

TRANSPORT

TRANSPORT PORTFOLIO

The *Transport Act* 1983 received Royal Assent on 23 June 1983. The Act gave effect to the Victorian Government's policy for the rationalisation, planning, and control of transport in Victoria, and came into operation on 1 July 1983. The Act marks the first time that there has been a major revision to transport legislation since the founding legislation, which in the case of the railways went back to the last century.

The Act provided for the abolition of previously existing transport authorities (the Country Roads Board, the Melbourne and Metropolitan Tramways Board, the Melbourne Underground Rail Loop Authority, the Metropolitan Transit Council, the Motor Registration Branch, the Railway Construction and Property Board, the Road Safety and Traffic Authority, the Transport Regulation Board, the Victorian Railways Board, and the West Gate Bridge Authority) and for the creation of four new authorities:

- (1) the Metropolitan Transit Authority (MTA) which is responsible for the operation of a metropolitan public transport system using trains, trams, and buses;
- (2) the State Transport Authority (STA) which is responsible for the operation of freight services and country, provincial, and interstate passenger services using all suitable modes of transport;
- (3) the Road Construction Authority (RCA) which is responsible for the construction and maintenance of the road network throughout the State; and
- (4) the Road Traffic Authority (RTA) which is responsible for road safety, traffic signals, and the licensing and regulation of motor vehicles.

The authorities have been structured along private enterprise lines and their functions are detailed in the Transport Act. The reorganisation is designed not only to promote operational efficiency and co-ordination of transport functions, but more importantly to provide a strong orientation towards customer service and market satisfaction, with greater scope for consultation.

The Ministry of Transport continues to be responsible for overall co-ordination, planning, budgeting, strategy development, monitoring and research, in close consultation with the operating and construction authorities. During the two years ended 30 June 1984, the Ministry of Transport has been substantially restructured and the new organisation reflects the desire to operate the Ministry as a corporate transportation headquarters that is responsible for the performance of all Victorian Government transport activities.

The Victorian Transport Directorate (VTD) acts as a corporate management group for transport. It comprises the Minister of Transport, the Director-General of Transport and the Deputy Directors-General, the Managing Directors of the four Authorities, a nominee of the Treasurer, and such other persons as the Minister may appoint. The VTD is responsible for the implementation and review of transport policy, the allocation of resources, and the monitoring of operational and financial performance of each of the transport authorities. The Victoria Transport Borrowing Agency (VTBA), established on 6 December 1983, acts as an agency through which borrowings for transport purposes may be obtained.

The Transport Portfolio underwent another major change on 6 September 1983, when responsibility for the Grain Elevators Board was transferred to the Minister of Transport from the Minister of Agriculture, while the Minister of Transport also assumed responsibility for the Port of Melbourne Authority (PMA), the Port of Geelong Authority (PGA), and the Port of Portland Authority (PPA). The administration of the Acts relating to the Ports and Harbors activities of the Public Works

Department had previously been transferred to the Minister of Transport, by virtue of an Order of the Acting Premier on 22 July 1983, and it had been the Government's intention to establish a Victorian Ports Authority to provide a more co-ordinated approach to port development and operational efficiency. However, following the rejection of the Transport (Victorian Ports Authority) Bill in the Legislative Council in 1984, the Ports and Harbors Division of the Ministry will be regionalised under the three existing commercial port authorities: PPA will be responsible for Port Campbell, Warrnambool, and Port Fairy; PGA will be responsible for Apollo Bay, Lorne, Barwon Heads, and Queenscliff; while PMA will be responsible for the remaining bulk of the Ports and Harbors Division's activities.

MINISTRY OF TRANSPORT

The general objective of the Ministry of Transport, as stated in the Transport Act, is to improve the efficiency and effectiveness of transport facilities and networks to meet the needs of the community. The Act specifies numerous functions for the Ministry, relating mainly to the development and co-ordination of the provision of transport services, and to the development and implementation of performance targets, policies, strategic plans, resource budgets, and management processes.

The principal officer in the newly structured Ministry is the Director-General, who reports to the Minister. The Ministry is split into five divisions, each of which reports to a corporate group comprising the Director-General and two Deputy Directors-General. These divisions are:

- (1) Priorities and Planning, with the responsibilities of developing policies and programmes, planning and evaluation of plans and projects, research and development, and freight co-ordination;
- (2) Finance and Resources Budgeting, with the responsibility for co-ordinated development of transport budgets (both capital and current), financial management, and evaluation and accounting policy.
- (3) Personnel and Organisational Development, with the responsibility of developing personnel policy and manpower planning across the Transport Portfolio, and providing guidance in occupational health, welfare, and safety matters;
- (4) Special Projects, undertaking specific tasks and assignments as directed, to achieve an established objective or to address specific issues; and
- (5) Corporate Services, providing internal support services for the Ministry including management, media, personnel, and other specialised services, as well as finance and administrative functions.

In line with government policy, the Ministry's role with regard to planning is to develop and co-ordinate strategic planning for the portfolio, embracing both corporate and system planning. Strategic planning involves the formulation of a set of government actions which will have a significant effect on the quality, quantity, and effectiveness of transport services and facilities, and is particularly concerned with changes in system capacity and levels of service. The Ministry aims to ensure that expenditure within the Transport Portfolio accurately reflects government policy, is efficient and effective, and is responsive to community needs.

Some specific tasks and projects recently undertaken at the Ministry of Transport include the following:

- (1) Discussion paper entitled *Transport Development, Policies and Process* (released for public comment in July 1983) – this paper describes the context in which transport programmes are being developed, and sets out the policy directions and processes for transport improvement. Wide distribution of the paper prompted written submissions from local councils, organisations and individuals, and representations made before a panel appointed by the Minister, at various locations throughout the State.
- (2) *Metropolitan Arterial Road Access Study* – aims to provide guidelines for road access and related public transport, pedestrian and cyclist developments for the next ten years, and to enable them to be integrated with government land-use policies.
- (3) *Central Area Access Study* – aims to identify transport issues related to the Melbourne central business district and its development, and to formulate a transport programme to address these issues.
- (4) *Jolimont redevelopment*. The Ministry has set up an Inter-Departmental Steering Committee to implement plans to decentralise the functions of the Jolimont railyards and redevelop part of the railyard land. The first stage involves relocating stabling yards at Epping. Traffic and road studies are also being conducted to assess the implications of possible new traffic arrangements for the Jolimont site and adjacent areas.
- (5) *Tourist railways*. Submissions have been received from groups interested in establishing tourist railways on railways which have been closed to traffic. The Healesville Railway Co-operative

obtained an Order-in-Council to develop the first stage of its project between Coldstream and Yarra Glen. Proposals for other tourist railways have also been developed.

(6) *Southbank*. The Ministry of Transport is supporting an initiative being undertaken by the Ministry for Planning and Environment to revitalise and redevelop an area immediately south of the Yarra River, bounded by Johnson Street, Westgate Freeway extension, and St. Kilda Road.

(7) Pascoe Vale Road Relief Study.

(8) Submissions to the National Road Freight Industry Inquiry.

The Ministry prepares a range of publications and literature associated with the Transport Portfolio. Details of literature available are set out in the Ministry's *Freedom of Information Statement Part II*, which is available at the Ministry's office.

Financing the transport system

Phased implementation of Program Budgeting began during 1983-84, to better control and co-ordinate the hundreds of different transport tasks handled annually throughout the Transport Portfolio. The Ministry of Transport is responsible for co-ordinating the transport budget, and the new Program Budgeting system will link planning processes, projects, and programmes tightly with the annual budget process, to facilitate better financial control and accountability.

Program Budgeting, in contrast to traditional line-item budgeting, focuses on outputs: the results achieved or the services provided. Programme objectives are first defined, and the major transport services, products, target groups, and individual activities relevant to these objectives are identified. All operations can then be structured by programme elements, beginning with an aggregate policy and ending with specific activities. As a management system for allocating funds and other resources, Program Budgeting will help in:

- (1) developing and translating government policy into programmes;
- (2) setting policy priorities;
- (3) planning and formulating budgets;
- (4) integrating financial and non-financial information; and
- (5) monitoring and reviewing programme effectiveness.

On 6 December 1983, the Victorian Transport Borrowing Agency (VTBA) was established, with the objective of effectively obtaining borrowings for transport in accordance with government policy. The VTBA consists of the Director-General of Transport, a Deputy Director-General of Transport, and the Managing Directors of the State Transport Authority, the Metropolitan Transit Authority, the Road Construction Authority, and the Road Traffic Authority.

The functions of the VTBA, as stated in the Transport Act, are:

- (1) to borrow money for transport purposes in Victoria whether as principal or as agent for any authority;
- (2) to lend any money borrowed by the VTBA as principal to the authorities on such terms and conditions as the VTBA determines from time to time;
- (3) to assist the authorities in the planning and management of their borrowings, including the management of inscribed stock and bond registers; and
- (4) to issue all bonds and to create and issue all inscribed stock issued or created and issued under this Act.

The VTBA has the power to negotiate, enter into, and perform financial arrangements, or other arrangements conducive to the carrying out of these functions.

Metropolitan passenger services

Metropolitan Transit Authority

The Metropolitan Transit Authority (MTA), established on 1 July 1983, provides and manages public transport services for passengers within the Melbourne metropolitan area. The MTA is responsible for metropolitan railway, tramway and government bus operations, and for determining contracts with metropolitan private bus operators. It aims to ensure an integrated public transport system involving all transport modes.

A number of programmes (described below) have been implemented to improve the performance of the metropolitan rail, tram, and bus system, and to increase passenger service. Particular efforts are directed towards overcoming problems in maintaining schedules and vehicle headways, these problems having developed mainly as a result of road traffic congestion.

Twelve Regional Advisory Boards were established by the MTA in 1983-84, to advise on public transport services and needs in their respective regions of the metropolitan area: Moorabbin,

Dandenong, Box Hill, Ringwood, Greensborough, Werribee, St Albans, Broadmeadows, Frankston, Inner West, Inner North, and Inner South-east. The Boards have representatives of users, employees, management, local government, and commercial interests.

Tram services

While many cities around the world have abandoned their tramway systems, Melbourne has retained its trams, which have become a significant asset in moving persons over comparatively short distances, in an area extending up to eighteen kilometres from the central city. Tram patronage is at its highest since 1969. Some 109 million persons travelled by tram in 1982-83, an increase of 5.3 per cent over 1981-82. In 1984, there were 633 trams in operation on thirty-one routes.

Contracts for fifty-two new A Class trams, modified to improve passenger comfort and safety, have been let with Comeng. Several A Class trams were already in operation in 1984, the first being launched in June. The A Class trams see a return to roving conductors and side entrances. The first articulated light rail vehicle began testing on the East Burwood line in early 1985.

In January 1984, tenders were called for the supply of up to 200 new trams, including some light rail vehicles. The first delivery of vehicles is expected at the end of 1985. The total cost of this programme is estimated to be \$140m.

The Government's five year programme to completely renovate the 125 W5 Class trams, built some fifty years ago, is underway. The trams are being progressively renovated at the rate of two per month.

Stage 1 of the East Preston tram route extension was opened in May 1983, and Stage 2, from Preston to Bundoora in January 1985. The whole project is planned for completion by July 1986. In 1982-83, a covered passenger interchange was erected at the corner of Elizabeth and Flinders Streets. A tram-passenger interchange at Domain Road and St Kilda Road is to be funded by the Australian Bicentennial Road Development Program.

The 'Fairway' system, which separates trams from road traffic on major inner city roads, was introduced in October, 1983, with the purpose of reducing tram delays. Separation is achieved by physical means or line marking. The total Fairway system is expected to be completed by 1987-88.

An Automatic Vehicle Monitoring (AVM) system will be introduced on the metropolitan tram and bus network for better operation and timetabling of services. The AVM system will provide a steady flow of data on current conditions along each route, so that services can be rapidly monitored and adjusted. In addition, it will provide better communication and increased security for passengers and crew.

Further references: *Melbourne tramways 1930-1961*, *Victorian Year Book* 1963, pp. 771-2; 1984, pp. 486-7

Bus services

In 1982-83, government bus patronage was 25.72 million, an increase of 9.2 per cent on 1981-82. This was the highest total patronage since 1965. Government-run buses operate on forty-three routes. In 1984, construction was begun on a government bus workshops complex at Northcote, to service the MTA's fleet of 280 buses. The workshops are designed to cater for up to 500 buses, and will complement existing depots at Footscray, Doncaster, and North Fitzroy.

A new bus interchange is to be constructed in the Altona area, where bus services will be improved and timetables co-ordinated; timetable and route information will be made more accessible. Bus lanes on the Eastern Freeway have recently been extended.

The Victorian Government provides financial assistance to private metropolitan bus operators, who numbered fifty-eight in November, 1983. In that year, the operators utilised 766 buses on some 220 routes, to operate peak period services. The cost of subsidising private bus operators in 1983-84 was \$31.7m.

A new contract system with private bus operators is expected to be introduced, for the provision of route bus services in the metropolitan area. Metropolitan bus services will be under contract to the Metropolitan Transit Authority. The contracts are replacing the discretionary licensing system previously administered by the Transport Regulation Board. The Road Traffic Authority will issue route bus licences as contracts between bus operators and the MTA are finalised. The Victorian Government will develop and initiate a major replacement programme for vehicles in the private bus operators fleet.

Following the introduction of the Metropolitan Transit Neighbourhoods with the Met system in 1983, a review of bus services within each neighbourhood has begun. The review will identify and

remove existing deficiencies and inefficiencies in the system, and lead to an overall improvement in service levels. Implementation of the proposed service changes will be undertaken progressively, as the review of each neighbourhood is completed.

Rail services

MetRail is responsible for the management and operation of the rail passenger services in the Melbourne metropolitan area.

Suburban rail patronage has recently shown a slight upward trend, with increases in 1981-82, 1982-83, and 1983-84, reversing the steady decline of the previous ten years or so. Improved service reliability and cleaner and more modern rolling stock are considered to have contributed to the increased patronage. Preventive maintenance programmes and changes to the system for reporting train defects have been given particular attention to improve the on-time running of trains.

A modernisation programme covering almost every element of the suburban rail system is under way.

Track improvements

In June 1984, there were about 340 route kilometres of suburban rail lines on seventeen routes. Following the restoration of night-time and Sunday services on the St Kilda and Port Melbourne lines in May 1982, to their former levels, a Ministry of Transport study of the region was carried out and its findings recommended converting both lines to light rail transit, but at present these lines are still operating as heavy rail.

Rail line expansions include the duplication of tracks from Ringwood to Bayswater (completed in January 1983) and from Ringwood to Croydon (completed in July 1984). Electrification of the eighteen kilometre section of track between Altona Junction and Werribee was completed in November, 1983.

Construction of a third track between Caulfield and Moorabbin, which was commenced some years ago but then deferred due to shortage of funds, is expected to be completed by the end of 1985, at a remaining cost of about \$10m. The project will incorporate major station works at Glenhuntly, Patterson, McKinnon, and Bentleigh stations. The additional track will permit extra express services and further improve reliability.

The Altona line had regular off-peak rail services reintroduced in July 1982 and the line is now being extended to connect with the Werribee line at Laverton. Work on this Altona-Laverton passenger rail line extension was completed early in 1985. The project is part of an integrated package of transport improvements in the Altona area. A new station is being built at West Altona, and three level crossings are being constructed in the area as part of the boom barrier programme.

In addition to these extensions to the rail network, a major track upgrade programme across the whole suburban system has been commenced. It includes the welding of rails to provide continuous welded rail, the replacement of the existing rail at all track crossings with heavier (60 kilogram per metre) gauge rail, the reconditioning of road-rail level crossings by the installation of new sleepers and removable concrete paving slabs, and the improvement of drainage, ballast, and sleepers on track through stations. This upgrade programme will extend over ten years at an estimated cost of some \$50m in 1983 values.

Railway stations and property

The Box Hill modal interchange development was completed and opened in 1984, and the Flinders Street Station Redevelopment was commenced in 1984. A programme to provide additional commuter carparking at suburban rail stations has been in progress for several years, and in some cases provision is also being made for bus and taxi facilities.

The station buildings too are being renovated. Many of the older stations are of timber construction and in need of repair; where appropriate, they are being replaced with modern facilities. Forty-six stations have recently undergone minor renovation; the work involved landscaping, painting, cleaning and removing graffiti, and door, window, and toilet repairs. In addition, Camberwell, Footscray, Boronia, and Hawthorn stations have been designated for investigation of their potential for rebuilding or redevelopment, as case study stations incorporating community facilities. Work on Boronia station started in August 1984, and the first stage is expected to be completed early in 1985; work on Hawthorn station is due for completion by mid-1985.

The Jolimont railyards and maintenance workshops are to be progressively decentralised to the routes they service, to make way for major development appropriate to the central area. Rail services and on-time running will improve as stabling and service centres are relocated. Surplus rail land in



Falls Creek, located above the snowline on the perimeter of the Bogong High Plains, is a popular ski resort in Victoria.

Victorian Tourism Commission

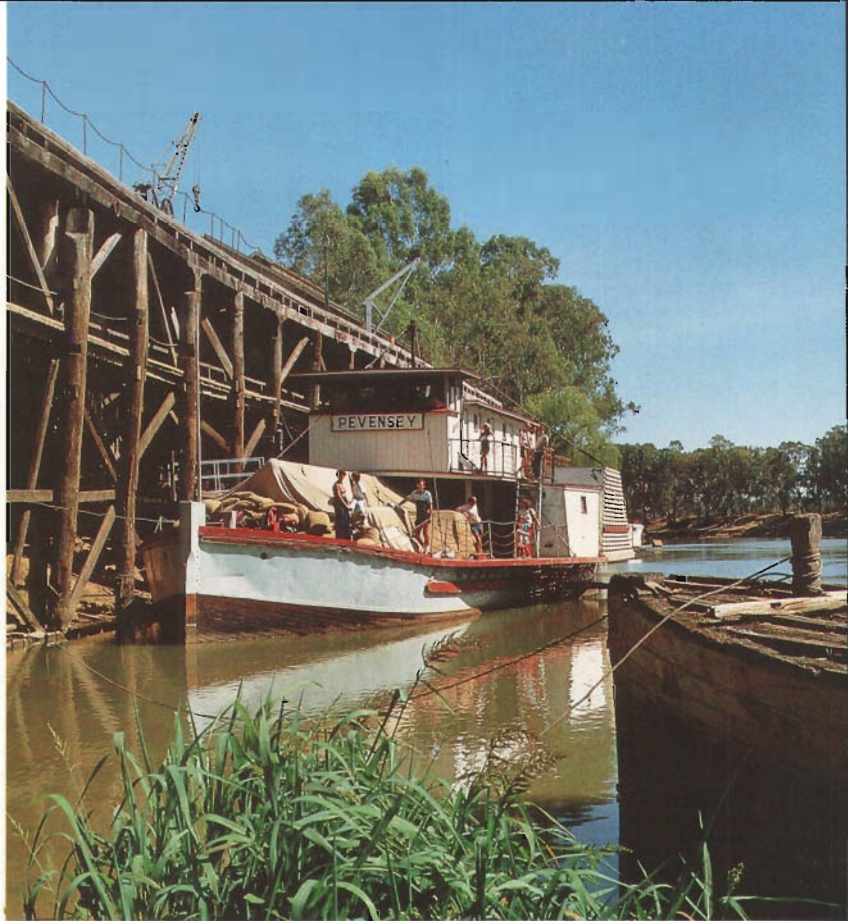


The 'Twelve Apostles' rock formation in the Port Campbell National Park.

Victorian Tourism Commission

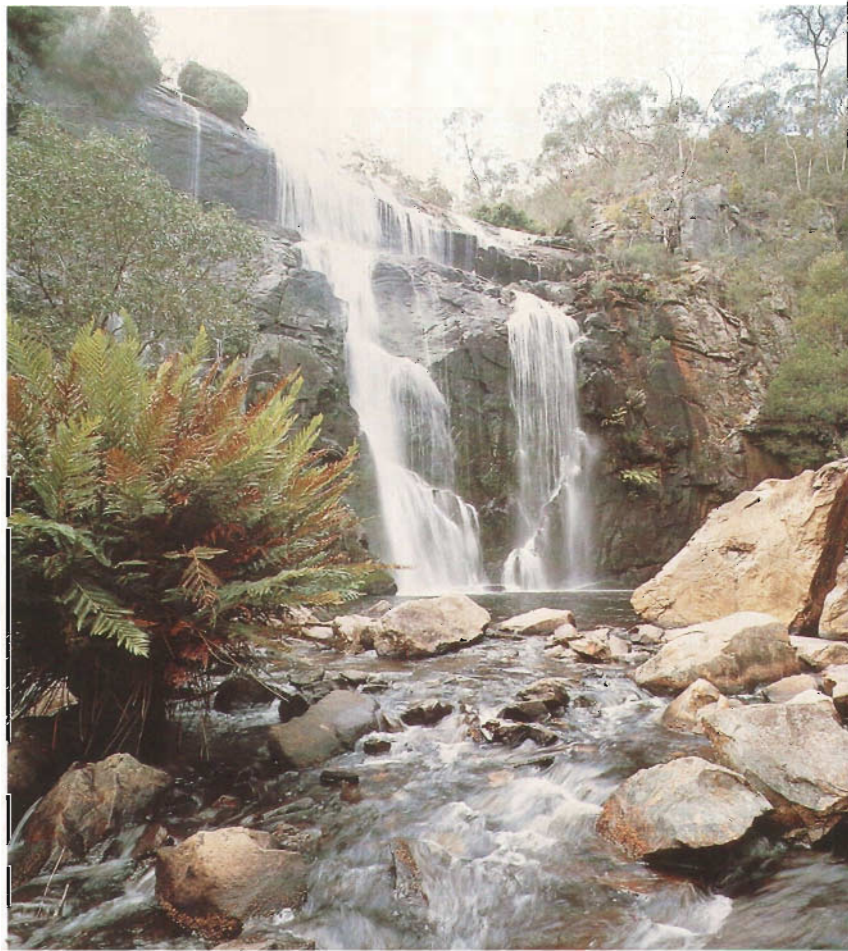
PS *Pevensey*, a restored cargo boat moored at the Echuca Wharf on the Murray River. The Wharf, built in 1865 of river red gum, was the centre of port activity in Echuca during the days of the river boat trade from 1864 to 1900.

Victorian Tourism Commission



McKenzie Falls in the Grampians, western Victoria. The rugged ranges of the Grampians are renowned for their wildflowers, lakes, and unusual rock formations.

Victorian Tourism Commission



other areas is being auctioned, a significant example being an auction of thirty-three blocks in the Doncaster-Templestowe area in 1983.

Rolling stock

The suburban train fleet is undergoing a major replacement programme as obsolete rolling stock is phased out and modern air-conditioned trains are purchased.

The order for new Comeng trains has been increased from 50 to 95 six car sets, at a total estimated cost of \$450m. The delivery rate has doubled to 20 sets per year, so that all 95 new trains will be in service by 1988. By mid-1984, 38 Comeng trains had been delivered. The Comeng train programme means that the very old wooden-bodied Tait trains known as 'red rattlers' and the blue Harris trains should all be phased out by mid-1987.

Power, signalling, and safety

In 1983, a major replacement programme for the suburban rail overhead system was commenced. The overhead was originally erected between 1919 and 1923. The programme is aimed at improving the reliability of the overhead wiring system, which in turn will improve the reliability of the rail service itself; additionally, it will have an increased capacity to cope with the demands of modern trains with their higher acceleration rates, higher speeds, and greater power consumption. The work involves the replacement of almost all the components of the system, including support brackets, insulators, and droppers. A number of corroded structures will be replaced in bayside areas, and where wooden poles are used to support overhead equipment they will be replaced by steel masts. A new contact wire tensioning system will be introduced to improve the performance of the overhead system at higher train speeds. The programme commenced on the Frankston line and will progress through the entire system.

An on-going programme of substation rehabilitation is also in hand. It involves the replacement of circuit breakers and rectifiers at fifty-seven substations and seventeen tie-stations across the metropolitan area. The signal power supply is also involved in a programme of major works, with the conversion from 25 Hz to 50 Hz and upgrading of associated equipment which has been in progress for some years.

Automatic power signalling now covers about 80 per cent of the MetRail network, and the objective is to complete it across the whole system. Works in progress from Mooroolbark to Lilydale, Mordialloc to Cheltenham, and Merri to Epping are scheduled for completion during 1985; they will lift the coverage of automatic power signalling to about 90 per cent of the network, and should bring substantially improved service reliability as well as modernised signalling equipment and capabilities.

An accelerated programme of boom barrier installation over the suburban system's sixty or so most dangerous level crossings was instituted in 1982. In the first year of the programme's operation, ten suburban level crossings had been converted from flashing lights to boom barriers. The barriers are expected to cut railway operating cost and reduce road traffic delays. Boom barriers or gates are expected to be in place at all level crossings on the suburban electrified network by the end of 1986.

In order to improve passenger safety and security, an interim system of train radio has been introduced for part of the fleet. Technical evaluation of a system to give complete radio coverage for all trains on the entire MetRail system is in progress. As a further aid to passenger security, many trains are run in three car units off-peak, with the facility to keep one car open and illuminated when passenger numbers are low late at night.

Melbourne Underground Rail Loop

The Melbourne Underground Rail Loop is in the final stages of construction. The four loop tracks, in individual tunnels serving separate groups of lines, considerably increases the capacity of train running, and the total system provides better access to various parts of the Central Business District. The two completed stations, Museum and Parliament, are now in operation together with three of the four individual loops and two extra elevated tracks between Flinders Street station and Spencer Street station.

The Burnley and Caulfield Group tunnels were commissioned in January 1981, and the Clifton Hill Group tunnel in November 1982, together with the City Circle track and tunnel connections. It is expected that the fourth tunnel for the northern group of lines and the last new station in the Underground - Flagstaff station - will be completed by mid-1985. Museum station was opened in January 1981, and the first stage of Parliament station - the South Booking Hall - in January 1983. Further facilities there were opened in February 1984. Work on Flagstaff station has continued below and above ground with the main entrance taking shape at the corner of William and La Trobe Streets.

Tenders have been called for development of the site above the underground rail loop's Museum Station. Work on the site, which covers 18,000 square metres, is expected to start by mid-1985.

The Melbourne Underground Rail Loop Authority was responsible, until 30 June 1983, for supervising and co-ordinating the planning, financing, and construction of the underground rail loop and ancillary structures. Funds for construction of the Loop are raised by private and public loans. The redemption and interest payments are funded by the Victorian Government, the Melbourne and Metropolitan Board of Works, and the Melbourne City Council. Part of the Victorian Government contributions are funded by a small levy on each suburban rail journey.

Metrol

The first stage of Metrol, a remote control system of railway signals and points, was completed in January 1984. A number of signal boxes have been consolidated into one major installation to control train movements; at present Metrol controls these movements over the central area of the suburban rail network. This computer-based system not only permits remote control of the signalling system, but can also provide a visual display of all train movements, identifying each train. The system will result in improved train running and time-keeping because of better communications; it provides an overview of developing problems and hence the opportunity of resolving them quickly, and it permits quicker recovery after interruptions.

Passenger fares

From 13 November 1983, a new zone-based multi-mode ticketing system known as *The Met* was introduced, one ticket enabling travel on trains, trams, tramway buses, and private buses on a zonal fare basis.

Concessions for public transport travel are provided to pensioners, supporting parents, unemployed people, war widows, sickness and special beneficiaries, students, and others. In 1984, the Met Travelclub for holders of six or twelve month periodical tickets was established, providing discounts and occasional prizes for members.

Metropolitan passenger statistics

The following tables relate to the last years of operation of the Melbourne and Metropolitan Tramways Board (MMTB), prior to the restructuring of the transport authorities. Particulars of tram and government bus operations are provided. Some statistics on suburban railway operations are presented in later tables, which relate to the former Victorian Railways Board.

MELBOURNE AND METROPOLITAN TRAMWAYS BOARD, TRAMWAYS, OPERATIONS

Period	Track open at end of year		Tram kilometres	Passenger journeys	Operating receipts	Operating expenses	At end of year	
	Double	Single					Rolling stock (a)	Persons employed (b)
	kilometres	kilometres	'000	'000	\$'000	\$'000	number	number
1977-78	217	4	24,185	101,296	27,981	50,780	748	4,708
1978-79	220	4	24,191	101,070	29,836	57,331	750	4,749
1979-80	220	4	23,547	98,889	33,394	60,922	753	4,589
1980-81	220	4	24,062	100,474	39,840	72,242	741	4,571
1981-82	220	4	24,030	103,479	43,977	86,155	698	4,592
1982-83	221	4	24,201	(c)	45,233	103,103	691	4,918

(a) Includes rolling stock in reserve or idle.

(b) Includes omnibus employees. Tramways employees not available separately.

(c) Passenger journeys not available for separate modes. Total patronage of all modes (rail, tram, and government and private bus) was 254 million in 1982-83.

MELBOURNE AND METROPOLITAN TRAMWAYS BOARD, MOTOR OMNIBUS SYSTEMS, OPERATIONS

Period	Route kilometres	Bus kilometres	Passenger journeys	Operating receipts	Operating expenses	At end of year		
						Rolling stock (a)	Persons employed (b)	
			'000	'000	\$'000	\$'000	number	number
1977-78	258	12,874	19,339	5,760	14,472	305	4,708	
1978-79	276	12,879	19,927	6,264	16,523	278	4,749	
1979-80	290	12,739	19,872	7,150	18,077	311	4,589	
1980-81	291	13,162	21,017	9,023	21,116	270	4,571	

MELBOURNE AND METROPOLITAN TRAMWAYS BOARD, MOTOR OMNIBUS
SYSTEMS, OPERATIONS — *continued*

Period	Route kilometres	Bus kilometres	Passenger journeys	Operating receipts	Operating expenses	At end of year	
						Rolling stock (a)	Persons employed (b)
		'000	'000	\$'000	\$'000	number	number
1981-82	302	13,336	23,546	10,823	25,279	267	4,592
1982-83	313	13,311	(c)	11,425	29,004	281	4,918

(a) Includes rolling stock in reserve or idle.

(b) Includes tramways employees. Omnibus employees not available separately.

(c) See footnote (c) of previous table.

MELBOURNE AND METROPOLITAN TRAMWAYS BOARD:
REVENUE, EXPENDITURE, ETC.
(\$'000)

Particulars	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
REVENUE						
Traffic receipts	33,546	35,654	39,894	48,192	53,923	56,055
Miscellaneous operating receipts	195	445	651	671	877	603
Non-operating receipts	551	569	591	705	795	3,382
Payment from drivers' licence suspense account	1,927	1,900	1,900	2,000	2,200	—
Recoup of road maintenance costs	—	—	—	—	—	2,400
Total revenue	36,219	38,569	43,036	51,568	57,795	62,440
EXPENDITURE						
Traffic operation costs	31,709	37,319	36,854	39,946	48,095	56,771
Maintenance —						
Permanent way	1,667	2,341	2,083	2,237	2,816	3,164
Tramcars	6,982	8,609	8,180	9,148	11,041	12,649
Buses	3,182	3,636	3,477	3,575	4,337	5,028
Electrical equipment of lines and sub-stations	1,511	1,882	1,835	2,052	2,575	2,834
Buildings and grounds	827	1,027	1,094	1,222	1,550	1,500
Electric traction energy	1,376	1,571	1,708	2,023	2,542	3,124
Fuel oil for buses	661	840	1,243	1,724	1,907	2,131
Bus licence and road tax fees	2	1	1	1	1	—
General administration and stores department costs	2,397	4,787	5,084	5,312	6,452	7,311
Pay roll tax	2,281	2,427	2,494	2,994	4,191	5,003
Workers compensation payments	1,499	2,428	560	4,597	3,434	2,448
Depreciation	1,780	2,080	2,474	2,944	3,329	4,018
Non-operating expenses	241	268	285	279	277	360
Provisions —						
Long service leave	1,282	1,012	1,207	1,714	1,679	1,858
Retiring gratuities	2,122	1,759	1,976	2,355	2,295	3,507
Accrued sick leave	216	201	(a)	(a)	(a)	(a)
Public liability claims	1,317	1,423	2,020	2,161	2,413	3,675
Interest on loans	4,441	4,888	5,986	7,736	10,373	11,388
Leasing of rolling stock	—	479	724	1,617	2,404	5,356
Rolling stock written off	—	—	—	—	—	330
Total expenditure	65,492	78,978	79,285	93,637	111,711	132,455
Net surplus (+) or deficit (—)	–29,273	–40,410	–36,249	–42,069	–53,916	–70,015
Capital outlay	10,787	12,095	14,432	17,213	15,831	27,438
Loan indebtedness at 30 June	54,413	63,161	73,114	87,114	99,114	100,574

(a) This item is included in long service leave.

NOTE. All expenditures and revenues shown have been compiled on an accrual basis of accounting.

MELBOURNE AND METROPOLITAN TRAMWAYS BOARD: TRAMWAYS, OPERATING RECEIPTS, OPERATING EXPENSES, ETC.

Period	Operating receipts			Operating expenses	
	Amount	Per vehicle kilometre	Per passenger	Amount	Per vehicle kilometre
	\$'000	cents	cents	\$'000	cents
1977-78	27,981	115.70	27.62	50,780	209.97
1978-79	29,836	123.34	29.52	57,331	236.99
1979-80	33,394	141.82	33.76	60,992	258.73
1980-81	39,840	165.57	39.65	72,242	300.24
1981-82	43,977	183.01	42.50	86,155	358.54
1982-83	45,233	186.90	n.a.	103,103	426.01

MELBOURNE AND METROPOLITAN TRAMWAYS BOARD: MOTOR OMNIBUS SYSTEMS, OPERATING RECEIPTS, OPERATING EXPENSES, ETC.

Period	Operating receipts			Operating expenses	
	Amount	Per vehicle kilometre	Per passenger	Amount	Per vehicle kilometre
	\$'000	cents	cents	\$'000	cents
1977-78	5,760	44.74	29.78	14,472	112.41
1978-79	6,264	48.64	31.43	16,523	128.30
1979-80	7,150	56.13	35.98	18,077	141.91
1980-81	9,023	68.55	42.93	21,116	160.43
1981-82	10,823	81.16	45.96	25,279	189.55
1982-83	11,425	85.83	n.a.	29,004	217.90

Country, provincial, and interstate services

State Transport Authority

The State Transport Authority (STA) is the largest of the Victorian Transport Authorities, employing approximately 14,000 persons and operating a country and interstate rail network of over 5,100 kilometres. The name V/Line has been adopted by the STA to present its new corporate identity and its modern services and programmes to the public.

Rail passenger services

Country rail passenger services are provided on a 'core' network which essentially connects Melbourne to the large regional centres of Albury, Shepparton and Cobram, Bendigo and Swan Hill, Mildura, Ballarat, Horsham and Dimboola, Geelong and Warrnambool, Traralgon, Sale, and Bairnsdale. From this rail network, connecting coach services are operated to other centres such as Yarrowonga, Daylesford, Maryborough and Donald, Portland, and Maffra. V/Line also runs coach services to Leongatha and Yarram, Mansfield, and to Mildura (daytime) via Bendigo and Swan Hill. A computerised seat reservation system is used to improve customer service, and bookings can be made by telephoning Melbourne Central Reservations or any of the seventeen regional railway stations which are directly connected to the system.

Following many years of decline, country rail patronage has been showing a marked increase in recent years. Patronage has increased from 3.043 million in 1981-82, to 3.635 million in 1982-83, and 3.952 million in 1983-84.

During 1983, a number of special fares and customer services were introduced. These include:

- (1) Business Card ticket and Rail-Away ticket allowing unlimited travel on all V/Line services – the former enabling twenty-eight days' first-class travel for \$150, or thirteen weeks' travel for \$400; and the latter enabling fourteen days' travel for \$55 (economy) or \$75 (first-class) and with a further 50 per cent discount for children or students;
- (2) Family Saver, enabling children under sixteen years, accompanied by an adult, to travel for virtually nominal fares (subject to a limit of two children per adult, and a maximum of four children in the family group);
- (3) Super Saver, offering a discount of 40 per cent on regular fares on a number of services which are not used to capacity;

- (4) discounts on car rental and accommodation costs at one's destination; and
- (5) discounts on rail fares for bona-fide groups of fifteen or more persons.

In 1984, school holiday package day-tours called 'Time Travellers' were introduced, to enable children from Melbourne to visit attractions at country centres, such as Sovereign Hill at Ballarat and Coal Creek at Korumburra, and children from country centres to visit exhibitions and other attractions in Melbourne. In addition, V/Line offers a range of regular day tours and package holidays.

In December 1982, a new \$750,000 catering centre was opened at Spencer Street station, to provide country passengers with a modern food and refreshment service. The new building is a food assembly and packaging centre which prepares meals and snacks for the buffet service on the new country trains. The quality of on-board catering is thus being substantially enhanced.

Rolling stock improvements

V/Line is currently involved in a major locomotive and carriage improvement programme. To complement the redesigned route structure and the modernisation of services, new air-conditioned carriages with airline-style seating are replacing older rolling stock. In January 1984, there were eighteen new trains (fifty-four carriages) in service, each train having one carriage with modern on-board catering facilities. The cost of this replacement programme for the country passenger fleet is approximately \$32.6m. Design work is progressing towards the production of a second generation series of passenger cars, of light-weight construction and featuring modern facilities, to follow the existing programme.

To supplement the new carriages, thirty-seven existing steel-bodied air-conditioned cars are being refurbished and modernised, including ten which are being equipped with modern catering facilities of the same standard as the new carriages. A further thirty-nine blue suburban Harris carriages are being refitted and air-conditioned for shorter country commuter runs such as Bacchus Marsh, Seymour, and Kyneton. Thirteen T-class locomotives are being rebuilt, with increased horse-power, to provide motive power for these carriages. This part of the fleet improvement programme is estimated to cost \$22.15m.

A complete refurbishing of twenty-six B-class locomotives has also been taking place in South Australia, at an estimated cost of \$38.22m. The increased power of these locomotives (from 1,500 to 2,500 horsepower) will make them suitable for grain and other freight haulage, as well as for passenger services. In addition, an order has been placed for twenty new locomotives, comprising 2,500 and 3,300 horsepower units, to be built at Somerton, for an estimated cost of \$35m, while five new BL-class locomotives are being purchased at a cost of approximately \$10m.

Equipment utilisation of the country passenger fleet has improved. The system now runs 27 per cent more passenger train kilometres with a 25 per cent smaller fleet than it did before the reorganisation of routes and services in October 1981.

Planned preventive maintenance is being introduced commencing with the new N-class country passenger trains. All components of a train have an identified life to failure, and are replaced on a programmed maintenance schedule before they fail, the overall objective being to improve system reliability and efficiency.

Track and station improvements

Rail infrastructure is being upgraded, including track improvements between Ararat and Serviceton (part of the Melbourne - Adelaide line). This work involves the provision of long crossing loops and power signalling operated by a centralised traffic control system. The line between Ararat and Portland is also being improved to increase its capacity in terms of both the flow and the gross weight of trains. Work includes the upgrading of track, construction of crossing loops, continuous welding of rails, and bridge reconstruction.

The Shepparton - Numurkah - Cobram line was reopened in August, 1983, following track upgrading which cost approximately \$800,000.

An ongoing programme of improvements to country railway stations is underway, commencing with the restoration of the Ballarat railway station which was badly affected by a fire in December 1981. Warrnambool railway station has been renovated, South Geelong railway station has been rebuilt, and twenty-four other stations have been nominated for improvement. Relocation of the Sale railway station and associated railway operations and facilities was completed in 1983, at a cost of \$3.3m approximately. The station was relocated to make room for a \$20m commercial development in Sale and the new arrangement will lead to more efficient freight operations for Sale, Bairnsdale, and Orbost.

Safety

The safer and more efficient operation of trains on country and interstate lines is a major concern underlying the introduction of radio communications. There are two separate yet complementary systems, costing about \$7.5m. The first is a local system which allows communication between driver and guard, between train and a local base, or between trains within five kilometres. This system is now fully operational throughout Victoria. The second is a long-range system allowing communication between Melbourne, local train control centres, and all trains on country lines. By June 1983, the train-to-base system will be in operation on the Melbourne to Serviceton and Albury lines and progressively extended to all other places.

In view of the potentially dangerous circumstances which could occur as the result of derailment of tank wagons, an inspection programme for these wagons has been instigated. Trains comprising tank wagons are restricted to a maximum speed of 65 kilometres per hour.

Freight

During 1982-83, the rail system transported approximately 8.57 million tonnes of freight. This was substantially below the tonnage carried in other years recently, mainly on account of the very low grain harvest and other consequences of the drought. The major commodities carried were wheat, containers, mineral and quarry products, cement, petroleum, steel, briquettes, and foodstuffs. The only commodities to show a substantial increase from 1981-82 to 1982-83 were petroleum (as recent legislation regulating the long-distance movement of petroleum will continue to increase the tonnage of this commodity carried by rail), livestock, stockfood, powdered milk, and some primary produce such as dried fruit.

During 1981-82, 110 open wagons were converted to bottom discharge hoppers for moving wheat. A further eighty container wagons, twenty bulk cement wagons and fifty bogie hoppers (for briquettes and grains) were added to the fleet.

Major improvements in grain handling methods, including the introduction of Central Receiving Points, modern large bogie wagons and more bulk trains, have helped V/Line and the Grain Elevators Board to limit charges and to move the record 1983-84 grain crop efficiently to the ports. A major current project is the CANAC Grain Handling Study, which involves V/Line, the Grain Elevators Board and growers in joint considerations of investment proposals and operational changes to further improve Victoria's grain handling system – through an upgrading programme for track, rolling stock, locomotives, and receiving facilities.

A major container terminal at South Dynon Yards was opened in 1981 and began operation during 1982. It includes seven tracks, associated crossings, the commissioning of two 33-tonne gantry cranes and roadways. This facility will allow the efficient transfer of containers between road and rail.

New railway stockyards have recently been built at Bandiana, about six kilometres outside Wodonga, and associated rail improvements have been made. These include re-opening the disused Cudgewa broad gauge line and building a standard gauge line connection. The project, which cost over \$1m, will increase the handling capacity of cattle and sheep sales, facilitate the transit of cattle and sheep, and reduce handling costs.

Webb Dock

Construction has started on a rail freight link from the Spencer Street railyards to Webb Dock, and it is expected that the \$19.7m project will be completed during 1985. The rail link will require a bridge across the Yarra River and there will be three tracks, incorporating broad and standard gauges. The link will lead to considerable savings in handling costs on the thousands of containers which are moved annually through the present Webb Dock facility. Previously, containers had to be loaded from ships to trucks, carried a short distance by road, and then transferred to rail wagons. Proposed future standard gauge connections, from Swanson Dock and from Spencer Street to Dynon railyards, are also being studied.

Railway statistics

On 1 July 1983, the STA came into existence, taking over the functions of the previous Victorian Railways Board. The following tables relate to State railway operations and road motor services up to 30 June 1983; that is, under the control of the Victorian Railways Board, including the suburban rail operations and services.

Certain border railways in New South Wales were, by agreement between Victorian and New South Wales Governments, under the control of the Victorian Railways Board, and this responsibility

continues under the STA. Particulars of these railways have been included with those of the State railways being operated within Victoria.

Capital cost of railways and equipment

The capital costs of all lines constructed and in the course of construction, and of all works, rolling stock, and equipment of the Railways Board at 30 June for each of the years 1978 to 1983 are shown in the following table:

TOTAL CAPITAL COST OF RAILWAYS, ETC.: EQUIPMENT AND ROLLING STOCK, VICTORIA (\$'000)

At 30 June -	Railway		Road motor services	Total capital cost (a)
	Lines and rolling stock	Lines in process of construction		
1978	494,901	5,297	19	500,217
1979	529,449	6,515	19	535,983
1980	550,177	6,868	19	557,064
1981	744,902	738	19	(b)745,659
1982	682,835	738	19	(c)683,592
1983	714,831	—	19	714,850

(a) Written down in accordance with *Railways (Finances Adjustment Act 1936)* and allowing for depreciation since 1 July 1937. Particulars are exclusive of the cost of stores and materials on hand and in the course of manufacture.

(b) Includes \$122.4m worth of assets acquired from the Melbourne Underground Rail Loop Authority (MURLA), subsequently transferred back to MURLA at the direction of the Ministry of Transport, and assets to the value of \$8.1m which were transferred to the Railway Construction and Property Board (RCPB) in 1980-81 at the direction of the Ministry of Transport.

(c) Does not include \$122.9m worth of assets from MURLA and \$29.8m which have been transferred to RCPB to date.

At 30 June 1982, the capital cost of rolling stock, after being written down in accordance with the *Railways (Finances Adjustment) Act 1936*, and allowing for depreciation, was \$253.4m.

Railways staff

The number of officers and employees in the railways (including casual labour and butty-gang workers) and the amount of salaries and wages (including travelling and incidental expenses) per year for each of the financial years 1977-78 to 1982-83 are shown in the following table:

RAILWAYS STAFF, NUMBERS, SALARIES, ETC. (a), VICTORIA

Period	Average number of employees			Salaries, wages, and travelling expenses
	Salaried staff	Wages staff	Total	
				\$'000
1977-78	5,382	18,454	23,836	251,055
1978-79	5,384	17,893	23,277	263,480
1979-80	5,388	17,361	22,749	282,811
1980-81	5,362	16,732	22,094	315,073
1981-82	5,276	15,835	21,111	352,542
1982-83	5,234	15,671	20,905	411,489

(a) Includes the metropolitan services.

Railways rolling stock

The following table provides a description of the various types of rolling stock in service (exclusive of road motor rolling stock) at 30 June, for each of the years 1978 to 1983.

RAILWAYS ROLLING STOCK IN SERVICE AT 30 JUNE (EXCLUDING ROAD MOTOR SERVICES), VICTORIA

Rolling stock in service	1978	1979	1980	1981	1982	1983
Locomotives—						
Steam	11	11	10	10	10	10
Electric	35	35	35	33	31	28
Diesel electric	265	266	267	263	261	257
Other (a)	90	89	88	82	77	69
Total	401	401	400	388	379	364
Passenger coaches—						
Electric suburban	1,056	1,066	1,038	1,083	1,083	1,079
Other (b)	490	480	469	383	349	330
Total	1,546	1,546	1,507	1,466	1,432	1,409
Goods stock (c)	14,574	12,766	12,165	11,797	11,629	11,555
Service stock	1,230	1,181	1,164	1,111	1,062	954

(a) Other locomotives comprise diesel hydraulic locomotives, cranes, rail motor diesel power units, and non-passenger carrying tractors.

(b) Passenger coaches owned jointly with New South Wales and South Australia have been included; rail motor passenger vehicles also included.

(c) All parcels and brake vans including display cars and standard gauge stock have been included.

Railways route distance

The route distance of the railways (exclusive of road motor service route distance) at 30 June for each of the years 1978 to 1983 is shown in the following table. It should be noted that the Victorian Railways operate certain services in New South Wales.

RAILWAYS ROUTE DISTANCE AT 30 JUNE, EXCLUDING ROAD MOTOR SERVICES, VICTORIA (kilometres)

Lines open for traffic	1978	1979	1980	1981	1982	1983
Single track	5,499	5,320	5,313	4,999	4,928	4,926
Double track	725	725	731	731	744	749
Other multi-track	140	140	140	140	140	140
Total route distance	6,364	6,185	6,184	5,870	5,812	5,815

Railways traffic

The traffic of the railways (exclusive of road motor traffic) for each of the years from 1977-78 to 1982-83 is shown in the following table:

RAILWAYS TRAFFIC, EXCLUDING ROAD MOTOR SERVICES, VICTORIA

Traffic	Unit	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
Average number of kilometres open for traffic		6,449	6,304	6,304	6,123	5,812	5,814
Traffic train kilometres —							
Country and interstate	'000	7,135	6,650	6,208	6,188	6,661	7,004
Suburban	'000	13,887	13,386	13,174	13,744	14,209	14,549
Goods	'000	10,990	10,820	11,413	10,682	10,266	8,613
Total		32,013	30,856	30,795	30,614	31,136	30,166
Passenger journeys —							
Country and interstate	'000	4,108	4,065	3,663	(a)3,973	3,587	4,126
Suburban	'000	93,546	89,827	85,755	(a)84,500	(b)72,726	(b)80,197
Total		97,654	93,892	89,418	(a)88,473	(b)76,313	(b)84,323
Goods and livestock carried	'000 tonnes	11,120	11,190	13,453	12,721	11,623	8,570

(a) Estimated.

(b) These figures exclude suburban rail journeys made on multi-modal tickets purchased on trams or buses.

The tonnes carried and tonne-kilometres of goods and livestock carried by the Victorian Railways for the years 1977-78 to 1982-83 are shown in the following tables:

RAILWAYS GOODS AND LIVESTOCK TRAFFIC, EXCLUDING ROAD MOTOR GOODS SERVICES, VICTORIA

Class of goods	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
'000 TONNES CARRIED						
Grain -						
Barley	362	471	548	399	376	255
Wheat	2,359	2,180	4,165	3,630	2,968	1,059
Other	206	233	350	216	155	128
Flour	82	77	59	57	47	36
Stockfood and fodder	50	41	35	28	15	24
Fruit -						
Fresh	74	78	76	64	59	57
Dried	48	54	45	54	46	62
Beverages	157	147	143	162	126	110
Solid fuels	740	783	783	633	487	430
Cement	803	774	718	778	718	689
Mining and quarry products	758	745	867	908	914	767
Dairy produce	15	14	13	10	2	2
Milk, condensed, powered etc.	75	60	47	27	34	47
Tinplate	19	21	26	19	15	16
Iron, steel, and metals unfabricated	591	610	749	737	694	490
Manures	616	672	631	618	557	419
Motor cars and accessories	181	173	165	157	167	122
Petroleum products	402	389	341	383	400	528
Paper products	179	194	194	242	258	263
Pipes	66	57	54	35	32	18
Timber	189	180	187	177	149	129
Wool	104	100	93	91	66	51
All other goods	2,768	2,975	3,036	3,191	3,286	2,799
Total goods	10,844	11,028	13,325	12,616	11,571	8,501
Total livestock	277	162	128	105	52	69
Grand total of goods and livestock	11,120	11,190	13,453	12,721	11,623	8,570
'000 TONNE - KILOMETRES						
Grain -						
Barley	95,833	124,600	147,387	102,786	101,223	72,977
Wheat	735,572	661,463	1,309,886	1,117,163	890,212	295,032
Other	42,336	43,735	70,321	35,438	24,854	27,317
Flour	18,505	17,196	14,850	14,639	12,878	9,369
Stockfood and fodder	11,475	8,407	9,194	9,114	3,481	5,914
Fruit -						
Fresh	27,538	28,469	26,491	22,183	19,368	17,889
Dried	25,794	29,160	24,650	29,482	24,966	34,137
Beverages	37,296	35,082	33,976	40,946	33,827	28,270
Solid fuels	125,546	139,606	139,537	111,488	87,485	87,163
Cement	108,438	115,338	118,245	136,992	137,964	121,919
Mining and quarry products	126,217	130,052	146,558	144,680	137,395	108,363
Dairy produce	3,726	3,620	2,872	1,942	477	303
Milk, condensed, powered etc.	13,699	10,778	9,010	5,004	6,268	9,039
Tinplate	7,069	7,339	10,654	7,568	4,711	2,430
Iron, steel, and metals unfabricated	196,664	197,448	250,419	251,475	244,206	173,596
Manures	155,893	168,449	160,240	162,708	149,472	112,142
Motor cars and accessories	43,897	44,733	39,773	38,116	41,602	26,149
Petroleum products	121,179	120,892	109,976	122,313	130,432	156,908
Paper products	59,674	72,800	70,980	77,183	82,023	90,073
Pipes	17,617	15,323	14,361	10,202	9,771	5,292
Timber	62,590	59,918	65,521	61,173	50,689	43,585
Wool	26,806	25,766	24,157	24,217	16,979	13,325
All other goods	960,776	1,035,755	1,047,159	1,142,959	1,199,702	1,010,240
Total goods	3,024,141	3,095,929	3,846,217	3,669,771	3,409,985	2,451,432
Total livestock	84,537	49,376	41,577	33,900	16,667	16,506
Grand total of goods and livestock	3,108,678	3,145,305	3,887,794	3,703,671	3,426,652	2,467,938

*Railways revenue and expenditure*RAILWAYS REVENUE AND EXPENDITURE, VICTORIA
(\$'000)

Particulars	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
REVENUE						
Passenger, etc., business –						
Passenger fares	53,813	57,303	62,720	74,883	86,796	101,761
Parcels, mails, etc.	7,202	8,219	9,433	9,931	10,082	9,225
Other	106	153	143	183	—	—
Goods, etc., business –						
Goods	92,543	101,030	132,849	143,325	136,280	107,899
Livestock	2,191	1,789	1,521	1,610	873	904
Miscellaneous	561	621	673	980	523	—
Miscellaneous –						
Dining cars and refreshments services	7,371	6,262	6,469	6,848	7,091	7,689
Mt Buffalo Chalet	—	1,578	1,741	2,051	2,406	2,530
Rentals	4,804	5,028	5,332	5,414	5,427	5,264
Bookstalls	1,587	1,671	1,721	1,685	1,831	1,998
Advertising	335	352	343	369	401	445
Melbourne Underground Rail Loop Authority – special levy	1,798	2,127	2,054	1,950	1,900	2,050
Other	4,334	4,975	5,635	7,039	6,588	8,364
Total revenue	176,644	191,108	230,633	256,269	260,198	248,129
EXPENDITURE						
Working expenses –						
General expenses	288,238	300,238	339,840	383,926	434,616	545,048
Pensions	19,591	22,582	25,437	29,359	33,435	40,088
Contributions to Railway Renewals and Replacement Fund	400	400	400	400	400	—
Contribution to Railways Accident and Fire Insurance Fund	3,639	4,020	5,094	8,999	9,590	10,731
Payroll tax	11,695	12,387	13,305	14,636	19,893	23,107
Long service leave	5,513	4,996	5,432	8,268	9,199	11,127
Appropriation to Melbourne Underground Rail Loop Authority construction	1,798	2,127	2,054	1,950	1,900	2,050
Other (a) (b)	1,989	1,451	1,448	740	2,199	8,057
Total working expenses	332,861	348,201	393,010	448,278	511,232	640,208
Net revenue	-156,217	-157,093	-162,377	-192,009	-251,034	-392,079
Debt charges –						
Interest charges and expenses (b)	20,779	22,834	27,257	31,091	35,062	40,201
Exchange on interest payments and redemption	31	25	22	14	5	—
Contribution to National Debt Sinking Fund	630	682	740	791	848	894
Net result for year	-177,657	-180,634	-190,396	-223,905	-286,949	-433,174

(a) Including interest paid to the Commonwealth Government under the Railways Standardisation Agreement.

(b) Including loan conversion expenses.

Private bus services*Country and urban*

From 1 July 1983, bus services in Victorian country areas and provincial centres come under the control of the State Transport Authority (V/Line), which is responsible for specifying the routes, levels of services and fare structures, for planning and co-ordinating these services, and for determining subsidies. The services are classified into Country and Urban. Urban operations comprise private bus services in Geelong, Ballarat, Bendigo, and the La Trobe Valley. Country and urban services are operated by private bus companies. Some private operators are under contract to V/Line to provide coach services connecting to or extending from the rail network.

The following table shows particulars for road passenger services, for the financial years 1982-83 and 1983-84.

**COUNTRY AND PROVINCIAL ROAD
PASSENGER SERVICES, VICTORIA
('000)**

Particulars	1982-83	1983-84
PRIVATE BUS SERVICES		
Country services –		
Passengers	3,734	3,853
Bus kilometres	7,086	7,849
Revenue \$	3,196	3,303
Subsidy \$	1,000	1,300
Urban services (a) –		
Passengers	7,218	7,552
Bus kilometres	6,019	6,261
Revenue \$	3,375	3,341
Subsidy \$	3,000	3,420
CONTRACT SERVICES (b)		
Passengers	n.a.	297
Bus kilometres	n.a.	2,985
Contract costs \$	n.a.	2,187

(a) Covers the Geelong, Ballarat, Bendigo, and La Trobe Valley areas.

(b) Involves twenty-five services throughout Victoria.

Geelong Transit System

On 7 February 1983, with the co-operation of bus operators and Geelong municipalities, the Victorian Government effected major changes to Geelong's public transport by introducing the Geelong Transit System (GTS). The GTS brought together the privately operated bus services to form a co-ordinated transport system, with a flat fare of sixty cents (adult) and thirty cents (concession). In June 1984, fares were raised to seventy cents and thirty-five cents.

All bus services of the three companies involved connect at a modal interchange in Moorabool Street. Services are also co-ordinated at other connecting points, and with trains. Bus patronage has increased since the introduction of the system, and consequently, in May 1983, extra services were added and timetables revised.

The GTS is the first of its kind for provincial cities in this country, and offers an integrated flat-fare private bus system, supported and subsidised by the Victorian Government.

A Government study team has investigated a similar system for Bendigo and Warrnambool, and Ballarat and LaTrobe Valley will also be included in the programme. The new Bendigo bus system, which incorporates a flat fare of sixty cents and new co-ordinated timetables, was introduced in December 1984.

Road construction

Road Construction Authority

The Road Construction Authority (RCA) was formed on 1 July 1983, and its functions include: maintaining, upgrading, and extending the State's declared road network; maintaining and constructing other roads, in conjunction with municipalities; installing and maintaining traffic signals or other traffic control devices subject to agreement with the Road Traffic Authority; determining load limits and advisory speed limits for roads and bridges; establishing requirements for the issue of vehicle mass and dimension permits, and providing and maintaining roadside reserves. The Authority is also responsible for the West Gate Bridge.

There are about 160,000 kilometres of public roads in Victoria, of which 24,252 kilometres comprise the State's principal system of declared roads. The system of classified or declared roads at 30 June 1984, comprised 7,134 kilometres of State highways, 418 kilometres of freeways, 840 kilometres of tourists' road, 1,013 kilometres of forest roads, and 14,847 kilometres of main roads.

National highways

A national highway is a road or proposed road that, in the opinion of the Federal Minister for Transport, is or will be the principal road linking: (1) two or more State capital cities; (2) a State capital city and Canberra; (3) a State capital city and Darwin; (4) Brisbane and Cairns; or (5) Hobart and Burnie, or a road or proposed road that should, in the opinion of the Federal Minister for Transport, be treated by reason of its national importance as a national highway.

The two national highways in Victoria are the Hume Highway from Campbellfield to the New South Wales border and the Western Highway from Deer Park to the South Australian border.

Proposals for the Hume Highway include its development to a dual carriageway road from the outskirts of Melbourne to Wodonga.

Recent completion of ten kilometres of divided carriageway on the Hume Highway at Longwood marks the halfway point of duplication between Campbellfield and Wodonga. Of the distance of 294 kilometres, 152 kilometres is now divided highway.

The development of the Hume Highway is being funded by the Federal Government under the National Highway Program and the Australian Bicentennial Road Development Program. Work is continuing on a further 45.2 kilometres of duplication: the 25 kilometre Benalla bypass, the 12 kilometre Winton bypass, the 3.5 kilometre duplication south of Wodonga, and the 4.7 kilometre Wodonga bypass.

The Western Highway between Melbourne and Ballarat is being progressively developed to dual carriageway standard. Work is in progress on the construction of an 8.8 kilometre bypass of Melton.

National developmental roads

A national developmental road is a road or proposed road that, in the opinion of the Federal Minister for Transport, is or will be of national importance due to its assistance to: (1) development of particular industries or energy resources (including those in remote areas of Australia); (2) interstate or overseas trade and commerce; or (3) significant tourist travel.

The only road in Victoria currently declared as a developmental road is the section of the Princes Highway between Dandenong and Traralgon. The road is being progressively developed to dual carriageway standard.

Current projects include a seventeen kilometre duplication project from Nar Nar Goon to Bunyip River, construction of a seven kilometre freeway standard bypass of Warragul and an eight kilometre duplication project from Nilma to Darnum.

Rural roads

Victoria is the most densely populated State of Australia and the pattern of Victoria's rural life has come to depend significantly on the rural road system. Since the development of the motor vehicle, the demand placed on the road system has increased and rural commerce relies heavily on trucks using roads to carry produce to the railway yards, or directly to the major cities or ports.

There are about 130,000 kilometres of public roads in rural Victoria (excluding roads in the Melbourne Statistical Division, the Geelong Statistical District, and urban Ballarat and Bendigo). Of these some 22,000 kilometres comprise the principal rural system of declared roads.

Victoria's rural roads can be divided into three systems. The rural State highways and freeways are the principal arteries forming interstate connections and link the larger centres of population in the State. State highways such as the Hume, the Northern, the Western, and the Princes connect Victoria's road system to the highways of the neighbouring States of New South Wales and South Australia.

The second system consists of the main roads linking centres of population with other centres or with areas of industry, commerce, or settlement. These roads provide a means for primary producers and manufacturers to move their products to the nearest railway line or State highway, and also cater for recreational traffic.

The third system comprises feeder roads, providing local access to farming or residential areas. Each system is co-ordinated with the other systems to enable vehicles, either private or commercial, to move freely between all points in the State.

Major projects on rural roads other than national highways or developmental roads are being undertaken on the Calder and South Gippsland Highways.

Work is proceeding on the progressive development of the Calder Highway to provide four lanes for traffic as the main route between Melbourne and Bendigo. The seven kilometre Keilor bypass has been completed and work is in progress on the Gisborne bypass and duplication of five kilometres of highway from Ravenswood to Big Hill, south of Bendigo. The Gisborne bypass is being funded by the Federal Government under the Australian Bicentennial Road Development Program.

Duplication of the South Gippsland Highway between the Lang Lang River and the Bass Highway Junction was completed in 1984, and work is in progress on duplications at Five Ways and Tooradin. The duplication of the South Gippsland Highway from Melbourne to the Bass Highway Junction is being funded by the Federal Government under the Australian Bicentennial Road Development Program.

Urban roads

Urban roads in the Melbourne Metropolitan area and the provincial cities and towns, play a significant role in the movement of people and goods, both by private vehicles and by road based public transport.

There is now increasing emphasis on the maintenance of the existing arterial road system, on traffic management, and on lower cost works such as intersection improvements, the widening of narrow pavements to eliminate bottlenecks and points of congestion, and less emphasis on new major construction.

Increasing attention is being paid to traffic management in urban areas. A major project in the Melbourne Metropolitan area is the progressive implementation, by the Road Traffic Authority, of the SCRAM (Signal Co-ordination of Regional Areas in Melbourne) programme of traffic signal linking. This project is designed to improve traffic flow along arterial roads. Other traffic management techniques that are being applied extensively in urban areas include upgrading the type of intersection control, the provision of exclusive turn lanes, increasing the storage in turn lanes, modifying channelisation, improving sight distance, banning certain turns at intersections, modifying traffic signal settings, and the provision of improved signing and linemarking.

Increasing attention is being paid to schemes that protect local roads, with a view to discouraging through traffic from using them, in order to improve the safety and environmental amenity of local areas.

Studies are proceeding to establish priorities for the development of road programmes for metropolitan Melbourne. The Metropolitan Arterial Road Access Study (METRAS), being carried out by the Ministry of Transport, will be completed in 1985. It aims to develop and evaluate road improvement options within a comprehensive urban development strategy for Melbourne. The objective is to provide a road system that is geared to the needs of commercial, public transport, and private users.

Recently completed works in the metropolitan area include the widening of the Nepean Highway between Elsternwick and Moorabbin, the Keilor bypass, the Berwick bypass, and one carriageway of a five kilometre section of the Mornington Peninsula Freeway from Mt Martha to Dromana. Work is in progress on a four-lane arterial road to link the South-Eastern and Mulgrave freeways.

Outside the metropolitan area, a significant project that has recently been completed is the duplication of La Trobe Terrace in Geelong, including the construction of a road-over-rail overpass. Work is proceeding on a new Barwon River Crossing which, with associated works, is expected to cost \$23m. Arterial road improvements in the other provincial cities and towns include intersection improvements, road widenings, the removal of bottlenecks, and the construction of roundabouts.

West Gate Bridge

Responsibility for the operation, maintenance, and repair of the West Gate Bridge, construction of ancillary works and the financing of the functions and duties required to maintain and operate the Bridge, was transferred to the Road Construction Authority (RCA) in 1982. Since the opening of the West Gate Bridge more than fifty million crossings have been recorded for all classes of vehicles.

Roadside development

Roads are among the most permanent structures on the landscape, and, once built, they cannot be considered apart from their surrounding environment. In recent years the concept of what is termed the complete highway to provide a balanced combination of safety, utility, economy, and beauty, has been developed. Such factors as the preservation of flora, conservation of landscape features, rehabilitation of cleared areas, and erosion control are important aspects of road design practices. Some 80,000 trees and shrubs are planted in Victoria each year on declared road reserves. The RCA is also developing roadside stopping places for the convenience of travellers. These include rest areas with water and toilet facilities, wayside stops, scenic view points, and parking areas.

Finance

Following the enactment of the *Public Account (Trust Funds) Act 1982* all revenue paid to the Road Construction Authority (previously the Country Roads Board) was to be redirected through the Consolidated Fund.

The *Transport Act 1983* subsequently provided that general receipts from the operation of the Road Construction Authority such as rental income, toll revenue and other items would not be redirected through the Consolidated Fund if they met the operating criteria set down in section 66(4) of the Transport Act.

All other revenues which had in the past been paid directly to the Road Construction Authority, such as receipts from Motor Vehicle operations and Commonwealth Government Grants, are to be paid into the Consolidated Fund, and funds are made available to the Road Construction Authority by way of Parliamentary Vote or under the Works and Services Program.

The loan liability of the Road Construction Authority to the Victorian Government (Department of Management and Budget) at 30 June 1984 was \$52.38m (including \$29m relating to advances made to the West Gate Bridge).

Receipts and expenditure

Receipts and expenditure covering the operation of the Road Construction Authority for each of the years 1978-79 to 1983-84 are shown in the following table:

ROAD CONSTRUCTION AUTHORITY: RECEIPTS AND EXPENDITURE, VICTORIA
(\$'000)

Particulars	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
RECEIPTS						
Revenues under the Motor Car Act (less collection costs)	78,571	74,148	66,490	95,515	—	—
Municipal Contributions — main roads	2,956	3,112	3,395	3,588	—	4,355
Commonwealth Government grants	105,652	113,631	127,362	137,841	—	—
Allocations from Roads (Special Projects) Fund	36,320	36,750	—	—	—	—
Transfer from Roads and Special Projects Fund	—	24,800	79,500	96,790	—	—
Redeemed investments	—	1,000	—	—	—	—
Proceeds from Commercial Goods Vehicles Act	9,577	1,487	—	—	—	—
Victorian Government loans	1,325	1,500	1,500	1,500	—	—
Other loan borrowings	—	—	—	—	—	25,498
Victorian Government grants	463	114	77	125	—	—
General receipts (a)	2,194	2,478	6,842	3,490	—	24,920
Miscellaneous funds receipts	—	—	—	7,075	1,615	19,796
Works and services appropriation	—	—	—	—	181,613	208,918
Recurrent annual appropriation	—	—	—	—	240,466	233,400
Total	237,058	259,020	285,166	345,923	423,694	516,887
EXPENDITURE						
Construction, maintenance, etc., of roads and bridges	189,174	213,226	229,445	262,443	303,468	373,014
Plant purchases	2,857	3,998	2,551	3,144	3,998	5,104
Buildings, workshops, etc.	899	1,556	1,290	766	3,535	3,598
Interest and Sinking Fund payments	3,059	3,136	3,299	3,642	4,048	4,502
Payment to Tourist Fund	1,520	1,571	1,483	1,330	—	—
Payment to DMB of sale of surplus land proceeds	—	—	—	—	—	6,134
Payment to Transport Regulation Fund	589	575	89	(b)14,996	(b)17,607	(b)18,876
Payment to Traffic Authority Fund	760	786	741	665	—	—
Payment to Metropolitan Transit Authority	535	500	500	500	487	159

ROAD CONSTRUCTION AUTHORITY: RECEIPTS AND EXPENDITURE, VICTORIA — *continued*
(\$'000)

Particulars	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
<i>EXPENDITURE — continued</i>						
Payment to Ministry of Transport	—	—	—	—	—	562
Planning and research	3,722	4,839	4,966	4,700	4,800	5,536
Management and operating expenditure	29,903	33,412	40,767	45,447	55,666	57,746
Repayment of advance	—	—	—	4,000	—	—
West Gate Bridge expenditure	—	—	—	—	33,608	39,953
Temporary investments	1,000	—	—	—	—	—
Total	234,019	263,599	285,131	341,633	427,217	515,184

(a) Includes 30 June 1983 balance in CRB Fund received for 1983-84.

(b) Represents the RCA's share of the 'cost of collecting revenues under the Motor Car Act' as determined by the Minister of Transport. In prior years such costs were deducted from the revenue collected prior to the revenue being made available to the RCA.

NOTE: From 1 July 1982 the large percentage of funds received by the RCA (CRB) were by way of appropriation rather than by source of revenue. As a consequence of this change to the method of funding, the RCA receipts from the Motor Car Act, Fuel Franchise Fees, Commonwealth Grants and the like are not separately identified. It should also be noted that payments to such bodies as the Transport Regulation Board, Tourists' Fund, and the Traffic Authority Fund were not required as from 1 July 1982 under the amended legislation. However, the level of revenue appropriated to the RCA in subsequent financial years has been adjusted to account for such previous payments.

Expenditure on roads and bridges

The following table summarises the total expenditure by the Road Construction Authority on roads and bridges during each of the years 1978-79 to 1983-84:

ROAD CONSTRUCTION AUTHORITY, EXPENDITURE ON ROADS AND BRIDGES,
VICTORIA
(\$'000)

Particulars	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
State highways —						
Construction	25,649	30,541	37,760	38,250	51,510	73,475
Maintenance	16,602	19,325	19,790	24,326	29,651	33,669
Freeways —						
Construction	56,055	61,561	63,884	72,129	65,918	80,310
Maintenance	3,231	3,789	3,752	4,856	7,512	8,051
Main roads —						
Construction	23,056	25,211	26,559	32,246	41,124	48,197
Maintenance	13,949	17,390	18,285	21,975	23,630	26,141
Unclassified roads —						
Construction	33,597	36,318	38,972	41,174	48,359	59,067
Maintenance	7,428	8,879	9,550	14,116	11,990	12,957
Tourists' roads —						
Construction	1,683	1,822	2,215	1,983	3,504	6,024
Maintenance	1,926	2,238	2,535	3,130	3,853	3,891
Forest roads —						
Construction	745	770	550	871	1,013	1,306
Maintenance	1,053	1,208	1,411	1,547	1,597	1,725
Metropolitan bridges	502	13	—	—	—	—
Rail-over-road bridge protection	563	439	728	1,034	1,469	—
State Intersection Control Program	745	946	—	—	—	—
Traffic Facilities Program—works expenditure	—	—	—	—	7,535	12,644
Murray River bridges and punts	566	636	738	1,248	520	514
Traffic line marking	1,824	2,140	2,716	3,558	4,283	3,833
Wage Pause Employment Program	—	—	—	—	—	1,210
Total construction	140,785	156,223	169,940	186,653	211,428	268,379
Total maintenance	44,189	52,829	55,323	69,950	78,233	86,434
Total other	4,200	4,174	4,182	5,840	13,807	18,201
Total expenditure—works	189,174	213,226	229,445	262,443	303,468	373,014

Road administration*Road Traffic Authority*

On 1 July 1983, the Road Traffic Authority (RTA) was established. It incorporated:
(1) the Road Safety and Traffic Authority (RoSTA);

- (2) the Transport Regulation Board (TRB), except for functions related to route service buses (now in the MTA and STA); and
 (3) some functions of the Country Roads Board (CRB), in particular traffic management aspects, and enforcing and regulating mass and dimension limits of commercial vehicles.

The RTA administers road safety and traffic management programmes, collects some revenue from road users, and controls many private transport services and operations, such as taxis and tow trucks.

Registrations, licences, and permits

All Victorian motor cars and motor cycles must be registered with the Road Traffic Authority, as well as all trailers (except agricultural implements and certain small trailers for private use), fore-cars, and side-cars drawn by or attached to motor cars or motor cycles.

There were 2.74 million motor cars registered in Victoria and 2,316,820 people held drivers' licences at 30 June 1983. For the financial year ending 30 June 1983, there were 5,874 new drivers' certificates issued, 4,005 commercial passenger, 1,163 private omnibus, and 409 tow truck permits.

Licences for commercial goods vehicles are issued with vehicle registration and take the form of an endorsement on every certificate of commercial registration issued after 1 July 1981. In 1984, the Transport (Commercial Goods Vehicles) Regulations 1984 were introduced. They provide for the licensing, maintenance and repair of commercial goods vehicles, and prescribe various fees and forms relating to commercial goods vehicles.

A new billing system has been introduced, enabling payment of motor registration renewals to be made through the banking system. On payment at any bank the registered owner is immediately given a receipt for registration and insurance fees. Public acceptance of the new system is shown by the fact that about 50 per cent of renewals are being transacted through the banking system.

In November 1984, a programme to replace paper licences with more durable plastic ones was phased in. The plastic licences are of credit card size with the driver's photograph, which can be taken at one of 100 photo points. In 1983-84, the computer system of the Road Traffic Authority was modified, to deal with the introduction of the plastic 'identity' driving licences, and to aid enforcement of road laws.

A six-year licence renewal scheme became effective on 1 March 1983. The scheme, which is being phased in over 1983 to 1985, effectively reduces the cost of licence renewal by ten per cent. For the three years from March 1983, half of the renewal licences are being issued for three years and half for six years. The scheme offers greater convenience to the public and simplifies administration.

A new computerised Vehicles Security Register now allows prospective buyers of second-hand vehicles to check hire-purchase contracts or other encumbrances on them. The *Chattels Securities Act 1981* transfers the onus for registration of financial interest from the registered owner of a vehicle, and requires any person who has an interest in a motor car or trailer to register that interest. The Vehicles Security Register enables a prospective purchaser to enquire whether an interest is recorded, and offers a guarantee to car buyers that there is no security interest such as an outstanding lease, mortgage, or hire purchase obligation on the vehicle.

Taxis

Taxis and hire-cars at 30 June 1983 totalled: metropolitan 2,952, urban 205 (Ballarat 51, Bendigo 38, Geelong 116), and country 446.

Since 1 October 1975, there have been two tariffs operating for taxi fares. The second tariff represents approximately a 20 per cent loading on the normal meter distance charge and applies between 9.00 p.m. and 6.00 a.m. Monday to Saturday (6.00 p.m. and 6.00 a.m. in country areas), from 1.00 p.m. Saturday to midnight Sunday, and on public holidays. Taxi fares at 30 June 1983 were flagfall \$1.00 (including the first 110 metres on tariff 1 and the first 90 metres on tariff 2), plus 10 cents for each additional 220 or 180 metres for tariff 1 or 2, respectively.

The Ministry extended the multi-hire taxi scheme in 1983. The scheme allows taxis to pick up a number of people at one point (i.e. a taxi rank) and take them to varying destinations. Each passenger is charged 75 per cent of his/her fare.

Taxi scheme for the disabled

In 1983-84, almost 35,000 disabled people registered with the Victorian Government's Multi-Purpose Taxi Scheme, which began in February 1983. The multi-purpose taxis were introduced as a service to disabled people who have difficulty using normal forms of public transport. The scheme permits disabled people to use standard taxis as well as new specially designed taxi vans, for half the metered fare.

A special committee which includes people with disabilities processes applications for entry into the scheme. Approved users of the multi-purpose scheme receive renewable booklets containing taxi vouchers for the standard taxis. There is no restriction on the number of trips taken.

Eleven taxi companies in Melbourne have fourteen special taxi vans between them which can take people in wheel chairs. Bendigo, Ballarat, and Geelong each have a similar vehicle in their taxi fleet, and the scheme is expected to be extended to other regional centres, depending on demand.

Tow trucks

In July 1979, the previous authority (TRB) conducted an inquiry into the operation and control of tow trucks in Victoria. This inquiry was established after interested parties had endorsed proposals for an inquiry into the rationalisation of the accident towing industry, as recommended by a representative committee comprising members of the towing industry, panel repair industry, insurance companies, Police, social protection groups, and TRB officers.

Following the inquiry, a working party was established with representation from the Victorian Automobile Chamber of Commerce, Royal Automobile Club of Victoria, and the Transport Regulation Board, to develop measures by which the attendance of tow trucks at accident scenes in the metropolitan area could be better controlled.

Special attention was given to the development of a central communications system, using the facilities of the Royal Automobile Club of Victoria, to allocate work. The Accident Towing Allocation Scheme commenced operation on 1 September 1982, and its functions are being monitored by a steering committee provided for in the Transport Consolidated (Tow truck) Regulations 1982. The programme has been administered by the RTA from 1 July 1983.

The Accident Towing Allocation Scheme controls the number of tow trucks at accidents and the behaviour of tow truck personnel at accidents, sets maximum towing and storage rates, and provides industry self-regulation. Steps are being taken to bring more self-regulation into the scheme, including central control facilities under contract, with costs met from tow truck licence fees.

The year 1983 saw the establishment of the Transport (Tow Truck) Regulations 1983. These regulations provided for the licensing and conditions of operation of tow trucks, and for the specifications, maintenance, and equipment of tow trucks. The regulations also enabled the establishment of the Accident Towing Advisory Committee.

Motor boats

The Authority is responsible for the registration of motor boats (under 20 metres in length) and for keeping records of ownership. Fees collected from motor boat registrations totalled \$2,302,045 during 1983-84. These fees, less the cost of collection and administration of the Motor Boating Act, are paid to the Victorian Tourism Commission. At 30 June 1984, there were 101,892 motor boats registered by the Authority.

Enforcement

Enforcement action relating to the provisions of the *Transport Act* 1983 and the Transport Passenger Vehicle Regulations 1984 is the responsibility of the Authority's field staff, comprising officers located at Head Office and its twelve regional offices. In addition, the Authority is considerably involved in other legislation which its officers are empowered to enforce, including the Motor Car Act and Regulations and the Road Traffic Regulations as they relate to commercial road transport.

On-road supervision of the commercial road transport industry is currently being increased. Particular emphasis is being given to the heavy road freight sector, to detect non-observance of the regulations for hours of driving, vehicle loading practices, and general vehicle maintenance.

REGISTRATION AND LICENCE RATES AT 1 JANUARY 1984, VICTORIA

Type of registration or licence	Annual rate
REGISTRATION	
Motor cycle	\$7.60 plus \$2.00 surcharge (a)
Motor car (private use)	\$1.15 for each power-weight unit (b) plus \$2.00 surcharge (a) (Pension concession rate is half fee)
Motor car (private and business use)	\$1.40 for each power-weight unit (b) plus \$4.00 surcharge (a)
Trailer (attached to motor car)	From \$7.80 each, according to the unladen weight and use

REGISTRATION AND LICENCE RATES AT 1 JANUARY 1984, VICTORIA — *continued*

Type of registration or licence	Annual rate
REGISTRATION — <i>continued</i>	
Motor car (used for hire as special service omnibus and touring omnibus)	From \$1.40 to \$1.65 for each power-weight unit (b) according to the unladen weight plus \$4.00 surcharge (a)
Motor car (commercial passenger vehicles) operating on an omnibus service	\$2.65 plus \$4.00 surcharge (a)
Motor car (commercial passenger vehicles) operating on a temporary school service licence	\$27.25 plus \$4.00 surcharge (a)
Motor car (used for carrying passengers or goods for hire or in the course of trade)	From \$2.20 to \$4.05 for each power-weight unit (b) according to the unladen weight plus \$4.00 surcharge (a)
Motor car (constructed for the carriage of goods) owned by primary producer and used solely in connection with his business	\$60.00 plus \$2.00 surcharge (a) where tare is less than 3,000 kg; \$120 plus \$2.00 surcharge (a) where tare is 3,000 kg or more
Mobile crane, self-propelled (used otherwise than for lifting and towing vehicles)	\$49.90 plus \$4.00 surcharge (a)
Recreation vehicle	\$3.00 for vehicle with not more than 3 wheels, in any other case \$10.00
LICENCE	
Drivers' or riders' licence	\$54.00 issued for a six-year period for renewal of licence. An appointment fee of \$5.00 and testing fee of \$10.00 are payable by all applicants for new licences, which are issued for three years at a fee of \$30.00
Learner's permit — Driver	\$10.00 for two years. An appointment fee of \$5.00 and testing fee of \$10.00 are payable by all applicants for a driver's learner permit.
Rider	\$5.00 for twelve months and \$5.00 for a three-month extension if required. An appointment fee of \$5.00 and testing fee of \$30.00 are payable by all applicants for a rider's learner permit.
Instructor's permit	\$150.00 issued for a three year period.

(a) Surcharges apply to registrations or re-registrations effected on and after 1 August 1972 and renewals due on and after that date.

(b) The number of power-weight units is that number which is equal to the sum of the horsepower and the weight in 50-kilogram units of a motor car unladen and ready for use.

NOTE: The minimum annual fee for the registration of any motor vehicle other than a motor cycle is \$21.90.

DRIVERS' AND RIDERS' LICENCES IN FORCE AT 30 JUNE, VICTORIA

Type of licence	1978	1979	1980	1981	1982	1983
Drivers'	1,945,501	1,999,646	2,046,331	2,099,421	2,164,116	2,216,443
Riders'	70,562	72,526	74,138	82,293	91,323	100,377
Total	2,016,063	2,072,172	2,120,469	2,181,714	2,255,439	2,316,820

The following table shows the number of motor vehicles on the register by type. Particulars of Australian Government-owned vehicles, with the exception of defence service vehicles, are included. Tractor-type vehicles, plant, and trailers are excluded.

NUMBER OF MOTOR VEHICLES ON REGISTER BY TYPE OF VEHICLE, VICTORIA

Type of vehicle	Census, 31 December 1962	Census, 30 September 1971 (a)	Census, 30 September 1976 (a)	Census, 30 September 1979 (a)	At 30 June 1981	At 30 June 1984
Motor cars	610,974	929,477	1,222,733	1,314,015	1,379,926	1,859,752
Station wagons	69,528	201,884	233,480	240,386	252,608	
Utilities	94,470	89,764	104,538	109,216	113,900	133,477
Panel vans	31,851	46,539	46,980	54,905	56,997	60,455
Trucks —						
Rigid	} 76,591	79,386	117,764	127,768	136,756	168,541
Articulated		9,417	9,766	10,377	11,090	12,502

NUMBER OF MOTOR VEHICLES ON REGISTER BY TYPE OF VEHICLE, VICTORIA — *continued*

Type of vehicle	1978	1979	1980	1981	1982	1983
Other truck type vehicles	2,890	3,520	4,867	9,833	10,492	12,664
Buses	3,409	5,129	7,294	8,995	9,914	12,909
Motor cycles	15,802	28,160	51,931	48,502	64,214	81,711
Total	905,515	1,393,276	1,799,353	1,923,997	2,035,897	2,342,011

(a) Revised classifications of motor vehicles were adopted for the censuses of motor vehicles at 30 September 1971 and 1976. Classifications used in 1979 were the same as those for 1976.

The principal differences between the new classification for 30 September 1971 and that at 31 December 1962 were:

(i) 'Utilities and panel vans' include 'light commercial type vehicles' and trucks with a carrying capacity under 1.016 tonnes, and ambulances and hearses (which were previously included under motor cars).

(ii) 'Rigid trucks' include utilities and panel vans with a carrying capacity of 1.016 tonnes and over.

(iii) 'Other truck type vehicles' consist of those truck type vehicles which are designed for purposes other than freight carrying, e.g. street flushers or fire engines. Previously, this category incorporated vehicles such as tankers and concrete agitators which are now classified as 'trucks'.

The 1976 and 1979 Motor Vehicle Censuses have as their main features:

(i) Allocation of commercial vehicles to the categories 'utilities', 'panel vans', or 'rigid trucks' solely on the basis of the body type as recorded by the registration authority.

(ii) The inclusion in 'other truck types' of ambulances, hearses, and motorised caravans.

Direct comparisons, therefore, between the four censuses can only be made for the categories station wagons, buses, and motor cycles. However for comparative purposes 'light commercial type vehicles - open' registered at 30 September 1971, have been included in the classification utilities and 'light commercial type vehicles - closed', registered at the same date, are included in the classification panel vans. Trucks and other truck types registered at 31 December 1962 have also been included under similar headings but attention is drawn to the changes in definition of those categories outlined above.

REGISTRATIONS OF NEW MOTOR CARS AND STATION WAGONS
ACCORDING TO MAKE, VICTORIA

(Includes Australian Government-owned vehicles other than those of the defence services)

Make	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
Alfa Romeo	584	501	492	546	569	384
Audi	282	71	82	98	83	39
B.M.W.	374	476	653	737	853	1,054
Chrysler (a)	10,500	11,675	4,577	46	16	—
Daihatsu	—	179	661	629	503	695
Datsun	13,461	12,344	12,693	14,142	14,152	1,949
Fiat	474	247	197	208	119	58
Ford	27,977	25,090	23,721	29,419	31,643	34,914
Holden	33,915	31,214	28,307	30,225	31,925	26,631
Honda	1,895	2,504	2,106	1,528	1,591	1,468
Jaguar	272	205	244	135	240	266
Leyland	584	26	17	13	11	—
Mazda	8,029	9,627	10,605	8,685	8,728	7,930
Mercedes Benz	883	615	731	983	962	950
Mitsubishi (a)	—	—	8,774	13,285	12,033	10,658
Nissan	11	13	18	86	294	12,643
Peugeot	848	533	644	666	601	669
Renault	798	529	341	230	312	275
Rover	528	398	432	408	212	478
Saab	138	153	114	133	143	186
Subaru	557	1,106	1,515	1,899	2,359	2,707
Toyota	17,496	15,576	15,480	15,648	14,491	20,453
Triumph	403	44	78	26	3	—
Volkswagen	589	357	147	66	7	11
Volvo	1,563	1,402	1,454	1,548	1,218	1,398
Other	811	695	634	657	766	836
Total	122,972	115,580	114,717	122,046	123,834	126,652

(a) As a result of the purchase in April 1980 of Chrysler Australia by Mitsubishi Motors Corporation, all vehicles produced, imported, and sold by the new company from October 1980 have borne the name 'Mitsubishi'.

REGISTRATIONS OF NEW MOTOR VEHICLES OTHER THAN MOTOR CARS, STATION WAGONS, AND MOTOR CYCLES ACCORDING TO MAKE, VICTORIA

(Includes Australian Government-owned vehicles other than those of the defence services)

Make	1982-83				1983-84			
	Util-ities	Panel vans	Other	Total	Util-ities	Panel vans	Other	Total
Daihatsu	112	96	656	864	98	52	846	996
Datsun	1,876	74	1,556	3,506	136	5	162	303

REGISTRATIONS OF NEW MOTOR VEHICLES OTHER THAN MOTOR CARS, STATION
WAGONS, AND MOTOR CYCLES ACCORDING TO MAKE, VICTORIA — *continued*
(Includes Australian Government-owned vehicles other than those of the defence services)

Make	1982-83				1983-84			
	Util- ities	Panel vans	Other	Total	Util- ities	Panel vans	Other	Total
Ford	1,445	628	2,163	4,236	1,458	608	1,747	3,813
Holden	1,209	713	1,079	3,001	1,286	405	1,013	2,704
International	—	—	616	616	—	—	504	504
Isuzu	1	1	747	749	—	—	917	917
Leyland	33	—	101	134	1	—	72	73
Mazda	399	334	1,472	2,205	522	245	1,582	2,349
Mitsubishi	455	342	1,127	1,924	699	212	1,369	2,280
Nissan	26	6	84	116	1,350	25	1,016	2,391
Subaru	129	39	127	295	175	48	217	440
Suzuki	312	613	1,062	1,987	420	295	962	1,677
Toyota	2,023	764	2,910	5,697	2,386	432	3,765	6,583
Other	43	21	1,292	1,356	46	47	1,527	1,620
Total	8,063	3,631	14,992	26,686	8,577	2,374	15,699	26,650

PROSECUTIONS TAKEN TO COURTS UNDER ENFORCEMENT LEGISLATION, VICTORIA

Acts or Regulations	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
Transport Regulation Act (Passenger)	91	192	132	129	90	140
Commercial Goods Vehicles Act — Part 1	1,649	1,420	1,712	1,733	(a) 44	—
Transport Consolidated Regulations 1977	211	252	267	363	298	110
Motor Car Act	1,681	1,652	1,948	2,426	2,152	3,030
Motor Car Regulations	291	175	382	375	507	408
Road Traffic Regulations	232	163	242	371	385	351
Summary Offences Act	2	3	2	4	3	—
Magistrates' Court Act	—	20	7	—	2	—
Total	4,157	3,877	4,692	5,401	3,481	4,039

(a) Effect of the *Transport (Deregulation) Act 1980*.

Road safety and traffic management

Road Traffic Authority

The principal responsibility for road safety and traffic management functions and activities rests with the Road Traffic Authority, with significant delegation to the Road Construction Authority and to municipalities for certain traffic management activities. The key objectives have been to reduce road deaths and injuries and to improve the efficiency of the road traffic system in Victoria. The Authority develops and initiates accident reduction and traffic strategies and programmes, incorporating measures directed at road users, vehicles, and the road system.

Concerning the former Authority (RoSTA), an amount of \$9.96m was appropriated for the 1982-83 year and \$1.5m was provided for the capital works programme.

Road traffic accidents

While there are now fewer deaths from motor vehicle collisions, injuries have not fallen at the same rate. The number of people killed in 1982-83 was 711, the second lowest in 23 years. But the number of people reported as injured remained relatively constant over the period 1978 to 1983.

The following tables include details of road traffic accidents which satisfied the following conditions:

- (1) that the accident occurred on a road, street, lane, thoroughfare, footpath, or any place open to or used by the public by right or custom, at the time of the accident;
- (2) that it involved:
 - (a) any road vehicle which was in motion; or
 - (b) any animal which was in motion and was being used for the purpose of transportation or travel; or
 - (c) any train passing over a level crossing for the time being open to the public; and
- (3) that the accident resulted in:
 - (a) death of any person within a period of thirty days after the accident; or

(b) bodily injury to any person to an extent requiring surgical or medical treatment.

While there is a requirement for accidents involving a casualty to be reported to the Victoria Police, not all such accidents are so reported, particularly where injury of minor severity has occurred. There is some evidence of understatement in recent years of the numbers of accidents and persons injured compared with earlier years.

The tables do not include figures of accidents on railway lines (except at level crossings) or on private property. For these and other reasons, the total number of deaths shown in these tables is not comparable with that shown on page 652.

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES, NUMBER OF PERSONS KILLED OR INJURED, VICTORIA

Period	Number of accidents	Persons killed	Persons injured	Per 100,000 of mean population		
				Number of accidents	Persons killed	Persons injured
1977-78	14,964	926	20,243	388	24	525
1978-79	14,758	842	20,056	381	22	518
1979-80	14,644	785	19,504	376	20	501
1980-81	15,576	713	20,765	396	18	528
1981-82	15,642	717	20,723	394	18	522
1982-83	15,225	711	19,884	377	18	493

The table which follows provides a description of types of road users killed or injured in road traffic accidents occurring during the years 1980-81 to 1982-83:

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES, DESCRIPTION OF PERSONS KILLED OR INJURED, VICTORIA

Description	1980-81		1981-82		1982-83	
	Killed	Injured	Killed	Injured	Killed	Injured
Drivers of motor vehicles	266	8,747	246	8,792	274	8,349
Motor cyclists	56	1,903	78	2,037	83	2,160
Passengers (any type)	189	6,887	200	6,701	172	6,194
Pedestrians	174	2,064	153	1,998	152	1,934
Pedal cyclists	25	1,132	38	1,155	28	1,192
Other	3	32	2	40	2	55
Total	713	20,765	717	20,723	711	19,884

Particulars of victims of road traffic accidents during the years 1980-81 to 1982-83 are shown according to their ages in the following table:

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES, AGES OF PERSONS KILLED OR INJURED, VICTORIA

Age group (years)	1980-81		1981-82		1982-83	
	Killed	Injured	Killed	Injured	Killed	Injured
Under 5	28	466	23	445	19	421
5 and under 7	15	326	10	289	14	274
7 and under 17	44	2,288	66	2,306	45	2,202
17 and under 21	138	4,246	135	4,102	135	3,955
21 and under 30	160	5,265	170	5,309	189	5,129
30 and under 40	81	2,564	77	2,690	76	2,556
40 and under 50	53	1,588	45	1,675	48	1,501
50 and under 60	59	1,380	52	1,339	61	1,265
60 and over	133	1,586	138	1,517	122	1,498
Not stated	2	1,056	1	1,051	2	1,083
Total	713	20,765	717	20,723	711	19,884

Road safety programmes

The Road Traffic Authority is responsible for the initiation, development, and implementation of road safety strategies. The strategies are directed at reducing the intolerable level of road deaths and injuries by better traffic management, vehicle engineering, education, licensing, and enforcement. Education is aimed at emphasising safer use of roads by pedestrians and drivers.

In October 1984, road safety was given a \$1m boost by the selling of original registration plates for vehicles at an auction. The funds raised from the auction are being used for road safety education and publicity.

Pedestrian and child safety

The young pedestrian problem is being tackled initially through education at primary school, with the 'Roadwork' curriculum unit. The initiatives include asking parents to show their children the safest route to school and to encourage the use of safety flags on bikes.

A specialist road safety communicator is continuing to work among elderly citizen groups to promote safe pedestrian behaviour. Specific media campaigns are also being directed towards elderly pedestrians.

Routes and areas with a high number of pedestrian accidents are being studied and various treatments developed. These include improved pedestrian and vehicle separation, pedestrian operated signals, school or pedestrian crossings, pedestrian refuges, linking signals to provide gaps in traffic, and kerbside parking review as well as enforcement directed at pedestrians and drivers.

Child restraints are promoted by providing advice and information to parents. Publicity campaigns continue and a specialist lecturer talks to parent groups. In March 1982 a pilot bassinet restraint loan scheme was started by the City of Knox. The programme is to be expanded.

Road safety curriculum units, widely acclaimed by both road safety and education experts, will continue to be promoted in schools throughout the State. Teachers seconded from the Education Department assist with the promotion of existing units and the development of new ones. These educational programmes play an important part in developing responsible road user attitudes from a very young age.

Bicycle safety

The Authority has conducted major bicycle safety campaigns concentrating on bicycle helmets, while the State Bicycle Committee has continued with major programmes in the areas of bicycle encouragement, education, and enforcement. A special bicycle helmet campaign was launched in March 1984. The thrust of the campaign was aimed at parents to tell them the dangers their children face while riding a bicycle, and to motivate parents to buy a helmet and insist that it be worn every time a child rides a bicycle. The campaign was also aimed at motivating more schools to insist that it be worn every time a child rides a bicycle. The campaign was also aimed at motivating more schools to insist that approved helmets be a compulsory part of the school uniform for children who ride a bicycle to and from school.

Driver and rider safety

Learner permit and probationary licence test manuals and test questions are being revised completely in 1984, to increase knowledge of road craft and road law among novice drivers.

Almost 30,000 motorcycle learner permits are issued in Victoria each year. In June, 1983, a new scheme was introduced for issuing learner permits. Motorcycle riders cannot use the road until they have passed a basic riding skill test and a two-part motorcycle roadcraft test. Applicants for the motorcycle learner's permit in areas where motorcycle training facilities are available have to undertake a riding skill test or successfully complete a training course. Off-street training/testing facilities are operated by the Road Traffic Authority and Technical and Further Education (TAFE) Colleges.

Motorcycle training centres for learner riders were extended to Wodonga, Morwell, and Kilsyth in 1984, bringing the total to nine centres. Others are at Shepparton, Box Hill, Richmond, Braybrook, Preston, and Moorabbin. Centres will be established across the State by the end of 1985.

A two month safety campaign, aimed at reducing the number of motorcyclists killed in road crashes, launched in October, 1983, was repeated in October 1984.

A zero blood alcohol law was proclaimed in May 1984, making it illegal for all 'P' and 'L' plates drivers to drive with alcohol in their systems. Drivers who are convicted under this law are now required to attend a course in driver education approved by the Authority. The RTA has the power to cancel the licence of anyone convicted who does not attend the course.

A special lecture kit entitled 'Drive for Life' was launched in July 1984, with teenagers and young adults in mind. The kit was produced by the RTA, in conjunction with the Victoria Police and the Education Department. It deals with matters such as speed, alcohol, seat belts, and intersections.

With the provision of an extra sixty random breath testing units to the police in 1984, the Authority began a \$250,000 campaign to reinforce to the public the increased random breath testing activity.

The first of ten photo-violator cameras which detect drivers who ignore the red traffic light signal was activated in August 1983, and an additional five were ordered in April 1984. The cameras automatically detect all vehicles which enter the intersection after the light turns red and should be effective in reducing the incidence of right angle crashes. The cameras are selectively mounted at fifty intersections with a bad accident record throughout Melbourne.

Other campaigns have included advertising the automatic loss of licence if convicted of driving thirty kilometres per hour above the speed limit.

Road traffic hazards

The Victorian Government will spend \$3.8m in the 1984-85 financial year treating accident 'black spots'. A total of 150 black spots, particularly accident-prone sections of road, had been identified for study and treatment during the year. Treatment can vary from signposting and building traffic islands to the total redesigning and remaking of intersections. The 1983-84 black spot programme allocation was \$1.6m, with treatment for seventy sites. During 1982-83, seventeen sites were treated at a cost of \$1m.

In 1983-84, removal of pole hazards along Melbourne roads was a significant part of the 'black spots' programme. A total of eighty-five poles were investigated with the aim of reducing pole crashes. Some twenty-three poles were relocated, had crash barriers put around them, or were subject to various other engineering techniques. Hazardous poles at other locations throughout Melbourne have been identified for treatment in future programmes.

Regional centres to receive attention in the accident black spots programme included Bendigo, Ballarat, Echuca, Geelong, Shepparton, Horsham, Traralgon, and Warrnambool.

Traffic strategies

The Road Traffic Authority is responsible for the development and implementation of traffic strategies which provide for the efficient, effective, and proper use of the road network. Factors taken into account include public transport efficiency, safe movement of pedestrians and bicyclists, the efficient movement of goods, fuel and travel time savings, and protection of residential amenity. Such strategies are developed in consultation with the Road Construction Authority, municipalities, and user groups.

Co-ordination of traffic signals

Implementation of the SCRAM (Signal Co-ordination of Regional Areas in Melbourne) system is continuing. Signal co-ordination reduces travel time, stops, and fuel consumption by providing green wave progression for major traffic flows. By mid-1984, 396 sets of traffic lights had been linked out of a total of 1,800 to be linked during the five year programme. There are six SCRAM regional computers in Footscray, Blackburn, St Kilda, Springvale, Kew, and Port Melbourne. Similar computers are being established at Preston, Glen Iris, Brighton, Doncaster, and Carlton.

Traffic flows are continually monitored by regional computers in the SCRAM system. Signal timings and co-ordination plans are adjusted automatically to provide minimum overall delay and stops for traffic. The SCRAM system also incorporates special features to enable public transport vehicles to be detected and assisted at traffic signals. The cost of SCRAM is \$22m, not including modifications to existing traffic signals for other purposes or the installation of new traffic signals.

Direction signs

New direction signs giving clear advice on traffic routes and distances are being installed at about 185 key intersections in the metropolitan area. The signs advise of suburbs on the route ahead as well as distance to them. Further signs will list the names of intersecting roads and suburbs reached in those directions.

The improved signposting is costing approximately \$550,000 and will be carried out over two to three years. The new signs are green with white lettering and are visible at night. The installation programme began in 1984.

Bikeplans

The Melbourne Bikeplan is complete and ready for implementation by State and local authorities. Significant work has already been done including the publication of bike maps to cover the

metropolitan area. The official five year implementation period of the Geelong Bikeplan is complete. Funding will continue on an individual municipality basis. Funding for municipal bicycle works this year will again total approximately \$700,000.

Motor Accidents Board

The Motor Accidents Board of Victoria administers a 'no fault' motor accident compensation scheme. This scheme excludes any attempts to introduce degrees of fault, allocation of negligence, and similar concepts. It was the first of its type in Australia and is proving of interest overseas.

The 'no fault' concept is a fundamental departure from the law of tort. Such are the complexities and numbers of accidents in current society, many of which are not related to negligence or fault, that payment of some compensation is seen as a social liability paid for by the motor vehicle owners.

The beginning of the Victorian Government's move for a 'no fault' system of motor accident compensation was in the recommendation of two committees, the first appointed to report on methods of reducing the time involved and the high costs of litigation procedures, and the second to draw up in draft detailed provisions for 'no fault' benefits and administration. The Motor Accidents Act, which embraced most of the second committee's recommendations concerning a 'no fault' system, received Royal Assent in April 1973. Its administrative provisions, including appointment of the Board, were enacted in September 1973, and benefits began to operate from 12 February 1974. The total amount of benefits paid by the Board to 30 June 1984 was \$411,879,160, compared with \$323,398,947 to 30 June 1983.

Grain transport and storage

Grain Elevators Board

Introduction

The Grain Elevators Board transferred to the Transport Portfolio in 1983 after having reported to the Minister for Agriculture since its inception. Being essentially a country-based organisation, it is not very well known in city areas and is often confused with its major customer, the Australian Wheat Board.

The Grain Elevators Board (GEB) is a statutory authority first established under the *Grain Elevators Act* 1934. It currently operates under the *Grain Elevators Act* 1958, as amended.

The GEB was set up at the conclusion of a number of enquiries, precipitated by an increasing awareness on the part of industry and political leaders, concerning benefits associated with handling grain in bulk rather than bags. Victoria thus followed New South Wales and Western Australia in the transition from bag to bulk handling.

Function

The main functions of the GEB are to receive, handle, store, and distribute bulk wheat, barley, oats, and other grains. The GEB acts as authorised receiver of commodities which it holds in its custody on behalf of statutory marketing authorities, companies, and private owners.

Country facilities

Following incorporation, the GEB commenced a building programme to establish an export terminal at Geelong and a number of silos in the major grain growing areas of Victoria. Operations commenced with the receipt of 293,500 tonnes of bulk wheat during the 1939-40 harvest.

The initial grain receipt and storage 'system' was designed to meet the demands of the grain harvesting and delivery technology existing at that time. Silos were built along a relatively dense rail network and spaced to be reasonably accessible for grain deliveries by horse and cart teams. In this manner, over time, the GEB established some 255 country receipt stations, with an average storage capacity of 9,700 tonnes per station.

GRAIN ELEVATORS BOARD, STORAGE CAPACITIES OF TERMINALS AND COUNTRY STATIONS, VICTORIA, 1984

Item	Number of storages (a)	Capacity
		'000 tonnes
Shipping terminals -		
Geelong	1	830.0
Portland	1	165.0

GRAIN ELEVATORS BOARD, STORAGE CAPACITIES OF TERMINALS
AND COUNTRY STATIONS, VICTORIA, 1984 — *continued*

Item	Number of storages (a)	Capacity
<i>Shipping terminals — continued</i>		
Sunshine	1	65.0
Total	3	1,060.0
<i>Inland terminals —</i>		
Dunolly	1	247.5
Murtoa	1	174.0
Total	2	421.5
<i>Country stations —</i>		
Northern	61	624.4
Western	81	802.4
Central	55	644.1
Eastern	54	402.1
Southern	4	5.1
Total	255	2,478.1
Total all facilities	260	3,959.6

(a) Excludes earthen-wall storages.

Bearing in mind present day harvesting and delivery technology, the approach adopted in the 1930s, 1940s, and 1950s has left the GEB with a legacy of too many small silos, each with inadequate elevating capacity. Moreover, the existence of many small country receival stations also complicates the requirement for the GEB to separately store different grains and grain varieties.

In response to the difficulties associated with the operation of the relatively fragmented country system, the GEB, in co-operation with V/Line, grower, and marketing organisations, is now designing a new country receival and storage system, which will meet present and anticipated future needs of the grain industry.

A new system will involve establishment of a limited number of Central Receival Points (CRPs) (totalling twenty-one in 1984-85). These CRPs will be designed and built to meet the particular needs of the areas which they are intended to serve. In general, CRPs will be highly mechanised and will have special storage and handling arrangements.

Port facilities

Geelong

The GEB's major export terminal at Geelong was established in 1939. It incorporated the then very latest operating controls. These have stood the test of time to the present day.

However, consistent with the requirement of the CRP system being introduced in the country, the GEB, in conjunction with V/Line, constructed new rail receival facilities located on a new rail loop. In this manner the terminal is able to unload block trains on a continuous basis. Once the rest of the handling system is upgraded, the receival capacity will be almost doubled.

Plans are in hand to increase internal handling and shipping capacity from the 1,600 tonnes per hour to 2,400 tonnes per hour.

Geelong, while remaining the GEB's major export terminal, suffers from the disadvantage of having a limited water-depth, which prevents very large ships from taking on a full load at the terminal.

Portland

In 1977 the GEB acquired the Portland Grain terminal from the Portland Harbor Trust (now known as the Port of Portland Authority). This terminal gave the GEB a deep-water port capable of accommodating larger bulk grain ships expected to come into use later this century. To cope with increased loading requirements, shipping capacity has already been increased to 750 tonnes per hour and the GEB is currently finalising plans to further substantially increase shipping capacity to 1,000 tonnes per hour and then to 2,000 tonnes per hour by 1985-86.

**TONNES SHIPPED BY THE GRAIN ELEVATORS BOARD,
VICTORIA
(^{'000 tonnes})**

Season	Geelong	Portland (a)	Total
1978-79	1,908.6	944.9	2,853.5
1979-80	2,880.6	1,216.8	4,097.4
1980-81	2,227.9	800.7	3,028.6
1981-82	2,108.4	1,017.1	3,125.5
1982-83	160.3	19.0	179.3
1983-84	2,363.9	1,234.6	3,598.5

(a) Shipments since the Grain Elevators Board assumed control in 1977.

Grain receipts

Tonnages of grain received by the GEB have increased substantially since the early days of bulk handling in Victoria. In fact receipts have been on a new high 'plateau' since 1978-79 when the quantity of grain received exceeded four million tonnes for the first time. A new record was created in 1983-84 when 5.25 million tonnes of grain was received. Nevertheless, this latest period also includes receipts of a mere 363,000 tonnes in 1982-83, the result of one of the worst droughts on record, illustrating the highly variable nature of annual grain harvests and receipts in Victoria.

**ANNUAL RECEIPTS BY THE GRAIN ELEVATORS BOARD,
VICTORIA
(^{'000 tonnes})**

Season	Wheat	Barley	Oats	Total
1978-79	3,462.3	468.1	165.1	4,095.5
1979-80	3,720.6	440.6	111.1	4,272.3
1980-81	2,851.1	344.6	55.5	3,251.2
1981-82	2,732.3	431.0	27.9	3,191.2
1982-83	319.3	43.6	0.1	363.0
1983-84	4,462.7	698.0	88.3	5,249.0

Increases in the quantity received are mainly the result of increases in hectares sown to grain rather than increases in yields per hectare. Another factor has been the receipt and handling of other grains in addition to wheat. Wheat is still by far the major grain with about eighty-five per cent of total receipts.

In addition to the grain growing areas of Victoria the GEB's 'catchment area' includes a part of southern New South Wales adjacent to the Victorian broad-gauge rail-spurs from Echuca to Balranald, Echuca to Deniliquin, Yarrowonga to Oaklands, and part of south-eastern South Australia.

Financial

The GEB commenced operations with a \$4m loan from the Victorian Government. Since then it has constructed fixed assets with a written down value (in historical cost terms) of \$84.1m at 31 October 1983. These have been funded from loans obtained with the assistance of a Victorian Government guarantee and profits retained in the business. The net funds owned by the GEB, that is, the excess of the amounts owned over the amounts owed, totalled \$55.1m at 31 October 1983.

GRAIN ELEVATORS BOARD, FINANCE AND STAFF, VICTORIA

Item	1978-79	1979-80	1980-81	1981-82	1982-83 (a)
Finance -					
Revenue \$m	32.1	37.5	32.2	42.6	10.3
Operating surplus (deficit) \$m	11.4	7.5	2.7	10.1	-12.0
Fixed assets (b) \$m	52.0	61.0	71.5	82.5	84.1
Net funds owned by the Board \$m	47.4	53.7	57.0	67.1	55.1
Staff -					
Permanent employees at 31 October	458	558	575	627	485

(a) Represents drought year.

(b) Net. Based on historical costs.

As can be seen from the above table, the GEB has operated profitably, with the exception of the drought year 1982-83. Moreover, the GEB has been able to achieve this by levying among the lowest storage and handling charges in Australia.

Commencing from 1983-84 the GEB is required to pay an annual dividend to the Victorian Treasury. The amount paid in 1983-84 was \$4m; the amount required to be paid in 1984-85 is \$5m.

In 1984 the GEB was proclaimed to be a body to which the *Annual Reporting Act* 1983 and associated regulations apply.

Further references: Australian Road Safety Council, *Victorian Year Book* 1966, p. 761; Traffic Commission, 1971, pp. 741-2; Board of Inquiry into Land Transport in Victoria, 1975, p. 634; Transport in the Victorian environment, 1979, pp. 1-26; Recent trends in road transport, 1982, pp. 536-37; Country Roads Board, 1983, pp. 514-21; Transport Regulation Board, 1983, pp. 524-6; Road Safety and Traffic Authority, 1983, pp. 526-7; Land transport, 1934 to 1984, 1984, pp. 485-501

SEA TRANSPORT

Shipping

Introduction

During the 1830s, settlers quickly found that, because of the lack of roads, sea transport was essential in and between the settlements of the Port Phillip District. Despite the rapid growth and spread of speedier land transport in the next one hundred years, the size of Port Phillip Bay encouraged the regular use of ships to a greater extent than other coastal areas of the State. Cargoes from the western region included dairy products, livestock, and timber, and from the eastern region, fish. Servicing of the goldfields at Walhalla and the Tambo Valley was also provided by way of Port Albert.

The Port of Melbourne was established in 1877 when the Melbourne Harbor Trust Commissioners was constituted as the port authority under the Melbourne Harbor Trust Act. The port expanded with the growth of Victoria's population and consequent trade also utilised facilities at Geelong and Portland.

The Pool of Melbourne opposite the Customs House and other Yarra River and Bay berths were crowded with the masts of sailing ships and Victoria became associated with the clipper classic, the annual grain race. By the early years of the twentieth century sail had been superseded by coal and oil fuels, with their accompanying dock, bunkering, and maintenance requirements.

In the years following the Second World War, Australian shipowners revised their trading practices as a result of vigorous competition from land-based transport operators. Consequently, the entire coastal trade by sea was transformed, and ships modified to make them more useful as a means of transportation around the coast.

One of the results of this trend was the expansion of the bulk cargo trade to include goods, such as sugar, as well as various oils and oil products. Later, unit loads and containers with improved handling facilities on both ship and shore were introduced. These new methods led to the specialised ship, exclusively designed and equipped to meet requirements of the particular trade. These were the roll on-roll off stern loading ships for cargo packed on road vehicles, and the container ship designed for containerised cargo and other unit loads.

New packaging and cargo handling methods, as well as new ships, are bringing changes to port facilities, where specially designed wharves, equipment, and port modifications are matching the new concepts in ship and cargo handling around the Australian coast and the demands of Australian overseas trade.

The types of cargo handled by the other major Victorian ports still reflect proximity to the rural sectors of the State, with wheat and wool being exported from Geelong and Portland. Western Port has developed in the last decade as a major port for petroleum products and steel with the development of secondary industry in the region surrounding the port. The Port of Melbourne, with its expanded container handling facilities, caters for all types of cargo for both the coastal trade and overseas trade.

Searoad service between Victoria and Tasmania

The following table shows details of the searoad service operated by the Australian Shipping Commission between Victoria and Tasmania during the years 1981-82 to 1983-84:

SEAROAD SERVICE (a) BETWEEN VICTORIA AND TASMANIA

Ship	Passengers			Accompanied vehicles		
	1981-82	1982-83	1983-84	1981-82	1982-83	1983-84
<i>Empress of Australia</i>	121,361	124,056	124,693	36,048	36,029	35,825

(a) Excludes commercial cargo which consists of unit loads, ie. containers, trailers, timber packs, etc.
Source: The Australian National Line.

Statistics

Production of statistics of coastal shipping (interstate and intrastate) ceased from July 1978. Statistics appearing in tables below relate only to international voyages and overseas cargo.

Ship arrivals and departures

The following table shows ship movements to and from Victoria for the period 1977-78 to 1983-84. 'Ship calls' are so defined that a ship is counted each time it arrives at or departs from a Victorian port. 'Deadweight tonnage' refers to the total weight (in tonnes) of cargo, stores, fuel, passengers, and crew carried by a ship when loaded to its maximum summer waterline.

OVERSEAS SHIPPING, SHIP ARRIVALS AND DEPARTURES, VICTORIA

Particulars	1977-78	1978-79	1979-80	1980-81	1981-82	1983-84
Arrivals –						
Ship calls	1,548	1,551	r1,887	r1,924	1,977	1,703
Deadweight tonnage ('000 tonnes)	n.a.	n.a.	r36,312	r38,808	39,573	34,687
Departures –						
Ship calls	1,540	1,566	r1,850	r1,901	1,916	1,640
Deadweight tonnage ('000 tonnes)	n.a.	n.a.	r35,547	r38,466	38,517	33,929

Particulars of ship movements at Victorian ports are shown in the following table for the years 1980-81 to 1982-83:

OVERSEAS SHIPPING, SHIP ARRIVALS AND DEPARTURES BY PORT, VICTORIA

Particulars	Melbourne			Geelong			Western Port			Portland		
	1980-81	1981-82	1982-83	1980-81	1981-82	1982-83	1980-81	1981-82	1982-83	1980-81	1981-82	1982-83
Arrivals –												
Ship calls	r1,313	1,388	1,257	266	290	205	217	193	172	128	106	69
Deadweight tonnage ('000 tonnes)	r23,077	24,178	22,727	r6,712	8,232	5,771	r5,911	4,357	4,200	r3,108	2,807	1,989
Departures –												
Ship calls	r1,285	1,338	1,188	r272	283	211	r217	191	172	127	104	69
Deadweight tonnage ('000 tonnes)	r22,641	23,240	21,689	r6,854	8,087	6,000	r5,841	4,386	4,151	r3,130	2,804	2,043

Nationality of shipping

The country of registration of a ship is the country in which a ship is registered according to Lloyd's Register of Shipping. The countries of registration of ships which arrived at or departed from Victorian ports during 1980-81 were as follows:

OVERSEAS SHIPPING, SHIP MOVEMENT BY COUNTRY OF REGISTRATION, VICTORIA, 1980-81

Country of registration	Arrivals		Departures	
	Ship calls	Deadweight tonnage	Ship calls	Deadweight tonnage
		'000 tonnes		'000 tonnes
Antilles (Netherlands)	8	38	9	39
Australia	217	6,318	216	6,251
Belgium-Luxembourg	10	423	10	423
Bermuda	1	36	1	36
China (excluding Taiwan)	37	831	38	862
Denmark	26	389	29	434
France	19	536	21	624
Germany, F.D.R.	160	2,441	166	2,614
Greece	85	2,687	87	2,734
Hong Kong	234	4,559	245	4,835
India	42	780	40	737
Italy	11	350	12	382
Japan	377	6,900	406	7,735
Liberia	154	3,657	156	3,772
Netherlands	49	1,134	48	1,160
Norway	65	1,351	69	1,468

OVERSEAS SHIPPING, SHIP MOVEMENT BY COUNTRY OF REGISTRATION, VICTORIA, 1980-81 — *continued*

Country of registration	Arrivals		Departures	
	Ship calls	Deadweight tonnage	Ship calls	Deadweight tonnage
Panama	183	2,992	174	2,869
Singapore, Republic of	72	1,408	74	1,443
South Africa, Republic of	9	129	10	143
Sweden	33	810	33	795
United Kingdom	299	7,702	314	8,176
United States	45	1,743	46	1,773
U.S.S.R.	94	1,125	94	1,130
Other countries	201	2,641	171	2,057
Total all ships	2,431	50,980	2,469	52,492

Cargo discharged and loaded

The table below examines overseas cargo discharged and loaded at Victorian ports in the years 1981-82 and 1982-83 in revenue tonnes and gross weight. The 'revenue tonne' is the unit of measurement predominantly used in the shipping industry. It is the basis on which freight is charged and statistics are obtained by adding mass (tonnes) and volumetric (cubic metres) units. 'Gross weight' is the total weight of cargo excluding the weight of containers, irrespective of the basis on which freight is charged.

OVERSEAS SHIPPING, CARGO DISCHARGED AND LOADED BY PORT, VICTORIA

Port	Discharged				Loaded			
	1981-82		1982-83		1981-82		1982-83	
	Revenue tonnes	Gross weight	Revenue tonnes	Gross weight	Revenue tonnes	Gross weight	Revenue tonnes	Gross weight
	'000	'000 tonnes	'000	'000 tonnes	'000	'000 tonnes	'000	'000 tonnes
Melbourne	5,382	3,212	4,555	2,819	3,511	3,104	2,966	2,567
Geelong	1,977	1,968	1,755	1,747	2,694	2,693	1,122	1,111
Western Port	66	66	63	63	1,892	1,892	1,671	1,671
Portland	230	227	229	229	854	847	342	342
Total	7,655	5,473	6,602	4,857	8,952	8,536	6,102	5,691

The tables following show particulars of overseas cargo discharged and loaded in Victoria from 1978-79 to 1980-81:

OVERSEAS SHIPPING, CARGO DISCHARGED AND LOADED IN VICTORIA BY TRADE AREA OF OVERSEAS PORT OF LOADING/DISCHARGE ('000 revenue tonnes)

Trade region of overseas port of loading/discharge	Discharged			Loaded		
	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
Europe	959	1,046	1,034	988	2,580	1,938
East Asia	197	477	559	68	1,916	1,184
Japan	875	1,250	1,587	2,111	2,859	2,772
North America (East)	533	813	838	438	197	249
North America (West)	453	678	643	83	152	143
Central America	9	8	14	51	24	39
South America (West)	—	—	—	24	19	8
South America (East)	1	32	42	35	86	43
West Africa	3	4	14	2	2	1
South and East Africa	59	110	74	77	43	56
Red Sea	19	(a)280	11	79	410	105
Persian Gulf	456	(a)255	700	226	227	304
West India	34	90	34	76	199	89
East India	16	36	42	180	151	115
South East Asia	807	771	711	851	524	882
Papua New Guinea	27	25	25	155	173	270

OVERSEAS SHIPPING, CARGO DISCHARGED AND LODGED IN VICTORIA BY TRADE
AREA OF OVERSEAS PORT OF LOADING/DISCHARGE — *continued*
(*000 revenue tonnes)

Trade region of overseas port of loading/discharge	Discharged			Loaded		
	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
Central Pacific	4	5	6	232	246	148
French Pacific	—	—	—	6	11	30
Pacific Islands	499	367	272	35	16	1
New Zealand	259	(b)	(b)	826	(b)	(b)
Non-specific	1	23	—	2	7	2
Total	5,211	6,272	6,604	6,545	9,843	8,378

(a) In 1979-80, figures for Saudi Arabia were not split into Red Sea and Persian Gulf ports.

(b) New Zealand cargo details are excluded due to confidentiality.

OVERSEAS SHIPPING, CARGO DISCHARGE AND LOADED BY COUNTRY OF
REGISTRATION OF SHIP, VICTORIA
(*000 revenue tonnes)

Country of registration	Discharged			Loaded		
	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
Antilles (Netherlands)	47	—	12	25	3	8
Australia	440	492	486	162	231	252
Belgium-Luxembourg	16	36	65	8	142	5
Bermuda	89	9	—	101	20	14
China (excluding Taiwan)	2	21	88	237	1,084	460
Denmark	288	138	127	186	23	77
France	25	33	41	15	69	25
Germany, F.D.R.	324	346	390	220	319	325
Greece	235	240	423	675	1,277	926
Hong Kong	66	235	250	165	273	330
India	47	26	67	39	365	200
Italy	80	25	37	28	27	70
Japan	613	858	930	1,037	1,046	1,025
Liberia	355	659	764	773	972	981
Netherlands	100	218	311	36	206	73
Norway	241	245	184	251	240	250
Panama	266	301	453	771	941	1,136
Singapore, Republic of	65	77	146	159	249	245
South Africa, Republic of	34	41	16	19	21	17
Sweden	136	188	148	81	132	108
United Kingdom	1,044	1,275	1,092	925	1,282	1,176
United States of America	366	298	272	174	148	123
U.S.S.R.	12	109	135	42	224	293
Other countries	320	402	167	416	549	259
Total	5,211	6,272	6,604	6,545	9,843	8,378

Container cargo

The following table provides details of containers and container cargo discharged and loaded at Victorian ports in 1981-82 and 1982-83. All statistics relating to containers are expressed in terms of 20 foot units. A 40 foot container is recorded therefore as 2 twenty foot equivalent units (or TEUs).

OVERSEAS SHIPPING, CONTAINERS AND CONTAINER CARGO DISCHARGED AND
LOADED BY VICTORIAN PORTS

Port	1981-82		1982-83			
	Container cargo	Other cargo	Container cargo		Other cargo	
	Revenue tonnes (*000)	Revenue tonnes (*000)	TEUs Empty (number)	TEUs with cargo (number)	Revenue tonnes (*000)	Revenue tonnes (*000)
	DISCHARGED					
Melbourne	3,252	2,130	6,432	121,221	2,770	1,786
Geelong	15	1,962	303	259	6	1,750
Western Port	—	66	—	318	6	56
Portland	..	230	33	26	..	228
Total	3,267	4,388	6,768	121,824	2,782	3,820

OVERSEAS SHIPPING, CONTAINERS AND CONTAINER CARGO DISCHARGED AND LOADED BY VICTORIAN PORTS—*continued*

Port	1981-82		1982-83			
	Container cargo	Other cargo	Container cargo			Other cargo
	Revenue tonnes ('000)	Revenue tonnes ('000)	TEUs Empty (number)	TEUs with cargo (number)	Revenue tonnes ('000)	Revenue tonnes ('000)
LOADED						
Melbourne	2,296	1,216	13,362	119,620	2,221	745
Geelong	15	2,680	38	2,278	43	1,079
Western Port	—	1,892	—	318	6	1,664
Portland	..	854	—	6	..	342
Total	2,311	6,642	13,400	122,222	2,270	3,830

Further references: Lighthouses, *Victorian Year Book* 1964, pp. 665-6; Principal ports of Victoria, 1965, pp. 744-7; Australian Shipbuilding Board, 1975, pp. 665-6

Port Phillip Sea Pilots

Forty-two former shipmasters operate the Port Phillip Pilot Service, sixteen of whom are also licensed for Western Port. The Service is conducted on a co-operative, non-profit basis. Licences as pilots are issued by the Marine Board of Victoria, each ingoing pilot purchasing a share of the pilot vessels and other plant. The Port Phillip Pilot Service is one of the oldest organisations in Victoria, the first pilot licence having been issued to George Tobin by Governor Sir George Gipps of New South Wales on 26 June 1839.

The following table shows the number of ships (sailing inwards and outwards) piloted through Port Phillip Heads and the entrance to Western Port during the period 1978-79 to 1983-84. Although the number of ships has remained relatively steady, tonnes carried have risen markedly because of larger vessels such as container, roll on-roll off, and LASH (lighter aboard ship) ships.

NUMBER OF SHIPS PILOTED THROUGH PORT PHILLIP HEADS AND THE ENTRANCE TO WESTERN PORT

Year	Number of ships		Year	Number of ships	
	Port Phillip	Western Port		Port Phillip	Western Port
1978-79	3,824	683	1981-82	3,854	722
1979-80	3,988	683	1982-83	3,656	672
1980-81	3,646	671	1983-84	3,776	683

Port of Melbourne Authority

Administration

Port of Melbourne Authority (originally the Melbourne Harbor Trust Commissioners) is a statutory body established in 1877 by an Act of the Victorian Parliament to regulate, manage, and improve the Port of Melbourne. The responsibility of executing the Act is vested in a Board consisting of a full-time chairman and five part-time members appointed by the Governor in Council for their specialised knowledge of their particular sphere in the shipping industry, i.e. exporters, importers, primary producers, shipowners, and labour.

The Port of Melbourne comprises an area of 31.5 square kilometres of land and water and provides nineteen kilometres of berthage.

The Port of Melbourne is one of Australia's principal ports and one of the world's leading container ports in volume of cargo handled. It is a general cargo port with major installations at Swanson Dock for overseas container handling; Webb Dock for overseas roll on-roll off and container traffic; Appleton Dock; 32 South Wharf for overseas roll on-roll off and a multi-purpose general cargo berth at 16 Victoria Dock. The Port is served by twelve container cranes, six of which are owned by the Port Authority.

Cargo pattern

Container and unit-load methods of cargo handling in the Port of Melbourne were introduced and extended during the 1960s. By 1970, the cumulative effect of gradually developing these new facilities had a significant impact on the Port as a whole and the emphasis of cargo handling activities in the Port had shifted from the long established conventional cargo handling areas to five principal areas catering for container and unit-load ships and cargo handling methods. During the year ended 30 June 1983, the Port handled a volume of 17,457,000 tonnes of import, export, and trans-shipment cargo. This volume was handled by coastal and overseas shipping which paid 2,272 calls at the Port.

The changes in the character of the Port became noticeable when the first overseas container ship on the United Kingdom-Australia service arrived in March 1969. Cargoes flowing through all ports of the world are classed as either wet or dry bulk cargoes (such as oil carried in tankers or sugar carried loose in the hold of a bulk carrier) or general, which includes the variety of goods usually crated, boxed, or carried in some other individual packaging. Container ships carry this general cargo in containers of various international standard sizes.

Unit load multi-purpose vessels, which first began to operate out of Melbourne in the overseas service in 1966 and in the coastal trade some eight years earlier, are vessels especially designed to carry containers and unit-loads, which are a collection of general cargo assembled into one load, usually on a tray or pallet. These ships can also carry conventional cargo, namely, individual items of general cargo handled and loaded separately, and handled individually inside the ship and on shore.

During the year ended 30 June 1983, the Port handled 13,937,000 tonnes of general cargo (including empty containers), a decrease of 13 per cent on that recorded in the previous year. This decrease was due to the combined effects of economic recession and severe drought in the Port's hinterland. In 1982-83, 72 per cent of general cargo was containerised, and total container throughput was 460,202 containers. The Port also handled 3,520,000 tonnes of bulk cargo during the same period, an increase of 6.2 per cent on that recorded in the previous year.

In overseas trade in 1982-83, the principal countries of origin and destination of commodities shipped through the Port were Japan, the United States of America, and New Zealand. These three countries accounted for 48 per cent of imports and 41 per cent of exports. In coastal trade, the Port handled mainly commodities going to or from Tasmania.

New developments

The Port of Melbourne Authority occupied the first building to be completed in the World Trade Centre (WTC) in June 1982. Two more buildings were ready for occupation by the end of 1982, while the remaining two structures of the five building complex became available early in 1983. On completion, approximately 64,000 square metres of office, rental, and exhibition space were provided in the Centre. A number of Commonwealth and State Government departments and commercial organisations involved in the servicing and promotion of trade took up occupancy in the Centre during 1983 and 1984.

A new container roll on-roll off berth, No. 5 Webb Dock, was officially opened in December 1982. The berth, which incorporates a large container stacking area at the rear, is operated by the Australian National Line for their overseas operations. The berth is equipped with two container cranes and a floating ramp.

Construction work is continuing on the new multi-purpose general cargo berth at 17 Victoria Dock. The berth will be equipped with a container crane and includes a cargo shed and cargo stacking area.

Facilities at Appleton Dock will be upgraded by the development of land on the north side of Moonee Ponds Creek and the construction of a shiploader to handle bulk cargoes.

The Port of Melbourne Authority has commenced implementation of its policy of improving the Port's landscape including the provision of public access to viewing locations of Port activities, the development of guidelines for leasehold areas and a general policy of beautification of the Port. North Wharf Promenade is open to the general public seven days a week during daylight hours and similar plans include Berths No. 1-4 South Wharf, Station Pier and Todd Road/Beach in Port Melbourne, and the Maribyrnong River.

1984 Forward Development Plan

The Port of Melbourne Authority has a Forward Development Plan which is revised regularly and identifies the intended direction of long-term port development including all major future land uses. A number of intermediate stages which represent a logical development sequence consistent with the long-term development strategy are also identified.



A 'Round the Town Run' through the streets of Melbourne.

Telecom Australia



Six light towers, erected during 1984, for the first time enabled cricket and football to be played at night at the Melbourne Cricket Ground.

Squire Photographics Pty Ltd



(Top) The opening ceremony of the inaugural Australia Games at the Melbourne Entertainment Centre. The Games, a component of Victoria's 150th Anniversary celebrations, took place during 26 January to 3 February 1985.

Roger Gould Photography

(Above left) The main Olympic Park stadium in Melbourne under lights during track and field competitions of the Australia Games.

Roger Gould Photography

(Above right) Special events for the disabled were an integral part of the Australia Games.

Roger Gould Photography

(Right) The Hawthorn Leisure Centre was the venue for the Australia Games weight lifting programme.

Department of Sport and Recreation



The major considerations involved in long-term planning of the Port relate to the provision of adequate berthage (number of berths); provision of adequate land adjacent to the berth for cargo handling operations; adequacy of navigation channels and swinging basins (both depth and width); adequacy of transport links to the Port area (both road and rail); and economic and social implications of the Port to the community.

The 1984 Forward Development Plan provides for the construction of additional berths and facilities to handle anticipated trade through the Port well into the next century. The Plan includes the construction of five additional overseas container berths at Webb Dock over the next twenty years. One of these berths is to be provided by seaward reclamation beyond the existing berth at 5 Webb Dock and the other four by realignment and inland extension of Webb Dock.

An additional three container berths, with associated terminal areas, are proposed at Fishermens Bend which is on the southern bank of the Yarra River some three kilometres upstream from its mouth. This proposal would require the relocation of the Government Aircraft Factory and the Commonwealth Aircraft Corporation Ltd. It is anticipated that these berths will not be required before the year 2000.

These eight berths, together with the upgrading and reconstruction of existing upstream berths will cater for anticipated general cargo trade through the Port well into the twenty-first century.

Finance

The Port of Melbourne is self-supporting and does not receive any financial grants from the Victorian Government. The Authority's revenue is derived from a number of charges paid by the users of the Port. The charges are principally wharfage rates levied on each tonne of cargo landed in, or shipped out of the Port, and tonnage rates levied on the gross registered tonnage of ships and the time they spent in port. Other charges cover rent of shed, hire of port-owned cargo handling equipment, general port services, and rental of land reserved for essential long-term port development. Expenditure is on port maintenance, reconstruction, modernisation, and development, with any surplus being put back into port development. At 30 June 1983, the Authority had approximately \$340m invested in port assets. Capital works are financed out of revenue and out of loans, which are raised and financed by the Authority itself and guaranteed by the Victorian Government. The Authority is required to pay a contribution to the Victorian Government under the *Public Authorities (Contributions) Act 1982*.

The following table shows particulars of the financial operations of the Port of Melbourne Authority for the years 1977-78 to 1982-83:

PORT OF MELBOURNE AUTHORITY, REVENUE, EXPENDITURE, ETC. (\$'000)

Particulars	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
REVENUE						
Wharfage and tonnage rates	19,821	22,816	26,410	30,412	37,829	39,762
Rent of sheds	488	499	408	479	623	420
Ancillary services	279	261	220	218	231	183
Rent of lands	4,967	5,076	5,503	5,775	6,275	7,172
Crane fees	2,089	2,477	2,675	2,826	3,081	3,433
Other	2,973	3,101	4,140	5,672	7,712	8,405
Total revenue	30,617	34,230	39,356	45,382	55,751	59,375
EXPENDITURE AND APPROPRIATIONS						
Administration and general expenses	2,869	3,238	3,359	5,851	6,078	7,249
Port operating expenses	8,027	8,783	9,593	11,057	12,691	16,358
Maintenance –						
Dredging	2,241	3,330	3,719	4,832	5,498	5,627
Harbour	416	483	549	626	738	801
Wharves	1,895	2,342	2,702	2,617	3,206	3,344
Approaches	558	618	708	776	812	1,104
Railways	135	168	137	196	182	244
Cargo handling equipment	1,295	1,401	1,567	1,748	2,054	2,731
Other properties	143	169	237	204	192	328
World Trade Centre	—	—	—	—	—	606
Interest	4,610	5,163	5,995	6,864	9,074	16,722
Depreciation and renewals	5,896	6,394	8,577	8,222	9,719	10,379
Insurance	537	428	440	515	595	1,384

PORT OF MELBOURNE AUTHORITY, REVENUE, EXPENDITURE, ETC. — *continued*
(\$'000)

Particulars	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
Sinking Fund	1,000	800	2,618	342	386	—
General reserve	—	—	—	2,500	—	—
Payments to Consolidated Fund	700	667	769	836	1,034	6,000
Appropriation	—	—	-1,296	—	—	—
Other	—	1	—	—	—	—
Total expenditure and appropriations	30,322	33,985	39,674	47,186	52,259	72,877
CAPITAL OUTLAY (a)						
Wharves	..	..	..	..	..	9,256
Property	..	..	..	..	..	2,706
World Trade Centre project	..	..	..	..	..	86,305
Floating plant	..	..	..	..	..	655
Cranes	..	..	..	..	..	12,550
Services	..	..	..	..	..	2,708
Harbour improvements	..	..	..	..	..	1,519
Dredging	..	..	..	..	..	2,760
Workshops of plant	..	..	..	..	..	761
Total additions	..	..	..	..	..	119,220
Loan indebtedness at end of period	..	..	..	..	..	200,144

(a) Capital expenditure for 1982-83 covers new assets recorded at total cost into a new asset register system and is not comparable with previous years.

Further references: *Changing trends in port development, Victorian Year Book 1968, p. 745; Port facilities, 1969, p. 755; Port emergency service, 1970, pp. 750-1; Advent of new cargo pattern, 1971, pp. 715-18; New cargo handling era, 1974, pp. 749-50; Forward development plan, 1975, pp. 672-3; Co-ordinated port development plan, 1975, pp. 673-4*

Port of Geelong Authority

The Port of Geelong is under the control of the Port of Geelong Authority, which was constituted under an Act of the Victorian Parliament in 1905. The Authority consists of three commissioners appointed by the Governor in Council.

Entrance to the Port is by twenty-four kilometres of channel dredged to a depth of eleven metres and a width of 122 metres. There are sixteen effective berths in the Port and two berths at the Commonwealth Explosives Pier, Point Wilson, owned and operated by the Commonwealth Government. The Port Authority operates a commercial slipway for vessels up to 1,000 tonnes, and a container berth equipped with a forty tonne single-lift crane. Trade of the Port for 1983 totalled 4,864,580 tonnes (imports 2,187,021 tonnes, exports 2,677,559 tonnes). This compares with 7,026,831 tonnes for 1982 (imports 2,720,362 tonnes, exports 4,306,469 tonnes).

The following table shows particulars of the financial operations of the Port of Geelong Authority for the calendar years 1978 to 1983:

PORT OF GEELONG AUTHORITY: REVENUE, EXPENDITURE, ETC. (a) (\$'000)

Particulars	1978	1979	1980 (b)	1981	1982	1983
REVENUE						
Cargoes	2,644	2,438	2,527	3,321	5,612	5,151
Ships	2,339	2,185	878	987	1,543	1,730
Stevedoring and other port services	572	878	1,140	1,587	2,252	3,243
Rippleside ship repairs	—	161	709	739	805	1,000
Rents	272	276	245	265	306	306
Miscellaneous	3	7	20	19	18	25
Investment income	363	495	1,181	1,162	1,516	1,184
Extraordinary items	—	—	122	9	-182	431
Total revenue	6,193	6,440	6,822	8,089	11,870	13,070
EXPENDITURE AND APPROPRIATIONS						
All port operations	1,933	1,833	1,217	1,470	2,708	3,878
Rippleside ship repairs	—	126	470	494	542	831
Administration	1,773	2,079	1,797	2,323	2,594	3,130
Maintenance	764	657	416	427	418	377

PORT OF GEELONG AUTHORITY: REVENUE, EXPENDITURE, ETC. (a) — *continued*
(\$'000)

Particulars	1978	1979	1980(b)	1981	1982	1983
EXPENDITURE AND APPROPRIATIONS — <i>continued</i>						
Depreciation and amortisation	861	848	794	789	1,389	1,807
Interest on loans	115	83	70	65	62	53
Sinking Funds	15	14	17	25	—	—
Port Development Fund	—	—	707	873	919	120
Other	32	57	145	108	25	19
Total	5,493	5,697	5,633	6,574	8,657	10,215
CAPITAL OUTLAY						
Land and property	263	97	425	74	153	584
Wharves and approaches	103	193	9,331	1,310	2,551	4,381
Other	11	79	34	364	807	612
Total capital outlay	376	369	9,790	1,748	3,511	5,577
Loan indebtedness at end of period	1,479	1,371	1,126	1,113	978	660

(a) For purpose of comparison revenue and expense in 1979 include nine months operation of towage and boatman service, while 1981, 1982 and 1983 did not include these services.

(b) Adjusted for accounting purposes.

Port of Portland Authority

The Port of Portland Authority is a statutory body which operates under the Act of the Victorian Parliament known as the *Port of Portland Authority Act 1958*.

Portland is a sheltered all-weather Port situated on the south-west coast of Victoria. It has natural deep water approaches right to the entrance of a 101 hectare harbour basin. The harbour is bounded by two breakwaters and provides shipping with a water depth of 12.2 metres in the turning circle.

Six shipping berths cater for all types of bulk and general cargo vessels. In addition, the Port of Portland provides berthage for professional fishermen and moorings for pleasure craft.

Principal commodities handled at the Port include bulk grain, livestock, fertiliser components, woodchips, timber, and petroleum products.

Overall trade during 1983-84 amounted to 1,359,187 tonnes compared with 850,128 tonnes of trade handled during the drought affected 1982-83 year. Exports accounted for 1,000,088 tonnes of trade, an increase of 162 per cent over the preceding year while import trade decreased by 23 per cent to 359,099 tonnes.

The following tables show particulars of shipping, trade, and financial operations for the Port of Portland Authority:

PORT OF PORTLAND AUTHORITY, TRADE AND SHIPPING SUMMARY

Year	Trade vessels	Other vessels	Gross tonnage	Total exports (tonnes)	Total imports (tonnes)	Total trade (tonnes)
1978-79	102	13	1,656,901	527,399	596,119	1,123,518
1979-80	165	10	2,885,022	1,438,993	474,355	1,913,348
1980-81	139	30	2,351,153	1,115,257	513,522	1,628,779
1981-82	118	32	2,084,263	851,113	452,027	1,303,140
1982-83	110	32	n.a.	381,147	468,981	850,128
1983-84	215	36	2,262,782	1,000,088	359,099	1,359,187

PORT OF PORTLAND AUTHORITY, REVENUE, EXPENDITURE, ETC.
(\$'000)

Particulars	1979-80	1980-81	1981-82	1982-83	1983-84
REVENUE					
Wharfage rates	696	701	678	942	1,686
Shipping services	830	891	984	1,124	1,875
Other services and revenue	640	971	939	747	751
Interest	352	478	808	718	481
Victorian Government grant	1,500	1,530	1,060	2,500	400
Extraordinary revenue	—	827	—	—	—
Total revenue	4,018	5,398	4,469	6,031	5,193

PORT OF PORTLAND AUTHORITY, REVENUE, EXPENDITURE, ETC., — *continued*
(\$'000)

Particulars	1979-80	1980-81	1981-82	1982-83	1983-84
EXPENDITURE AND APPROPRIATIONS					
Administration	583	615	791	869	870
Maintenance	226	206	292	199	287
Shipping services	509	540	683	863	1,124
Depreciation	70	391	394	396	466
Interest on loan	1,620	1,845	2,329	2,774	2,711
Sinking fund	258	297	429	417	379
Other	233	284	277	823	392
Total expenditure and appropriations	3,499	4,178	5,195	6,341	6,229
CAPITAL OUTLAY					
Port rail system	34	—	—	—	—
Road works	105	—	—	—	20
Reclamation	206	88	231	51	79
Deepening waterways	—	—	56	97	92
Wharves and sheds	368	2,496	1,560	689	38
Other	908	409	242	311	38
Total capital outlay	1,621	2,993	2,089	1,148	267
LOAN INDEBTEDNESS AT 30 JUNE					
Victorian Government	3,823	3,823	3,823	3,823	3,823
Public	23,189	24,005	28,647	27,617	26,698
Total loan indebtedness	27,012	27,828	32,470	31,440	30,521

Western Port

Western Port is an extensive inlet eastward of and adjacent to Port Phillip, and is separated from it by the Mornington Peninsula which is about sixteen kilometres wide. The Port is sheltered from Bass Strait by Phillip Island at its south-eastern end and the waters between the western side of this island and the mainland form the entrance to the Port. It is approximately forty-two kilometres from the entrance to the northern extremity of the inlet.

Although the entrance contains some large sandbanks, a deep water channel up to 31 metres deep marked by thirty-seven light buoys runs close to the island. This navigable channel extending from the western entrance to Crib Point is twenty kilometres long with low water depths of 14.3 metres and 14.9 metres, in the northern and western arms, respectively. Tidal rises are of the order of three metre springs and two metre neaps.

The Crib Point Jetty provides two berthing heads each 38 metres in length: No. 1 with 15.8 metres of water alongside for 100,000 tonne tankers; No. 2 with 12.8 metres of water alongside for 40,000 tonne tankers. The Long Island Jetty has a berthing head of 108 metres in length for 100,000 deadweight vessels with 15.8 metres of water alongside. Steel Industry Wharf No. 1 consists of a loading ramp 28 metres in length (curved) and a fender wharf of 46 metres in length for vessels with a stern door up to 10,000 tonnes. Steel Industry Wharf No. 2 consists of a wharf 152 metres long for vessels up to 19,500 tonnes deadweight. Depth alongside for both Steel Industry Wharves is 12.2 metres.

WESTERN PORT, PORT TRAFFIC

Year	Petroleum products		Steel	
	Tankers	Tonnes	Ships	Tonnes
		'000		'000
1978-79	368	10,799	89	703
1979-80	335	11,142	94	759
1980-81	362	10,423	77	758
1981-82	312	10,045	96	818
1982-83	310	9,567	89	757
1983-84	326	12,599	89	834

Further reference: Sea transport, 1934 to 1984, *Victorian Year Book 1984*, pp. 502-8

AIR TRANSPORT

Civil aviation*Administration*

The Air Navigation Act and Regulations in Victoria are administered by the Commonwealth Department of Aviation through its Regional Director in Melbourne.

The functions performed by the Department include:

- (1) registration and marking of aircraft;
- (2) determination and enforcement of airworthiness requirements for aircraft and the issue of certificates of airworthiness, certificates of type approval, and supervision of aircraft design;
- (3) licensing of pilots, navigators, aircraft radio operators, flight engineers, and aircraft maintenance engineers;
- (4) licensing of airline, charter, and aerial work operators, and supervision of their activities;
- (5) provision and maintenance of aeronautical communications, navigation aids, aerodromes, and landing grounds;
- (6) establishment and operation of air traffic control, flight service, aeronautical information, search and rescue, and fire-fighting and rescue services; and
- (7) investigation of aircraft accidents, incidents, and defects.

Victorian aerodromes

The major aerodromes in Victoria are owned and operated by the Commonwealth Government through the Department of Aviation. Since 1957, Commonwealth Government policy has been that aerodromes (except capital city airports) should be owned and operated by local government authorities under the local ownership plan.

At present in Victoria there are seven Commonwealth Government owned aerodromes at Melbourne (Tullamarine), Avalon, Bacchus Marsh, Essendon, Mallacoota, Mangalore, and Moorabbin, as well as thirty-four licensed aerodromes at Ararat, Bairnsdale, Ballarat, Benalla, Bendigo, Birchip, Corryong, Donald, Echuca, Grampians, Hamilton, Hopetoun, Horsham, Kerang, La Trobe Valley, Leongatha, Maryborough, Mildura, Nhill, Orbost, Portland, Robinvale, St Arnaud, Sale, Sea Lake, Shepparton, Stawell, Swan Hill, Warracknabeal, Warrnambool, Whittlesea, Wycheproof, Yarrabank (heliport), and Yarram.

The licences of all licensed aerodromes, except Grampians, Whittlesea, and Yarrabank (heliport), are held by the appropriate local government authority. Under the local ownership plan, the Commonwealth Government pays 50 per cent of the development costs of new aerodromes or transfers existing aerodromes free of cost to local authorities and then pays 50 per cent of future approved maintenance and development costs. Similar assistance is given to the local authority to develop and maintain aerodromes which are, or will be, served by a regular public transport service.

The assistance authorised by the Commonwealth Government to Victorian local authorities for aerodrome works during the year ending 30 June 1982 was \$334,242 for development, and \$380,052 for maintenance works, and for the year ending 30 June 1983, \$252,966 and \$404,317, respectively.

In addition to these main aerodromes, there are hundreds of authorised landing areas which serve the needs of the increasing number of light aircraft users throughout Victoria.

Classification of flying activities

Flying activities are classified by regulation into the following categories:

Private operations

These are operations in which an aircraft is used for personal transportation – private or business, carriage of persons or goods for other than hire or reward, or other activities of a non-commercial nature. The extent of this activity within Victoria may be gauged from the fact that there were 6,624 licensed private aeroplane pilots in Victoria at 30 June 1982 and 6,581 at 30 June 1983.

Aerial work operations

These operations refer to aircraft being used for aerial survey, spotting, photography, agriculture, flight training, and the cartage of goods for purposes of trade. In terms of hours flown, the most significant operations are agricultural and flight training. To 30 June 1981, over 79,000 training hours were flown by training organisations in Victoria and over 75,000 to 30 June 1982.

Charter operation

These consist of flights for the carriage of passengers or cargo for hire or reward, but which may not be notified to the general public as being operated between fixed terminals or to fixed schedules, or for the carriage of passengers or cargo between fixed terminals to fixed schedules in circumstances in which the accommodation in the aircraft is not available to members of the public. During the 1950s, most charter operations were conducted in single engined aircraft, but there is an increasing use of twin engined aircraft. Twin jet aircraft are being used increasingly in executive type work. At 30 June 1981, there were eighty-seven Victorian based operators licensed to conduct charter operations and over 52,000 hours were flown by these organisations; at 30 June 1982, there were ninety-four operators and over 42,000 hours flown.

Commuter operations

Since the end of the Second World War, country or feeder air services within Victoria have commenced on different occasions but ceased operations when they proved to be uneconomic. In 1966, the Commonwealth Government decided that a new attempt should be made to provide this type of air service between Melbourne and numerous country centres. As it was felt charter operators would be prevented by the Air Navigation Regulations from operating to a fixed schedule, it was decided to grant certain exemptions under the Regulations. A charter operator who met appropriate additional requirements and standards would be permitted to operate air services between centres to a fixed schedule and on a regular basis. This type of operation is usually known as a commuter service.

By October 1967, exemptions under the Regulations had been granted to three operators. Using single and light twin engined aircraft capable of carrying six to thirteen passengers, these operators were approved to operate services to Stawell, Ararat, Ballarat, Kerang, Swan Hill, Echuca, Shepparton, La Trobe Valley, Sale, and Bairnsdale, and to the interstate centres of Albury and Merimbula. Some of these services commenced in November 1967 and others followed with varying degrees of success and continuity. At June 1984, Victorian commuter services of the type in question were approved to operate between the following centres on a regular basis: Essendon – Flinders Island – Launceston – Hobart, Essendon – Smithton – Strahan – Queenstown – Hobart, Melbourne – Albury – Wagga Wagga, Melbourne – Merimbula – Cooma, Melbourne – King Island, Melbourne – Portland – Warnambool, Melbourne – Hamilton – Mount Gambier, Melbourne – Mildura, Mildura – Renmark – Adelaide, Mildura – Broken Hill, Phillip Island – Wynyard.

Regular public transport

Although commuter operations are regular public transport services, this heading usually refers to aircraft operating in accordance with an airline licence, to carry passengers and cargo according to fixed schedules and on specified routes.

Services based or terminating at Melbourne Airport are domestic – Ansett Airlines of Australia and Trans Australia Airlines, or international – Qantas Airways, Air Nauru, Air New Zealand, Air Pacific, Alitalia, British Airways, Cathay Pacific, Continental Airlines, Flying Tiger Line (for specialised cargo operations), Garuda Indonesian Airways, J.A.T. (Yugoslavia), K.L.M. Royal Dutch Airlines, Lufthansa, Malaysian Airline System, Pan American World Airways, Philippine Airlines, Singapore Airlines, and Thai Airways International.

Gliding clubs

Gliding is mainly carried out at Ararat, Bacchus Marsh, Benalla, Barnawartha, Bendigo, Colac, Derby, Euroa, Horsham, Kurweeton, La Trobe Valley, Laverton, Leongatha, Mildura, Moorooduc, Mt Beauty, Rosebud, and Swan Hill. Many other areas are used to a lesser extent. A Commonwealth Government subsidy is granted to clubs through the Gliding Federation of Australia.

Control of air traffic

Control of air traffic is maintained by the Commonwealth Department of Aviation through its air traffic control organisation. This includes the closely co-ordinated sections of operational control, which are concerned with each individual flight; airport control, which applies to all movements on or within thirty-two kilometres of an aerodrome; and area control, which controls aircraft along the main air routes to ensure the avoidance of collisions. In conjunction with air traffic control, the Department maintains a wide range of air navigation aids and a comprehensive search and rescue organisation. The function of navigation aids is described in detail on pages 773-6 of the *Victorian Year Book* 1965. Special articles on Air Traffic Control and the Omega navigation facility can be found on pages 551-2 of the *Victorian Year Book* 1982.

Melbourne (Tullamarine) Airport

The Tullamarine site of 2,140 hectares was chosen for the development of Melbourne Airport when Essendon Airport could not be further enlarged. The completed aerodrome is twenty kilometres from the G.P.O., Melbourne, and seven kilometres from Essendon Airport, and is accessible by a freeway.

The fifteen kilometres of runways and taxiways were completed early in 1968. The north-south runway (2,591 metres) and the east-west runway (2,286 metres) are both designed for the operation of modern jet aircraft. The structures are 147 centimetres thick and are capable of taking the weight of the Boeing 747 ('Jumbo' jet) and supersonic aircraft. High speed turnouts have been provided to both runways which allow aircraft to turn off the runway at 100 kilometres per hour. The north-south runway was extended to 3,658 metres in 1972. There is a provision for future development of the east-west runway to extend to 2,743 metres and for a second set of parallel runways.

Civil aviation statistics

Domestic passenger movements, which represent the total of embarkations and disembarkations for each Victorian aerodrome served by a regular service for the years 1978 to 1983 were as follows:

DOMESTIC PASSENGER MOVEMENTS OF REGULAR AIR SERVICES, VICTORIA

Airport	Passenger movements					
	1978	1979	1980	1981	1982	1983
Melbourne	4,628,254	4,908,893	5,173,483	5,038,312	4,830,845	4,433,984
Mildura	20,214	22,283	21,238	18,415	15,191	(a)3,202
Hamilton	7,009	6,714	6,178	5,172	3,894	(a)1,334

(a) Routes taken over by commuter services.

The following table shows particulars for 1981, 1982, and 1983 of regular interstate and intrastate air services terminating in Victoria:

REGULAR INTERSTATE AND INTRASTATE AIR SERVICES TERMINATING IN VICTORIA

Particulars		Interstate			Intrastate		
		1981	1982	1983	1981	1982	1983
Kilometres flown	'000	47,069	46,960	44,322	498	613	(a)196
Passenger kilometres	'000	4,240,336	4,738,161	3,749,395	9,608	30,137	(a)3,215
Freight --							
Tonnes		74,379	88,295	87,950	46	49	(a)16
Tonne kilometres	'000	40,779	68,686	70,976	16	18	(a)6
Mail --							
Tonnes		7,421	7,670	7,567	—	—	—
Tonne kilometres	'000	6,034	7,106	7,096	—	—	—

(a) Routes taken over by commuter services.

The first of the following tables deals with aircraft registered and licences issued by the Commonwealth Department of Aviation in Victoria, while the second describes activities at Melbourne (Tullamarine) Airport:

AIRCRAFT REGISTERED AND LICENCES ISSUED

Particulars	1978	1979	1980	1981	1982	1983
Registered aircraft	1,499	1,531	1,562	1,460	1,436	1,403
Student pilot licences	4,520	5,436	5,613	5,651	6,200	6,004
Private pilot licences	4,747	5,548	5,825	6,267	6,624	6,581
Commercial pilot licences	970	1,043	1,187	1,309	1,507	1,555
Airline pilot licences	1,205	1,294	1,365	1,463	1,563	1,522
Aircraft maintenance engineer licences	1,326	1,337	1,390	1,466	1,335	1,355

MELBOURNE (TULLAMARINE) AIRPORT

Particulars	1978	1979	1980	1981	1982	1983
Domestic aircraft movements	72,159	70,065	72,028	66,500	61,484	57,497
Domestic passengers embarked	2,276,812	2,451,235	2,584,332	2,518,313	2,414,298	2,210,982
Domestic passengers disembarked	2,275,750	2,457,658	2,589,151	2,519,999	2,416,547	2,223,002
International aircraft movements	9,309	9,131	9,907	9,719	10,710	9,473
Passengers arriving/departing overseas	710,045	893,210	971,376	955,784	968,002	919,836

Further references: History of civil aviation, *Victorian Year Book* 1962, p. 742; Classification of flying activities, 1964, pp. 843-4; Radio aids to air navigation in Victoria, 1965, pp. 773-6; Aerial agricultural operations, 1966, pp.764-5; Flying training in Victoria, 1967, pp. 783-5; Regular public transport, 1968, pp. 779-81; Commuter services, 1969, pp. 790-1; Radar development in the Melbourne area, 1971, pp. 748-50; Aerodrome local ownership plan, 1974, p. 791; Use of radar in traffic control, 1975, pp. 682-4; Civil aircraft manufacture, 1977, pp. 688-90; Air traffic control, 1982, pp. 550-1; Omega, 1982, p. 552; Air transport, 1934 to 1984, 1984, pp. 508-12

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