16   Infrastructure

Overview

This chapter provides information relating to the transport industry: road, rail, air and sea, including data on public transport, road traffic accidents, motor vehicle registrations and drivers' and riders' licences. Information is also provided about domestic telephone communication and household use of computer and peripheral equipment.

Transport

In Victoria, an extensive transport infrastructure is supported by both government and business. Road, rail, air and sea transport modes are all critical to the movement of freight and people for commercial and domestic purposes.

Road network

VicRoads maintains a comprehensive highway and freeway network across Victoria. National highways within Victoria are the Hume Freeway, the Western Freeway and Highway, the Sturt Highway between the South Australian border and Mildura, and the Goulburn Valley Highway between Seymour and the New South Wales border at Tocumwal. These national highways are fully funded by the Commonwealth. A lower level of Commonwealth funding is provided for roads of national importance, such as the Calder Highway from Melbourne to Mildura. Local government is responsible for maintaining most local roads.

In the metropolitan area, VicRoads is continuing work designed to link the Western Ring Road across the northern suburbs through Thomastown to Greensborough. This work involves bridge and interchange work with other major roads. The Western Ring Road, which opened between the Princes Highway and Hume Highway in 1997, has resulted in large traffic movements along this new road and an increase in economic activity in the suburbs it serves. Completion of bridge and interchange work on the major south-eastern route out of Melbourne has resulted in that road being upgraded to freeway status. Other major work for which planning is underway include a further extension of the Eastern Freeway to Ringwood, and an environmental effects statement for the Scoresby Freeway corridor.

In country areas, major freeway work has been completed between Diggers Rest and Gisborne, and the Kyneton and Ballarat bypasses have been completed. In addition, sealing of the final section of the Great Alpine Road at Mt Hotham was completed, opening up a fully sealed tourist drive from Wangaratta, across Victoria's high country, through to East Gippsland. Work underway includes a bypass of the Black Forest and Woodend on the Calder Freeway, and planning for a dual carriageway bypass of Shepparton is progressing.

16.1   ROADS

Road type	Kilometres
Declared roads (at January 1998)	
National highways	1 018
State highways and freeways	6 747
Main roads	12 693
Tourist roads	1 480
Forest roads	311
Total declared roads	*22 249*
Other roads (at 30 June 1997)	
Sealed roads	52 138
Formed and surfaced roads	51 078
Natural surface	25 289
Total other roads	*128 505*
Total roads open for traffic	**150 754**

Source: VicRoads, Information Services Department.

City link

Melbourne City Link is being developed to link existing unconnected freeway services around inner Melbourne. A private consortium has been contracted to develop the project under a build, own, operate and transfer arrangement with the entire project handed over to the Government after 34 years of operation by the consortium. Tolls will be levied for use of the City Link roads.

Work on the City Link has progressed during 1998. The new 30 metre high bridge over the Yarra River at the western end of Victoria Dock has been joined, and the elevated roadway from the Tullamarine Freeway to the junction with the West Gate Freeway is structurally complete. Tunnelling work for the Southern Link is well advanced, with the shorter tunnel bore complete and the longer of the two expected to be completed on time. The bridge extending Exhibition Street, City, over the Flinders Street rail precinct is also underway. This bridge will channel some city traffic onto the City Link and also provide a new inner city route for the City–Wattle Park tram service.

Public inspections of progress on major City Link projects have been a feature of the development.

Motor vehicle registrations and drivers licences

There were a total of 3,038,696 motor vehicles (excluding motor cycles) registered in Victoria on 31 October 1997, an increase of 2.2% over the previous year. In addition there were 80,271 motor cycles registered, an increase of 4.0% over 1996. Passenger vehicles, excluding buses, were the largest single category of vehicles with 2,521,814 registered. This represented 545 passenger vehicles per 1,000 people in Victoria.

16.2   DRIVERS' AND RIDERS' LICENCES—30 June(a)

Type of licence	1992	1993	1994	1995	1996	1997(b)	1998
Drivers'	2 826 735	2 855 904	2 873 252	2 894 132	2 928 250	2 981 882	3 055 847
Riders'	165 825	172 357	174 747	179 080	186 154	194 621	204 332
Total	**2 922 560**	**3 028 261**	**3 047 999**	**3 073 212**	**3 114 404**	**3 176 503**	**3 260 179**

(a) Licence holders may hold both a drivers' and a riders' licence and be counted in both categories. (b) 1997 data are for 16 July.
Source: VicRoads, Information Services Department.

Road accidents

Road traffic accident fatalities and injuries on Victorian roads have continued to decline in recent years (table 16.3). Fatalities have decreased almost 10% from a total of 418 in 1995 to 377 in 1997. Similarly, injuries have decreased from 6,124 to 5,764 for the same period. The only significant classes of road users to increase were incidents injuries to pedal cyclists (from 309 in 1995 to 363 in 1997) and motor cyclists (608 to 677).

Transport Accident Corporation (TAC) funded television advertisements are given credit for the significant reductions in road trauma, together with police and TAC strategies designed to reduce the incidence of speeding and driving under the influence of alcohol. TAC funding has also been applied to the elimination of many accident prone areas on Victoria's roads.

16.3   ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES

	1994		1995		1996		1997	
Type of road user	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Drivers of motor vehicles	169	2 684	187	2 907	198	2 793	159	2 701
Motor cyclists	41	697	41	608	35	588	37	677
Passengers (any type)	93	1 509	95	1 480	94	1 457	95	1 315
Pedestrians	64	779	82	808	76	r851	78	689
Pedal cyclists	11	363	11	309	13	341	8	363
Other	—	13	2	12	1	30	—	19
Total	**378**	**6 045**	**418**	**6 124**	**417**	**6 060**	**377**	**5 764**

Source: VicRoads, Information Services Department.

Rail

Victoria's Public Transport Corporation through its constituent businesses, Hillside Trains and Bayside Trains, operate rail services in suburban Melbourne. Private companies operate passenger train services to Shepparton and Warrnambool, and V/Line Passenger provides the remainder of Victoria's country passenger rail services. The Victorian Government plans to further privatise public transport service provision during 1999.

Intrastate freight rail services, currently operated by V/Line Freight, are expected to be the first of the public transport services to be privatised in 1999. Interstate rail freight services are provided by National Rail Freight Corporation and a number of freight-forwarding companies such as SCT, Toll, and Patricks.

Buses

Melbourne is serviced by 200 bus routes with approximately 1,300 privately owned buses operating throughout the entire metropolitan area. There are approximately 300 million passenger journeys on buses in the Melbourne metropolitan area. The metropolitan bus network primarily acts as a connecting and feeder bus system to the rail and tram networks and to suburban shopping centres. Buses provide the initial public transport services to newly developed areas on the metropolitan fringe.

Bus services also operate in other major urban centres and throughout country Victoria. A total of 300 buses service these areas, and inter-town services operate on routes which were previously rail connections.

Trams

The Melbourne tramway and light rail network is the fourth largest operating in the world. Melbourne is the only Australian city to retain a comprehensive tramway network and major route expansions involving new infrastructure have been opened in recent years. A modern fleet of 537 trams operate on the network, of 240 kilometres around Melbourne and suburbs, under the management of Swanston Trams and Yarra Trams. Refurbished historic W-class trams operate on selected tourist routes. A free city circle route utilising distinctively painted W-class trams was commissioned during 1994, and now carries over three million passengers per year. Three unique restaurant trams operate in the inner suburban area.

Heritage

Preservation groups operate transport museums in and around Melbourne. Rail museums are located at North Williamstown and Menzies Creek and a tramway museum is located at Bylands, north of Melbourne. The historic tram collection of the Public Transport Corporation is housed at a former tramway depot at Hawthorn which is expected to open for inspection during 1999. Operating historic tramways are located in the provincial centres of Ballarat and Bendigo.

The Puffing Billy narrow gauge steam train service operates in the scenic Dandenong Ranges, east of Melbourne. The length of track available for the Puffing Billy service was almost doubled during 1998, when an extension to Gembrook was opened.

A number of heritage rail services are also operated in Victoria, many using restored steam locomotives on lines maintained specifically for the heritage services. Examples of these are located at Queenscliff, Maldon, Korumburra and Daylesford. Special steam-hauled excursion services also operate on the main rail network during the cooler months.

Air

Victoria's major airport, Melbourne Airport, is located at Tullamarine, 22 kilometres north-west of Melbourne's Central Business District. It is conveniently accessed by the Tullamarine Freeway. The airport is privately operated by a majority Australian-owned company with headquarters in Melbourne.

Melbourne Airport is the only major Australian airport with both domestic and international terminals located under the one roof, providing convenient passenger transfers and reducing airline costs. The airport is open twenty-four hours a day for aircraft movements.

In 1997–98, the total number of domestic and regional passenger movements was 11,331,637 and international passenger movements 2,563,164. There were 137,752 regular public transport aircraft movements over the year, with 29 airlines using the airport. The total freight and mail handled through Melbourne Airport in 1997–98 was 339,643 tonnes (200,409 tonnes international and 139,234 tonnes domestic).

Development of the airport has continued over the past year as work continues on an extension of the northern domestic terminal, to provide capacity for 10 additional aircraft. Further work planned on the landside of the terminal for the coming year includes a new retail development. A new five-star hotel is also planned for the car park area of the airport.

16.4   MELBOURNE AIRPORT (TULLAMARINE) PASSENGER MOVEMENTS

	Units	1991–92	1992–93	1993–94	1994–95	1995–96	1996–97
Domestic and regional passenger movements	'000	8 442	8 467	9 012	10 064	10 829	11 072
International passenger movements	'000	1 754	1 789	1 872	1 931	2 095	2 421
Total freight and mail	tonnes	172 230	183 218	199 527	226 675	233 284	340 000
Regular public transport aircraft movements	no.	110 530	119 862	118 503	128 637	133 980	n.y.a.

Source: Australian Pacific Airports Melbourne Pty Ltd.

Ports and shipping

Victoria has major ports handling cargo at Melbourne, Geelong, Portland and Hastings, of which all but Melbourne are privately owned and operated. The Victorian Government has made a strategic decision to retain ownership of the Port of Melbourne, but has corporatised the operations of the port and separated some of the service provision activities from the port operator. Management and maintenance of the channels, lights, etc. is the responsibility of the Victorian Channels Authority. The Marine Board of Victoria has responsibility for regulatory enforcement.

Cargo and freight services

During the 1997–98 financial year, the Port of Melbourne had a total of 2,912 ship visits and handled 18.8 million mass tonnes of cargo. Melbourne handles about 38% of Australia's containerised trade, and is the first Australian port to handle over one million containers in one year. Major products handled through the Port of Melbourne are crude oil and petroleum products, foodstuffs, miscellaneous manufactured articles, paper and paperboards, chemicals, transport equipment, and iron and steel. The port has a direct workforce of 8,500, and total trade is valued at $52.3 billion per year.. To cater for continuing growth in trade, Melbourne Port Corporation is planning the expansion of existing facilities as well as construction of new terminals which will attract investment of over $300 million.

The Port of Geelong was visited by 480 vessels during 1997–98, for a total mass tonnage of 9,943,607 tonnes. Main products handled were petroleum products, grain, woodchips, fertiliser and fertiliser materials, alumina, steel and iron and bulk liquid. Developments at the Port of Geelong over the year were centred on the bulk grain terminal, with a major upgrade at the K V Warren facilities. Improvements to the pier, ship loading and conveyor facilities resulted in expanded capacity, and the opportunity to diversify into alternative bulk commodities such as woodchips and mineral sands. Ship loading rates have been doubled.

Western Port is a deepwater port located approximately 60 kilometres south-east of Melbourne. It has five main berths, two of which are dedicated to the steel industry, two to the petroleum industry and one for lay-up purposes for vessels under repair. The total number of vessels visiting the port in 1997–98 was 189 including three ships which visited to anchor only. The total tonnage handled through the port in 1997–98 was 6,138,000 tonnes, an increase of 750,000 tonnes over 1996–97. The majority of ship visits and tonnage was for the coastal trade, with steel and petroleum products being the only products handled.

Located in the far west of the State, Portland has six berths, one of which is dedicated to shipments to and from the nearby aluminium smelter. Portland is a bulk shipment port, originally established for shipping export grain from western Victoria. The port has diversified in more recent years with woodchips, alumina, aluminium ingot, logs and live animals being handled through the port in significant volumes. Total trade through the port decreased by almost 10% between 1996–97 and 1997–98, to more typical levels, following a very busy year in 1996–97, when a large harvest resulted in very high grain exports. Total ship visits in 1997–98 were 241, with total trade of 3,300,535 tonnes.

16.5   SHIP VISITS AND TRADE

	1994–95		1995–96		1996–97		1997–98	
	Ship visits	Mass tonnes	Ship visits	Mass tonnes	Ship visits	Mass tonnes	Ship visits	Mass tonnes
Port	no.	'000	no.	'000	no.	'000	no.	'000
Geelong	363	7 213	406	8 050	461	9 724	480	9 944
Hastings	251	6 943	202	5 083	175	5 388	189	6 138
Melbourne	2 692	15 789	2 767	17 844	2 882	18 563	2 912	18 800
Portland	173	2 710	189	3 189	244	3 654	241	3 301
Total	**3 479**	**32 655**	**3 564**	**34 166**	**3 762**	**37 329**	**3 822**	**38 183**

Source: Melbourne Ports Corporation; Toll Geelong; Toll Western Port; Port of Portland Pty Ltd.

Passenger services

Station Pier is Victoria's sea passenger terminal, with three berths accommodating the Tasmanian services, cruise ships, navy ships and training/tall ships.

Tasmanian services were operated by the Spirit of Tasmania, the Devil Cat and TasCat during 1997–98. They recorded an increase in the number of voyages to 438 during 1997–98, and carried record numbers of passengers (314,232) and cars (111,400) between Melbourne and Tasmania. Facilities for the Tasmanian services are located at the Inner East Berth at Station Pier.

Victoria's dedicated cruise-ship facility is located at the Outer Berths. Both the outer west berth and the passenger terminal are newly refurbished, providing an international standard facility for the increasing number of cruise-ships visiting Melbourne. The 1998–99 season will see a record 25 cruise-ships bring a estimated 35,000 visitors to Melbourne.

Station Pier is open for public access and is used by fishermen and other recreational users. Current studies of the pier and development of a cruise shipping strategy will see further improvements to the pier to meet the needs of all pier users. A Melbourne Cruise Ship Committee has been established by Government and industry to monitor and coordinate the activities of all stakeholders in the industry.

Communications

Communications technology and the communications industry have undergone significant change over the past decade, with the extension of satellite technology, growth of personal computer usage and, in the last few years, the advent of the Internet and World Wide Web.

Recent studies of personal and household use of computers and communications technologies (such as the mobile phone) confirm Australia's reputation as a major user of new technologies.

Communication technology

According to two surveys conducted in February and May 1998, nearly 94% of Victorian households had a fixed telephone connected, more than 44% had mobile phones and almost 30% had a cordless phone. Answering machines were in about 37% of Victorian households and facsimile machines in almost 14%.

Household use of computers has grown from 23% of Australian households in February 1994 to just over 37% in the 1998 surveys. In Victoria, 664,000 households (over 39%) owned or were paying for a computer and 206,000 (over 12%) enjoyed pay TV.

16.6   HOUSEHOLDS OWNING/PAYING FOR SELECTED COMMUNICATIONS TECHNOLOGIES—February–May 1998(a)

	Victoria		Australia	
	'000	%	'000	%
Fixed telephone connected	1 574	93.5	6 249	92.2
Mobile phone	746	44.3	2 877	42.5
Computer	664	39.4	2 524	37.2
Answering machine	624	37.1	2 251	33.2
Cordless phone	486	28.8	1 972	29.1
Dedicated games machine	376	22.3	1 530	22.6
Facsimile machine	231	13.7	1 048	15.5
Pay TV(b)	206	12.2	694	10.2
Voice mail	171	10.1	626	9.2
Car phone	95	5.7	365	5.4
Pager	55	3.3	224	3.3
None of the above	25	1.5	143	2.1
All households	**1 684**	**100.0**	**6 777**	**100.0**

(a) Results are based on aggregates of two surveys. (b) Pay TV services are not widely available in all areas of Australia.

Source: Unpublished data, Household Use of Information Technology collection.

In 1998, over 89% of Victorian households owning or paying for computers also used a printer. CD-ROM drives were in over 73% of these households and modems in over 45%. In Victoria, almost 14% of all households (about 233,000) were accessing the Internet.

16.7   USE OF PERIPHERAL INFORMATION TECHNOLOGY EQUIPMENT, By Households—February–May 1998(a)

	Victoria		Australia	
	'000	%	'000	%
Printers	574	89.4	2 157	89.0
CD-ROM	473	73.6	1 793	73.9
Modems	291	45.3	1 168	48.2
Character or image readers and scanners	106	16.6	426	17.6
Digitally versatile discs	64	9.9	180	7.4
All households where a computer is used	**664**	**100.0**	**2 524**	**100.0**

(a) Results are based on aggregates of two surveys.

Source: Unpublished data, Household Use of Information Technology collection.

Computer activity

In Victoria, over 32% of persons five years or over (about 1,356,000) frequently used a home computer in 1998. Playing computer games was the main activity of these persons (58.7%) followed closely by learning and study activity (56.8%). Work-related activities and keeping personal or family records or correspondence were the next two activities at 39.0% and 34.0% respectively.

16.8   HOME COMPUTER ACTIVITIES OF PERSONS 5 YEARS AND OVER—February–May 1998(a)

	Victoria		Australia	
Activity	'000	%	'000	%
Playing computer games	796	58.7	2 995	57.9
Learning/study activities	770	56.8	2 908	56.2
Work-related activities	529	39.0	1 987	38.0
Keeping personal or family records or correspondence	461	34.0	1 680	32.5
Internet-based activities	302	22.3	1 264	24.4
Accessing other on-line services, databases or bulletin boards	77	5.7	320	6.2
Other	28	2.1	132	2.6

(a) Results are based on aggregates of two surveys.

Source: Unpublished data, Household Use of Information Technology collection.

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