NSW representing only 17% (52,943 million) of the total tonne-kilometres travelled. The large number of short trips made in NSW accounted for the lower tonne-kilometres travelled in that state.

S3 TONNE-KILOMETRES TRAVELLED AND TONNES CARRIED, Percentage of total



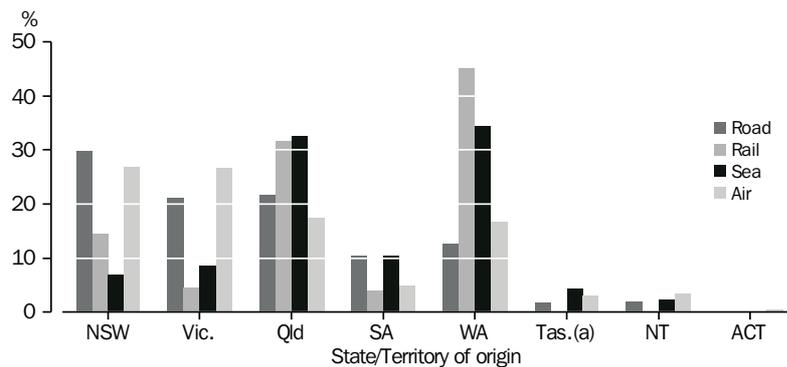
(a) Excludes rail freight movements in Tasmania.

Mode of transport

Freight originating in NSW accounted for 30% of the total tonne-kilometres travelled by road (26,440 million) (graph S4). Rail and sea freight originating in WA represented 45% and 35%, respectively, of the total tonne-kilometres travelled by those modes.

For air, freight originating in NSW and Victoria (Vic.) combined, accounted for over half of all tonne-kilometres travelled on the air network.

S4 TONNE-KILOMETRES TRAVELLED BY MODE, Percentage of mode



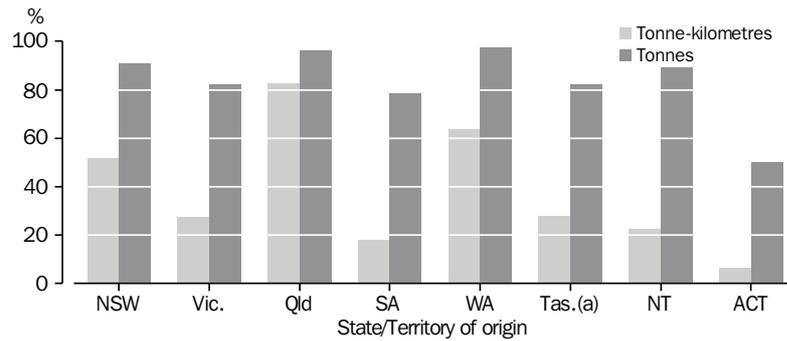
(a) Excludes rail freight movements in Tasmania.

Intrastate movements

Of the total tonne-kilometres travelled, 59% (187,978 million) were for movements where the origin and the destination of the freight was within the same state/territory (i.e. intrastate). For all states and territories except NSW, Qld and WA, less than one-third of the tonne-kilometres travelled were for intrastate movements (graph S5).

In contrast to total tonne-kilometres travelled, 92% of total tonnes carried were intrastate. In all states and territories, except the Australian Capital Territory (ACT), at least 79% of movements were within the same state or territory. Due principally to its location within NSW and its size, only 50% of ACT movements were intrastate.

S5 INTRASTATE FREIGHT MOVEMENTS,
Percentage of total state/territory movements



(a) Excludes rail freight movements in Tasmania.

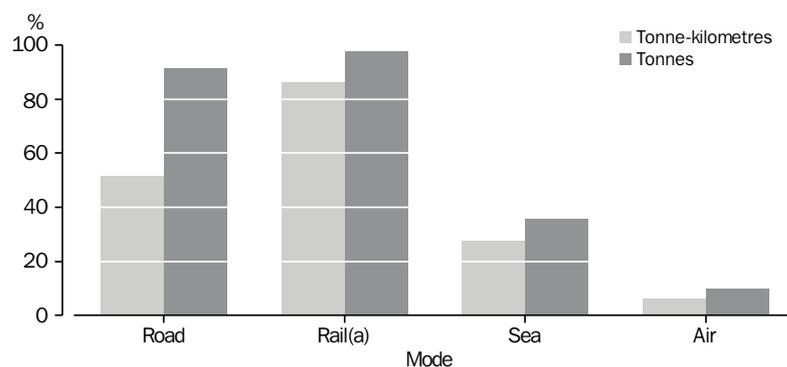
A high proportion (86%) of tonne-kilometres travelled on the rail network were for the movement of freight intrastate. Nearly all (98%) of the total tonnage of rail freight moved was for intrastate movements (graph S6). The movement of bulk commodities (e.g. coal) from the location of the resources to seaports or processing centres was a factor contributing to the high percentages of intrastate rail freight movements.

Similar to rail, a high percentage (92%) of the total tonnes moved by road was within the same state/territory. However, in contrast to rail, only 52% of the total tonne-kilometres travelled by road was for freight that was moved intrastate.

A minority of freight movements by sea were intrastate in nature (28% of the total tonne-kilometres travelled and 36% of the total tonnes carried).

Only 6% of the total tonne-kilometres travelled and 10% of the total tonnes carried on the air network were for the movement of freight intrastate.

S6 INTRASTATE FREIGHT MOVEMENTS, Percentage of mode

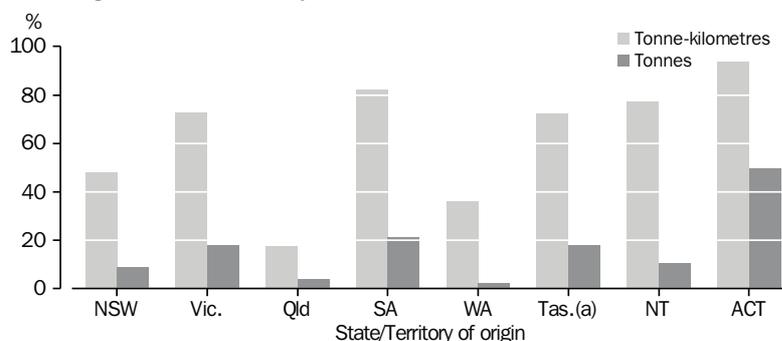


(a) Excludes rail freight movements in Tasmania.

Interstate movements Of the total tonne-kilometres travelled, 132,129 million (41%) were for interstate freight movements. For each state and territory (except NSW, Qld and WA), more than two-thirds of the total tonne-kilometres travelled were for freight moving interstate (graph S7).

For each state and territory of origin (except the ACT), less than one-quarter of total tonnes carried were for interstate freight movements.

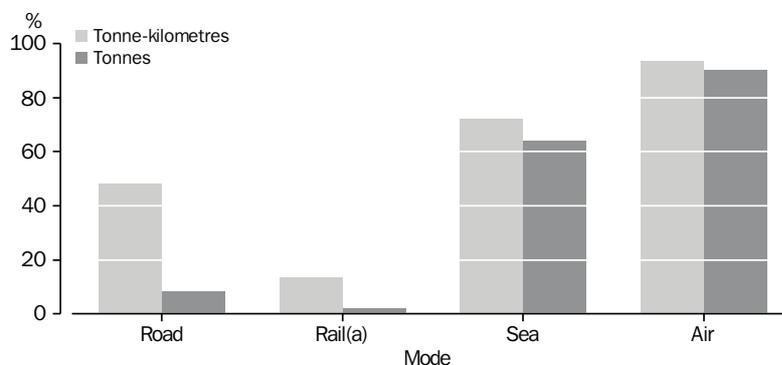
S7 INTERSTATE FREIGHT MOVEMENTS, Percentage of total state/territory movements



(a) Excludes rail freight movements in Tasmania.

Due to the nature of sea and air transport, the percentages of interstate tonne-kilometres travelled by air (94%) and sea (72%) were much higher than those travelled by rail and road (graph S8).

S8 INTERSTATE FREIGHT MOVEMENTS, Percentage of mode



(a) Excludes rail freight movements in Tasmania.

STATE/TERRITORY OF DESTINATION

Of the total tonne-kilometres travelled, more than three-quarters (80%) were for freight destined for Qld, NSW or WA. Likewise, the same three states were the destination for 79% of the total tonnes moved.

The high percentages of the total tonne-kilometres travelled by road in the eastern states reflected the heavy use of the road network on Australia's eastern seaboard. Freight destined for NSW accounted for 29% of the total tonne-kilometres by road, Qld 22% and Vic. 21% (graph S9).

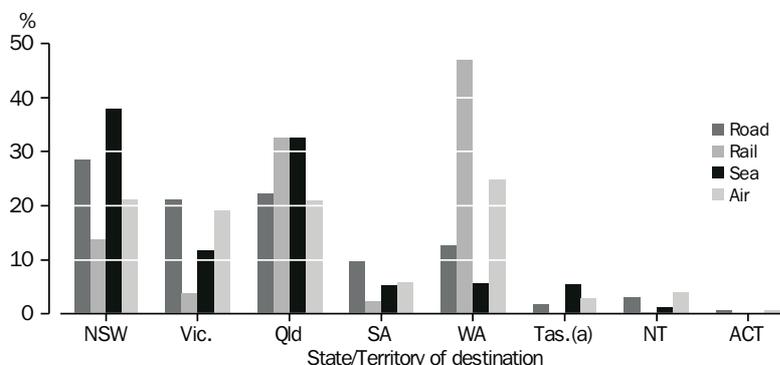
STATE/TERRITORY OF
DESTINATION *continued*

Nearly half (47%) of all tonne-kilometres travelled on the rail freight network was for freight destined for WA. Also, rail freight destined for WA accounted for more than three quarters (79%) of the total tonne-kilometres travelled by all modes, for that state.

Percentages of the total tonne-kilometres travelled over the sea network were high for freight transported to ports located within NSW (38%, or 36,912 million tonne-kilometres) and Qld (33%). Sea freight destined for Tasmania (Tas.) accounted for over three quarters (78%) of all tonne-kilometres for freight moved to that state.

As a destination for freight, WA accounted for 25% of the total tonne-kilometres travelled by air. Due to the long trip distances involved, however, WA accounted for only 11% of the total tonnes carried by air. The highest percentages of total tonnes carried by air were for freight destined for NSW and Qld (24% each), and Vic. (22%).

S9 TONNE-KILOMETRES TRAVELLED BY MODE, Percentage of mode

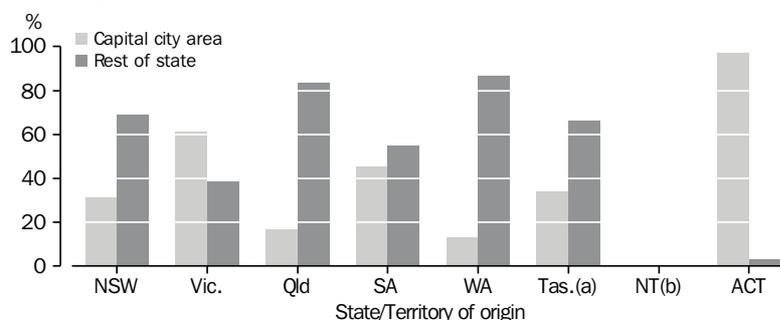


(a) Excludes rail freight movements in Tasmania.

CAPITAL CITY/REST OF
STATE MOVEMENTS

All states and territories, except Vic. and the ACT, recorded higher tonne-kilometres travelled for freight originating in non-capital city areas than for freight originating in capital city areas. This was most evident in WA (87% of total tonne-kilometres) and Qld (83%), where large tonnages of bulk commodities originated in the non-capital city areas (graph S10).

S10 CAPITAL CITY/REST OF STATE, TONNE-KILOMETRES TRAVELLED,
Percentage of state/territory total



(a) Excludes rail freight movements in Tasmania.

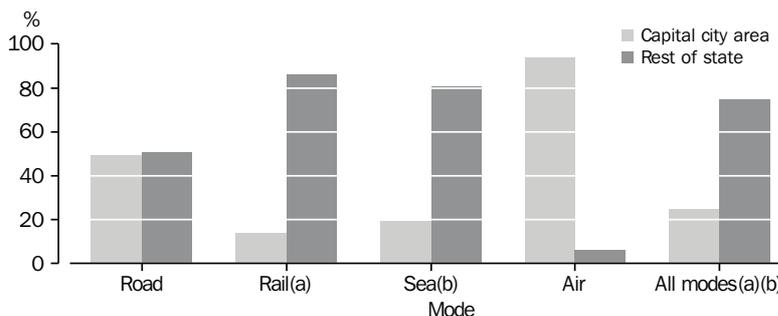
(b) Data for Northern Territory at this level are not available for publication.

CAPITAL CITY/REST OF STATE MOVEMENTS
continued

Total tonne-kilometres travelled by road were evenly shared between freight originating in capital city areas and freight originating in non-capital city areas (graph S11). For rail, however, the greater majority of tonne-kilometres travelled 86% were for freight originating from Australia's non-capital city areas.

Because of the location of Australia's major airports, freight originating in the capital city areas accounted for nearly all tonne-kilometres travelled by air.

S11 CAPITAL CITY/REST OF STATE, TONNE-KILOMETRES TRAVELLED, (State/Territory of origin), Percentage of mode



(a) Excludes rail freight movements in Tasmania.

(b) Excludes sea freight movements in Northern Territory.

For freight originating in the non-capital city areas of WA and Qld, over 85% of the tonne-kilometres travelled were by rail and sea. Of the tonne-kilometres travelled for freight originating in the non-capital city areas of NSW, 46% were by rail and 39% by road.

COMMODITIES MOVED

Metalliferous ores and metal scrap (118,959 million tonne-kilometres and 256 million tonnes) and coal (48,562 million tonne-kilometres and 273 million tonnes) were the two major commodities moved in Australia.

Mode of transport

Road freight accounted for the highest percentage of tonne-kilometres travelled for most commodities. The major exceptions were coal, where 91% of the tonne-kilometres were by rail, and petroleum and petroleum products where 74% of the tonne-kilometres were by sea.

The two major commodities moved by air were general freight, at 165 million tonne-kilometres (60% of the total) and other commodities n.e.s., at 66 million tonne-kilometres (24% of the total) (table S12).

For tonnes carried, the majority of commodities were moved primarily by road, with the percentage of total tonnage for each commodity moved by road exceeding 90% in a number of cases. The exceptions were some of the individual commodities most commonly moved in bulk, such as coal and metalliferous ores and metal scrap. For these commodities, rail was the primary mode of transport.

S12 MAJOR COMMODITIES CARRIED

<i>Mode of transportation</i>	<i>% of mode</i>	
	<i>Tonne-kilometres</i>	<i>Tonnes</i>
Road		
Food	22	14
General freight	17	8
Stone, sand and gravel	4	14
Rail		
Metalliferous ores and metal scrap	42	39
Coal	33	44
Sea		
Metalliferous ores and metal scrap	63	43
Petroleum and petroleum products	17	23
Air		
General freight	60	59
Other commodities n.e.s.	24	26
All modes		
Metalliferous ores and metal scrap	37	22
Coal	15	23

Method of transport Overall, most tonne-kilometres travelled and most tonnes carried, were for freight in solid bulk form. The commodity comprising the highest percentage of tonne-kilometres travelled in solid bulk form was metalliferous ores and metal scrap, at 59% of the total.

Commodities such as food, cork and wood, stone, sand and gravel and machinery and transport equipment were predominantly moved by road, principally by a method other than in bulk or containerised.

Dangerous and/or refrigerated commodities Freight was also classified, where relevant, as refrigerated and/or dangerous. Refer to the Glossary for more detail.

During the survey period, refrigerated commodities accounted for 3% of total tonnes moved and 4% of the total tonne-kilometres travelled. Food comprised 93% of the total refrigerated tonne-kilometres travelled.

Commodities classified as dangerous accounted for 4% of total tonnes moved and 8% of the total tonne-kilometres travelled. Petroleum and petroleum products comprised nearly three quarters of all dangerous goods carried.

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1

TONNES CARRIED AND TONNE-KILOMETRES TRAVELLED, ALL MODES(a)(b)

Origin	Destination								
	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
	'000	'000	'000	'000	'000	'000	'000	'000	'000
TONNES									
NSW	273 289	13 618	7 574	3 630	962	312	*71	1 845	301 300
Vic.	12 565	113 455	3 100	4 726	1 341	2 760	15	94	138 055
Qld	8 657	2 219	302 831	476	248	271	309	*27	315 039
SA	4 376	7 489	1 268	56 024	1 069	309	605	*51	71 191
WA	4 800	1 502	287	893	300 403	40	337	—	308 261
Tas.	1 788	2 415	104	315	87	21 548	9	—	26 267
NT	93	**12	*92	302	*86	375	8 008	—	8 967
ACT	635	*44	**16	**14	—	—	—	*714	1 423
Aust.	306 204	140 753	315 272	66 380	304 197	25 613	9 353	2 730	1 170 503
TONNE-KILOMETRES									
NSW	27 433 760	9 104 297	6 533 445	4 800 949	3 970 297	338 636	*278 669	482 500	52 942 553
Vic.	8 618 874	9 129 051	6 284 702	3 047 667	4 431 479	1 743 797	35 702	57 636	33 348 908
Qld	7 823 771	4 506 288	77 127 963	1 244 971	1 247 333	642 244	790 991	*32 679	93 416 240
SA	7 842 700	4 786 944	3 368 564	4 398 696	2 518 733	529 498	1 152 858	*60 549	24 658 542
WA	26 558 039	6 632 331	1 441 894	2 275 845	67 304 855	128 783	1 104 218	341	105 446 305
Tas.	1 880 473	1 148 914	258 917	550 121	302 278	1 602 489	52 176	66	5 795 435
NT	379 264	**26 865	*214 050	613 198	*190 745	1 886 601	967 952	31	4 278 705
ACT	145 057	*27 116	**19 996	**14 535	552	29	65	*13 617	220 967
Aust.	80 681 939	35 361 806	95 249 532	16 945 982	79 966 272	6 872 077	4 382 630	647 416	320 107 655

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Excludes rail freight movements in Tasmania. See Notes page 2.

2

TONNES CARRIED AND TONNE-KILOMETRES TRAVELLED, ALL MODES(a)(b), PERCENTAGE OF TOTAL(c)

Origin	Destination								
	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
	%	%	%	%	%	%	%	%	%
TONNES									
NSW	90.7	4.5	2.5	1.2	0.3	0.1	—	0.6	100.0
Vic.	9.1	82.2	2.2	3.4	1.0	2.0	—	0.1	100.0
Qld	2.7	0.7	96.1	0.2	0.1	0.1	0.1	—	100.0
SA	6.1	10.5	1.8	78.7	1.5	0.4	0.8	*0.1	100.0
WA	1.6	0.5	0.1	0.3	97.5	—	0.1	—	100.0
Tas.	6.8	9.2	0.4	1.2	0.3	82.0	—	—	100.0
NT	1.0	**0.1	*1.0	3.4	*1.0	4.2	89.3	—	100.0
ACT	44.6	*3.1	**1.1	**1.0	—	—	—	*50.2	100.0
Aust.	26.2	12.0	26.9	5.7	26.0	2.2	0.8	0.2	100.0
TONNE-KILOMETRES									
NSW	51.8	17.2	12.3	9.1	7.5	0.6	*0.5	0.9	100.0
Vic.	25.8	27.4	18.8	9.1	13.3	5.2	0.1	0.2	100.0
Qld	8.4	4.8	82.6	1.3	1.3	0.7	0.8	—	100.0
SA	31.8	19.4	13.7	17.8	10.2	2.1	4.7	*0.2	100.0
WA	25.2	6.3	1.4	2.2	63.8	0.1	1.0	—	100.0
Tas.	32.4	19.8	4.5	9.5	5.2	27.7	0.9	—	100.0
NT	8.9	**0.6	*5.0	14.3	*4.5	44.1	22.6	—	100.0
ACT	65.6	*12.3	**9.0	**6.6	0.2	—	—	*6.2	100.0
Aust.	25.2	11.0	29.8	5.3	25.0	2.1	1.4	0.2	100.0

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Excludes rail freight movements in Tasmania. See Notes page 2.

(c) Percentage of tonnes carried and tonne-kilometres travelled from state/territory of origin to state/territory of destination, adding to 100% of Australia.

3

TONNES CARRIED, BY MODE OF TRANSPORT(a)(b)

Origin	Destination								
	NSW '000	Vic. '000	Qld '000	SA '000	WA '000	Tas. '000	NT '000	ACT '000	Aust. '000
ROAD									
NSW	163 944	10 077	6 088	1 757	*106	..	*53	1 741	183 765
Vic.	9 669	105 976	1 374	3 896	*117	..	—	92	121 124
Qld	5 902	1 122	119 195	257	*62	..	*245	*27	126 810
SA	1 452	5 069	362	38 012	455	..	*381	*42	45 772
WA	*125	*92	*72	424	104 560	..	92	—	105 364
Tas.	..	..	..	..	..	21 384	..	..	21 384
NT	**7	**8	*90	162	*81	..	7 939	—	8 287
ACT	628	*43	**16	**13	—	..	—	*714	1 414
Aust.	181 727	122 388	127 195	44 521	105 381	21 384	8 710	2 615	613 921
RAIL									
NSW	108 231	1 904	793	708	530	..	3	103	112 272
Vic.	682	7 415	592	584	791	..	14	—	10 079
Qld	564	423	170 874	62	66	..	1	—	171 990
SA	703	1 067	190	16 298	289	..	223	8	18 780
WA	289	333	112	168	194 858	..	2	—	195 761
Tas.	..	..	..	..	..	n.a.	..	..	n.a.
NT	2	3	—	139	—	..	—	—	145
ACT	5	—	—	—	—	..	—	..	5
Aust.	110 478	11 147	172 562	17 958	196 534	n.a.	243	111	509 032
SEA									
NSW	1 114	1 616	673	1 160	317	310	13	..	5 202
Vic.	2 192	64	1 122	241	422	2 750	—	..	6 789
Qld	2 176	666	12 746	157	119	271	62	..	16 197
SA	2 217	1 348	715	1 714	324	309	—	..	6 628
WA	4 380	1 070	102	301	985	40	243	..	7 120
Tas.	1 786	2 408	103	315	87	161	9	..	4 869
NT	82	—	1	—	5	375	68	..	531
ACT	..	..	..	..	..	..	..	..	..
Aust.	13 947	7 171	15 463	3 886	2 258	4 215	395	..	47 336
AIR									
NSW	1	21	20	6	9	2	1	2	61
Vic.	21	—	12	6	11	10	1	2	63
Qld	16	7	16	1	1	—	1	—	42
SA	4	4	1	—	1	—	1	—	11
WA	5	7	1	1	1	—	—	—	16
Tas.	2	8	1	—	—	2	—	—	13
NT	1	1	—	—	—	—	1	—	4
ACT	1	1	—	—	—	—	—	..	3
Aust.	51	48	52	15	24	14	5	4	214
TOTAL									
NSW	273 289	13 618	7 574	3 630	962	312	*71	1 845	301 300
Vic.	12 565	113 455	3 100	4 726	1 341	2 760	15	94	138 055
Qld	8 657	2 219	302 831	476	248	271	309	*27	315 039
SA	4 376	7 489	1 268	56 024	1 069	309	605	*51	71 191
WA	4 800	1 502	287	893	300 403	40	337	—	308 261
Tas.	1 788	2 415	104	315	87	21 548	9	—	26 267
NT	93	**12	*92	302	*86	375	8 008	—	8 967
ACT	635	*44	**16	**14	—	—	—	*714	1 423
Aust.	306 204	140 753	315 272	66 380	304 197	25 613	9 353	2 730	1 170 503

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Excludes rail freight movements in Tasmania. See Notes page 2.

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TONNE-KILOMETRES TRAVELLED, BY MODE OF TRANSPORT(a)(b)

Origin	Destination								
	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
	'000	'000	'000	'000	'000	'000	'000	'000	'000
ROAD									
NSW	12 467 832	6 190 253	4 801 388	1 888 160	*435 234	..	*206 749	450 690	26 440 306
Vic.	5 875 242	7 805 758	2 410 987	2 179 741	*417 005	..	—	56 786	18 745 520
Qld	4 480 846	2 027 580	11 256 884	511 438	*289 416	..	*575 584	*32 305	19 174 054
SA	1 764 179	2 342 606	695 648	2 685 208	940 862	..	807 059	*49 958	9 285 520
WA	*503 350	*325 521	*304 401	913 515	8 980 202	..	*253 515	—	11 280 504
Tas.	..	..	..	..	..	1 504 069	..	..	1 504 069
NT	**31 532	**16 736	*209 010	396 053	*174 023	..	900 813	—	1 728 166
ACT	142 057	*26 519	**19 564	**14 435	—	..	—	*13 617	216 190
Aust.	25 265 038	18 734 975	19 697 881	8 588 550	11 236 742	1 504 069	2 743 720	603 355	88 374 330
RAIL									
NSW	14 906 885	1 127 010	847 465	469 115	2 227 754	..	10 865	31 435	19 620 529
Vic.	453 568	1 318 743	1 134 343	467 416	2 779 960	..	34 286	—	6 188 316
Qld	516 017	810 316	40 644 429	135 447	349 494	..	2 469	7	42 458 179
SA	1 375 709	682 118	531 286	1 484 480	748 359	..	343 263	10 429	5 175 644
WA	1 183 500	1 158 569	602 197	388 266	57 088 701	..	7 590	—	60 428 823
Tas.	..	..	..	..	..	n.a.	..	..	n.a.
NT	7 582	7 979	1 065	215 810	1 522	..	—	—	233 958
ACT	2 733	—	—	1	300	..	—	..	3 035
Aust.	18 445 994	5 104 735	43 760 784	3 160 535	63 196 092	n.a.	398 473	41 872	134 108 484
SEA									
NSW	58 821	1 772 298	867 851	2 436 772	1 276 625	337 084	58 476	..	6 807 928
Vic.	2 274 958	4 543	2 721 934	396 784	1 204 969	1 738 265	—	..	8 341 453
Qld	2 812 131	1 657 837	25 212 149	596 437	605 185	641 809	210 204	..	31 735 752
SA	4 698 698	1 759 765	2 139 798	229 008	826 894	529 369	—	..	10 183 532
WA	24 853 516	5 129 598	530 708	971 747	1 234 725	128 422	842 369	..	33 691 084
Tas.	1 878 147	1 144 706	257 977	549 860	301 724	98 138	52 140	..	4 282 692
NT	336 081	439	2 693	254	14 653	1 886 588	66 093	..	2 306 801
ACT	..	..	..	..	..	..	..	..	..
Aust.	36 912 353	11 469 186	31 733 109	5 180 862	5 464 776	5 359 676	1 229 282	..	97 349 243
AIR									
NSW	222	14 736	16 741	6 902	30 684	1 552	2 579	375	73 790
Vic.	15 106	7	17 438	3 727	29 545	5 532	1 416	849	73 620
Qld	14 777	10 555	14 501	1 648	3 237	435	2 734	366	48 254
SA	4 115	2 455	1 833	—	2 618	128	2 535	162	13 845
WA	17 674	18 642	4 589	2 317	1 226	361	744	341	45 894
Tas.	2 326	4 208	940	261	554	283	36	66	8 674
NT	4 069	1 711	1 282	1 081	547	12	1 046	31	9 779
ACT	267	597	433	99	251	29	65	..	1 741
Aust.	58 555	52 910	57 758	16 036	68 662	8 332	11 156	2 189	275 598
TOTAL									
NSW	27 433 760	9 104 297	6 533 445	4 800 949	3 970 297	338 636	*278 669	482 500	52 942 553
Vic.	8 618 874	9 129 051	6 284 702	3 047 667	4 431 479	1 743 797	35 702	57 636	33 348 908
Qld	7 823 771	4 506 288	77 127 963	1 244 971	1 247 333	642 244	790 991	*32 679	93 416 240
SA	7 842 700	4 786 944	3 368 564	4 398 696	2 518 733	529 498	1 152 858	*60 549	24 658 542
WA	26 558 039	6 632 331	1 441 894	2 275 845	67 304 855	128 783	1 104 218	341	105 446 305
Tas.	1 880 473	1 148 914	258 917	550 121	302 278	1 602 489	52 176	66	5 795 435
NT	379 264	**26 865	*214 050	613 198	*190 745	1 886 601	967 952	31	4 278 705
ACT	145 057	*27 116	**19 996	**14 535	552	29	65	*13 617	220 967
Aust.	80 681 939	35 361 806	95 249 532	16 945 982	79 966 272	6 872 077	4 382 630	647 416	320 107 655

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Excludes rail freight movements in Tasmania. See Notes page 2.

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TONNES CARRIED, BY ORIGIN AND MODE OF TRANSPORT(a)(b)

<i>Statistical Division</i>	<i>Road</i> '000	<i>Rail</i> '000	<i>Sea</i> '000	<i>Air</i> '000	<i>Total</i> '000
NEW SOUTH WALES					
Sydney	70 313	4 638	793	61	75 805
Hunter	46 923	78 787	1 509	—	127 219
Illawarra	11 545	9 024	2 897	—	23 466
Richmond-Tweed	*3 214	n.p.	—	—	n.p.
Mid North Coast	3 146	2 142	4	—	5 292
Northern	8 400	2 839	..	—	11 240
North Western	6 581	2 228	..	—	8 809
Central West	8 920	8 233	..	—	17 152
South Eastern	3 981	966	—	—	4 948
Murrumbidgee	12 577	1 571	..	—	14 148
Murray	7 914	1 011	..	—	8 924
Far West	*252	n.p.	..	—	n.p.
Off-shore areas	..	..	—	—	—
<i>Total</i>	<i>183 765</i>	<i>112 272</i>	<i>5 202</i>	<i>61</i>	<i>301 300</i>
VICTORIA					
Melbourne	68 167	4 766	4 044	63	77 040
Barwon	6 603	774	2 678	—	10 055
Western District	4 449	305	64	—	4 818
Central Highlands	1 884	272	..	—	2 156
Wimmera	4 985	275	..	—	5 260
Mallee	7 662	301	..	—	7 963
Loddon	2 320	135	..	—	2 455
Goulburn	9 382	1 584	..	—	10 966
Ovens-Murray	3 766	279	..	—	4 044
East Gippsland	3 632	269	—	—	3 902
Gippsland	8 275	1 120	3	—	9 397
Off-shore areas	..	..	—	—	—
<i>Total</i>	<i>121 124</i>	<i>10 079</i>	<i>6 789</i>	<i>63</i>	<i>138 055</i>
QUEENSLAND					
Brisbane	53 863	3 575	2 468	32	59 937
Moreton	5 382	1 019	—	1	6 402
Wide Bay-Burnett	*11 194	7 784	46	—	19 024
Darling Downs	9 231	2 068	..	—	11 299
South-West	2 964	239	..	—	3 203
Fitzroy	12 743	56 245	2 696	1	71 685
Central-West	*815	73	..	—	*888
Mackay	4 293	62 260	488	1	67 041
Northern	10 381	26 087	342	3	36 814
Far North	*9 094	10 038	10 074	5	29 211
North-West	*6 850	2 602	81	—	9 534
Off-shore areas	..	..	—	—	—
<i>Total</i>	<i>126 810</i>	<i>171 990</i>	<i>16 197</i>	<i>42</i>	<i>315 039</i>

For footnotes see end of table.

...continued

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TONNES CARRIED, BY ORIGIN AND MODE OF TRANSPORT(a)(b) — *continued*

<i>Statistical Division</i>	<i>Road</i> '000	<i>Rail</i> '000	<i>Sea</i> '000	<i>Air</i> '000	<i>Total</i> '000
SOUTH AUSTRALIA					
Adelaide	20 621	4 707	1 613	11	26 952
Outer Adelaide	3 305	513	—	—	3 818
Yorke and Lower North	*3 704	664	1 893	—	6 261
Murray Lands	4 405	534	—	—	4 939
South-East	6 154	—	—	—	6 154
Eyre	*3 237	2 011	1 279	—	6 527
Northern	4 347	10 350	1 843	—	16 540
Off-shore areas	..	—	—	—	—
<i>Total</i>	45 772	18 780	6 628	11	71 191
WESTERN AUSTRALIA					
Perth	41 248	2 529	1 706	16	45 498
South-West	14 665	n.p.	536	—	n.p.
Lower Great Southern	4 986	n.p.	—	—	n.p.
Upper Great Southern	*2 457	n.p.	..	—	n.p.
Midlands	8 570	n.p.	—	—	n.p.
South Eastern	*11 035	n.p.	—	—	n.p.
Central	*13 275	n.p.	—	—	n.p.
Pilbarra	*5 448	151 717	4 851	—	162 017
Kimberley	*3 681	—	27	—	*3 707
Off-shore areas	..	..	—	—	—
<i>Total</i>	105 364	195 761	7 120	16	308 261
TASMANIA					
Greater Hobart	2 672	n.a.	1 163	7	3 842
Southern	1 561	n.a.	—	—	1 561
Northern	8 802	n.a.	123	5	8 930
Mersey-Lyell	8 349	n.a.	3 584	—	11 933
Off-shore areas	..	..	—	—	—
<i>Total</i>	21 384	n.a.	4 869	13	26 267
NORTHERN TERRITORY					
Darwin	*2 834	..	n.p.	3	n.p.
Northern Territory Balance	5 453	145	n.p.	1	n.p.
Off-shore areas	..	..	—	—	—
<i>Total</i>	8 287	145	531	4	8 967
AUSTRALIAN CAPITAL TERRITORY					
Canberra	1 333	5	..	3	1 341
Australian Capital Territory Balance	**81	..	..	..	**81
<i>Total</i>	1 414	5	..	3	1 423
AUSTRALIA					
Total	613 921	509 032	47 336	214	1 170 503

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Excludes rail freight movements in Tasmania. See Notes page 2.

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TONNE-KILOMETRES TRAVELLED, BY ORIGIN AND MODE OF TRANSPORT(a)(b)

<i>Statistical Division</i>	<i>Road</i> '000	<i>Rail</i> '000	<i>Sea</i> '000	<i>Air</i> '000	<i>Total</i> '000
NEW SOUTH WALES					
Sydney	12 112 132	2 806 001	1 533 569	73 718	16 525 420
Hunter	2 700 416	8 941 955	1 063 591	4	12 705 966
Illawarra	1 110 353	1 507 027	4 208 590	—	6 825 971
Richmond-Tweed	290 748	n.p.	—	—	n.p.
Mid North Coast	732 679	408 246	2 178	45	1 143 149
Northern	1 755 535	1 121 764	..	12	2 877 311
North Western	1 364 832	1 218 800	..	10	2 583 642
Central West	1 373 254	2 199 061	..	—	3 572 315
South Eastern	635 710	105 239	—	—	740 950
Murrumbidgee	2 443 580	743 382	..	—	3 186 962
Murray	1 834 590	325 494	..	—	2 160 084
Far West	*86 477	n.p.	..	—	n.p.
Off-shore areas	..	..	—	—	—
<i>Total</i>	26 440 306	19 620 529	6 807 928	73 790	52 942 553
VICTORIA					
Melbourne	11 160 351	5 115 334	4 105 433	73 614	20 454 732
Barwon	901 177	82 840	3 951 959	—	4 935 976
Western District	595 366	78 264	282 800	—	956 430
Central Highlands	369 292	50 400	..	—	419 692
Wimmera	717 816	98 928	..	—	816 744
Mallee	1 126 957	148 926	..	5	1 275 888
Loddon	322 648	17 402	..	—	340 050
Goulburn	1 491 067	244 019	..	—	1 735 086
Ovens-Murray	766 690	86 259	..	—	852 949
East Gippsland	565 467	93 426	—	—	658 893
Gippsland	728 689	172 519	1 260	—	902 468
Off-shore areas	..	..	—	—	—
<i>Total</i>	18 745 520	6 188 316	8 341 453	73 620	33 348 908
QUEENSLAND					
Brisbane	8 737 813	3 506 030	3 318 233	35 869	15 597 944
Moreton	594 513	56 665	—	529	651 707
Wide Bay-Burnett	1 332 237	1 746 222	105 199	34	3 183 692
Darling Downs	1 762 153	654 026	..	—	2 416 179
South-West	855 050	162 303	..	—	1 017 353
Fitzroy	1 480 612	18 427 748	3 522 796	339	23 431 495
Central-West	287 749	78 459	..	—	366 208
Mackay	735 334	11 890 726	1 212 727	765	13 839 551
Northern	1 294 290	2 968 964	1 024 194	3 258	5 290 706
Far North	1 189 710	973 251	22 401 159	7 411	24 571 530
North-West	904 594	1 993 786	151 445	49	3 049 874
Off-shore areas	..	..	—	—	—
<i>Total</i>	19 174 054	42 458 179	31 735 752	48 254	93 416 240

For footnotes see end of table.

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TONNE-KILOMETRES TRAVELLED, BY ORIGIN AND MODE OF TRANSPORT(a)(b) — *continued*

<i>Statistical Division</i>	<i>Road</i> '000	<i>Rail</i> '000	<i>Sea</i> '000	<i>Air</i> '000	<i>Total</i> '000
SOUTH AUSTRALIA					
Adelaide	5 180 939	2 942 580	3 065 857	13 845	11 203 222
Outer Adelaide	380 287	25 673	—	—	405 960
Yorke and Lower North	224 207	102 973	648 265	—	975 446
Murray Lands	638 539	74 465	—	—	713 004
South-East	1 274 113	—	—	—	1 274 113
Eyre	581 248	221 178	2 780 321	—	3 582 747
Northern	1 006 186	1 808 774	3 689 088	—	6 504 049
Off-shore areas	..	..	—	—	—
<i>Total</i>	9 285 520	5 175 644	10 183 532	13 845	24 658 542
WESTERN AUSTRALIA					
Perth	5 015 048	4 077 135	4 913 141	45 526	14 050 850
South-West	1 017 537	n.p.	2 738 096	—	n.p.
Lower Great Southern	501 198	n.p.	—	—	n.p.
Upper Great Southern	178 441	n.p.	..	—	n.p.
Midlands	871 879	n.p.	—	—	n.p.
South Eastern	1 330 225	n.p.	—	96	n.p.
Central	1 051 368	n.p.	—	—	n.p.
Pilbarra	774 253	48 939 075	25 946 085	198	75 659 611
Kimberley	540 557	—	93 763	75	634 394
Off-shore areas	..	..	—	—	—
<i>Total</i>	11 280 504	60 428 823	33 691 084	45 894	105 446 305
TASMANIA					
Greater Hobart	175 993	n.a.	1 773 466	5 606	1 955 066
Southern	195 772	n.a.	—	—	195 772
Northern	595 611	n.a.	160 348	3 068	759 026
Mersey-Lyell	536 693	n.a.	2 348 878	—	2 885 571
Off-shore areas	..	..	—	—	—
<i>Total</i>	1 504 069	n.a.	4 282 692	8 674	5 795 435
NORTHERN TERRITORY					
Darwin	841 712	..	n.p.	8 726	n.p.
Northern Territory Balance	886 454	233 958	n.p.	1 053	n.p.
Off-shore areas	..	..	—	—	—
<i>Total</i>	1 728 166	233 958	2 306 801	9 779	4 278 705
AUSTRALIAN CAPITAL TERRITORY					
Canberra	209 340	3 035	..	1 741	214 117
Australian Capital Territory Balance	**6 850	..	..	..	**6 850
<i>Total</i>	216 190	3 035	..	1 741	220 967
AUSTRALIA					
Total	88 374 330	134 108 484	97 349 243	275 598	320 107 655

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Excludes rail freight movements in Tasmania. See Notes page 2.

7

TONNES CARRIED, BY DESTINATION AND MODE OF TRANSPORT(a)(b)

<i>Statistical Division</i>	<i>Road</i> '000	<i>Rail</i> '000	<i>Sea</i> '000	<i>Air</i> '000	<i>Total</i> '000
NEW SOUTH WALES					
Sydney	66 708	5 436	4 029	51	76 224
Hunter	46 293	86 608	2 731	—	135 632
Illawarra	15 726	15 588	7 136	—	38 449
Richmond-Tweed	*4 020	n.p.	—	—	n.p.
Mid North Coast	3 391	64	4	—	3 458
Northern	7 531	926	..	—	8 458
North Western	6 186	151	..	—	6 337
Central West	8 318	940	..	—	9 258
South Eastern	4 017	7	48	—	4 073
Murrumbidgee	12 296	n.p.	..	—	n.p.
Murray	6 950	206	..	—	7 156
Far West	*292	n.p.	..	—	n.p.
Off-shore areas	..	..	—	—	—
<i>Total</i>	<i>181 727</i>	<i>110 478</i>	<i>13 947</i>	<i>51</i>	<i>306 204</i>
VICTORIA					
Melbourne	69 414	8 506	5 347	48	83 315
Barwon	6 399	1 037	767	—	8 202
Western District	6 122	177	1 049	—	7 347
Central Highlands	1 714	225	..	—	1 939
Wimmera	4 728	93	..	—	4 822
Mallee	7 515	164	..	—	7 679
Loddon	2 622	113	..	—	2 735
Goulburn	9 055	350	..	—	9 405
Ovens-Murray	3 550	193	..	—	3 743
East Gippsland	2 388	7	—	—	2 396
Gippsland	8 880	282	8	—	9 170
Off-shore areas	..	..	—	—	—
<i>Total</i>	<i>122 388</i>	<i>11 147</i>	<i>7 171</i>	<i>48</i>	<i>140 753</i>
QUEENSLAND					
Brisbane	52 764	6 754	2 663	36	62 217
Moreton	7 599	264	—	1	7 864
Wide Bay-Burnett	*10 160	4 714	65	—	14 939
Darling Downs	10 291	204	..	—	10 495
South-West	2 615	19	..	—	2 634
Fitzroy	12 399	46 872	10 223	2	69 495
Central-West	*676	10	..	—	*686
Mackay	4 326	73 970	499	2	78 797
Northern	10 541	28 847	1 201	5	40 593
Far North	*9 145	9 846	779	6	19 776
North-West	*6 679	1 063	34	—	*7 776
Off-shore areas	..	..	—	—	—
<i>Total</i>	<i>127 195</i>	<i>172 562</i>	<i>15 463</i>	<i>52</i>	<i>315 272</i>

For footnotes see end of table.

...continued

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TONNES CARRIED, BY DESTINATION AND MODE OF TRANSPORT(a)(b) — *continued*

<i>Statistical Division</i>	<i>Road</i> '000	<i>Rail</i> '000	<i>Sea</i> '000	<i>Air</i> '000	<i>Total</i> '000
SOUTH AUSTRALIA					
Adelaide	22 584	5 910	2 281	15	30 789
Outer Adelaide	2 393	—	—	—	2 393
Yorke and Lower North	*3 446	—	13	—	*3 459
Murray Lands	*4 115	154	—	—	4 269
South-East	4 724	—	—	—	4 724
Eyre	*3 278	1 705	89	—	5 073
Northern	*3 982	10 188	1 503	—	15 673
Off-shore areas	..	..	—	—	—
<i>Total</i>	44 521	17 958	3 886	15	66 380
WESTERN AUSTRALIA					
Perth	40 318	n.p.	1 194	23	n.p.
South-West	15 392	n.p.	103	—	n.p.
Lower Great Southern	4 839	n.p.	21	—	n.p.
Upper Great Southern	*2 580	n.p.	..	—	n.p.
Midlands	7 931	n.p.	—	—	n.p.
South Eastern	*11 590	n.p.	405	—	n.p.
Central	*13 287	n.p.	114	—	n.p.
Pilbarra	*5 626	162 315	381	1	168 322
Kimberley	*3 817	—	41	—	*3 859
Off-shore areas	..	..	—	—	—
<i>Total</i>	105 381	196 534	2 258	24	304 197
TASMANIA					
Greater Hobart	3 110	n.a.	1 501	7	4 618
Southern	1 092	n.a.	—	—	1 092
Northern	8 857	n.a.	972	7	9 837
Mersey-Lyell	8 325	n.a.	1 742	—	10 067
Off-shore areas	..	..	—	—	—
<i>Total</i>	21 384	n.a.	4 215	14	25 613
NORTHERN TERRITORY					
Darwin	*2 719	..	n.p.	3	n.p.
Northern Territory Balance	5 991	243	n.p.	2	n.p.
Off-shore areas	..	..	—	—	—
<i>Total</i>	8 710	243	395	5	9 353
AUSTRALIAN CAPITAL TERRITORY					
Canberra	2 614	111	..	4	2 729
Australian Capital Territory Balance	**1	—	..	—	**1
<i>Total</i>	2 615	111	..	4	2 730
AUSTRALIA					
Total	613 921	509 032	47 336	214	1 170 503

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Excludes rail freight movements in Tasmania. See Notes page 2.

Statistical Division	Road	Rail	Sea	Air	Total
	'000	'000	'000	'000	'000
NEW SOUTH WALES					
Sydney	12 717 485	3 271 205	5 341 999	58 381	21 389 070
Hunter	2 345 060	11 326 146	2 345 108	13	16 016 327
Illawarra	1 040 398	3 105 658	29 187 258	—	33 333 314
Richmond-Tweed	402 738	n.p.	—	—	n.p.
Mid North Coast	834 544	32 667	2 178	100	869 490
Northern	1 340 535	223 905	..	49	1 564 490
North Western	1 149 127	86 541	..	9	1 235 677
Central West	1 139 661	271 903	..	—	1 411 563
South Eastern	680 693	1 498	35 810	—	718 001
Murrumbidgee	2 199 955	n.p.	..	1	n.p.
Murray	1 322 168	44 227	..	2	1 366 396
Far West	92 674	n.p.	..	—	n.p.
Off-shore areas	..	..	—	—	—
<i>Total</i>	25 265 038	18 445 994	36 912 353	58 555	80 681 939
VICTORIA					
Melbourne	11 666 930	4 590 222	5 041 715	52 905	21 351 773
Barwon	915 509	189 367	1 387 647	—	2 492 523
Western District	889 919	33 714	5 037 019	—	5 960 652
Central Highlands	281 109	30 892	..	—	312 001
Wimmera	670 592	31 496	..	—	702 088
Mallee	1 029 270	77 899	..	4	1 107 173
Loddon	322 378	13 944	..	—	336 322
Goulburn	1 271 899	55 891	..	—	1 327 790
Ovens-Murray	630 684	41 786	..	—	672 469
East Gippsland	393 734	620	—	—	394 354
Gippsland	662 952	38 902	2 805	—	704 659
Off-shore areas	..	..	—	—	—
<i>Total</i>	18 734 975	5 104 735	11 469 186	52 910	35 361 806
QUEENSLAND					
Brisbane	9 632 551	4 982 023	4 901 404	40 939	19 556 917
Moreton	858 296	6 190	—	1 135	865 622
Wide Bay-Burnett	860 921	141 659	30 075	68	1 032 723
Darling Downs	2 099 900	113 623	..	—	2 213 523
South-West	710 727	12 178	..	—	722 905
Fitzroy	1 375 016	12 731 556	22 484 298	713	36 591 583
Central-West	193 045	7 962	..	—	201 008
Mackay	766 523	19 329 053	812 872	1 541	20 909 989
Northern	1 259 994	4 863 960	2 085 048	5 141	8 214 144
Far North	1 016 256	789 615	1 398 459	8 080	3 212 409
North-West	924 651	782 966	20 953	141	1 728 710
Off-shore areas	..	..	—	—	—
<i>Total</i>	19 697 881	43 760 784	31 733 109	57 758	95 249 532

For footnotes see end of table.

...continued

<i>Statistical Division</i>	<i>Road</i> '000	<i>Rail</i> '000	<i>Sea</i> '000	<i>Air</i> '000	<i>Total</i> '000
SOUTH AUSTRALIA					
Adelaide	5 556 026	2 395 841	1 935 459	16 028	9 903 354
Outer Adelaide	332 078	—	—	—	332 078
Yorke and Lower North	168 762	—	52 539	—	221 301
Murray Lands	541 326	18 641	—	—	559 967
South-East	676 756	—	—	—	676 756
Eyre	587 311	167 752	200 536	—	955 600
Northern	726 291	578 300	2 992 328	7	4 296 926
Off-shore areas	..	..	—	—	—
<i>Total</i>	8 588 550	3 160 535	5 180 862	16 036	16 945 982
WESTERN AUSTRALIA					
Perth	4 410 038	n.p.	3 636 295	67 700	n.p.
South-West	955 532	n.p.	422 884	—	n.p.
Lower Great Southern	453 832	n.p.	13 782	—	n.p.
Upper Great Southern	215 843	n.p.	..	—	n.p.
Midlands	640 742	n.p.	—	—	n.p.
South Eastern	1 723 612	n.p.	610 766	153	n.p.
Central	1 154 639	n.p.	74 033	—	n.p.
Pilbarra	995 226	50 720 352	557 924	632	52 274 134
Kimberley	687 279	—	149 093	176	836 549
Off-shore areas	..	..	—	—	—
<i>Total</i>	11 236 742	63 196 092	5 464 776	68 662	79 966 272
TASMANIA					
Greater Hobart	264 387	n.a.	1 494 210	4 397	1 762 995
Southern	*101 222	n.a.	342	—	*101 565
Northern	610 135	n.a.	2 779 811	3 933	3 393 879
Mersey-Lyell	528 324	n.a.	1 085 313	2	1 613 639
Off-shore areas	..	..	—	—	—
<i>Total</i>	1 504 069	n.a.	5 359 676	8 332	6 872 077
NORTHERN TERRITORY					
Darwin	1 577 347	..	n.p.	8 626	n.p.
Northern Territory Balance	1 166 373	398 473	n.p.	2 530	n.p.
Off-shore areas	..	..	—	—	—
<i>Total</i>	2 743 720	398 473	1 229 282	11 156	4 382 630
AUSTRALIAN CAPITAL TERRITORY					
Canberra	603 293	41 872	..	2 189	647 354
Australian Capital Territory Balance	**63	—	..	—	**63
<i>Total</i>	603 355	41 872	..	2 189	647 416
AUSTRALIA					
Total	88 374 330	134 108 484	97 349 243	275 598	320 107 655

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Excludes rail freight movements in Tasmania. See Notes page 2.

9

TONNES CARRIED AND TONNE-KILOMETRES TRAVELLED, BY METHOD AND MODE OF TRANSPORT(a)(b)

<i>Method</i>	<i>Road</i>	<i>Rail</i>	<i>Sea</i>	<i>Air</i>	<i>Total</i>
	<i>'000</i>	<i>'000</i>	<i>'000</i>	<i>'000</i>	<i>'000</i>
TONNES					
Bulk					
Solid	283 273	480 274	29 545	—	793 092
Liquid	59 672	2 476	11 617	—	73 765
<i>Total bulk</i>	342 944	482 750	41 163	—	866 857
Containerised	65 423	20 053	3 529	—	89 005
Other	205 554	6 229	2 644	214	214 640
Total	613 921	509 032	47 336	214	1 170 503
TONNE-KILOMETRES					
Bulk					
Solid	18 688 180	109 309 009	73 593 541	—	201 590 729
Liquid	9 417 900	1 021 204	17 492 271	—	27 931 374
<i>Total bulk</i>	28 106 080	110 330 212	91 085 812	—	229 522 104
Containerised	5 471 625	17 326 639	3 266 381	—	26 064 644
Other	54 796 626	6 451 633	2 997 051	275 598	64 520 907
Total	88 374 330	134 108 484	97 349 243	275 598	320 107 655

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Excludes rail freight movements in Tasmania. See Notes page 2.

10

COMMODITIES MOVED, BY MODE OF TRANSPORT(a)(b) — TONNES CARRIED

<i>Commodity</i>	<i>Road</i>	<i>Rail</i>	<i>Sea</i>	<i>Air</i>	<i>Total</i>
	<i>'000</i>	<i>'000</i>	<i>'000</i>	<i>'000</i>	<i>'000</i>
Food and live animals					
Cereal grains	42 243	18 813	288	—	61 343
Food (for human and animal consumption)	88 517	3 569	1 319	20	93 425
Live animals	12 044	381	46	—	12 471
<i>Total</i>	142 803	22 763	1 652	20	167 239
Beverages and tobacco	11 502	27	139	—	11 668
Crude materials, inedible, except fuels					
Crude materials	35 131	32 665	3 766	—	71 562
Metalliferous ores and metal scrap	38 668	196 734	20 124	—	255 526
Stone, sand and gravel	85 773	1 658	2	—	87 433
Cork and wood	35 325	1 787	278	—	37 390
<i>Total</i>	194 897	232 843	24 170	—	451 911
Mineral fuels, lubricants and related materials					
Coal	48 129	222 055	2 527	—	272 711
Gases, natural and manufactured	2 234	6	179	—	2 418
Petroleum and petroleum products	29 503	1 550	10 832	—	41 885
<i>Total</i>	79 866	223 610	13 538	—	317 014
Animal and vegetable oils, fats and waxes	*1 036	—	36	—	*1 072
Chemical and related products n.e.s.					
Chemicals	10 100	2 329	814	—	13 244
Fertilisers, manufactured	9 990	85	469	—	10 544
<i>Total</i>	20 091	2 414	1 283	—	23 788
Manufactured goods classified chiefly by material(c)					
Cement	9 374	1 309	2 591	—	13 273
Iron and steel	15 982	6 180	1 665	—	23 826
Other manufactured goods	38 072	4 309	789	—	43 169
<i>Total</i>	63 428	11 797	5 044	—	80 269
Machinery and transport equipment	21 459	66	109	—	21 634
Miscellaneous manufactured articles(d)	10 525	7	700	11	11 243
Commodities and transactions n.e.s.					
General freight(e)	46 268	14 947	323	127	61 665
Other commodities n.e.s.(f)	22 047	556	342	56	23 001
<i>Total</i>	68 314	15 504	664	183	84 666
Total	613 921	509 032	47 336	214	1 170 503

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Excludes rail freight movements in Tasmania. See Notes page 2.

(c) Manufactured goods used in the production of other manufactured goods and/or made mainly of one material e.g. clay products, glass and glassware.

(d) Manufactured goods for final consumption and/or made of more than one material.

(e) Consignments not classified by commodity.

(f) All other commodities not elsewhere specified (n.e.s.) including empty used containers, personal effects and furniture not for sale.

<i>Commodity</i>	<i>Road</i>	<i>Rail</i>	<i>Sea</i>	<i>Air</i>	<i>Total</i>
	'000	'000	'000	'000	'000
Food and live animals					
Cereal grains	4 031 067	5 787 266	385 362	—	10 203 696
Food (for human and animal consumption)	19 325 978	1 562 185	1 923 242	32 245	22 843 649
Live animals	2 913 325	348 104	21 291	—	3 282 720
<i>Total</i>	26 270 370	7 697 555	2 329 895	32 245	36 330 065
Beverages and tobacco	2 229 665	11 218	203 945	—	2 444 828
Crude materials, inedible, except fuels					
Crude materials	3 895 404	2 333 605	4 271 921	—	10 500 930
Metalliferous ores and metal scrap	2 226 963	55 614 730	61 117 585	—	118 959 277
Stone, sand and gravel	3 372 493	211 291	3 812	—	3 587 596
Cork and wood	4 092 800	274 092	274 390	—	4 641 283
<i>Total</i>	13 587 660	58 433 719	65 667 707	—	137 689 087
Mineral fuels, lubricants and related materials					
Coal	1 294 792	44 253 573	3 013 328	—	48 561 693
Gases, natural and manufactured	745 230	2 935	183 952	—	932 117
Petroleum and petroleum products	4 807 085	847 696	16 158 645	—	21 813 426
<i>Total</i>	6 847 107	45 104 204	19 355 926	—	71 307 236
Animal and vegetable oils, fats and waxes	*270 877	—	57 036	—	327 913
Chemical and related products n.e.s.					
Chemicals	2 159 129	651 469	1 484 418	—	4 295 017
Fertilisers, manufactured	1 693 822	72 017	1 146 754	—	2 912 593
<i>Total</i>	3 852 951	723 486	2 631 172	—	7 207 609
Manufactured goods classified chiefly by material(c)					
Cement	1 012 108	327 019	3 130 510	—	4 469 636
Iron and steel	2 423 756	3 992 707	1 928 935	—	8 345 397
Other manufactured goods	7 276 230	1 064 899	784 038	—	9 125 167
<i>Total</i>	10 712 093	5 384 625	5 843 482	—	21 940 200
Machinery and transport equipment	4 207 194	140 913	141 579	—	4 489 686
Miscellaneous manufactured articles(d)	2 609 694	1 607	590 698	12 246	3 214 245
Commodities and transactions n.e.s.					
General freight(e)	15 407 894	16 018 048	256 113	165 496	31 847 551
Other commodities n.e.s.(f)	2 378 823	593 110	271 689	65 611	3 309 233
<i>Total</i>	17 786 718	16 611 158	527 802	231 107	35 156 784
Total	88 374 330	134 108 484	97 349 243	275 598	320 107 655

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Excludes rail freight movements in Tasmania. See Notes page 2.

(c) Manufactured goods used in the production of other manufactured goods and/or made mainly of one material e.g. clay products, glass and glassware.

(d) Manufactured goods for final consumption and/or made of more than one material.

(e) Consignments not classified by commodity.

(f) All other commodities not elsewhere specified (n.e.s.) including empty used containers, personal effects and furniture not for sale.

Commodity	Bulk			Containerised	Other	Total
	Solid	Liquid	Total bulk			
	'000	'000	'000	'000	'000	'000
Food and live animals						
Cereal grains	58 091	..	58 091	*2 109	1 143	61 343
Food (for human and animal consumption)	18 908	15 894	34 802	17 457	41 166	93 425
Live animals	..	..	..	**33	12 438	12 471
Total	76 999	15 894	92 893	19 599	54 747	167 239
Beverages and tobacco	*80	1 434	1 514	1 568	8 586	11 668
Crude materials, inedible, except fuels						
Crude materials	54 496	*2 003	56 499	7 719	7 343	71 562
Metalliferous ores and metal scrap	250 193	..	250 193	*1 733	*3 600	255 526
Stone, sand and gravel	84 343	..	84 343	**352	*2 738	87 433
Cork and wood	16 750	..	16 750	532	20 108	37 390
Total	405 782	*2 003	407 785	10 336	33 790	451 911
Mineral fuels, lubricants and related materials						
Coal	n.p.	..	n.p.	n.p.	..	272 711
Gases, natural and manufactured	..	n.p.	n.p.	n.p.	1	2 418
Petroleum and petroleum products	n.p.	n.p.	n.p.	n.p.	408	41 885
Total	273 388	42 802	316 190	*415	409	317 014
Animal and vegetable oils, fats and waxes	**63	*949	*1 013	21	**39	*1 072
Chemical and related products n.e.s.						
Chemicals	n.p.	n.p.	7 883	3 597	1 765	13 244
Fertilisers, manufactured	n.p.	n.p.	8 517	**798	1 229	10 544
Total	9 994	6 405	16 399	4 395	2 994	23 788
Manufactured goods classified chiefly by materials(c)						
Cement	11 144	..	11 144	40	2 090	13 273
Iron and steel	4 808	..	4 808	*812	18 206	23 826
Other manufactured goods	5 855	..	5 855	8 794	28 521	43 169
Total	21 807	..	21 807	9 646	48 817	80 269
Machinery and transport equipment	..	..	..	999	20 635	21 634
Miscellaneous manufactured articles(d)	*572	..	*572	4 354	6 318	11 243
Commodities and transactions n.e.s.						
General freight(e)	*810	*35	*845	33 645	27 175	61 665
Other commodities n.e.s.(f)	*3 597	4 243	7 840	4 029	11 132	23 001
Total	*4 407	4 278	8 685	37 674	38 306	84 666
Total	793 092	73 765	866 857	89 005	214 640	1 170 503

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Excludes rail freight movements in Tasmania. See Notes page 2.

(c) Manufactured goods used in the production of other manufactured goods and/or made mainly of one material e.g. clay products, glass and glassware.

(d) Manufactured goods for final consumption and/or made of more than one material.

(e) Consignments not classified by commodity.

(f) All other commodities not elsewhere specified (n.e.s.) including empty used containers, personal effects and furniture not for sale.

Commodity	Bulk			Containerised	Other	Total
	Solid	Liquid	Total bulk			
	'000	'000	'000	'000	'000	'000
Food and live animals						
Cereal grains	9 620 131	..	9 620 131	318 906	264 659	10 203 696
Food (for human and animal consumption)	3 152 083	2 012 613	5 164 696	3 390 970	14 287 983	22 843 649
Live animals	..	..	..	**10 423	3 272 298	3 282 720
Total	12 772 214	2 012 613	14 784 827	3 720 298	17 824 939	36 330 065
Beverages and tobacco	**21 821	457 287	479 108	302 245	1 663 476	2 444 828
Crude materials, inedible, except fuels						
Crude materials	7 643 933	195 106	7 839 039	919 236	1 742 656	10 500 930
Metalliferous ores and metal scrap	118 005 920	..	118 005 920	526 989	426 369	118 959 277
Stone, sand and gravel	3 362 355	..	3 362 355	34 245	190 996	3 587 596
Cork and wood	1 857 691	..	1 857 691	111 983	2 671 608	4 641 283
Total	130 869 899	195 106	131 065 005	1 592 453	5 031 629	137 689 087
Mineral fuels, lubricants and related materials						
Coal	n.p.	..	n.p.	n.p.	..	48 561 693
Gases, natural and manufactured	..	n.p.	n.p.	n.p.	354	932 117
Petroleum and petroleum products	n.p.	n.p.	n.p.	n.p.	*110 837	21 813 426
Total	48 615 762	22 470 842	71 086 604	**109 442	*111 190	71 307 236
Animal and vegetable oils, fats and waxes	**10 740	*287 901	*298 641	18 228	11 044	327 913
Chemical and related products n.e.s.						
Chemicals	n.p.	n.p.	2 968 062	554 742	772 213	4 295 017
Fertilisers, manufactured	n.p.	n.p.	2 302 965	97 661	511 967	2 912 593
Total	2 899 149	2 371 879	5 271 027	652 403	1 284 179	7 207 609
Manufactured goods classified chiefly by materials(c)						
Cement	4 183 439	..	4 183 439	24 060	262 137	4 469 636
Iron and steel	1 005 025	..	1 005 025	143 638	7 196 734	8 345 397
Other manufactured goods	860 700	..	860 700	1 330 198	6 934 270	9 125 167
Total	6 049 164	..	6 049 164	1 497 895	14 393 141	21 940 200
Machinery and transport equipment	..	..	..	*86 758	4 402 929	4 489 686
Miscellaneous manufactured articles(d)	*79 035	..	*79 035	855 681	2 279 530	3 214 245
Commodities and transactions n.e.s.						
General freight(e)	*173 640	**5 829	*179 468	16 533 530	15 134 553	31 847 551
Other commodities n.e.s.(f)	*99 306	*129 919	229 225	695 712	2 384 297	3 309 233
Total	272 946	135 747	408 693	17 229 242	17 518 850	35 156 784
Total	201 590 729	27 931 374	229 522 104	26 064 644	64 520 907	320 107 655

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Excludes rail freight movements in Tasmania. See Notes page 2.

(c) Manufactured goods used in the production of other manufactured goods and/or made mainly of one material e.g. clay products, glass and glassware.

(d) Manufactured goods for final consumption and/or made of more than one material.

(e) Consignments not classified by commodity.

(f) All other commodities not elsewhere specified (n.e.s.) including empty used containers, personal effects and furniture not for sale.

<i>Commodity</i>	<i>Refrigerated tonnes</i>	<i>Percentage of total tonnes(d)</i>	<i>Refrigerated tonne-kilometres</i>	<i>Percentage of total tonne-kilometres(d)</i>
	'000	%	'000	%
Food and live animals				
Cereal grains	..	..	..	..
Food (for human and animal consumption)	27 221	29.1	10 736 801	47.0
Live animals	..	..	..	..
<i>Total</i>	27 221	16.3	10 736 801	29.6
Beverages and tobacco	**589	5.1	*154 571	6.3
Crude materials, inedible, except fuels				
Crude materials	**19	—	**4 801	—
Metalliferous ores and metal scrap	..	..	..	..
Stone, sand and gravel	..	..	..	..
Cork and wood	..	..	..	..
<i>Total</i>	**19	—	**4 801	—
Mineral fuels, lubricants and related materials				
Coal	..	..	..	..
Gases, natural and manufactured	—	—	—	—
Petroleum and petroleum products	..	..	..	..
<i>Total</i>	—	—	—	—
Animal and vegetable oils, fats and waxes	—	—	—	—
Chemical and related products n.e.s.				
Chemicals	3	—	1 392	—
Fertilisers, manufactured	—	—	—	—
<i>Total</i>	3	—	1 392	—
Manufactured goods classified chiefly by materials(e)				
Cement	—	—	—	—
Iron and steel	—	—	—	—
Other manufactured goods	—	—	—	—
<i>Total</i>	—	—	—	—
Machinery and transport equipment	..	—	..	..
Miscellaneous manufactured articles(f)	**19	0.2	**52 028	1.6
Commodities and transactions n.e.s.				
General freight(g)	802	1.3	508 884	1.6
Other commodities n.e.s.(h)	**97	0.4	**41 664	1.3
<i>Total</i>	899	1.1	550 548	1.6
Total	28 750	2.5	11 500 141	3.6

(a) See glossary for definition.

(b) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(c) Excludes rail freight movements in Tasmania. See Notes page 2.

(d) Percentage is based on the total tonnes carried or tonne-kilometres travelled for a commodity.

(e) Manufactured goods used in the production of other manufactured goods and/or made mainly of one material e.g. clay products, glass and glassware.

(f) Manufactured goods for final consumption and/or made of more than one material.

(g) Consignments not classified by commodity.

(h) All other commodities not elsewhere specified (n.e.s.) including empty used containers, personal effects and furniture not for sale.

<i>Commodity</i>	<i>Dangerous tonnes</i>	<i>Percentage of total tonnes(d)</i>	<i>Dangerous tonne-kilometres</i>	<i>Percentage of total tonne-kilometres(d)</i>
	'000	%	'000	%
Food and live animals				
Cereal grains	..	..	..	..
Food (for human and animal consumption)	..	..	..	..
Live animals	..	..	..	..
<i>Total</i>	..	..	..	..
Beverages and tobacco	..	..	..	..
Crude materials, inedible, except fuels				
Crude materials	**126	0.2	*43 284	0.4
Metalliferous ores and metal scrap	**129	0.1	*23 444	—
Stone, sand and gravel	..	..	..	..
Cork and wood	..	..	..	..
<i>Total</i>	*256	0.1	*66 729	0.1
Mineral fuels, lubricants and related materials				
Coal	—	—	8	—
Gases, natural and manufactured	2 355	97.4	903 737	97.0
Petroleum and petroleum products	33 904	81.0	20 178 623	92.5
<i>Total</i>	36 259	11.4	21 082 368	29.6
Animal and vegetable oils, fats and waxes	—	—	71	—
Chemical and related products n.e.s.				
Chemicals	7 295	55.1	2 497 715	58.2
Fertilisers, manufactured	*537	5.1	*277 943	9.5
<i>Total</i>	7 832	32.9	2 775 658	38.5
Manufactured goods classified chiefly by materials(e)				
Cement	..	..	..	..
Iron and steel	..	..	..	..
Other manufactured goods	**497	1.2	**75 485	0.8
<i>Total</i>	**497	0.6	**75 485	0.3
Machinery and transport equipment	*63	0.3	**58 932	1.3
Miscellaneous manufactured articles(f)	**167	1.5	**78 132	2.4
Commodities and transactions n.e.s.				
General freight(g)	957	1.6	426 876	1.3
Other commodities n.e.s.(h)	**64	0.3	**17 219	0.5
<i>Total</i>	1 021	1.2	444 095	1.3
Total	46 095	3.9	24 581 469	7.7

(a) See Glossary for definition.

(b) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(c) Excludes rail freight movements in Tasmania. See Notes page 2.

(d) Percentage is based on the total tonnes carried or tonne-kilometres travelled for a commodity.

(e) Manufactured goods used in the production of other manufactured goods and/or made mainly of one material e.g. clay products, glass and glassware.

(f) Manufactured goods for final consumption and/or made of more than one material.

(g) Consignments not classified by commodity.

(h) All other commodities not elsewhere specified (n.e.s.) including empty used containers, personal effects and furniture not for sale.

<i>Commodity</i>	<i>Bulk</i>			<i>Containerised</i>	<i>Other</i>	<i>Total</i>
	<i>Solid</i>	<i>Liquid</i>	<i>Total bulk</i>			
	<i>'000</i>	<i>'000</i>	<i>'000</i>	<i>'000</i>	<i>'000</i>	<i>'000</i>
Food and live animals						
Cereal grains	39 524	..	39 524	*1 654	1 065	42 243
Food (for human and animal consumption)	15 535	15 845	31 381	16 201	40 935	88 517
Live animals	..	..	..	**26	12 017	12 044
<i>Total</i>	55 059	15 845	70 904	17 881	54 018	142 803
Beverages and tobacco	*80	1 424	1 503	1 426	8 573	11 502
Crude materials, inedible, except fuels						
Crude materials	22 237	*1 914	24 152	*4 295	6 684	35 131
Metalliferous ores and metal scrap	33 872	..	33 872	*1 269	*3 527	38 668
Stone, sand and gravel	82 705	..	82 705	**330	*2 738	85 773
Cork and wood	14 965	..	14 965	*345	20 014	35 325
<i>Total</i>	153 780	*1 914	155 695	6 240	32 963	194 897
Mineral fuels, lubricants and related materials						
Coal	48 126	..	48 126	**3	..	48 129
Gases, natural and manufactured	..	2 085	2 085	**148	—	2 234
Petroleum and petroleum products	*690	28 158	28 848	*248	408	29 503
<i>Total</i>	48 816	30 244	79 060	*399	408	79 866
Animal and vegetable oils, fats and waxes	**63	*932	*995	**5	**36	*1 036
Chemical and related products n.e.s.						
Chemicals	*1 223	4 716	5 939	2 861	1 300	10 100
Fertilisers, manufactured	7 857	*322	8 179	**715	1 096	9 990
<i>Total</i>	9 080	5 038	14 118	3 576	2 397	20 091
Manufactured goods classified chiefly by materials(b)						
Cement	7 314	..	7 314	**7	2 052	9 374
Iron and steel	*1 857	..	*1 857	*729	13 396	15 982
Other manufactured goods	2 260	..	2 260	7 755	28 058	38 072
<i>Total</i>	11 432	..	11 432	8 490	43 506	63 428
Machinery and transport equipment	..	..	..	982	20 477	21 459
Miscellaneous manufactured articles(c)	*572	..	*572	3 822	6 131	10 525
Commodities and transactions n.e.s.						
General freight(d)	*794	*35	*829	18 798	26 640	46 268
Other commodities n.e.s.(e)	*3 597	4 239	7 836	3 804	10 406	22 047
<i>Total</i>	*4 391	4 275	8 666	22 603	37 046	68 314
Total	283 273	59 672	342 944	65 423	205 554	613 921

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Manufactured goods used in the production of other manufactured goods and/or made mainly of one material e.g. clay products, glass and glassware.

(c) Manufactured goods for final consumption and/or made of more than one material.

(d) Consignments not classified by commodity.

(e) All other commodities not elsewhere specified (n.e.s.) including empty used containers, personal effects and furniture not for sale.

Commodity	Bulk			Containerised	Other	Total
	Solid	Liquid	Total bulk			
	'000	'000	'000	'000	'000	'000
Food and live animals						
Cereal grains	3 763 935	..	3 763 935	*53 702	*213 430	4 031 067
Food (for human and animal consumption)	1 269 662	1 956 525	3 226 187	2 068 449	14 031 341	19 325 978
Live animals	..	..	..	**7 893	2 905 433	2 913 325
Total	5 033 596	1 956 525	6 990 122	2 130 044	17 150 204	26 270 370
Beverages and tobacco	**21 821	450 862	472 683	*131 223	1 625 760	2 229 665
Crude materials, inedible, except fuels						
Crude materials	2 042 217	*127 881	2 170 098	*196 929	1 528 377	3 895 404
Metalliferous ores and metal scrap	1 763 445	..	1 763 445	**136 569	326 948	2 226 963
Stone, sand and gravel	3 172 675	..	3 172 675	*10 023	189 795	3 372 493
Cork and wood	1 537 176	..	1 537 176	**9 690	2 545 934	4 092 800
Total	8 515 514	*127 881	8 643 395	*353 211	4 591 055	13 587 660
Mineral fuels, lubricants and related material						
Coal	1 294 750	..	1 294 750	**42	..	1 294 792
Gases, natural and manufactured	..	657 970	657 970	**87 260	—	745 230
Petroleum and petroleum products	*63,352	4 624 335	4 687 687	**8 571	*110 827	4 807 085
Total	1 358 102	5 282 305	6 640 407	**95 873	*110 827	6 847 107
Animal and vegetable oils, fats and waxes	**10 740	*259 437	*270 177	**57	**642	*270 877
Chemical and related products n.e.s.						
Chemicals	*335 432	1 082 133	1 417 565	*129 837	611 727	2 159 129
Fertilisers, manufactured	1 234 898	**131 198	1 366 095	*15 472	312 255	1 693 822
Total	1 570 330	1 213 330	2 783 661	145 309	923 982	3 852 951
Manufactured goods classified chiefly by materials(b)						
Cement	790 235	..	790 235	**226	221 647	1 012 108
Iron and steel	417 878	..	417 878	*26 550	1 979 328	2 423 756
Other manufactured goods	628 512	..	628 512	422 785	6 224 933	7 276 230
Total	1 836 625	..	1 836 625	449 560	8 425 908	10 712 093
Machinery and transport equipment	..	..	..	*67 156	4 140 037	4 207 194
Miscellaneous manufactured articles(c)	*79 035	..	*79 035	*431 355	2 099 305	2 609 694
Commodities and transactions n.e.s.						
General freight(d)	*164 317	**5 816	*170 133	1 141 731	14 096 031	15 407 894
Other commodities n.e.s.(e)	*98 100	*121 743	219 843	526 106	1 632 875	2 378 823
Total	262 417	*127 559	389 975	1 667 837	15 728 905	17 786 718
Total	18 688 180	9 417 900	28 106 080	5 471 625	54 796 626	88 374 330

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) Manufactured goods used in the production of other manufactured goods and/or made mainly of one material e.g. clay products, glass and glassware.

(c) Manufactured goods for final consumption and/or made of more than one material.

(d) Consignments not classified by commodity.

(e) All other commodities not elsewhere specified (n.e.s.) including empty used containers, personal effects and furniture not for sale.

EXPLANATORY NOTES

INTRODUCTION

1 This publication presents estimates of freight moved by all transport modes (road, rail, sea and air) in Australia for the period 1 April 2000 to 31 March 2001. The data were collected in the 2000 Freight Movements Survey (FMS 2000) and are the first results using a new collection methodology. This methodology was introduced to overcome concerns about the quality of road estimates derived from previous surveys. Because significant changes have been introduced, users are cautioned against making direct comparisons between the FMS 2000 survey results and those produced from previous surveys (see Appendix 1).

SCOPE AND COVERAGE

2 The statistics relate to freight movements by all industries and sectors of the Australian economy whether goods were carried by transport operators for hire or reward or moved by ancillary operators (i.e. manufacturers, retailers, wholesalers, etc. on their own account). International freight moving into or out of Australia or in transit, freight moved by the defence forces, or substances moved by pipeline were excluded from the survey.

3 Movements involving more than one mode of transportation were recorded separately. For example, freight moved from Sydney to Hobart by road and sea was recorded as 'road' from Sydney to Melbourne, 'sea' from Melbourne to Devonport and 'road' from Devonport to Hobart. Freight moved by rail which involved two rail operators was recorded as two separate movements. For example, a consignment moved from Melbourne to Townsville was recorded as one movement from Melbourne to Brisbane and a separate movement from Brisbane to Townsville.

Road **4** The coverage of the road component of the survey was all freight moved by articulated vehicles that were registered with a motor vehicle authority for road use at some stage during the 12 months ended 31 March 2001. Freight moved by rigid trucks and light commercial vehicles was excluded from the survey. Non-freight carrying vehicles and vehicles belonging to the defence services were also excluded from the survey. The survey population was identified using information obtained from the state and territory motor vehicle registration authorities.

Rail, sea and air **5** The scope of the survey in relation to rail, sea and air was all freight movements within Australia. International freight moving into or out of Australia or in transit, freight moved by the defence forces or by barge was excluded. Rail, sea and air operators were identified using information obtained from various sources (e.g. Department of Transport and Regional Services, state rail access authorities etc.).

Road **6** For FMS 2000, a sample of approximately 14,000 articulated vehicles was selected to report over 26 fortnightly periods within the reference year. This equated to a sample of approximately 500 selections in each fortnight. The sample size was chosen to give a suitable level of precision for total distance travelled, tonnes carried and tonne-kilometres travelled at the state/territory of registration level.

7 Selections were made from a population frame of 63,000 articulated vehicles compiled on 31 October 1999. To improve the efficiency of the sample design, the frame was stratified within each state or territory according to the vehicle description recorded by the registration authority. The population frame was further stratified by characteristics which take account of different usage patterns. For most states and territories these characteristics were:

- area of registration (capital city or rest of state);
- age (up to and including 1989 and 1990 onwards); and
- vehicle size (based on Gross Combination Mass).

8 In addition, to help correct for under coverage on the population frame, new articulated vehicles registered after 31 October 1999 were progressively added to the population frame during the enumeration period and supplementary samples drawn. Adjustments were also made to the estimation process to account for new and re-registered articulated vehicles not given a chance of selection in the survey.

9 In order to encourage record keeping, confirm ownership and to update contact details, owners of articulated vehicles selected in the survey received early advice about their inclusion in the survey. Respondents were contacted one month prior to the beginning of the reporting period for which their vehicle was selected. At this time respondents were asked to return a questionnaire reporting selected vehicle characteristics. Respondents were also advised that they would receive a follow up questionnaire during the next month seeking details about the use of the vehicle over a specific two week reporting period. Examples of the main items requested in the second questionnaire were included together with an information sheet about the survey.

10 When the questionnaires for each reporting period were returned to the ABS they were checked for completeness and accuracy and, where possible, follow-up contact was made with owners to resolve reporting problems. Missing data items were clerically imputed.

11 Where the selected vehicle owner had not owned the vehicle for the whole fortnightly survey period, the details provided for the period of ownership were adjusted to give a two week equivalent, except where the vehicle was deregistered, in which case only the use up to deregistration was included.

Road *continued* **12** Estimates were produced for each of the 26 fortnightly reporting periods. These estimates were then aggregated to produce final estimates of freight movements for the survey reference period.

Rail, sea and air **13** Collection of rail, sea and air freight movements has been conducted as a census since June quarter 1994. Although the methodology used for the FMS 2000 does not differ significantly from that which was first adopted in 1994 for the 1994–95 Freight Movements Survey, some changes have occurred in the scope and coverage rules and in the data items collected. These changes are outlined in Appendix 1.

14 Questionnaires were despatched quarterly to all rail and air freight operators and port authorities. Respondents were asked to provide information on the origin (rail and air only), destination, commodity type, weight and method of transportation. Major providers with large volumes of data supplied information on computer disk.

15 Data were aggregated to produce quarterly totals and these were further aggregated to produce annual figures relating to the survey reference period.

RELIABILITY OF ESTIMATES

16 Since estimates of freight moved by road are based on a sample survey, rather than a complete enumeration, the data are subject to sampling variability. That is, they may differ from results that would have been obtained had all articulated vehicles been included. For more information on sampling error, see Technical Note 1. As the rail, sea and air freight components are fully enumerated these data are not subject to sampling error.

17 Sampling error is not the only type of inaccuracy which affects data reliability. Other types of error, referred to as non-sampling error, can be present in any type of collection, whether it be a complete enumeration or a sample survey. For example, non-sampling error can occur because of non-response to the survey, imperfections in reporting by providers, definition or classification difficulties, or errors in transcribing and processing data. While the effects of non-sampling error are not quantifiable, every effort is made to minimise the impact through the design and testing of questionnaires and the use of efficient operating procedures.

18 A potentially important factor relating to non-sampling error is the response rate achieved. The response rates for each of the transport modes included in the survey were:

- 78% for road;
- 98% for rail;
- 99% for sea; and
- 100% for air.

Response and non-response
for road

19 Non-response to the road component of the FMS 2000 predominately occurred because the ABS was unable to trace the selected vehicle or the form was not able to be completed. This was despite the ABS making all reasonable efforts to maximise response rates. Where appropriate, mail reminders and telephone follow-up were used to attempt to contact initially non-responding vehicle owners.

20 A large non-response increases the potential for non-response bias. Non-response bias occurs if the usage patterns of the non-responding vehicles differ significantly from the usage patterns of the responding vehicles. For the FMS 2000, adjustments were applied at the stratum level to the 'weights' (the factors which expand the sample data to obtain estimates for the population) to allow for differing levels of non-responding vehicles.

E1 RESPONSE AND NON-RESPONSE FOR ROAD, BY CATEGORY

	<i>Percentage of selections</i>
Response	
Registered vehicle	73
Unregistered vehicle(a)	6
Non-response	
Untraceable — mailing address unknown	5
Other(b)	16
Total selections	100
'Live' response rate(c)	78

(a) Includes deregistrations, out of scope and duplicates.

(b) Includes responses that were unusable because of unresolved queries or where the reported data covered less than 4 days of the reference period; and non-response where no listing could be found to enable contact by telephone, or where the owner was contacted by telephone but a usable response was still not secured.

(c) Calculated as a percentage of the population less out-of-scope and deregistered vehicles.

21 Due to the non-response level of 22%, there is a potential for non-response bias in the survey estimates. To gauge the impact of this potential bias, a 'what if' analysis was conducted on the survey data. The analysis considered what would happen to the estimates of total tonnes carried and total tonne-kilometres travelled if the non-respondent vehicles had a similar usage pattern to two categories of responding vehicles:

- low usage; and
- high usage.

22 To estimate the low and high usage patterns, survey responses were ordered from lowest to highest for each of total tonnes and total tonne-kilometres. For each of the usage categories, different percentage cut off points were considered, from the lowest/highest 20% (the approximate non-response rate) to the lowest/highest 40% of usage. There was little difference between the estimates produced based on these percentage cut offs.

Response and non-response for road *continued*

23 Whilst it is extremely unlikely that all non-responding vehicles would have similar usage patterns to the lowest/highest 40%, the table below compares the estimates which would have been obtained if either were the case. The actual estimates obtained, where non-respondents are estimated using the respondent mean, are included for comparative purposes.

E2 'WHAT IF' ANALYSIS FOR ROAD ESTIMATES

	<i>Estimated tonnes carried by road</i>	<i>Difference from actual estimate</i>	<i>Estimated tonne-kilometres travelled by road</i>	<i>Difference from actual estimate</i>
<i>Usage patterns of non-responding vehicles</i>	'000	%	'000	%
If all similar to lowest 40% of usage	500 131	-19	67 472 932	-24
If all similar to highest 40% of usage	651 379	+6	98 731 562	+12
If all similar to the survey mean	613 921	—	88 374 330	—

Imputation for road

24 The road component of the FMS 2000 measured freight carried by all articulated vehicles during the reference year. Because selections were taken from vehicles registered some time before the beginning of each collection period, adjustments were made to the survey estimates to account for the use of vehicles which were not in the population from which the survey sample was taken, but which were registered some time during the survey reference period. This involved two groups of vehicles:

- re-registrations; and
- new articulated vehicles.

25 At the Australian level, the adjustment for vehicles being re-registered accounted for approximately 2% of total tonne-kilometres, while the effect of adjusting for new vehicles was estimated to be 6% of total tonne-kilometres.

26 Newly registered vehicles were accounted for in two ways: the addition of newly registered articulated vehicles to the population frame from which the sample was drawn each fortnight, and imputation for vehicles that did not have a chance of selection.

27 A sample of new vehicles was added to the existing sample from the eighth fortnightly cycle of the FMS 2000. As a result of including this sample, the level of adjustment required for new articulated vehicles which were missing from the population was reduced for the remainder of the survey. The adjustment for vehicles not given a chance of selection was based on averages from the newer vehicles responding to the survey.

OTHER DATA QUALITY
ISSUES

28 An investigation was conducted into the possible effect of under-reporting on the survey estimates for the road freight component. All 26 cycles were examined to determine if there was a difference between the number of trips reported in the second week when compared to the first week of the reporting period. As a result of the findings, adjustments were made to the estimates. Further detail on these adjustments can be found in Technical Note 2.

COMPARISON WITH SURVEY
OF MOTOR VEHICLE USE

29 Survey estimates for road freight movements from the FMS 2000 and the ABS Survey of Motor Vehicle Use (SMVU) are not fully comparable. One principal difference relates to the survey reference periods; the FMS 2000 was conducted from 1 April 2000 to 31 March 2001, whereas the SMVU was conducted from 1 November 1999 to 31 October 2000.

30 Another major difference relates to the respective methods used in each survey to produce estimates for tonne-kilometres travelled.

31 FMS respondents are asked to record distance travelled and weight carried for each laden trip made during a fortnightly reporting period. The total tonne-kilometres travelled estimate is derived from summing the product of distance travelled by weight carried.

32 The SMVU estimate of total tonne-kilometres travelled is derived from the product of total laden business distance travelled by the average load carried per laden trip reported over the quarterly survey period.

ABS DATA AVAILABLE
ON REQUEST

33 As well as the statistics included in this publication, the ABS has unpublished data available for a charge. Inquiries should be directed to the National Information and Referral Service as shown in the inquiries box at the front of this publication.

RELATED PUBLICATIONS
AND PRODUCTS

34 Users may also wish to refer to the following publications and products which contain information relating to motor vehicles in Australia:

- *Motor Vehicle Census, Australia*, cat. no. 9309.0 — issued annually from 1995
- *Motor Vehicles in Australia*, cat. no. 9311.0 — irregular
- *New Motor Vehicle Registrations, Australia, Preliminary*, cat. no. 9301.0 — final monthly issue released January 2002 (for the reference month of December 2001)
- *Sales of New Motor Vehicles — Electronic publication* cat. no. 9314.0 — issued monthly from February 2002 (for the reference month of January 2002)
- *Survey of Motor Vehicle Use, Australia*, cat. no. 9208.0 — issued annually from 1998
- *Directory of Transport Statistics, 1998*, cat. no. 1132.0 — released in January 1999 — updated version available from the ABS web site <<http://www.abs.gov.au>>

ABBREVIATIONS

ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
AGPS	Australian Government Publishing Service
ANZSPC	Australian and New Zealand Standard Product Classification
APC	Australian Pack Classification
ARIMA	Auto Regressive Integrated Moving Average
ATFCC	Australian Transport Freight Commodity Classification
Aust.	Australia
Eurostat	Statistical Office of the European Community
FMS	Freight Movements Survey
GCM	Gross Combination Mass
GVM	Gross Vehicle Mass
km	Kilometre
NSW	New South Wales
NT	Northern Territory
Qld	Queensland
SA	South Australia
SMVU	Survey of Motor Vehicle Use
Tas.	Tasmania
TRAMO/SEATS	Time Series Regression with ARIMA noise, Missing observations, and Outliers/Signal Extraction in ARIMA Time Series
Vic.	Victoria
WA	Western Australia

SYMBOLS

n.a.	not available
n.e.c.	not elsewhere classified
n.e.s.	not elsewhere specified
n.p.	not available for publication but included in totals where applicable
RSE	Relative Standard Error
*	this estimate has a relative standard error between 25% and 50% and should be used with caution
**	subject to sampling variability too high for most practical purposes (relative standard error greater than 50%)
—	nil or rounded to zero (including null cells)
. .	not applicable

ROUNDING

Where figures have been rounded, discrepancies may occur between the sums of component items and totals. Unless otherwise stated, percentages are based on stated or classifiable responses.

TECHNICAL NOTE 1: Sampling and non-sampling error

INTRODUCTION

1 When interpreting the results of a survey it is important to take into account factors that may affect the reliability of estimates. Such factors can be classified as either sampling error or non-sampling error.

2 Estimates for the road sector in this publication are based on information collected from a sample of registered articulated vehicles, rather than a full enumeration, and are therefore subject to sampling error. The road freight estimates may differ from the figures that would have been produced if the information had been obtained for all registered articulated vehicles. Examples of the sampling error for selected estimates from the FMS 2000 are included in the tables below.

3 It should be noted that although the rail, sea and air sectors of this collection are fully enumerated and are not subject to sampling error, they are still subject to non-sampling error. Non-sampling error is discussed in more detail below.

SAMPLING ERROR

4 The sampling error associated with any estimate can be calculated from the sample results. One measure of sampling error is given by the standard error, which indicates the extent to which an estimate might have varied by chance because only a sample of articulated vehicles was included. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all articulated vehicles had been included, and about 19 chances in 20 that the difference will be less than two standard errors.

5 Another measure of sampling variability is the relative standard error (RSE), which is obtained by expressing the standard error as a percentage of the estimate to which it refers. The RSE is a useful measure as it provides an immediate indication of the percentage error likely to have occurred due to sampling.

6 In this publication, only estimates with a RSE of less than 25% are considered sufficiently reliable for most purposes. Estimates with a RSE between 25% and 50% are preceded by a single asterisk (*) and should be used with caution, while those with an RSE of greater than 50% are preceded by two asterisks (**) and are considered too unreliable for general use (see T1.1 and T1.2 for more detail).

7 The FMS 2000 was designed primarily to minimise relative standard errors for estimates of total tonnes carried, total distance travelled and total tonne-kilometres at the state/territory of registration level.

8 The RSEs relating to estimates contained in tables 3 and 4 of this publication are shown in T1.1.

T1.1 RSE OF TONNES CARRIED AND TONNE-KILOMETRES TRAVELLED, ROAD(a)(b)

Origin	Destination								
	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
TONNES (%)									
NSW	4.51	4.62	5.31	12.06	29.22	..	45.09	12.57	4.01
Vic.	4.85	3.89	7.25	8.14	26.09	..	..	21.13	3.40
Qld	5.80	8.38	5.91	18.74	36.36	..	25.33	37.86	5.55
SA	8.35	9.47	15.67	7.14	17.37	..	25.19	40.83	5.98
WA	26.18	29.6	30.86	19.94	6.57	..	23.90	—	6.52
Tas.	..	..	..	..	..	8.25	..	..	8.25
NT	74.66	99.59	29.19	22.53	27.31	..	17.92	—	17.16
ACT	14.92	36.09	52.96	84.36	—	..	—	30.94	18.17
Aust.	4.06	3.38	5.53	6.10	6.52	8.25	16.37	12.18	2.16
TONNE-KILOMETRES (%)									
NSW	2.93	4.01	4.99	9.59	29.60	..	44.71	12.93	2.09
Vic.	4.18	3.59	7.31	6.79	26.13	..	—	21.39	2.25
Qld	5.07	9.05	3.84	18.87	37.56	..	27.33	37.61	2.81
SA	9.44	6.38	16.13	8.27	17.06	..	21.92	39.47	4.29
WA	26.37	30.44	30.61	18.34	4.56	..	27.50	—	4.39
Tas.	..	..	..	..	..	7.09	..	..	7.09
NT	74.66	99.59	35.29	24.13	30.89	..	13.95	—	10.50
ACT	15.69	36.06	52.15	82.38	—	..	—	28.20	13.52
Aust.	2.09	2.29	2.65	4.38	4.35	7.09	10.73	10.62	1.39

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) These relative standard errors relate to the estimates of road freight in tables 3 and 4.

9 As an example, the estimate of 12,468 million tonne-kilometres moved by road within NSW from table 4 has a RSE of 2.93% as shown above (i.e. the standard error is 365 million tonne-kilometres). There are about two chances in three that the figure that would have been obtained if all articulated vehicles had been included in the survey, would have been in the range 12,103 million tonne-kilometres to 12,833 million tonne-kilometres, and about 19 chances in 20 that it would have been in the range 11,738 million tonne-kilometres to 13,198 million tonne-kilometres.

10 RSEs for tonnes carried and tonne-kilometres by commodity (road only), in tables 16 and 17 of this publication are shown below. The RSEs of other detailed variables can be made available on request.

T1.2 RSE OF TONNES CARRIED AND TONNE-KILOMETRES TRAVELLED, BY COMMODITY, ROAD(a)(b)

<i>Commodity</i>	<i>Tonnes</i>	<i>Tonne-kilometres</i>
	<i>%</i>	<i>%</i>
Food and live animals		
Cereal grains	8.54	5.88
Food (for human and animal consumption)	5.04	3.3
Live animals	6.61	7.25
<i>Total</i>	4.02	2.63
Beverages and tobacco	11.53	8.43
Crude materials, inedible, except fuels		
Crude materials	10.48	6.08
Metalliferous ores and metal scrap	16.12	12.2
Stone, sand and gravel	6.87	6.55
Cork and wood	6.27	5.51
<i>Total</i>	4.85	3.45
Mineral fuels, lubricants and related materials		
Coal	12.35	11.85
Gases, natural and manufactured	17.88	21.2
Petroleum and petroleum products	7.7	7.89
<i>Total</i>	7.96	6.38
Animal and vegetable oils, fats and wastes	26.49	27.79
Chemical and related products n.e.s.		
Chemicals	9.68	10.04
Fertilisers, manufactured	20.98	9.03
<i>Total</i>	11.68	6.83
Manufactured goods classified chiefly by material(c)		
Cement	11.99	12.01
Iron and steel	11.3	8.2
Other manufactured goods	7.86	4.97
<i>Total</i>	5.76	4.06
Machinery and transport equipment	5.29	6.71
Miscellaneous manufactured articles(d)	9.24	9.69
Commodities and transactions n.e.s.		
General freight(e)	5.49	4.63
Other commodities n.e.s.(f)	8.34	10.69
<i>Total</i>	4.67	4.22
Total	2.16	1.39

(a) Data are for freight carried by articulated vehicles only, freight movements made by rigid and light commercial vehicles are excluded from the survey.

(b) These relative standard errors relate to the estimates of road freight in tables 10 and 11.

(c) Manufactured goods used in the production of other manufactured goods and/or made mainly of one material e.g. clay products, glass and glassware.

(d) Manufactured goods for final consumption and/or made of more than one material.

(e) Consignments not classified by commodity.

(f) All other commodities not elsewhere specified (n.e.s.) including empty used containers, personal effects and furniture not for sale.

NON-SAMPLING ERROR

11 Other inaccuracies, collectively referred to as non-sampling error, can occur in any statistical collection regardless of whether the collection is based on the full enumeration or a sample. For example, the impact of non-response to the statistical collection, errors in reporting by providers, definition or classification difficulties, errors in transcribing and processing data and under-coverage of the frame from which the sample was selected. If these errors are systematic (not random) then the survey results will be distorted in one direction and therefore unrepresentative of the target population. Systematic errors are called bias.

NON-SAMPLING ERROR
continued

12 Every effort is made to reduce non-sampling error to a minimum by careful design and testing of the questionnaires, efficient operating procedures and systems, and appropriate methodology. Results from the road component of the FMS 2000 were examined for non-sampling error. This resulted in adjustments being applied to compensate for under-reporting. See Technical Note 2 for more detail.

TECHNICAL NOTE 2: Adjustments applied to compensate for under-reporting

INTRODUCTION

1 Respondents to the FMS 2000 were asked to report on all trips made during a selected two week period (see para. 6 of the Explanatory Notes for further details). Comparisons of data reported for the first week (week 1) of the reporting period with data reported for the second week (week 2) indicated that respondents may have under-reported trips made during week 2 of the reporting period.

2 This technical note outlines the methodological investigations that led to the identification of a statistically significant reporting bias and the methodology used to adjust the survey data.

3 The impact of the adjustments on the estimates is summarised in table T2.2.

UNDER-REPORTING

4 To investigate the suspected under-reporting, trip data for each of the 14 days of the reporting period for all 26 fortnights of the survey reference period were aggregated on both a daily basis (i.e. trips made on day 1, trips made on day 2, etc.) and a weekly basis (i.e. trips made during week 1 and trips made during week 2).

5 The daily data clearly showed a strong weekly pattern and the influence of public holiday periods such as Easter and Christmas. There appeared to be a significant difference between week 1 and week 2 data and a statistical test was performed.

6 To properly estimate the week 1/week 2 effect, taking into account public holidays, a model based estimation approach was adopted (using the TRAMO/SEATS package used by Eurostat).

7 Two tests were subsequently performed:

- one for the effects of the first day/last day of the reporting period; and
- another for the week 1/week 2 effect (by comparing the averages across the two weeks).

8 The above analysis was run on the daily time series for each of the following variables: laden distance travelled, total distance travelled, weight carried, number of laden trips made, and total number of trips made. Each variable showed strong statistical significance (and consistent direction) as measured by the statistical tests generated by the TRAMO/SEATS package. Therefore, there was justification to adjust the data by the levels of the effects estimated for each of the variables.

IMPUTATION

9 Given the significance of the under-reporting in week 2, a decision was made to compensate for the discrepancy in the estimates. Conceptually, an adjustment for each of the five variables of interest was required (i.e. for laden distance travelled, total distance travelled, weight carried, number of laden trips made and total number of trips made).

10 Imputation of additional trip records for week 2 using donor records from week 1 was the preferred method of adjustment. This method was chosen over other weighting adjustment options because the impact on the data at all levels could be assessed.

11 Initial analysis reviewed the distribution of trips for each of the five variables to identify possible imputation classes. A number of options for imputation classes using one or more of the five variables were evaluated. The best performing classes were for the one variable of laden distance travelled, split into three groups (less than 900 km, 900 km to 2000 km, and 2001 kms and greater).

12 The number of records to be imputed in each of the imputation classes was based on the adjustment levels estimated from the investigations of under-reporting in week 2. The actual adjustment included in the data, via the addition of extra trips, aligned closely with the estimated adjustments required (see table T2.1).

T2.1 PERCENTAGE ADJUSTMENTS TO MAIN DATA ITEMS

<i>Variables</i>	<i>Estimated adjustment levels required</i>	<i>Adjustment levels realised</i>
	%	%
Laden distance travelled	5.05	5.32
Total distance travelled	4.00	3.88
Weight carried	5.10	5.09
Number of laden trips made	2.30	5.11
Total number of trips made	2.60	2.90

IMPACT

13 The number of imputed records for each imputation class and the impact on the estimates is summarised below (see table T2.2).

T2.2 IMPACT ON ESTIMATES

<i>Imputation class (laden kilometres)</i>				<i>Tonnes</i>		<i>Tonne-kilometres</i>	
	<i>Total records</i>	<i>Records imputed</i>	<i>Percentage of total records imputed</i>	<i>Value obtained from all records</i>	<i>Contribution from imputed records</i>	<i>Value obtained from all records</i>	<i>Contribution from imputed records</i>
	<i>no.</i>	<i>no.</i>	<i>%</i>	<i>'000</i>	<i>'000</i>	<i>'000</i>	<i>'000</i>
Less than 900	181 761	9 425	5.2	592 817	28 959	58 042 271	2 931 621
900 to 2 000	5 603	108	1.9	18 250	334	21 997 521	404 937
2 001 and greater	642	114	17.8	2 854	425	8 334 538	1 286 956
Total	188 006	9 647	5.1	613 921	29 718	88 374 330	4 623 514

APPENDIX 1

PREVIOUS FREIGHT MOVEMENTS SURVEYS

INTRODUCTION

1 Prior to the FMS 2000, two freight movement collections were conducted by the ABS, the Interstate Freight Movement Survey (IFMS) and the 1994–95 Freight Movements Survey (FMS 1994–95).

2 The IFMS, which was conducted from 1980–81 to 1991–92, produced financial year statistics on interstate freight movements by road, rail, sea and air. Difficulties experienced in maintaining up to date coverage for the road component resulted in the introduction of the FMS 1994–95.

3 The FMS 1994–95, which was conducted between June quarter 1994 and September quarter 1995, produced quarterly estimates of freight movements by road, rail, sea and air within Australia. This collection comprised a census of rail, sea and air carriers and a sample survey of road carriers.

4 Concerns over the quality of the estimates and the underlying methodology of the road component of the survey led to a review which resulted in a new collection methodology for the FMS 2000.

5 There are no major differences between the rail, sea and air components of the FMS 1994–95 and the FMS 2000. Rail, sea and air statistics have continued to be collected as a census since the June quarter 1994. The principal differences between the road component of the FMS 2000 and the FMS 1994–95 are described in the following paragraphs.

SURVEY FRAME

6 Previous road surveys were ‘business-based’ (i.e. statistics were compiled from data provided by a sample of transport operators and other private and government-owned organisations involved in moving freight by road within Australia).

7 The road component of the FMS 2000 is ‘vehicle-based’ (i.e. the motor vehicle registration authority records were used to identify registered prime movers from which selected vehicles were surveyed).

SCOPE

8 Prime contract movements undertaken by businesses which were the registered owners of rigid and articulated trucks with a gross vehicle mass or gross combination mass of 3.5 tonnes or more, respectively, were included in the FMS 1994–95. In order to avoid double counting, freight moved under subcontractual arrangements was excluded as it was covered under the prime contract.

9 In the FMS 2000, all freight movements undertaken by articulated vehicles were included, while freight moved by rigid trucks was excluded from the survey. Freight carried under subcontractual arrangements was included as there was no danger of double counting since the vehicles themselves were the selection units.

SCOPE *continued*

10 Road movements within urban areas and those less than 25 kms in rural areas were excluded from the FMS 1994–95 unless they crossed the state or urban boundaries. Also excluded was rail freight moved solely within urban areas and international sea or air freight moving into and out of Australia or in transit.

11 The FMS 2000 includes movements within urban areas for road and rail. In common with the FMS 1994–95, international freight is excluded.

COLLECTION METHOD

12 In the FMS 1994–95, road operators with relatively simple information systems were asked to provide information for a specified two-week period in the middle of the quarter. That information was then expanded to produce quarterly estimates. In other situations, respondents with large numbers of movements were asked to provide information relating to a sample of those movements and the results were also expanded. Where sophisticated information systems existed, total freight movement information was often provided for the whole quarter.

13 In the FMS 2000, all registered owners of selected articulated vehicles were asked to report on freight movements over a two week period within the reference year. The fortnightly sample was approximately 500 vehicles. Respondents recorded details of each trip (loaded or empty) made in a trip record book.

SURVEY OUTPUT

14 In the FMS 1994–95, commodities were classified according to the 1 to 3 digit level codes of the *Australian Transport Freight Commodity Classification (ATFCC)* and *Australian Pack Classification (APC)* (cat. no. 1210.0). Information was aggregated and made available for 32 broad commodity descriptions. The ATFCC and the APC were also used to classify the commodity details collected in the FMS 2000, however, the number of broad commodity descriptions available has been reduced to 21. See Appendix 2 for the commodity descriptions used in the FMS 2000.

15 For the FMS 2000 a liquid bulk category was added to method of transport.

16 Data were provided for tonnes and tonne-kilometres for all classifications in the FMS 2000 whereas only tonnes data were provided in the FMS 1994–95.

APPENDIX 2

COMMODITY CLASSIFICATION — Australian Transport Freight Commodity Classification (ATFCC) Correspondence Table

Description	ATFCC Code
Live animals	<i>Division 00 i.e. items 0002–0009 inclusive</i>
Beverages and tobacco <i>Includes</i>	<i>Section 1 i.e. items 1101–1202 inclusive</i>
<ul style="list-style-type: none"> ■ Alcoholic and non-alcoholic beverages ■ Tobacco products 	
Cement <i>Includes</i>	<i>Group 661 i.e. items 6611 and 6612 inclusive</i>
<ul style="list-style-type: none"> ■ Cement clinker 	
Cereal grains <i>Includes</i>	<i>Group 041 i.e. items 0411–0418 inclusive</i>
<ul style="list-style-type: none"> ■ Unmilled grains <i>Excludes</i> <ul style="list-style-type: none"> ■ Cereal preparations 	
Chemicals <i>Includes</i>	<i>Section 5 excluding group 560</i>
<ul style="list-style-type: none"> ■ Organic and inorganic chemicals ■ Medicinal and pharmaceutical products ■ Plastics in primary form and scrap form <i>Excludes</i> <ul style="list-style-type: none"> ■ Manufactured fertilizers ■ Articles made from plastic 	
Coal <i>Includes</i>	<i>Division 32 i.e. items 3211–3232 inclusive</i>
<ul style="list-style-type: none"> ■ Coke and briquettes 	
Crude materials <i>Includes</i>	<i>Section 2 less division 24 and 28, and group 272 i.e. only items 2110–2302, 2510–2719, 2730–2799, 2910 and 2920</i>
<ul style="list-style-type: none"> ■ Animal and vegetable materials (e.g. bones, cut flowers) ■ Hides and skins ■ Natural fertilizers and manures ■ Minerals (e.g. lime, gypsum and salt) ■ Oil seeds and oleaginous fruits ■ Pulp and waste paper ■ Textile fibres and their wastes <i>Excludes</i> <ul style="list-style-type: none"> ■ Metal ores and scrap ■ Stone, sand and gravel ■ Wood and cork (natural) 	
Animal and vegetable oils, fats and waxes <i>Includes</i>	<i>Section 4 i.e. items 4110–4300 inclusive</i>
<ul style="list-style-type: none"> ■ Animal oils and fats, tallow ■ Linseed oil, peanut oil, etc. 	
Fertilizers, manufactured <i>Includes</i>	<i>Group 560 i.e. items 5601–5609 inclusive</i>
<ul style="list-style-type: none"> ■ Superphosphate, sulphate of ammonia, urea, etc. 	
Food (for human and animal consumption) <i>Includes</i>	<i>Section 0 less division 00 and group 041 i.e. items 0111–0330 and 0421–0998</i>
<ul style="list-style-type: none"> ■ Processed and unprocessed food <i>Excludes</i> <ul style="list-style-type: none"> ■ Live animals ■ Beverages ■ Cereal grains ■ Fats and oils ■ Oil seed and oleaginous fruits 	
Gases, natural and manufactured	<i>Division 34 i.e. items 3410–3490 inclusive</i>

Description	ATFCC Code
General freight <i>Includes</i> <ul style="list-style-type: none"> ■ Consignments not classified by commodity 	<i>Item 9310</i>
Iron and steel <i>Includes</i> <ul style="list-style-type: none"> ■ Castings and ingots ■ Flat rolled products, wire, tubes, etc. 	<i>Division 67 i.e. items 6710–6798 inclusive</i>
Machinery and transport equipment <i>Includes</i> <ul style="list-style-type: none"> ■ Agricultural and construction machinery and equipment ■ Motor vehicles (including parts and accessories) ■ Office machines and computers ■ Other road vehicles/transport equipment <i>Excludes</i> <ul style="list-style-type: none"> ■ Motor vehicles (used) not being transported for sale 	<i>Section 7 i.e. items 7101–7930 inclusive</i>
Other manufactured goods <i>Includes</i> <ul style="list-style-type: none"> ■ Clay products (e.g. bricks, tiles, pipes, etc.) ■ Glass and glassware ■ Leather products (e.g. footwear parts, saddlery, etc.) ■ Metal products (e.g. containers, wire, cables, etc.) ■ Non-ferrous metals (e.g. ingots, pellets, bars, rods, etc.) ■ Paper articles (e.g. newsprint, paperboard, paper stationery, etc.) ■ Textile yarn, fabrics and made up articles (e.g. ropes, carpets, etc.) ■ Rubber products (e.g. tyres, tubes, floor coverings, etc.) ■ Wood products (e.g. crates, particle board, veneers, etc.) <i>Excludes</i> <ul style="list-style-type: none"> ■ Cement ■ Footwear — completed article ■ Iron and steel 	<i>Section 6 less Group 661 and Division 67 i.e. items 6100–6529, 6621–6699 and 6811–6999</i>
Miscellaneous manufactured articles <i>Includes</i> <ul style="list-style-type: none"> ■ Clothing and footwear ■ Fixtures and fittings ■ Furniture ■ Instruments ■ Plastic wares ■ Pre-fabricated buildings ■ Printed matter ■ Stationery supplies ■ Toys, games and sporting goods <i>Excludes</i> <ul style="list-style-type: none"> ■ Paper stationery ■ Manufactured goods used in further production processes 	<i>Section 8 i.e. items 8110–8990 inclusive</i>
Metalliferous ores and metal scrap <i>Includes</i> <ul style="list-style-type: none"> ■ Metal waste and scrap ■ Ores and concentrates 	<i>Division 28 i.e. items 2811–2882 inclusive</i>
Petroleum and petroleum products <i>Includes</i> <ul style="list-style-type: none"> ■ Bitumen ■ Diesel and kerosene ■ Petrol, oils and greases 	<i>Division 33 i.e. items 3311–3399 inclusive</i>
Stone, sand and gravel	<i>Group 272 i.e. items 2721–2729 inclusive</i>

Description**ATFCC Code****Cork and wood***Division 24 i.e. items 2411–2452 inclusive**Includes*

- Cork (natural)
- Logs, rough wood sleepers
- Woodchips and pulp wood

Excludes

- Veneers and fibre boards

Other commodities n.e.s*Section 9 excluding Item 9310 i.e. items 9100 and 9321–9990 inclusive**Includes*

- Empty used containers and other empty used packaging
- Mail and postage packages
- Personal effects including household items and motor vehicles
- Water

APPENDIX 3

COMMODITY CLASSIFICATION — Australian and New Zealand Standard Product Classification (ANZSPC) Correspondence Table

Description	ANZSPC Code
Live animals	<ul style="list-style-type: none"> ■ Group 021 — Live Animals
Beverages and tobacco <i>Includes</i> <ul style="list-style-type: none"> ■ Alcoholic and non-alcoholic beverages ■ Tobacco products 	<ul style="list-style-type: none"> ■ Group 017 — Tobacco ■ Division 24 — BEVERAGES ■ Division 25 — CIGARETTES, CIGARS, CHERROOTS AND TOBACCO
Cement <i>Includes</i> <ul style="list-style-type: none"> ■ Cement clinker 	<ul style="list-style-type: none"> ■ Group 374 (p) — Cement, lime and plaster (including only Item 37400.10 Cement (including clinkers) (excluding adhesive or refractory))
Cereal grains <i>Includes</i> <ul style="list-style-type: none"> ■ Unmilled grains <i>Excludes</i> <ul style="list-style-type: none"> ■ Cereal preparations 	<ul style="list-style-type: none"> ■ Group 011 — Cereals
Chemicals <i>Includes</i> <ul style="list-style-type: none"> ■ Organic and inorganic chemicals ■ Medicinal and pharmaceutical products ■ Plastics in primary form and scrap form <i>Excludes</i> <ul style="list-style-type: none"> ■ Manufactured fertilizers ■ Articles made from plastic 	<ul style="list-style-type: none"> ■ Group 336 — Radioactive elements and isotopes and compounds; alloys dispersions, ceramic products and mixtures containing these elements, isotopes or compounds; radioactive residues ■ Group 337 — Nuclear reactor fuel elements (cartridges) ■ Division 34 (p) — BASIC CHEMICALS (excluding Class 3461 Nitric acid; sulphonic acids; ammonia; ammonium chloride; nitrites; nitrates of potassium; ammonium carbonates; mineral or chemical fertilizers and Group 348 Synthetic rubber and factice derived from oils, and mixtures thereof with natural rubber and similar natural gums, in primary forms or in plates, sheets or strip) ■ Division 35 (p) — OTHER CHEMICAL PRODUCTS; MAN-MADE FIBRES (excluding Group 355 Textured, high tenacity, single, synthetic yarn (including elastomeric) or textured yarns of artificial fibres (excluding sewing thread and multiple or cables yarn); synthetic or man-made filament tow and staple fibres, not carded or combed) ■ Group 392 (p) — Non-metal wastes or scraps (excluding Items 39200.20 residual lyes from wood pulp (excluding tall oil) and 39200.90 Non-metallic waste and scraps n.e.c.)
Coal <i>Includes</i> <ul style="list-style-type: none"> ■ Coke and briquettes 	<ul style="list-style-type: none"> ■ Division 11 — COAL AND LIGNITE; PEAT ■ Group 331 — Coke and semi-coke of coal, of lignite or of peat; retort carbon
Crude materials <i>Includes</i> <ul style="list-style-type: none"> ■ Animal and vegetable materials (e.g. bones, cut flowers) ■ Hides and skins ■ Natural fertilizers and manures ■ Minerals (e.g. lime, gypsum and salt) ■ Oil seeds and oleaginous fruits ■ Pulp and waste paper ■ Textile fibres and their wastes <i>Excludes</i> <ul style="list-style-type: none"> ■ Metal ores and scrap ■ Stone, sand and gravel ■ Wood and cork (natural) 	<ul style="list-style-type: none"> ■ Group 014 — Oils seeds and oleaginous fruit ■ Group 015 — Living plants; cut flowers and flower buds; flower seeds and fruit and vegetable seeds ■ Group 029 (p) — Animal products (excluding Items 02900.05 Raw milk; 02900.10 Natural honey; 02900.15 Beeswax, natural; 02900.20 Insect waxes; 02900.25 eggs, hen, for human consumption); 02900.50 Animal semen; and 02900.90 Animal products n.e.c.) ■ Group 032 — Natural gums ■ Group 154 — Clays ■ Group 161 — Chemical and fertilizer minerals ■ Group 162 — Salt and pure sodium chloride ■ Group 217 — Cotton fibres (linters) ■ Group 261 — Natural textile fibres prepared for spinning ■ Group 321 (p) — Pulp, paper and paperboard (including only Item 32100.28 mechanical, chemical and semi-chemical wood pulp) ■ Group 348 — Synthetic rubber and factice derived from oils, and mixtures thereof with natural rubber and similar natural gums, in primary forms or in plates, sheets or strip ■ Group 392 (p) — Non-metal wastes or scraps (excluding Items 32900.10 regranulated waste, parings and scrap of plastics, of a mixture of more than one thermoplastic material and 32900.20 residual lyes from wood pulp (excluding tall oil))
Animal and vegetable oils, fats and waxes <i>Includes</i> <ul style="list-style-type: none"> ■ Animal oils and fats, tallow ■ Linseed oil, peanut oil, etc. 	<ul style="list-style-type: none"> ■ Group 029 (p) — Animal products (including only Items 02900.15 Beeswax, natural and 02900.20 Insect waxes) ■ Group 216 (p) — Animal and vegetable oils and fats (excluding Items 21600.40 Rendered lard and 21600.50 Margarine)

(p) Part of division or group

Description	ANZSPC Code
Fertilisers, manufactured	<ul style="list-style-type: none"> ■ Group 346 (p) — Fertilisers and pesticides (excluding Class 3462 Pesticides)
<i>Includes</i>	
<ul style="list-style-type: none"> ■ Superphosphate, sulphate of ammonia, urea, etc. 	
Food (for human and animal consumption)	<ul style="list-style-type: none"> ■ Group 012 — Vegetables ■ Group 013 — Fruit and nuts ■ Group 016 — Beverages and spice crops ■ Group 018 — Plants used for sugar manufacturing ■ Group 019 — Raw vegetable materials n.e.c. ■ Group 029 (p) — Animal products (including only Items 02900.05 Raw milk; 02900.10 Natural honey; 02900.25 Eggs, hen, for human consumption; and 02900.90 Animal products n.e.c.) ■ Division 04 — FISH AND OTHER FISHING PRODUCTS ■ Division 21 (p) — MEAT, FISH, FRUIT, VEGETABLES, OILS AND FATS (excluding Items 21600.10 Crude soya bean, cotton seed, peanut, sunflower, safflower, canola/rape seed, coconut and vegetable oils; 21600.20 Edible tallow, excluding refined; 21600.30 Inedible tallow (excluding refined) and other unrefined animal oils and fats; 21600.60 Refined and processed animal or vegetable oils and fats (including tallow) ; 21600.70 Wool grease and fatty substances derived from wool grease (including lanolin) and Group 217 Cotton fibres (linters) ■ Division 22 — DAIRY PRODUCTS ■ Division 23 — GRAIN MILL PRODUCTS; STARCHES AND STARCH PRODUCTS; OTHER FOOD PRODUCTS ■ Group 391 — Wastes from food and tobacco industry
<i>Includes</i>	
<ul style="list-style-type: none"> ■ Processed and unprocessed food 	
<i>Excludes</i>	
<ul style="list-style-type: none"> ■ Live animals ■ Beverages ■ Cereal grains ■ Fats and oils ■ Oil seed and oleaginous fruits 	
Gases, natural and manufactured	<ul style="list-style-type: none"> ■ Group 120 (p) — Crude petroleum and natural gas (excluding Classes 1201 Petroleum oils and oils obtained from bituminous minerals, crude and 1203 Bituminous or oil shale and tar sands) ■ Group 172 — Coal gas, water gas, producer gas and similar gases, other than petroleum gases and other gaseous hydrocarbons ■ Group 334 — Petroleum gases and other gaseous hydrocarbons except natural gas ■ No specific classifications.
General freight	
<i>Includes</i>	
<ul style="list-style-type: none"> ■ Consignments not classified by commodity 	
Iron and steel	<ul style="list-style-type: none"> ■ Group 411 — Basic iron and steel ■ Group 412 — Rolled, drawn and folded products of iron and steel
<i>Includes</i>	
<ul style="list-style-type: none"> ■ Castings and ingots ■ Flat rolled products, wire, tubes, etc. 	
Machinery and transport equipment	<ul style="list-style-type: none"> ■ Group 327 — Composed type, prepared printing plates or cylinders, impressed lithographic stones or other impressed media for use in printing ■ Division 43 — GENERAL PURPOSE MACHINERY ■ Division 44 (p) — SPECIAL PURPOSE MACHINERY (excluding Group 447 Weapons and ammunition and parts thereof) ■ Division 45 — OFFICE, ACCOUNTING AND COMPUTING MACHINERY ■ Division 46 — ELECTRICAL MACHINERY AND APPARATUS ■ Division 47 — RADIO, TELEVISION AND COMMUNICATION EQUIPMENT AND APPARATUS ■ Division 49 — TRANSPORT EQUIPMENT
<i>Includes</i>	
<ul style="list-style-type: none"> ■ Agricultural and construction machinery and equipment ■ Motor vehicles (including parts and accessories) ■ Office machines and computers ■ Other road vehicles/transport equipment 	
<i>Excludes</i>	
<ul style="list-style-type: none"> ■ Motor vehicles (used) not being transported for sale 	

(p) Part of division or group

Description	ANZSPC Code
Other manufactured goods	
<i>Includes</i>	
<ul style="list-style-type: none"> ■ Clay products (e.g. bricks, tiles, pipes, etc.) ■ Glass and glassware ■ Leather products (e.g. footwear parts, saddlery, etc.) ■ Metal products (e.g. containers, wire, cables, etc.) ■ Non-ferrous metals (e.g. ingots, pellets, bars, rods, etc.) ■ Paper articles (e.g. newsprint, paperboard, paper stationery, etc.) ■ Textile yarn, fabrics and made up articles (e.g. ropes, carpets, etc.) ■ Rubber products (e.g. tyres, tubes, floor coverings, etc.) ■ Wood products (e.g. crates, particle board, veneers, etc.) 	<ul style="list-style-type: none"> ■ Group 163 — Precious and semi-precious stones; pumice stone; emery; natural abrasives; other minerals ■ Division 26 (p) — YARN AND THREAD; WOVEN AND TUFTED TEXTILE FABRICS (excluding Group 261 Natural textile fibres prepared for spinning) ■ Division 27 — TEXTILE ARTICLES OTHER THAN APPAREL ■ Group 281 — Knitted or crocheted fabrics ■ Group 283 — Tanned or dressed furskins and artificial fur; articles thereof ■ Division 29 (p) — LEATHER AND LEATHER PRODUCTS; FOOTWEAR (excluding Group 297 — footwear and related articles; and parts thereof) ■ Division 31 (p) — PRODUCTS OF WOOD, CORK, STRAW AND PLAITING MATERIALS (excluding Group 311 (p) — Wood, sawn or chipped lengthwise, sliced or peeled; railway or tramway sleepers or wood, not impregnated, and Group 312 — Dressed timber and mouldings of a thickness up to and including 6mm; wood in chips or particles (excluding Class 3121 — Dressed timber and mouldings of a thickness up to and including 6mm; Class 3122 — wood wool; wood flour) ■ Group 321 (p) — Pulp, paper and paperboard (excluding Item 32100.28 — Mechanical, chemical and semi-chemical wood pulp) ■ Group 326 — Note books, letter pads, diaries, forms and other articles of stationery of paper or paperboard ■ Group 355 — Textured, high tenacity, single, synthetic yarn (including elastomeric) or textured yarns of artificial fibres ■ Group 361 — Rubber tyres and tubes ■ Group 362 — Other rubber products ■ Division 37 (p) — GLASS AND GLASS PRODUCTS AND OTHER NON-METALLIC PRODUCTS N.E.C. (excluding Group 374 — Cement, lime and plaster) ■ Division 41 (p) — BASIC METALS (excluding Group 411 — Basic iron and steel; Group 412 — Rolled, drawn and folded products of iron or steel) ■ Division 42 — FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND EQUIPMENT
<i>Excludes</i>	
<ul style="list-style-type: none"> ■ Cement ■ Footwear — completed article and parts thereof ■ Iron and steel 	
Miscellaneous manufactured articles	
<i>Includes</i>	
<ul style="list-style-type: none"> ■ Clothing and footwear ■ Fixtures and fittings ■ Furniture ■ Instruments ■ Plastic wares ■ Pre-fabricated buildings ■ Printed matter ■ Stationery supplies ■ Toys, games and sporting goods 	<ul style="list-style-type: none"> ■ Group 282 — Wearing apparel, except fur apparel ■ Group 297 — Footwear and related articles; and parts thereof ■ Group 322 — Books ■ Group 325 — Stamps, cheque forms, banknotes, stock certificates, postcards, greeting cards, advertising material, pictures and other printed matter ■ Group 328 — Newspapers, journals and periodicals ■ Group 363 — Semi-manufactures of plastics ■ Group 364 — Packaging products of plastics ■ Group 369 — Other plastics products ■ Division 38 — FURNITURE; OTHER TRANSPORTABLE GOODS N.E.C. ■ Group 447 — Weapons and ammunition and parts thereof ■ Division 48 — MEDICAL APPLIANCES, PRECISION AND OPTICAL INSTRUMENTS, WATCHES AND CLOCKS
<i>Excludes</i>	
<ul style="list-style-type: none"> ■ Paper stationery ■ Manufactured goods used in further production processes 	
Metalliferous ores and metal scrap	
<i>Includes</i>	
<ul style="list-style-type: none"> ■ Metal waste and scrap ■ Ores and concentrates 	<ul style="list-style-type: none"> ■ Division 13 — URANIUM AND THORIUM ORES ■ Division 14 — METAL ORES ■ Group 393 — Metal wastes or scraps
Petroleum and petroleum products	
<i>Includes</i>	
<ul style="list-style-type: none"> ■ Bitumen ■ Diesel and kerosene ■ Petrol, oils and greases 	<ul style="list-style-type: none"> ■ Division 12 (p) — CRUDE PETROLEUM AND NATURAL GAS (excluding Class 1202 Natural gas, liquified or in the gaseous state) ■ Group 332 — Tar distilled from coal, from lignite or from peat and other mineral tars ■ Group 333 — Petroleum oils and oils obtained from bituminous materials, other than crude; preparation n.e.c. containing by weight 70% or more of these oils ■ Group 335 — Petroleum jelly; paraffin wax, micro-crystalline petroleum wax, slack wax, ozokerite, lignite wax, peat wax, other mineral waxes and similar products

(p) Part of division or group

Description	ANZSPC Code
Stone, sand and gravel	<ul style="list-style-type: none"> ■ Division 15 (p) — STONE, SAND AND CLAY (excluding Group 154 Clays)
Cork and wood <i>Includes</i> <ul style="list-style-type: none"> ■ Cork (natural) ■ Logs, rough wood sleepers ■ Woodchips and pulp wood <i>Excludes</i> <ul style="list-style-type: none"> ■ Veneers and fibre boards 	<ul style="list-style-type: none"> ■ Division 03 (p) — FORESTRY AND LOGGING PRODUCTS (excluding Group 032 Natural gums) ■ Group 311 (p) — Wood, sawn or chipped lengthwise, sliced or peeled; railway or tramway sleepers or wood, not impregnated (excluding Item 31100.10 — Dressed timber and mouldings of a thickness exceeding 6mm; Item 31100.20 — Resawn or seasoned timber; Undressed sawn timber) ■ Group 312 (p) — Dressed timber and mouldings of a thickness up and including 6mm; wood in chips or particles (excluding Class 3121 — Dressed timber and mouldings of a thickness up to and including 6mm; Class 3122 — Wood wool; wood flour)
Other commodities n.e.s. <i>Includes</i> <ul style="list-style-type: none"> ■ Empty used containers and other empty used packaging ■ Mail and postage packages ■ Personal effects including household items and motor vehicles ■ Water 	<ul style="list-style-type: none"> ■ Division 18 — NATURAL WATER

(p) Part of division or group

GLOSSARY

Articulated trucks	Motor vehicles constructed primarily for load carrying, consisting of a prime mover which has no significant load carrying area, but with a turntable device which can be linked to a trailer.
Commodity carried	The publication of commodities carried is based on the 10 sectional groupings of the <i>Australian Transport Freight Commodity Classification (ATFCC)</i> and <i>Australian Pack Classification (APC)</i> (cat. no. 1210.0). See Appendix 2 for a detailed description of categories used in the survey.
Dangerous goods	Those goods classified as dangerous or hazardous based on the <i>Australian Dangerous Goods Code</i> , 5th ed., AGPS, Canberra.
Destination	Represents the point to which goods were delivered.
Freight	Includes all goods and materials transported except freight moved by vehicles of the defence forces and by pipeline. Movements made under prime account, own account and subcontract arrangements were reported in the survey.
Imputation	The replacement of either missing or invalid data with accepted data. Normally done in accordance with predetermined decision rules and often combined with editing.
Imputation class	The sample is divided into homogeneous, non-overlapping groups based on the characteristics of the sample. This aids in selecting donor records for the process of imputation.
Gross Combination Mass (GCM)	Tare weight (i.e. unladen weight) of the motor vehicle and attached trailers, plus their maximum carrying capacity. GCM is the weight measurement used for trailer towing vehicles such as articulated trucks.
Gross Vehicle Mass (GVM)	Tare weight (i.e. unladen weight) of the motor vehicle plus its maximum carrying capacity.
Method of transport	Identifies whether the commodity was moved in bulk (solid or liquid), was containerised or moved as 'other' freight.
Mode of transport	Identifies whether the movement was made by road (articulated vehicles only), rail, sea or air.
New motor vehicle registrations	Registrations of new vehicles legally registered for the first time.
Non-freight carrying trucks	Specialist motor vehicles or motor vehicles fitted with special purpose equipment, and having little or no goods carrying capacity (e.g. tow trucks).
Origin	Represents the point from which goods were picked up.
Prime account	An agreement to move freight made between the original consignor of the freight and the transport operator.

GLOSSARY *continued*

Prime movers	Motor vehicles constructed primarily for towing trailers. Prime movers have no significant load carrying area but are fitted with a turntable for linking to a trailer.
Own account	Freight that is owned and transported by the same legal entity.
Refrigerated	Identifies those goods carried which require insulation, chilling or freezing during transportation.
Road	Includes all roads, public and private, in all states and territories of Australia, on which freight has been carried.
Rigid trucks	Motor vehicles exceeding 3.5 tonnes GVM, constructed with a load carrying area, including rigid trucks with a tow bar, draw bar or other non-articulated coupling on the rear of the vehicle.
RSE	Relative standard error. The standard error expressed as a percentage of the estimate to which it refers.
Standard error	A measure of the likely difference in the estimates resulting from not including all articulated vehicles in the road component of the survey.
State/territory of registration	The state or territory motor registry at which a vehicle is registered.
Stratification	Stratification is the process where a population is divided into homogeneous groups called strata that are non-overlapping, and together comprise the whole population. This technique uses auxiliary information to increase the efficiency of a sample design and units are selected independently within each stratum.
Tonne-kilometres	Total tonne-kilometres is the number of tonnes moved multiplied by the distance travelled in kilometres (e.g. 25 tonnes of freight moved a distance of 100 kilometres is 2,500 tonne-kilometres).
Tonnes carried	Total tonnes carried is the total weight of goods and freight carried during the survey period. The estimate of annual tonnes carried relates to goods and freight uplifted by vehicles and therefore will overstate the actual physical quantity of goods and freight moved during the survey period to the extent that transshipment occurs (i.e. the transfer of goods and freight from one vehicle to another).
Trip	A trip is a journey made by a prime mover (with or without trailer/s attached) from one location to another.

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