Australian Bureau of Statistics

SURVEY OF MOTOR VEHICLE USE

AUSTRALIA

EMBARGO: 11.30AM (CANBERRA TIME) WED 27 JUNE 2001

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- For further information about these and related statistics, contact the National Information Service on 1300 135 070 or Tony Webb on Brisbane 07 3222 6185.

NOTES

ABOUT THIS PUBLICATION

This publication presents results from the 2000 Survey of Motor Vehicle Use (SMVU). The data were collected in four quarterly sample surveys conducted by the Australian Bureau of Statistics (ABS) over the period 1 November 1999 to 31 October 2000.

CHANGES IN THIS ISSUE

The reference year for this SMVU is different from the two previous SMVUs which were conducted for the period 1 August to 31 July.

REVISIONS TO DATA

Some minor revisions have been made to historical data in this publication due to improvements in processing and estimation systems.

HISTORICAL COMPARISONS

The statistics in this publication are the third in a series produced using a new collection methodology designed to improve the quality of data reported over that for previous ABS surveys of motor vehicle use. The change to methodology since the 1995 SMVU means that care should be taken in making direct comparisons between data from the three most recent surveys and that collected up to and including 1995. The current methodology is described in the Explanatory Notes. Care should also be taken in drawing inferences from small changes in data over time from the most recent surveys as these changes may not be statistically significant.

Additional information about the reliability of the level and movement estimates is given in the Technical Note: Data Quality.

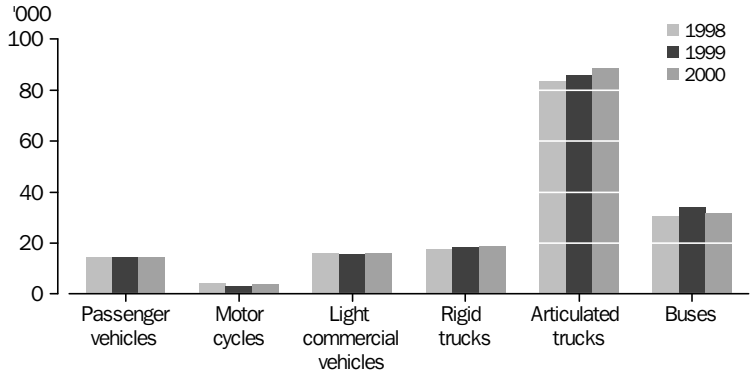
Dennis Trewin
Australian Statistician

DISTANCE TRAVELLED

During the period 1 November 1999 to 31 October 2000, vehicles registered in Australia for road use travelled 180,782 million kilometres at an average 14,800 kilometres per vehicle. These figures represent little change from the previous two years. The small increase in total kilometres travelled over the last three years reflects increases in the total number of vehicles on the road.

While freight-carrying vehicles and buses on average travelled greater distances, 80% of all vehicles on the road were passenger vehicles and these accounted for 77% (138,725 million kilometres) of total distance travelled in Australia. Freight-carrying vehicles contributed 22% (38,882 million kilometres); buses 1% (1,754 million kilometres); motor cycles 1% (1,167 million kilometres); while non-freight carrying trucks travelled 254 million kilometres. The total distance travelled by articulated trucks increased 8% since 1998 and light commercial vehicles increased 9%.

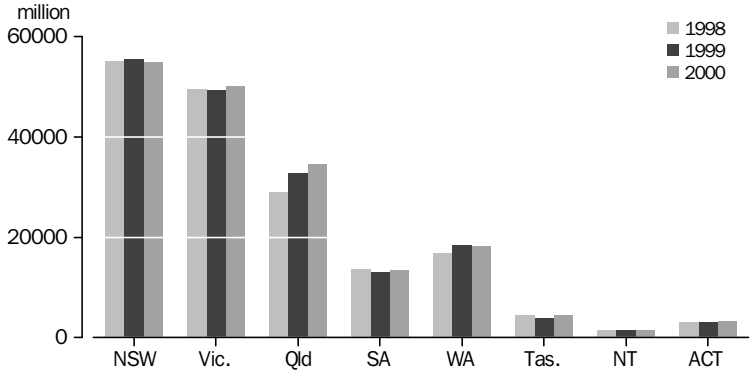
AVERAGE KILOMETRES TRAVELLED BY TYPE OF VEHICLE



Vehicles registered in the Australian Capital Territory recorded the highest average distance travelled. For the year ended 31 October 2000, ACT registered vehicles averaged 16,500 kilometres per vehicle, compared with an average of 15,800 kilometres in 1998. South Australia recorded the lowest average distance travelled of 13,100 kilometres for the survey period ended 31 October 2000.

Vehicles registered in New South Wales, Victoria and Queensland accounted for just over three quarters (77%) of the total distance travelled. These States accounted for 76% of all the vehicles registered in Australia.

TOTAL KILOMETRES TRAVELLED BY STATE/TERRITORY OF REGISTRATION



DISTANCE TRAVELLED *continued*

Passenger vehicles registered in the ACT recorded the highest average distance travelled of 16,200 kilometres followed by Victorian passenger vehicles with an average of 15,200 kilometres. Articulated trucks travelled the highest average kilometres with those registered in the ACT travelling an average of 140,800 kilometres and those registered in South Australia 95,600 kilometres. The Australian average for articulated trucks was 88,900 kilometres.

FUEL CONSUMPTION

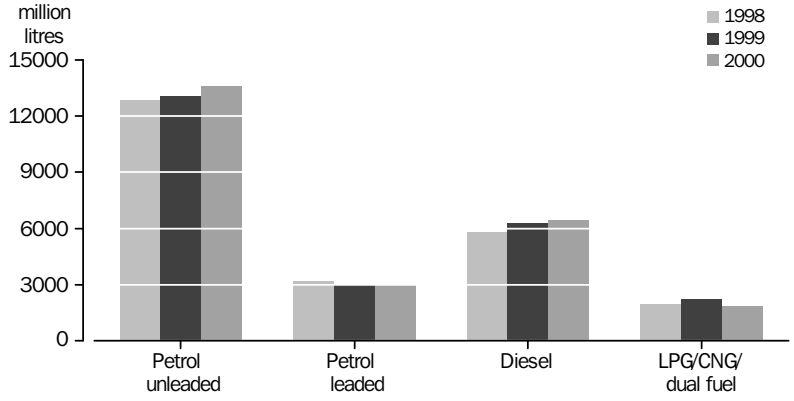
The average rate of fuel consumption by all vehicles for all fuel types in the 12 months ended 31 October 2000 was estimated at 13.8 litres per hundred kilometres. This overall average fuel consumption rate and the fuel consumption rate for each vehicle type represented little change since 1998.

For passenger vehicles using petrol, consumption averaged 11.3 litres per hundred kilometres. This comprised an average of 11.1 litres per hundred kilometres for passenger vehicles using unleaded petrol and 12.2 litres per hundred kilometres for passenger vehicles using leaded petrol.

Consumption of diesel fuel in the 12 months ended 31 October 2000 averaged 25.1 litres per hundred kilometres for all vehicles, with articulated trucks averaging 52.3 litres, rigid trucks 27.3 litres, light commercial vehicles 11.9 litres and passenger vehicles 12.6 litres per hundred kilometres. Consumption of LPG/CNG and dual fuels averaged 18.0 litres per hundred kilometres for all vehicle types.

Total fuel consumption by all vehicles during the 12 months ended 31 October 2000 was estimated at 24,926 million litres, with passenger vehicles accounting for 65% (16,190 million litres) of total fuel consumed and freight-carrying vehicles for 33% (8,144 million litres).

MOTOR VEHICLE FUEL CONSUMPTION BY TYPE OF FUEL



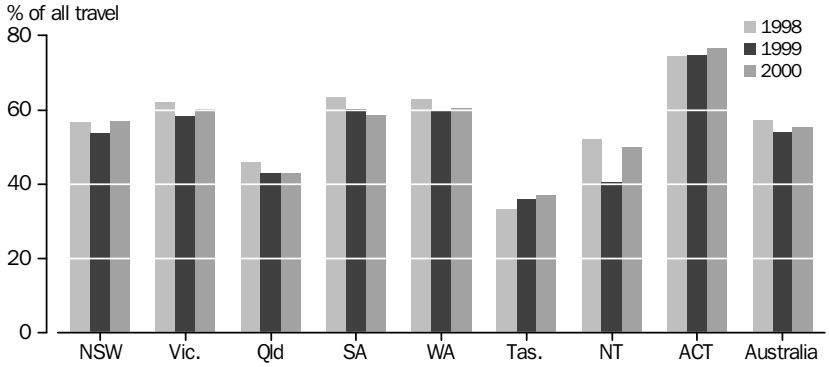
AREA OF OPERATION

An estimated 95% (170,950 million kilometres) of the total distance travelled by all vehicles in the 12 months ended 31 October 2000 was within the State/Territory of registration of the vehicle. The exception was vehicles registered in the ACT where 23% of all travel was in areas outside the ACT. This was consistent with the results from the previous two surveys.

AREA OF OPERATION *continued*

Of the total distance travelled, 56% (100,383 million kilometres) was in the capital city area of the State/Territory of registration, although for articulated trucks only 18% (977 million kilometres) of the total distance travelled was within the capital city of the State/Territory of registration while 28% (1,477 million kilometres) was interstate. For passenger vehicles, 59% of all travel was within the capital city of the State/Territory of registration and only 5% was travel interstate. Just over half (53%) of all travel by rigid trucks was in the capital city of the State/Territory of registration.

TRAVEL WITHIN CAPITAL CITY(a), STATE/TERRITORY OF REGISTRATION



(a) Travel within the capital city of the State/Territory of registration.

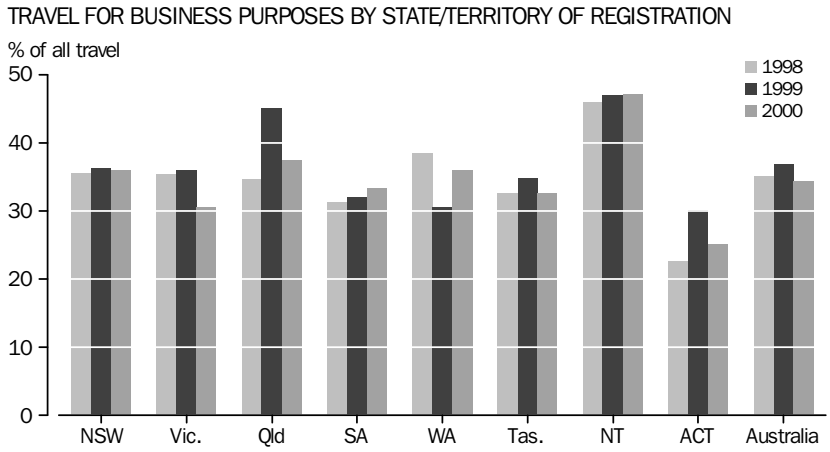
BUSINESS AND PRIVATE USE OF VEHICLES

Business use accounted for an estimated 34% (62,233 million kilometres) of the total distance travelled in the 12 months ended 31 October 2000.

About 52% (72,590 million kilometres) of the total distance travelled by passenger vehicles was for private use, 25% (35,050 million kilometres) was for travel to and from work, and 22% (31,085 million kilometres) was for business use or charged against business expenses.

For those vehicles used partly or wholly for business purposes, the average distance travelled for business purposes was 13,900 kilometres. Articulated trucks averaged 96,500 business kilometres, with 73% of their total business distance travelled while they were either partly or fully laden with freight. Buses averaged 34,200 business kilometres; rigid trucks 22,300 business kilometres; light commercial vehicles 17,600 business kilometres; passenger vehicles 10,200 business kilometres; and motorcycles 2,600 kilometres travelled for business purposes.

BUSINESS AND PRIVATE USE OF VEHICLES *continued*



Of those vehicles used partly or wholly for personal and other purposes, the average distance travelled for this purpose was 8,200 kilometres, with passenger vehicles averaging 8,500 kilometres. Vehicles registered in the Australian Capital Territory and Victoria recorded the highest average vehicle usage for personal and other purposes with averages of 9,200 and 8,800 kilometres respectively.

The average distance travelled by vehicles used partly or wholly for travel to and from work was 7,100 kilometres. The State with the highest average was Victoria with 8,000 kilometres and the State with the lowest, South Australia. South Australian registered vehicles used partly or wholly for travel to and from work averaged 6,100 kilometres for this purpose.

FREIGHT VEHICLE USE

In the 12 months ended 31 October 2000, freight vehicles travelled an estimated 20,997 million kilometres for business purposes while laden, an increase of 11% from the 18,967 million laden kilometres that freight vehicles travelled in the year ended 31 July 1998. A total of 1,399 million tonnes of goods were carried in the period ended 31 October 2000, a 10% increase over the 1,277 million tonnes carried for the year ended 31 July 1998.

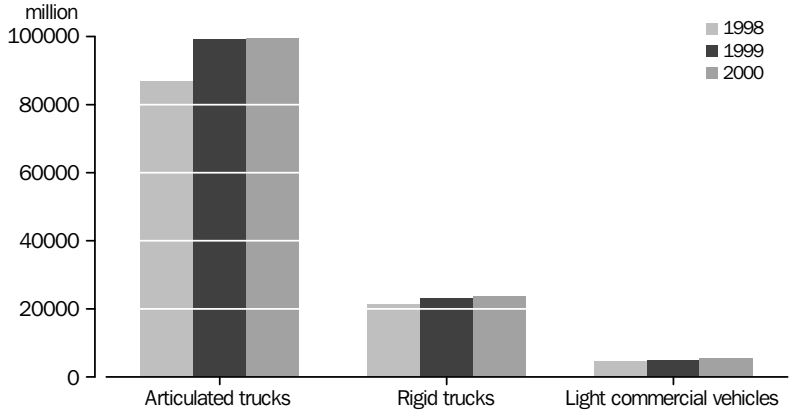
Freight vehicles registered in the ACT travelled the highest average laden business distance of 20,300 kilometres followed by Victoria with an average of 18,500 kilometres.

A total of 128,702 million tonne-kilometres was travelled by all freight vehicles. Articulated trucks recorded the largest proportion of tonne-kilometres at 77% (99,422 million tonne-kilometres) representing a 14% increase from the survey period ended 31 July 1998, rigid trucks 18% (23,801 million tonne-kilometres) an 11% increase and light commercial vehicles 4% (5,478 million tonne-kilometres) a 23% increase from the 1998 survey period.

FREIGHT VEHICLE USE

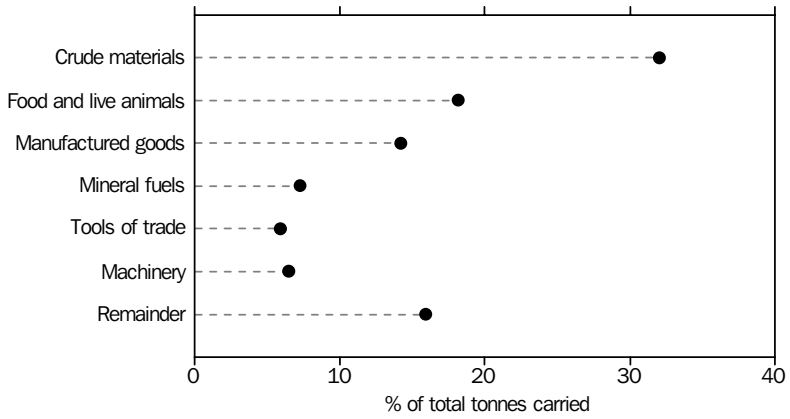
continued

TOTAL TONNE-KILOMETRES TRAVELLED BY FREIGHT VEHICLE TYPE



Of the total tonnes of goods carried in the 12 months ended 31 October 2000, rigid and articulated trucks accounted for 93% (1,298 million tonnes). This represents a 9% increase from the 1,196 million tonnes carried for the survey period ended 31 July 1998. Freight vehicles registered in New South Wales, Victoria and Queensland carried nearly three quarters of all freight in Australia, a total of 1,034 million tonnes.

TYPE OF FREIGHT CARRIED BY WEIGHT

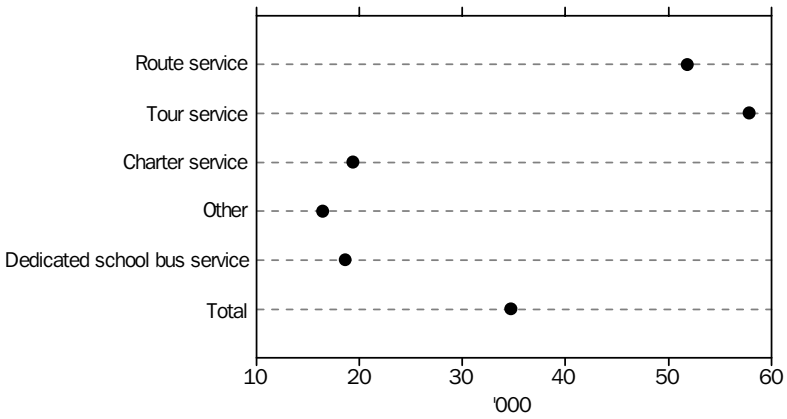


BUS USE

Buses used partly or wholly for business travelled 1,687 million kilometres in the 12 months ended 31 October 2000, an average of 34,700 kilometres per bus. Route services accounted for 40% (670 million kilometres) of the total distance travelled, dedicated school bus services contributed 18% (300 million kilometres), charter services 10% (176 million kilometres) and tour services accounted for 13% (220 million kilometres).

BUS USE *continued*

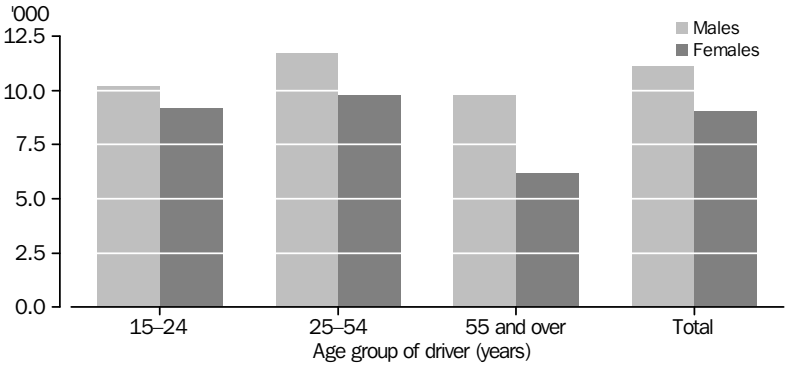
AVERAGE KILOMETRES TRAVELLED BY TYPE OF BUS SERVICE



DRIVER CHARACTERISTICS

The average distance driven per vehicle (excluding taxis and buses) by each driver of that vehicle in the 12 months ended 31 October 2000 was estimated at 10,300 kilometres, with male drivers averaging 11,100 kilometres and female drivers 9,000. This is not a measure of the average distance travelled by an individual but represents the average kilometres driven per vehicle by drivers of a particular vehicle. The estimates do not take into account that a person may drive more than one vehicle during the survey period.

AVERAGE KILOMETRES TRAVELLED PER VEHICLE BY AGE AND SEX OF DRIVER(a)



(a) All vehicles except taxis and buses.

Articulated trucks were driven an average of 64,000 kilometres by each driver, rigid trucks 14,500 kilometres, light commercial vehicles 11,900 kilometres, passenger vehicles (excluding taxis) 9,800 kilometres and motor cycles 4,200 kilometres.

LIST OF TABLES

1 MOTOR VEHICLE USE—1998, 1999 and 2000(a)

Type of vehicle	*1998*	*1999*	*2000*
TOTAL KILOMETRES TRAVELLED (million)			
Passenger vehicles	134 261	137 885	138 725
Motor cycles	1 350	1 003	1 167
Light commercial vehicles	24 958	24 986	27 136
Rigid trucks	6 015	6 382	6 415
Articulated trucks	4 921	5 262	5 331
Non-freight carrying trucks	175	274	254
Buses	1 639	1 843	1 754
Total	**173 317**	**177 635**	**180 782**
NUMBER OF VEHICLES(b) (no.)			
Passenger vehicles	r9 336 395	r9 595 706	9 723 699
Motor cycles	r307 954	r324 826	328 207
Light commercial vehicles	r1 531 748	r1 589 112	1 675 578
Rigid trucks	r339 021	r345 733	341 484
Articulated trucks	r58 858	r61 357	59 989
Non-freight carrying trucks	r17 614	r22 004	19 868
Buses	r53 298	r54 410	55 400
Total	**r11 644 888**	**r11 993 149**	**12 204 225**
AVERAGE KILOMETRES TRAVELLED(c) ('000)			
Passenger vehicles	14.4	14.4	14.3
Motor cycles	4.4	3.1	3.6
Light commercial vehicles	16.3	15.7	16.2
Rigid trucks	17.7	18.5	18.8
Articulated trucks	r83.6	r85.8	88.9
Non-freight carrying trucks	9.9	12.5	12.8
Buses	r30.7	33.9	31.7
Total	**14.9**	**r14.8**	**14.8**
TOTAL FUEL CONSUMPTION (million litres)			
Passenger vehicles	15 825	16 087	16 190
Motor cycles	79	62	70
Light commercial vehicles	3 283	3 323	3 604
Rigid trucks	1 693	1 785	1 750
Articulated trucks	2 511	2 710	2 790
Non-freight carrying trucks	51	69	66
Buses	467	496	457
Total	**23 909**	**24 532**	**24 926**
AVERAGE RATE OF FUEL CONSUMPTION(d) (L/100 km)			
Passenger vehicles	11.8	11.7	11.7
Motor cycles	5.9	6.2	6.0
Light commercial vehicles	13.2	13.3	13.3
Rigid trucks	28.1	28.0	27.3
Articulated trucks	51.0	51.5	52.3
Non-freight carrying trucks	29.1	25.1	25.9
Buses	28.5	26.9	26.0
Total	**13.8**	**13.8**	**13.8**

r revised

(a) Data for 1998 and 1999 are for the 12 months ended 31 July. Data for 2000 are for the 12 months ended 31 October.

(b) The average number of vehicles registered for the 12 months. Includes registered vehicles that did not travel during the reference period.

(c) Calculated using the total kilometres travelled divided by the average number of registered vehicles. Includes registered vehicles that did not travel during the reference period.

(d) Calculated using the total fuel consumption divided by the total kilometres travelled.

2 FREIGHT VEHICLE USE—1998, 1999 and 2000(a)

Type of vehicle	*1998*	*1999*	*2000*
TOTAL LADEN BUSINESS KILOMETRES TRAVELLED (million)			
Light commercial vehicles	11 280	11 688	12 704
Rigid trucks	4 109	4 329	4 406
Articulated trucks	3 579	3 888	3 887
Total	**18 967**	**19 905**	**20 997**
AVERAGE LADEN BUSINESS KILOMETRES TRAVELLED(b) ('000)			
Light commercial vehicles	13.2	12.9	14.3
Rigid trucks	14.5	15.0	15.9
Articulated trucks	68.2	r71.0	71.3
Total	r**15.9**	**15.9**	**17.2**
TOTAL TONNE–KILOMETRES (million)			
Light commercial vehicles	4 449	4 923	5 478
Rigid trucks	21 491	23 268	23 801
Articulated trucks	86 892	99 120	99 422
Total	**112 832**	**127 311**	**128 702**
AVERAGE TONNE–KILOMETRES(c) ('000)			
Light commercial vehicles	5.2	5.4	6.1
Rigid trucks	75.7	80.6	85.8
Articulated trucks	r1 655.5	r1 808.8	1 823.6
Total	r**94.9**	r**101.8**	**105.2**
TOTAL TONNES CARRIED (million)			
Light commercial vehicles	81	107	101
Rigid trucks	604	660	661
Articulated trucks	593	653	637
Total	**1 277**	**1 421**	**1 399**
AVERAGE LOAD CARRIED PER TRIP(d) (kilograms)			
Light commercial vehicles	332	372	383
Rigid trucks	5 361	5 606	5 611
Articulated trucks	22 737	22 980	22 750
Total	**3 334**	**3 268**	**3 418**

r revised

(a) Data for 1998 and 1999 are for the 12 months ended 31 July. Data for 2000 are for the 12 months ended 31 October.

(b) Calculated using the total laden business kilometres travelled divided by the number of vehicles that travelled laden business kilometres.

(c) Calculated using the total tonne–kilometres travelled divided by the number of vehicles that travelled tonne–kilometres.

(d) Calculated using the total load carried divided by the total number of laden trips.

3 MOTOR VEHICLE USE—1998, 1999 and 2000(a)

State/Territory of registration	*1998*	*1999*	*2000*
TOTAL KILOMETRES TRAVELLED (million)			
New South Wales	55 169	55 578	54 966
Victoria	49 619	49 279	50 165
Queensland	29 033	32 772	34 678
South Australia	13 616	12 992	13 424
Western Australia	16 920	18 496	18 270
Tasmania	4 393	3 881	4 475
Northern Territory	1 521	1 580	1 603
Australian Capital Territory	3 045	3 058	3 200
Australia	**173 317**	**177 635**	**180 782**
NUMBER OF VEHICLES(b) (no.)			
New South Wales	r3 529 995	r3 691 127	3 692 931
Victoria	r3 140 258	r3 126 420	3 220 398
Queensland	r2 110 390	r2 216 635	2 312 687
South Australia	r1 001 447	r1 018 825	1 024 674
Western Australia	r1 240 406	r1 335 611	1 325 442
Tasmania	r329 875	r314 077	331 663
Northern Territory	r100 198	r98 935	102 574
Australian Capital Territory	r192 318	r191 518	193 855
Australia	**r11 644 888**	**r11 993 149**	**12 204 225**
AVERAGE KILOMETRES TRAVELLED(c) ('000)			
New South Wales	r15.6	15.1	14.9
Victoria	15.8	r15.8	15.6
Queensland	13.8	14.8	15.0
South Australia	13.6	12.8	13.1
Western Australia	13.6	r13.8	13.8
Tasmania	13.3	12.4	13.5
Northern Territory	15.2	16.0	15.6
Australian Capital Territory	r15.8	r16.0	16.5
Australia	**14.9**	**r14.8**	**14.8**

r revised

(a) Data for 1998 and 1999 are for the 12 months ended 31 July. Data for 2000 are for the 12 months ended 31 October.

(b) The average number of vehicles registered for the 12 months. Includes registered vehicles that did not travel during the reference period.

(c) Calculated using the total kilometres travelled divided by the average number of registered vehicles. Includes registered vehicles that did not travel during the reference period.

4 MOTOR VEHICLE USE, By State/Territory of Registration and Type of Vehicle

	Passenger vehicles	*Motor cycles*	*Light commercial vehicles*	*Rigid trucks*	*Articulated trucks*	*Non-freight carrying trucks*	*Buses*	*Total*
				TOTAL KILOMETRES TRAVELLED (million)				
New South Wales	42 621	398	7 848	2 158	1 395	**67	479	54 966
Victoria	40 045	318	6 374	1 462	1 611	54	300	50 165
Queensland	25 059	244	6 381	1 464	1 055	60	415	34 678
South Australia	10 644	60	1 641	374	553	25	127	13 424
Western Australia	13 321	81	3 349	713	488	*40	*278	18 270
Tasmania	3 301	26	848	133	118	3	46	4 475
Northern Territory	1 003	16	375	57	72	*2	78	1 603
Australian Capital Territory	2 731	23	321	54	39	*2	31	3 200
Australia	**138 725**	**1 167**	**27 136**	**6 415**	**5 331**	**254**	**1 754**	**180 782**
				NUMBER OF VEHICLES(a) (no.)				
New South Wales	2 997 241	84 135	473 267	104 353	15 069	*4 365	14 501	3 692 931
Victoria	2 643 109	86 021	372 649	83 848	16 933	5 963	11 874	3 220 398
Queensland	1 751 895	72 997	389 822	69 187	12 840	3 193	12 754	2 312 687
South Australia	845 257	24 349	118 912	24 988	5 784	1 935	3 450	1 024 674
Western Australia	1 002 232	43 287	217 976	43 768	6 866	3 290	8 024	1 325 442
Tasmania	246 684	8 388	62 827	9 607	1 429	859	1 869	331 663
Northern Territory	68 793	3 422	23 657	3 587	792	148	2 175	102 574
Australian Capital Territory	168 488	5 608	16 468	2 147	276	115	754	193 855
Australia	**9 723 699**	**328 207**	**1 675 578**	**341 484**	**59 989**	**19 868**	**55 400**	**12 204 225**
				AVERAGE KILOMETRES TRAVELLED(b) ('000)				
New South Wales	14.2	4.7	16.6	20.7	92.6	*15.4	33.0	14.9
Victoria	15.2	3.7	17.1	17.4	95.2	9.1	25.3	15.6
Queensland	14.3	3.3	16.4	21.2	82.2	18.8	32.6	15.0
South Australia	12.6	2.5	13.8	15.0	95.6	13.0	36.9	13.1
Western Australia	13.3	1.9	15.4	16.3	71.1	*12.0	34.6	13.8
Tasmania	13.4	3.1	13.5	13.9	82.5	3.9	24.5	13.5
Northern Territory	14.6	4.8	15.8	16.0	90.8	14.2	35.8	15.6
Australian Capital Territory	16.2	4.0	19.5	25.1	140.8	*21.5	40.7	16.5
Australia	**14.3**	**3.6**	**16.2**	**18.8**	**88.9**	**12.8**	**31.7**	**14.8**

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

* estimate has a relative standard error of between 25% and 50% and should be used with caution

(a) The average number of vehicles registered for the 12 months. Includes registered vehicles that did not travel during the reference period.

(b) Calculated using the total kilometres travelled divided by the average number of registered vehicles. Includes registered vehicles that did not travel during the reference period.

5 FUEL CONSUMPTION, By Type of Fuel and Type of Vehicle

	Passenger vehicles	*Motor cycles*	*Light commercial vehicles*	*Rigid trucks*	*Articulated trucks*	*Non-freight carrying trucks*	*Buses*	*Total*
TOTAL FUEL CONSUMPTION (million litres)								
Petrol								
Leaded	2 381	20	521	30	**—	*3	*2	2 957
Unleaded	11 945	50	1 578	9	—	5	19	13 607
Total	*14 327*	*70*	*2 100*	*39*	**—	*8*	*21*	*16 564*
Diesel	571	—	962	1 673	2 789	49	426	6 471
LPG/CNG/dual fuel	1 292	—	542	*38	—	*9	*10	1 890
Total	**16 190**	**70**	**3 604**	**1 750**	**2 790**	**66**	**457**	**24 926**
AVERAGE RATE OF FUEL CONSUMPTION(a) (litres per 100 kilometres)								
Petrol								
Leaded	12.2	6.3	13.9	23.5	45.2	25.4	20.8	12.4
Unleaded	11.1	5.9	13.0	19.6	—	18.7	16.2	11.3
Total	*11.3*	*6.0*	*13.2*	*22.5*	*45.2*	*20.9*	*16.5*	*11.5*
Diesel	12.6	—	11.9	27.3	52.3	25.9	26.6	25.1
LPG/CNG/dual fuel	18.1	—	17.1	31.9	—	33.1	37.8	18.0
Total	**11.7**	**6.0**	**13.3**	**27.3**	**52.3**	**25.9**	**26.0**	**13.8**

— nil or rounded to zero (including null cells)

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

* estimate has a relative standard error of between 25% and 50% and should be used with caution

(a) Calculated using the total fuel consumption divided by the total kilometres travelled.

6 AREA OF OPERATION, By Type of Vehicle

	WITHIN STATE/TERRITORY OF REGISTRATION					
	Capital city	*Other urban areas*	*Other areas*	*Total*	*Interstate*	*Australia*
TOTAL KILOMETRES TRAVELLED (million)						
Passenger vehicles	82 488	17 986	31 219	131 692	7 032	138 725
Motor cycles	536	212	318	1 066	*101	1 167
Light commercial vehicles	12 049	4 351	9 830	26 230	906	27 136
Rigid trucks	3 405	757	2 022	6 184	231	6 415
Articulated trucks	977	338	2 539	3 854	1 477	5 331
Non-freight carrying trucks	108	**74	*63	245	*9	254
Buses	820	268	589	1 678	76	1 754
Total	**100 383**	**23 987**	**46 580**	**170 950**	**9 833**	**180 782**
AVERAGE KILOMETRES TRAVELLED(a) ('000)						
Passenger vehicles	11.6	6.7	9.8	14.0	6.8	14.7
Motor cycles	4.1	3.7	2.9	4.3	*3.5	4.6
Light commercial vehicles	15.4	10.2	13.1	16.7	5.0	17.1
Rigid trucks	22.4	11.6	14.4	20.7	8.8	21.3
Articulated trucks	29.9	19.3	64.1	70.5	79.2	94.4
Non-freight carrying trucks	16.1	*17.3	*7.5	13.7	*5.3	13.8
Buses	27.0	18.5	25.6	31.6	14.7	32.6
Total	**12.2**	**7.3**	**10.9**	**14.7**	**7.6**	**15.4**

* estimate has a relative standard error of between 25% and 50% and should be used with caution

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

(a) Average distance travelled for registered vehicles which were used.

AREA OF OPERATION, By State/Territory of Registration

	WITHIN STATE/TERRITORY OF REGISTRATION					
	Capital city	*Other urban areas*	*Other areas*	*Total*	*Interstate*	*Australia*
	TOTAL KILOMETRES TRAVELLED (million)					
New South Wales	31 305	8 367	13 323	52 996	*1 970	54 966
Victoria	30 313	4 706	12 020	47 040	3 126	50 165
Queensland	14 928	9 609	8 070	32 608	2 070	34 678
South Australia	7 866	. .	4 497	12 364	1 061	13 424
Western Australia	11 053	. .	6 600	17 652	**618	18 270
Tasmania	1 666	1 304	1 388	4 357	*118	4 475
Northern Territory	802	. .	681	1 483	*119	1 603
Australian Capital Territory	2 450	. .	. .	2 450	751	3 200
Australia	**100 383**	**23 987**	**46 580**	**170 950**	**9 833**	**180 782**
	AVERAGE KILOMETRES TRAVELLED(a) ('000)					
New South Wales	12.9	7.4	11.2	14.6	*5.4	15.1
Victoria	12.5	5.8	10.9	15.5	8.3	16.3
Queensland	11.6	8.3	10.0	14.8	8.7	15.6
South Australia	10.4	. .	11.1	13.1	9.2	13.9
Western Australia	12.1	. .	12.1	14.5	**9.3	14.9
Tasmania	9.8	8.0	9.4	13.9	*5.7	14.0
Northern Territory	11.9	. .	13.8	15.8	10.1	16.5
Australian Capital Territory	13.5	. .	. .	13.5	7.8	17.4
Australia	**12.2**	**7.3**	**10.9**	**14.7**	**7.6**	**15.4**

* estimate has a relative standard error of between 25% and 50% and should be used with caution

. . not applicable

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

(a) Average distance travelled for registered vehicles which were used.

BUSINESS AND PRIVATE USE OF VEHICLES, By Type of Vehicle

	BUSINESS					
	Laden	*Unladen*	*All business use(a)*	*To and from work*	*Personal and other*	*Total*
TOTAL KILOMETRES TRAVELLED (million)						
Passenger vehicles	na	na	31 085	35 050	72 590	138 725
Motor cycles	na	na	131	449	587	1 167
Light commercial vehicles	12 704	4 833	17 537	4 318	5 281	27 136
Rigid trucks	4 406	1 834	6 240	94	81	6 415
Articulated trucks	3 887	1 436	5 323	*6	*2	5 331
Non-freight carrying trucks	na	na	252	**1	**1	254
Buses	na	na	1 664	19	70	1 754
Total	**20 997**	**8 104**	**62 233**	**39 937**	**78 612**	**180 782**
AVERAGE KILOMETRES TRAVELLED(b) ('000)						
Passenger vehicles	na	na	10.2	7.1	8.5	14.7
Motor cycles	na	na	2.6	4.6	3.1	4.6
Light commercial vehicles	14.3	8.3	17.6	7.5	6.1	17.1
Rigid trucks	15.9	8.5	22.3	4.4	2.7	21.3
Articulated trucks	71.3	30.2	96.5	2.9	*1.3	94.4
Non-freight carrying trucks	na	na	13.9	*3.2	*1.8	13.8
Buses	na	na	34.2	4.3	9.4	32.6
Total	**17.2**	**9.5**	**13.9**	**7.1**	**8.2**	**15.4**

na not available

* estimate has a relative standard error of between 25% and 50% and should be used with caution

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

(a) Including the business travel of non-freight carrying vehicles.

(b) Average distance travelled for registered vehicles which were used.

9 BUSINESS AND PRIVATE USE OF VEHICLES, By State/Territory of Registration

	BUSINESS					
	Laden	*Unladen*	*All business use(a)*	*To and from work*	*Personal and other*	*Total*
TOTAL KILOMETRES TRAVELLED (million)						
New South Wales	6 474	2 429	19 804	12 640	22 521	54 966
Victoria	4 883	2 100	15 339	12 813	22 013	50 165
Queensland	4 926	1 669	13 006	6 397	15 275	34 678
South Australia	1 403	608	4 478	2 512	6 434	13 424
Western Australia	2 319	890	6 583	3 334	8 353	18 270
Tasmania	480	218	1 459	1 003	2 012	4 475
Northern Territory	255	117	757	339	506	1 603
Australian Capital Territory	257	72	805	897	1 498	3 200
Australia	**20 997**	**8 104**	**62 233**	**39 937**	**78 612**	**180 782**
AVERAGE KILOMETRES TRAVELLED(b) ('000)						
New South Wales	17.5	10.0	13.9	7.1	7.5	15.1
Victoria	18.5	10.5	13.6	8.0	8.8	16.3
Queensland	17.6	9.1	14.5	6.6	8.4	15.6
South Australia	14.7	8.4	12.8	6.1	7.9	13.9
Western Australia	15.3	8.1	13.8	6.2	8.7	14.9
Tasmania	14.1	9.3	13.9	7.1	7.7	14.0
Northern Territory	15.5	11.3	16.8	6.3	7.4	16.5
Australian Capital Territory	20.3	10.6	11.7	7.9	9.2	17.4
Australia	**17.2**	**9.5**	**13.9**	**7.1**	**8.2**	**15.4**

(a) Including the business travel of non-freight carrying vehicles.

(b) Average distance travelled for registered vehicles which were used.

10 BUSINESS USE OF VEHICLES, By State/Territory of Registration and Type of Vehicle

	Passenger vehicles	*Motor cycles*	*Light commercial vehicles*	*Rigid trucks*	*Articulated trucks*	*Non-freight carrying trucks*	*Buses*	*Total*
TOTAL BUSINESS KILOMETRES TRAVELLED (million)								
New South Wales	10 356	**23	5 418	2 092	1 394	**67	455	19 804
Victoria	7 980	*39	3 955	1 418	1 609	53	284	15 339
Queensland	5 932	*31	4 109	1 433	1 053	60	388	13 006
South Australia	2 304	*12	1 094	365	552	25	125	4 478
Western Australia	3 052	**14	2 030	693	487	*39	*268	6 583
Tasmania	711	*4	450	130	118	3	43	1 459
Northern Territory	308	**5	245	56	71	*2	71	757
Australian Capital Territory	441	**3	237	53	39	*2	30	805
Australia	**31 085**	**131**	**17 537**	**6 240**	**5 323**	**252**	**1 664**	**62 233**
AVERAGE BUSINESS KILOMETRES TRAVELLED(a) ('000)								
New South Wales	10.4	*3.5	18.1	23.4	101.9	*15.6	35.2	13.9
Victoria	9.9	*2.5	18.7	21.8	102.5	11.0	26.9	13.6
Queensland	10.6	*2.1	17.4	24.4	86.8	19.2	35.3	14.5
South Australia	9.7	*2.7	14.4	17.0	103.2	13.3	40.3	12.8
Western Australia	10.2	**2.4	16.7	20.7	80.5	*13.4	38.1	13.8
Tasmania	11.1	*2.5	16.0	18.1	91.0	4.2	27.4	13.9
Northern Territory	12.3	*7.5	17.8	18.2	101.8	16.8	39.0	16.8
Australian Capital Territory	8.2	**6.3	21.1	26.7	152.1	23.1	43.3	11.7
Australia	**10.2**	**2.6**	**17.6**	**22.3**	**96.5**	**13.9**	**34.2**	**13.9**

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

* estimate has a relative standard error of between 25% and 50% and should be used with caution

(a) Average distance travelled for registered vehicles which were used.

	Light commercial vehicles	*Rigid trucks*	*Articulated trucks*	*Total*
	TOTAL (million)			
New South Wales	4 028	1 486	960	6 474
Victoria	2 645	1 009	1 228	4 883
Queensland	3 135	1 004	788	4 926
South Australia	724	244	435	1 403
Western Australia	1 503	493	324	2 319
Tasmania	315	91	74	480
Northern Territory	167	41	47	255
Australian Capital Territory	187	38	32	257
Australia	**12 704**	**4 406**	**3 887**	**20 997**
	AVERAGE(a) ('000)			
New South Wales	15.1	16.8	70.5	17.5
Victoria	14.4	15.5	79.5	18.5
Queensland	14.9	17.4	66.4	17.6
South Australia	10.4	11.6	82.0	14.7
Western Australia	13.3	15.0	53.5	15.3
Tasmania	12.3	12.6	57.2	14.1
Northern Territory	13.2	13.3	67.0	15.5
Australian Capital Territory	18.0	19.3	123.5	20.3
Australia	**14.3**	**15.9**	**71.3**	**17.2**

(a) Calculated using the total laden business kilometres travelled divided by the number of vehicles that travelled laden business kilometres.

12 FREIGHT VEHICLE USE, Tonne-Kilometres–By State/Territory of Registration

	Light commercial vehicles	*Rigid trucks*	*Articulated trucks*	*Total*
	TOTAL (million)			
New South Wales	1 693	7 580	21 817	31 090
Victoria	1 085	5 703	28 530	35 319
Queensland	1 425	5 580	19 587	26 591
South Australia	342	1 592	12 561	14 495
Western Australia	667	2 594	11 766	15 027
Tasmania	132	417	1 852	2 401
Northern Territory	56	*181	2 585	2 821
Australian Capital Territory	79	154	725	957
Australia	**5 478**	**23 801**	**99 422**	**128 702**
	AVERAGE(a) ('000)			
New South Wales	6.3	85.5	1 603.4	84.2
Victoria	5.9	87.8	1 846.0	133.7
Queensland	6.8	96.8	1 651.7	95.2
South Australia	4.9	75.7	2 364.9	151.5
Western Australia	5.9	78.9	1 946.1	99.1
Tasmania	5.1	58.1	1 432.7	70.3
Northern Territory	4.4	*59.1	3 725.2	171.8
Australian Capital Territory	7.6	77.6	2 838.4	75.6
Australia	**6.1**	**85.8**	**1 823.6**	**105.2**

* estimate has a relative standard error of between 25% and 50% and should be used with caution

(a) Calculated using the total tonne–kilometres travelled divided by the number of vehicles that travelled tonne–kilometres.

13 FREIGHT VEHICLE USE, By State/Territory of Operation

	Light commercial vehicles	*Rigid trucks*	*Articulated trucks*	*Total*
TOTAL TONNE–KILOMETRES (million)				
New South Wales	1 709	8 430	32 710	42 849
Victoria	1 085	5 465	20 917	27 466
Queensland	1 430	4 948	17 263	23 641
South Australia	337	1 622	11 089	13 048
Western Australia	665	2 592	12 496	15 752
Tasmania	131	411	1 816	2 358
Northern Territory	54	*176	2 942	3 172
Australian Capital Territory	67	157	191	415
Australia	**5 478**	**23 801**	**99 422**	**128 702**
AVERAGE TONNE–KILOMETRES(a) ('000)				
New South Wales	5.8	88.0	1 406.3	104.2
Victoria	5.5	82.4	1 037.0	97.3
Queensland	6.5	83.0	1 015.6	79.5
South Australia	4.4	74.6	1 255.3	121.2
Western Australia	5.9	78.8	1 792.7	103.5
Tasmania	4.9	57.3	1 455.2	67.3
Northern Territory	4.0	*55.7	2 300.3	175.2
Australian Capital Territory	*3.3	35.3	150.1	15.9
Australia	**6.1**	**85.8**	**1 823.6**	**105.2**

* estimate has a relative standard error of between 25% and 50% and should be used with caution

(a) Calculated using the total tonne–kilometres travelled divided by the number of vehicles that travelled tonne–kilometres.

RIGID TRUCK USE, By Number of Axles and GVM/GCM(a)

	8 tonnes and under	*Over 8 tonnes to 20 tonnes*	*Over 20 tonnes*	*Total*
TOTAL TONNE–KILOMETRES (million)				
2 axles	2 218	6 508	*331	9 058
3 axles	—	*646	12 063	12 709
4 or more axles	—	—	2 035	2 035
Total	**2 218**	**7 154**	**14 428**	**23 801**
AVERAGE TONNE–KILOMETRES(b) ('000)				
2 axles	18.8	59.1	163.0	39.3
3 axles	—	*108.9	340.0	306.9
4 or more axles	—	—	352.9	352.9
Total	**18.8**	**61.6**	**333.4**	**85.8**

* estimate has a relative standard error of between 25% and 50% and should be used with caution

— nil or rounded to zero (including null cells)

(a) Gross Vehicle Mass/Gross Combination Mass.

(b) Calculated using the total tonne–kilometres travelled divided by the number of vehicles that travelled tonne–kilometres.

15 ARTICULATED TRUCK USE, By Trailer Configuration and GCM(a)

	30 tonnes and under	*Over 30 tonnes to 40 tonnes*	*Over 40 tonnes*	*Total*
TOTAL TONNE–KILOMETRES (million)				
Single axle trailer	*188	—	—	*188
Tandem axle trailer	*417	3 450	*1 298	5 166
Triaxle trailer	—	1 945	48 476	50 421
B-Double	—	—	22 131	22 131
Road train	—	—	18 269	18 269
Other	—	—	*3 248	*3 248
Total	**606**	**5 395**	**93 422**	**99 422**
AVERAGE TONNE–KILOMETRES(b) ('000)				
Single axle trailer	*108.7	—	—	*108.7
Tandem axle trailer	174.6	429.2	891.1	434.6
Triaxle trailer	—	753.1	1 708.6	1 628.9
B-Double	—	—	4 713.9	4 713.9
Road train	—	—	4 928.1	4 928.1
Other	—	—	*2 103.3	*2 103.3
Total	**146.9**	**508.0**	**2 348.7**	**1 823.6**

* estimate has a relative standard error of between 25% and 50% and should be used with caution

— nil or rounded to zero (including null cells)

(a) Gross combination mass.

(b) Calculated using the total tonne–kilometres travelled divided by the number of vehicles that travelled tonne–kilometres.

16 FREIGHT VEHICLE USE, By State/Territory of Registration and Type of Vehicle

	Light commercial vehicles	*Rigid trucks*	*Articulated trucks*	*Total*
TOTAL LOAD CARRIED (million tonnes)				
New South Wales	27	183	187	396
Victoria	24	172	162	358
Queensland	26	147	107	280
South Australia	7	47	61	115
Western Australia	11	88	91	190
Tasmania	3	13	20	36
Northern Territory	1	6	7	15
Australian Capital Territory	1	5	3	9
Australia	**101**	**661**	**637**	**1 399**
AVERAGE LOAD CARRIED PER TRIP(a) (Kilograms)				
New South Wales	372	4 676	22 244	3 317
Victoria	409	6 149	20 291	3 762
Queensland	382	6 616	22 942	2 951
South Australia	363	6 479	23 044	3 847
Western Australia	382	5 401	28 943	3 897
Tasmania	385	5 193	23 411	3 326
Northern Territory	312	*3 880	31 471	2 424
Australian Capital Territory	384	5 798	24 151	2 125
Australia	**383**	**5 611**	**22 750**	**3 418**

* estimate has a relative standard error of between 25% and 50% and should be used with caution

(a) Calculated using the total load carried divided by the total number of laden trips.

17 FREIGHT VEHICLE USE, Total Tonnes Carried–By Commodity and Type of Vehicle

	Light commercial vehicles	*Rigid trucks*	*Articulated trucks*	*Total freight vehicles*
	million	million	million	million
Food and live animals	8	94	152	254
Beverages and tobacco	**—	*3	*11	15
Crude materials, inedible, except fuels	*4	272	173	448
Mineral fuels, lubricants and related materials	*2	16	84	102
Animal and vegetable oils, fats and waxes	*—	*1	*3	4
Chemicals and related products, not elsewhere specified	2	8	16	27
Manufactured goods	8	102	88	199
Machinery, transport equipment	8	34	*49	91
Miscellaneous manufactured articles	*3	10	4	17
Tools of trade	54	26	*3	83
Other commodities, not elsewhere specified	*8	88	49	145
Unspecified(a)	*3	7	*5	15
Total	**101**	**661**	**637**	**1 399**

— nil or rounded to zero (including null cells)

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

* estimate has a relative standard error of between 25% and 50% and should be used with caution

(a) Represents loads carried where type of commodity could not be obtained.

18 BUS USE(a), By Type of Bus and Type of Service

	Route service	*Dedicated school bus service*	*Charter service*	*Tour service*	*Other*	*Not specified(b)*	*Total*
TOTAL KILOMETRES TRAVELLED (million)							
Buses with fewer than 20 seats	**56	46	*47	**138	241	*14	540
Buses with 20 or more seats	614	254	129	82	63	**5	1 148
Total	**670**	**300**	**176**	***220**	**305**	***19**	**1 687**
AVERAGE KILOMETRES TRAVELLED(c) ('000)							
Buses with fewer than 20 seats	*43.7	20.2	22.8	*66.1	17.8	13.9	27.3
Buses with 20 or more seats	52.6	18.3	18.4	47.6	12.6	**13.4	39.8
Total	**51.8**	**18.6**	**19.4**	**57.8**	**16.4**	**13.7**	**34.7**

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

* estimate has a relative standard error of between 25% and 50% and should be used with caution

(a) Excluding distance travelled by buses used exclusively for private purposes.

(b) Represents travel by buses where type of service could not be obtained.

(c) Average distance travelled for registered vehicles which were used.

19 BUS USE(a), By State/Territory of Registration and Type of Service

	Route service	*Dedicated school bus service*	*Charter service*	*Other(b)*	*Not specified(c)*	*Total*
TOTAL KILOMETRES TRAVELLED (million)						
New South Wales	234	95	49	82	—	460
Victoria	88	60	42	88	*10	288
Queensland	156	67	*41	129	**5	398
South Australia	81	16	*5	*24	*2	127
Western Australia	72	40	**13	**144	**1	*267
Tasmania	17	11	5	10	—	44
Northern Territory	*6	*5	*19	42	**1	74
Australian Capital Territory	16	7	*2	*5	—	30
Australia	**670**	**300**	**176**	**524**	***19**	**1 687**
AVERAGE KILOMETRES TRAVELLED(d) ('000)						
New South Wales	47.7	20.1	17.6	16.8	—	35.6
Victoria	41.0	18.6	22.7	17.7	*14.5	27.3
Queensland	64.4	16.4	17.3	25.4	*18.2	36.2
South Australia	69.4	17.4	12.1	24.2	*13.3	40.9
Western Australia	52.0	24.1	*20.6	*35.4	**4.2	38.0
Tasmania	42.6	13.3	8.1	20.1	—	27.6
Northern Territory	*46.5	15.5	*48.2	32.5	**18.7	40.5
Australian Capital Territory	40.3	16.0	*34.5	25.9	—	44.0
Australia	**51.8**	**18.6**	**19.4**	**23.8**	**13.7**	**34.7**

— nil or rounded to zero (including null cells)

* estimate has a relative standard error of between 25% and 50% and should be used with caution

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

(a) Excluding distance travelled by buses used exclusively for private purposes.

(b) Includes tour service operations.

(c) Represents travel by buses where type of service could not be obtained.

(d) Average distance travelled for registered vehicles which were used.

20 AVERAGE KILOMETRES TRAVELLED PER VEHICLE ('000)(a)(b), By Age and Sex of Driver

	15–24	*25–54*	*55 and over*	*Total(c)*
		MALES		
Passenger vehicles	9.9	10.5	9.5	10.2
Motor cycles	*4.6	4.6	*4.5	4.5
Light commercial vehicles	11.1	13.9	10.9	12.9
Rigid trucks	11.0	16.1	10.2	14.7
Articulated trucks	61.2	63.9	62.9	63.6
Non-freight carrying trucks	*7.5	*6.4	*3.7	6.3
Total	**10.2**	**11.7**	**9.8**	**11.1**
		FEMALES		
Passenger vehicles	9.4	10.0	6.4	9.2
Motor cycles	np	*1.8	np	*1.6
Light commercial vehicles	6.0	7.3	3.0	6.6
Rigid trucks	**4.2	11.2	**5.1	10.4
Articulated trucks	—	*72.4	—	*72.4
Non-freight carrying trucks	np	**5.9	np	**5.5
Total	**9.2**	**9.8**	**6.2**	**9.0**
		PERSONS		
Passenger vehicles	9.7	10.3	8.3	9.8
Motor cycles	*4.2	4.3	*4.4	4.2
Light commercial vehicles	10.1	12.8	10.1	11.9
Rigid trucks	10.7	16.0	10.1	14.5
Articulated trucks	61.2	63.8	63.0	64.0
Non-freight carrying trucks	*7.4	*6.4	*3.7	6.7
Total	**9.7**	**11.0**	**8.6**	**10.3**

* estimate has a relative standard error of between 25% and 50% and should be used with caution

np not available for publication but included in totals where applicable, unless otherwise indicated

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

— nil or rounded to zero (including null cells)

(a) These estimates include details reported for up to five drivers who drove the selected vehicle; but they do not take into account the possiblity of a driver driving more than one vehicle during the survey period. The survey does not measure the average distance travelled by an individual. .

(b) Taxis and buses are excluded from the calculation for average kilometres in this table.

(c) Includes drivers whose age was not stated.

EXPLANATORY NOTES

INTRODUCTION

1 This publication presents annual estimates of patterns of motor vehicle use for all major vehicle types (cars, trucks, buses etc.) in Australia based on results from the 2000 Survey of Motor Vehicle Use (SMVU). The data were collected in four quarterly sample surveys conducted over the period 1 November 1999 to 31 October 2000. This survey period differs from the two most recent surveys which were for the 12 months ended 31 July 1998 and 1999 respectively.

SCOPE

2 The scope of the survey is all vehicles that were registered with a motor vehicle authority for road use at some stage during the 12 months ended 31 October 2000, except caravans, trailers, tractors, plant and equipment, vehicles belonging to the defence services and vehicles with diplomatic or consular plates. Where they were registered as such, vintage and veteran cars were also excluded from the survey. The population was identified using information obtained from the State and Territory motor vehicle registration authorities.

METHODOLOGY

3 For the 2000 SMVU, a sample of approximately 16,000 vehicles was selected to report on vehicle use over a three month period within the reference year 1 November 1999 to 31 October 2000. Of these, 26% were passenger vehicles and motor cycles, 58% were freight vehicles, 11% were buses and 5% were other non-freight carrying vehicles. The sample size was chosen to give a suitable level of precision for estimates of total distance travelled for each State/Territory of registration by type of vehicle category.

4 Selections for quarters one and two of SMVU 2000 were made from a population (or frame) of 12.1 million vehicles registered at 31 October 1998. For quarter three, in addition to selections from this population, selections were taken from new motor vehicles registered between November 1998 and the end of December 1999. Vehicles registered at 31 October 1999 and new motor vehicles registered between November 1999 and the end of April 2000 provided the population from which vehicles were selected for the fourth quarter.

5 The population was stratified within each State or Territory according to the vehicle description recorded by the registration authority. Each type of vehicle category was further stratified by other characteristics to take account of different usage patterns. These were:

- passenger vehicles according to whether taxis or other passenger vehicles;
- other passenger vehicles for most States, to capital city or rest of State;
- motor cycles according to age;
- buses according to size;
- light commercials and articulated trucks according to age and for most States, to capital city or rest of State;
- rigid trucks according to age and size and for most States, to capital city or rest of State; and
- non-freight carrying trucks according to whether ambulance, hearse, fire engine or tow truck, mobile crane etc.

6 The survey methodology is described as 'pre-advice', where owners of vehicles selected in the survey received early advice about their inclusion to encourage record keeping and minimise reliance on recall. These owners were asked to complete two mail questionnaires tailored to their vehicle type. The first, at the beginning of each quarterly survey period, asked for selected vehicle characteristics and the vehicle's odometer reading. Owners were also advised that they would receive a follow up questionnaire at the end of the quarter seeking details about the use of the vehicle over the quarter and a second odometer reading. Examples of the main items requested in the second questionnaire were

METHODOLOGY *continued*

included with the first questionnaire, together with an optional, simple worksheet to help compile the data during the period.

7 When questionnaires 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 items on incomplete questionnaires were filled by imputing average data from like vehicles for which data were obtained.

8 Where the selected vehicle owner had not owned the vehicle for the whole quarterly survey period, the details provided for the period of ownership were adjusted to give a three-month equivalent, except where the vehicle was deregistered, in which case only the use up to the date of deregistration was included.

9 In addition, adjustments were made in the estimation process to account for the use of new motor vehicles registered after the survey population was identified and up to October 2000, as well as the re-registration of other vehicles during this time. More information about these adjustments is provided in the Technical Note: Data Quality.

10 Estimates from information reported in each quarterly collection period were produced and these were then aggregated into annual estimates relating to the use of vehicles during the period 1 November 1999 to 31 October 2000. The size of the sample is insufficient to produce reliable quarterly results.

RELIABILITY OF ESTIMATES

11 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.

12 Sampling error is the error which arises because the data are collected from a part, rather than the whole, of the population and may differ from results that would have been obtained had all vehicles been included. For more information on sampling error for this survey, see the Technical Note: Data Quality.

13 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, errors in reporting by providers, definition or classification difficulties, errors in transcribing and processing data, or if the frame for the survey is deficient. 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. Non-sampling error for this survey is discussed further in the Technical Note: Data Quality.

COMPARISON WITH MOTOR VEHICLE CENSUS DATA

14 Survey estimates of the numbers of vehicles, by vehicle type, are not fully comparable with ABS Motor Vehicle Census data (see *Motor Vehicle Census Australia, 31 October 1999* (Cat. no. 9309.0)). The main reasons for differences are:

- survey estimates of the numbers of vehicles relate to the average number of vehicles registered for road use during the period 1 November 1999 to 31 October 2000, not to the number of vehicles registered at a specific date, as is the case for the Motor Vehicle Census;
- the characteristics of the type of vehicle identified from the survey information may differ from those recorded by the motor registries; and
- the exclusion of vehicles which fall outside the survey's scope e.g. consular and diplomatic vehicles and vintage and veteran cars where they could be identified.

CONCEPT OF AVERAGES

15 Most tables in this publication include statistics presented as averages. Tables 1, 3 and 4 are summary tables and present average kilometres travelled per vehicle for all registered vehicles including those that travelled zero kilometres. The other tables present more detailed information on actual vehicle use where the denominator used in calculating the average is limited to the estimated number of vehicles that contribute to the particular cell. In some cases a vehicle may contribute to more than one cell in a table (e.g. a bus used for route service and charter purposes) but will only be counted once in the denominator for the total.

16 As the denominators used to calculate each average are different it should be noted that the averages along a table row cannot be used to derive the total column entry for that row.

HISTORICAL COMPARISONS

17 This publication includes estimates of vehicle use for 1998, 1999 and 2000. While it is possible to measure change between years, these estimates of movements are subject to higher standard errors than the estimates of level and in most cases are not statistically significant.

18 To overcome concerns about the quality of data in previous surveys, a new methodology was introduced in 1998 and as a result users are cautioned against making detailed direct comparisons between results from the last three surveys and those produced up to and including 1995.

ABS DATA AVAILABLE ON REQUEST

19 As well as the statistics included in this publication, the ABS has additional data available for a charge. Inquiries should be directed to ABS Client Services. Contact details are shown on the back of this publication.

RELATED PUBLICATIONS AND PRODUCTS

20 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. Small area motor vehicle census data are available on CD-ROM in Motor Vehicles on GSP (Cat. no. 9312.0.30.001)

New Motor Vehicle Registrations, Australia, Preliminary (Cat. no. 9301.0) — issued monthly

Motor Vehicles in Australia (Cat. no. 9311.0) — irregular

Directory of Transport Statistics, 1998 (Cat. no. 1132.0) — released in January 1999 – available from and kept up-to-date on the ABS Internet site Transport Theme page on ABS Internet site (http://www.abs.gov.au)

DATA QUALITY

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.

SAMPLING ERROR

2 Estimates in this publication are based on information collected for a sample of registered motor vehicles, rather than a full enumeration, and are therefore subject to sampling error. They may differ from the figures that would have been produced if the information had been obtained for all registered motor vehicles. Examples of the sampling error for selected estimates from the Survey of Motor Vehicle Use (SMVU) for the 12 months ended 31 October 2000 are included below. 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 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 vehicles had been included, and about 19 chances in 20 that the difference will be less than two standard errors.

3 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 in that it provides an immediate indication of the percentage error likely to have occurred due to sampling. 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.

4 The sample size was reduced from 20,000 selections for the 1998 SMVU to approximately 16,000 selections for later surveys. Through improvements to the allocation of the sample amongst the strata, this reduction of the sample size had minimal impact on the quality of the final estimates. For example, the RSE for the estimate of total kilometres travelled for all passenger vehicles registered in Australia remained virtually unchanged (in 1998 (2.7%), 1999 (2.9%) and 2000 (2.9%)).

5 The 2000 SMVU sample was also designed to minimise the RSEs for estimates of total kilometres travelled at the State/Territory level for the main vehicle types.

6 The RSEs relating to estimates contained in Table 4 of this publication are shown in the following table.

RSE OF MOTOR VEHICLE USE(a), By State/Territory of Registration and Type of Vehicle

	Passenger vehicles	*Motor cycles*	*Light commercial vehicles*	*Rigid trucks*	*Articulated trucks*	*Non-freight carrying trucks*	*Buses*	*Total*
				TOTAL KILOMETRES TRAVELLED (%)				
New South Wales	7	19	5	5	6	56	8	5
Victoria	5	15	6	6	6	19	8	4
Queensland	7	16	7	14	5	18	8	5
South Australia	7	20	6	7	6	22	10	6
Western Australia	7	16	7	6	7	30	29	5
Tasmania	6	14	7	7	6	22	9	5
Northern Territory	8	25	8	9	14	27	13	5
Australian Capital Territory	5	15	10	7	14	42	8	5
Australia	**3**	**8**	**3**	**4**	**3**	**17**	**6**	**2**
				NUMBER OF VEHICLES (%)				
New South Wales	3	5	3	2	4	32	5	2
Victoria	2	5	3	4	4	9	4	2
Queensland	2	5	4	3	3	13	3	2
South Australia	2	5	3	2	3	5	4	2
Western Australia	3	4	4	2	4	12	10	2
Tasmania	2	4	3	2	3	6	5	1
Northern Territory	4	8	4	9	4	13	6	3
Australian Capital Territory	3	5	5	3	10	22	8	2
Australia	**1**	**2**	**2**	**1**	**2**	**8**	**2**	**1**
				AVERAGE KILOMETRES TRAVELLED (%)				
New South Wales	6	18	5	5	6	49	7	5
Victoria	5	15	6	7	5	18	7	4
Queensland	6	16	6	14	5	16	8	5
South Australia	7	20	5	7	5	19	9	5
Western Australia	6	16	6	6	7	29	21	5
Tasmania	6	14	7	7	6	21	8	4
Northern Territory	7	23	8	8	13	24	12	5
Australian Capital Territory	5	14	7	7	9	25	8	4
Australia	**3**	**8**	**3**	**4**	**3**	**15**	**5**	**2**

(a) These relative standard errors relate to the estimates in table 4.

7 As an example of the use of an RSE, the estimate of 138,725 million kilometres for total kilometres travelled for all passenger vehicles registered in Australia from Table 4 of the publication has a RSE of 3% as shown above i.e. the standard error for the 2000 SMVU estimate is 4,162 million kilometres. There are about two chances in three that the figure that would have been obtained if all vehicles had been included, would have been in the range 134,563 million kilometres to 142,887 million kilometres and about 19 chances in 20 that it would have been in the range 130,401 million kilometres to 147,049 million kilometres.

8 It is important to note that estimates at more detailed levels than the above are subject to higher RSEs and are less reliable.

9 RSEs for other key variables are shown below. The RSEs of further detailed variables can be made available on request.

RSE OF FUEL CONSUMPTION(a), By Type of Fuel and Type of Vehicle

	Passenger vehicles	*Motor cycles*	*Light commercial vehicles*	*Rigid trucks*	*Articulated trucks*	*Non-freight carrying trucks*	*Buses*	*Total*
TOTAL FUEL CONSUMPTION (%)								
Petrol								
Leaded	8	23	10	18	68	25	28	7
Unleaded	4	9	5	24	—	19	17	3
Total	3	9	4	15	68	15	15	3
Diesel	21	—	7	5	3	20	5	3
LPG/CNG/dual fuel	17	—	13	31	—	31	33	12
Total	**3**	**9**	**3**	**5**	**3**	**16**	**5**	**2**
AVERAGE RATE OF FUEL CONSUMPTION (%)								
Petrol								
Leaded	2	8	4	8	3	11	13	2
Unleaded	3	7	3	9	—	11	13	3
Total	2	5	3	7	3	8	12	2
Diesel	10	—	4	4	2	20	3	3
LPG/CNG/dual fuel	13	—	7	15	—	6	17	9
Total	**2**	**5**	**2**	**4**	**2**	**15**	**3**	**2**

— nil or rounded to zero (including null cells)

(a) These relative standard errors relate to the estimates in table 5.

RSE OF FREIGHT VEHICLES, Tonne-kilometres–By State/Territory of Operation(a)

	Light commercial vehicles	*Rigid trucks*	*Articulated trucks*	*Total*
TOTAL TONNE–KILOMETRES (%)				
New South Wales	10	10	4	4
Victoria	13	15	8	7
Queensland	14	12	7	6
South Australia	13	13	9	8
Western Australia	13	12	8	7
Tasmania	15	13	8	7
Northern Territory	16	34	18	17
Australian Capital Territory	17	24	20	13
Australia	**6**	**6**	**3**	**3**

(a) These relative standard errors relate to the estimates in table 13.

SAMPLING ERROR *continued*

RSE OF ARTICULATED TRUCKS, Tonne-kilometres–By trailer configuration and GCM(a)

	30 tonnes and under	*Over 30 tonnes to 40 tonnes*	*Over 40 tonnes*	*Total*
	TONNE–KILOMETRES (%)			
Single axle trailer	29	—	—	29
Tandem axle trailer	26	12	27	10
Triaxle trailer	—	15	4	4
B-Double	—	—	9	9
Road train	—	—	10	10
Other	—	—	37	37
Total	**20**	**9**	**4**	**3**
	AVERAGE TONNE–KILOMETRES (%)			
Single axle trailer	25	—	—	25
Tandem axle trailer	24	12	15	10
Triaxle trailer	—	14	4	4
B-Double	—	—	7	7
Road train	—	—	8	8
Other	—	—	31	31
Total	**18**	**9**	**3**	**3**

— nil or rounded to zero (including null cells)

(a) Gross Combination Mass. These relative standard errors relate to the estimates in table 15.

Standard error of movements

10 Tables 1 to 3 of this publication contain comparisons between the major estimates from the 2000, 1999 and 1998 SMVUs. These movements are also subject to sampling error. The 1998, 1999 and 2000 SMVUs were not designed to minimise the standard errors of the movements. The standard error for the movement can be calculated using:

$$SE(M_t) = \sqrt{(RSE(Y_{2t}) * Y_{2t}/100)^2 + (RSE(Y_{1t}) * Y_{1t}/100)^2}$$

where

Y_{1t} is an estimate of total of the variable of interest, obtained from the 1st time point.

Y_{2t} is an estimate of total of the same variable of interest, obtained from the 2nd time point.

M_t is an estimate of movement of the total of the variable of interest from the 1st time point to the 2nd time point i.e. $M_t = Y_{2t} - Y_{1t}$

Standard error of movements continued

11 For total kilometres travelled by type of vehicle from the 1999 and 2000 SMVUs, the standard errors of the movements and the estimates from which they are derived are shown below.

STANDARD ERROR OF THE MOVEMENT OF TOTAL KILOMETRES TRAVELLED

	1999	*RSE (1999)*	*2000*	*RSE (2000)*	*Movement*	*SE (Movement)(a)*
	millions	%	millions	%	millions	millions
Passenger vehicles	137 885	2.85	138 725	2.91	840	5 635
Motor cycles	1 003	9.59	1 167	8.48	164	138
Light commercial vehicles	24 986	3.72	27 136	2.72	2 150	1 187
Rigid trucks	6 382	2.68	6 415	4.03	33	310
Articulated trucks	5 262	2.65	5 331	2.76	69	203
Non-freight carrying trucks	274	18.35	254	16.83	–20	66
Buses	1 843	3.60	1 754	5.63	–89	119
Total	**177 635**	**2.27**	**180 782**	**2.27**	**3 147**	**5 756**

(a) Calculated on unrounded data.

12 For example, the standard error for the movement from the 1999 to the 2000 SMVU of the estimates for total kilometres travelled for all passenger vehicles registered in Australia is 5,635 million kilometres. Since the magnitude of the movement between the estimates of 840 million kilometres is less than twice the standard error for the movement, the ABS cannot say with 95 percent (19 chances in 20) confidence that the movement is significantly different from zero. Note that almost all of the movements from the 1999 to the 2000 SMVU are within two standard errors of the movement and are therefore not significantly different from zero.

NON-SAMPLING ERROR

13 Non-sampling error covers the range of errors that are not caused by sampling and can occur in any statistical collection whether it is based on full enumeration or a sample. For example, non-sampling error can occur because 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.

14 Concerns about non-sampling error in previous surveys, most notably recall bias by providers, led to the introduction of a new collection methodology for the 1998 SMVU (refer *Survey of Motor Vehicle Use, Australia, 12 months ended 31 July 1998* (Cat. no. 9208.0)). While the new collection methodology has resulted in an overall improvement in SMVU estimates, some data quality issues remain and these are described below.

15 The ABS introduced a "pre-advice" methodology in the SMVU from August 1997 to improve the quality of its estimates of motor vehicle use. The methodology, in which vehicle owners receive early advice about their inclusion in the survey, encourages a higher degree of record keeping about the use of the vehicle during the survey period, either within owners' systems or by using the worksheet provided. This reduces the reporting errors arising from inaccurate recollection of use identified as a deficiency in the previous collection

NON-SAMPLING ERROR *continued*

methodology. In addition, the reporting of odometer readings taken at the start and end of the survey periods (approximately three months apart) provides more reliable estimates of total distance travelled without the recall bias inherent in the previous methodology. For the 2000 SMVU, 76% of providers reported two odometer readings. This compares with 67% for the 1998 SMVU and 70% for the 1999. Where odometer readings were not provided, the total distance travelled was based on the reported distance travelled.

16 A further indicator of improved data quality has been the reduction in the reporting of 'rounded' data for total distance travelled for the 1998, 1999 and 2000 SMVUs. Such rounding could cause significant errors, especially with the prevalence of certain distances which could be seen as arbitrary guesses on the part of the provider. Distances considered to be rounded are every 1,000 km in the range 1,000km up to 10,000km and every 5,000km for distances over 10,000km. The proportion of 'rounded' responses for total distance travelled for both the 1998 and 1999 SMVUs was 6%. For SMVU 2000, 4% of responses for total distance travelled were rounded. This is a significant improvement on the 1991 and 1995 SMVUs where the comparable figures were 50% and 23% respectively.

Response and non-response

17 A potentially important factor relating to non-sampling error is the response rate achieved. When vehicles found to be deregistered or out of scope are removed, the live response rate for the 2000 SMVU is 79%.

18 The ABS makes all reasonable efforts to maximise response rates. Where appropriate, mail reminders and telephone follow-up are used to attempt to contact initially non-responding vehicle owners. SMVU non-response predominately occurs because the ABS is unable to trace the vehicle selected or the owner will not or cannot complete the form.

19 A large non-response increases the potential for non-response bias, which occurs if the usage patterns of the non-responding vehicles differ significantly from those of the responding vehicles. For the SMVU, it is assumed that the characteristics of non-responding vehicles including the proportion of deregistered, out of scope and nil use vehicles are the same as for responding vehicles. Adjustment occurs to the 'weights' (the factors which expand the sample data to obtain estimates for the population) allocated to the respondent vehicles to allow for non-responding vehicles.

Response and non-response continued

RESPONSE AND NON-RESPONSE, BY CATEGORY

	Percentage of selections
Response received	
Registered vehicle	75
Unregistered vehicle(a)	6
Non-response	
Untraceable - mailing address unknown	7
Other(b)	12
Total selections	**100**

(a) Includes deregistrations, out of scope and duplicates.
(b) Includes responses that were unusable because of unresolved queries or where the vehicle was sold during the reference quarter and the reported data covered less than 14 days; and non-response where no listing could be found to enable contact by telephone, owner contacted by telephone but response still not secured and refusals.

Imputation

20 The need for imputation of unfilled items on the returned questionnaires, as for previous surveys, remained quite high. Imputation is the process whereby a value is generated for missing data items by averaging the responses for similar vehicles which were operating for the reference period. Of the questionnaires returned, 14% of those reporting some vehicle use needed imputation of one or more items apart from the average rate of fuel consumption. The imputation for average rate of fuel consumption was 25%.

Adjustments

21 The SMVU measures the use of all vehicles registered during the reference year. Because selections are taken from vehicles registered some time before the beginning of each collection period, adjustments were made to account for the use of vehicles which were not in the population from which the survey samples were taken but which were registered during the reference period of the survey. This involved two categories:

- re-registrations
- new motor vehicles.

22 At the Australian level, the adjustment for vehicles being re-registered accounted for approximately 1% of total distance travelled for all vehicles. For rigid and articulated trucks the adjustment was slightly higher at 2% for rigid trucks and 3% for articulated trucks.

23 New vehicles were accounted for in two ways for the 2000 SMVU, i.e.

- imputation for vehicles that did not have a chance of selection; and
- the addition of new motor vehicles to the population from which the sample was drawn.

24 For the first two quarters, adjustments were made based on the methodology used in the previous two SMVUs. This adjustment involved imputing usage for new vehicles using averages from newer vehicles responding to the survey.

25 A sample of new vehicles was added to the survey population from the third quarter of SMVU 2000. As a result of including this sample, the level of adjustment required for new vehicles was reduced in the last half of the survey period. The following table shows the contribution of adjustments made for vehicles that did not have a chance of selection in the survey.

Adjustments continued

CONTRIBUTION OF ADJUSTMENTS FOR NEW VEHICLES REGISTERED AFTER SELECTION DATES(a)

	PERCENTAGE OF TOTAL KILOMETRES TRAVELLED		
Type of vehicle	*1998*	*1999*	*2000(b)*
Passenger vehicles	11	11	8
Motor cycles	16	13	11
Light commercial vehicles	13	13	8
Rigid trucks	9	11	7
Articulated trucks	15	15	9
Non-freight carrying trucks	11	5	13
Buses	10	10	6
Total	**11**	**12**	**8**

(a) Based on data from New Motor Vehicle Registrations, Australia, Preliminary (Cat. no. 9301.0).

(b) Excludes new motor vehicles that were added to the survey population.

26 The effect on the estimates of including new motor vehicles in the survey population was not statistically significant for SMVU 2000. The impact on total distance travelled at the Australia level was estimated to be 1% higher than would have resulted if the adjustment process used in previous years was applied.

27 Users should contact the ABS if they have any queries on the quality and reliability of estimates for particular purposes.

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 semi-trailer.

Average load carried Average load carried is calculated by dividing the total weight of loads carried by the number of trips made while carrying a load.

B-Doubles A B-Double combination consists of a prime mover towing two semi-trailers. The first trailer includes a turntable which links to the second trailer, rather than using a dolly to link the trailers as in road train configurations.

Buses Motor vehicles constructed for the carriage of passengers. Included are all motor vehicles with 10 or more seats, including the driver's seat.

Business kilometres Distance travelled for hire and reward, or charged to a business expense, or for which an allowance was received. All distances travelled for business purposes, irrespective of actual use, and irrespective of vehicle type, are included in 'total business kilometres'. The 'laden–unladen' dissection of distance travelled for business purposes relates only to freight vehicles, i.e. light commercial vehicles, rigid trucks and articulated trucks.

Capital city These areas are based on capital city Statistical Divisions as defined in the *Australian Standard Geographical Classification* (ASGC) 1996.

- Sydney — this includes the area bounded by Gosford and Wyong; Hawkesbury and Blue Mountains; Campbelltown, Wollondilly and the Sutherland Local Government Areas.
- Melbourne — this includes the area bounded by Werribee, Melton, Sunbury, Craigieburn, Whittlesea, Healesville, Warburton, Berwick, Pakenham and the whole of Mornington Peninsula.
- Brisbane — this includes the area bounded by Caboolture, the eastern part of the Pine Rivers Shire, Redcliffe City, Redland Shire, Beenleigh, Logan City and the City of Ipswich.
- Adelaide — this includes the area bounded by the Gulf of St. Vincent, the Gawler River and the Mount Lofty Ranges from Gawler to Bridgewater through Kangarilla and Willunga to Sellicks Beach.
- Perth — this includes the area bounded by Yanchep and Bullsbrook; Warnbro, Keysbrook and Wooroloo.
- Hobart— this includes the area bounded by New Norfolk; Sorell and Carlton Creek; Brighton and Snug.
- Darwin — this includes Darwin and suburbs, Palmerston and other areas north of the Howard Springs turn-off.
- Canberra — this includes all of the Australian Capital Territory.

Commodity carried The publication of commodities carried is based on the 10 sectional groupings of the Australian Transport Freight Commodity Classification (ATFCC), with the addition of 'Tools of Trade'.

Dolly A device intended to link two semi-trailers or a rigid truck and a semi-trailer.

Freight vehicles Consists of light commercial vehicles, rigid trucks and articulated trucks.

Fuel consumption Total fuel consumption is calculated by adding the product of total kilometres travelled and reported average fuel consumption for each vehicle. The average rate of fuel consumption is calculated by dividing the total fuel consumption by total kilometres for each vehicle type.

Gross Combination Mass (GCM) Tare weight (i.e. unladen weight) of the motor vehicle and attached trailers, plus their maximum carrying capacity. In the survey, this was obtained for vehicles operated in combination (e.g. a prime mover/semi-trailer combination, or a rigid truck/trailer combination).

Gross Vehicle Mass (GVM) Tare weight (i.e. unladen weight) of the motor vehicle, plus its maximum carrying capacity. In the survey, this was obtained for buses and rigid trucks not usually towing trailers.

Interstate This refers to any travel by vehicles outside their State or Territory of registration.

Light commercial vehicles Motor vehicles constructed for the carriage of goods and which are less than or equal to 3.5 tonnes GVM. Included are utilities, panel vans, cab-chassis and goods carrying vans (whether four-wheel drive or not).

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. ambulances, cherry pickers, fire trucks and tow trucks.

Other Urban Areas These are based on the Australian Standard Geographical Classification (ASGC) 1996 as being either Statistical Districts with a population greater than 40,000 or clusters of collection districts and other urban areas with a population greater than 40,000, based on the 1996 Population Census.

New South Wales — within the areas of Newcastle, Wollongong, Bathurst-Orange, Maitland, Albury (excluding Wodonga), Wagga Wagga, Tweed Heads (excluding Gold Coast), Queanbeyan (excluding Canberra ACT), Lismore, Coffs Harbour, Greater Taree, Shellharbour, Cessnock, Nelson Bay, Port Macquarie and Nowra.

Victoria — within the areas of Geelong, Ballarat, Bendigo, Wodonga (excluding Albury), Shepparton and Mildura.

Queensland — within the areas of Gold Coast (excluding Tweed Heads), Sunshine Coast, Bundaberg, Rockhampton, Mackay, Townsville, Cairns and Toowoomba.

Tasmania — within the areas of Launceston, Burnie, Devonport, Penguin, Ulverstone, Wynyard and Latrobe.

This category is not applicable in South Australia, Western Australia, the Northern Territory and the Australian Capital Territory.

Passenger vehicles Motor vehicles constructed primarily for the carriage of persons and containing up to nine seats (including the driver's seat). Included are cars, station wagons, four-wheel drive passenger vehicles, passenger vans or mini buses with fewer than 10 seats and campervans.

Prime movers Motor vehicles constructed primarily for towing semi-trailers. Prime movers have no significant load carrying area but are fitted with a turntable for linking to a semi-trailer.

Recall bias A bias that occurs if the results are distorted in one direction because providers cannot remember whether or when events of a given type occurred, resulting in omitting events, incorrectly placing events in time or reporting events that never took place.

Rigid trucks Motor vehicles exceeding 3.5 tonnes GVM, constructed with a load carrying area. Included are normal rigid trucks with a tow bar, draw bar or other non-articulated coupling on the rear of the vehicle.

Road trains Motor vehicles comprising a prime mover hauling two or more trailers and employing a dolly or a rigid truck hauling two or more trailers.

RSE Relative standard error. The standard error expressed as a percentage of the estimate to which it refers.

Semi-trailer Trailers designed to impose a substantial load on the towing vehicle, usually via a turntable on a prime mover.

State/Territory of registration The State or Territory motor registry at which a vehicle is registered, except for vehicles registered by DAS Fleet which are recorded in the State or Territory of the agency that operates the vehicle.

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.

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 transhipment occurs (i.e. the transfer of goods and freight from one vehicle to another).

Travel to and from work The travel between place of residence and place of work at the beginning and end of all working days, including travel to and from public transport stations.

FOR MORE INFORMATION...

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