

## TRANSPORT

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### INTRODUCTION

As 80 per cent of Australia's population lies in 11 per cent of the land area in a triangle between Brisbane, Adelaide, and Hobart, while the other 20 per cent is scattered over the rest of the continent, an efficient transport network is of vital economic, social, and defence importance.

Such a network must maintain contact between the rural and urban centres of the eastern triangle and the rest of Australia's sparsely populated continent. In addition, because the major commercial and social centres of the world are in the northern hemisphere, Australia needs efficient international transport services. Victoria, as a focus of both passenger and freight movements, is significantly involved in these services.

Because of these requirements, Australia has in the past devoted substantial resources to transport. Approximately \$4,500m is currently spent on transport annually—that is, about 12 per cent of gross national expenditure. About 5 to 6 per cent of the total work force is directly employed in the transport sector.

The following are some of the more important contemporary aspects of transport.

First, every transport operation involves the movement of people, freight, or raw materials or some combination of them as the components of demand. So far as the industry supplying transport services is concerned, the provision of operational facilities can be separated into components—the *vehicles* (trains, motor vehicles, aircraft, etc.); and the infrastructure which comprises the two further categories of the *way systems* (roads, railway tracks, airways) and the *interchanges* (terminals—airports, harbours, stations). In addition to these specialised resources, considerable manpower and other physical resources are allocated to the task of providing and operating the services.

Second, every transport task usually involves more than one mode of transport. For example, a typical interstate journey involves the move from office or home to the airport by car, taxi, or bus, as well as the line haul operation by air. Even within the terminal there are lifts, escalators, baggage conveyor systems, etc. Similarly, most transport systems involve various interchanges between the modes of transport. Car parks and road access at airports and rail terminals are examples.

Third, transport involves different sectors of the community and transport policies must identify and synchronise these as far as possible.

### Modes of transport

All governments are concerned with transport in Australia. They are concerned with transport policy; planning; the provision, operation, and maintenance of the infrastructure; the setting and monitoring of acceptable standards in respect of safety, efficiency, economy, and the environment. Government instrumentalities are also the operators of interstate rail, air, sea, and urban

transport systems. The private sector is involved mainly as operators, fairly concentrated in the case of air transport, but widely dispersed among operators in the case of road transport.

Every mode of transport has its inherent advantages and transport policy aims to recognise and develop these. In the case of rail, the advantages lie in rapid large scale commuter travel in intra-urban communities where terminals can be conveniently located to cater for residential and commercial needs; in inter-city passenger transport where time is not at a premium; in freight haulage over land from fixed terminal locations where the freight involved has a low value to bulk ratio, e.g., minerals and primary produce.

With air transport the advantages lie with speedy and comfortable travel between urban communities, on long haul operations to gain time, and to move freight which has a high value to bulk ratio. The advantages become greater with distance or where geographic barriers impede the surface transport operation.

Road transport's advantage lies with its high degree of flexibility both in terms of time and routes over short to medium range distances. Sea transport has the advantage mainly with long haul carriage of freight having a low value to bulk ratio and where ports and seaways are conveniently located for the operation.

Whatever the mode, transport is designed to serve people and their needs. Policies now broadly aim not to impose social and environmental costs on the community, but to devise fare levels which will encourage the maximum number of people to enjoy the benefits which efficient transport services should provide.

#### **Board of Inquiry into Land Transport in Victoria, 1975**

### LAND TRANSPORT

#### **Railways**

##### *Geographical factors*

The Victorian transport system is centred on Melbourne. The existence of considerable gaps in the Great Dividing Range has allowed the railway system to fan out to the main agricultural and pastoral areas.

The line to the north-east and Sydney passes through the Kilmore gap; through the Woodend gap goes the northern line to Bendigo and beyond; the Geelong line crosses the basalt plains to the south-west; and to the east, in Gippsland between the Dividing Range and the Strzelecki Ranges, a convenient path is provided for the electrified main line handling the vast brown coal resources of the La Trobe valley.

In the north-western part of Victoria, the Mallee region, the railway has stimulated development of what was previously regarded as arid, worthless land into prosperous farm lands. It also links Melbourne with Mildura, centre of the dried fruit industry.

The railway has also played an integral part in the development of the south-western part of Victoria, in particular the port of Portland, providing an important commercial link between the area's primary and secondary industries and local and overseas markets.

##### *Administration*

The Victorian Railways Department was established on 19 March 1856. It was administered for some periods by a single commissioner, but mainly by a board of three commissioners until 1973, when the commissioners were replaced by a seven-member governing board, appointed by and responsible to the Government through the Minister of Transport. The governing board is also responsible for a number of sections of railway constructed in New South Wales under the Border Railways Agreement. The lines in the Riverina district are extensions of Victorian lines.

A board of seven members became the governing body of the Victorian Railways from 8 May 1973, following the passing of the *Railways (Amendment) Act* 1972 in December 1972, to convert the corporate structure of the Railways to a type more appropriate to an undertaking of the size and scope of the Railways. Introduction of a board ended the system of railway commissioners which took over from the Board of Land and Works as the controlling body of the Victorian Railways in 1883. In November 1975 the board was increased to eight members.

The general manager is responsible to the chairman for controlling and co-ordinating all aspects of the day to day running of the Railways. This includes the co-ordination of commercial operations and technical requirements in respect of both passenger and freight traffic. The general manager is principal spokesman for the Victorian Railways in respect of day to day operations. He manages the Railways' business within the policies laid down by the board so as to achieve the financial objectives and service standards as approved by the board.

#### *Main locations of tracks*

The main interstate lines are the north-east to Sydney, comprising both broad (1,600 mm) and standard (1,435 mm) gauge tracks to the border city of Albury (306 kilometres), and the north-western broad gauge line linking Melbourne with Adelaide. The Victorian terminal station on this line is Serviceton (462 kilometres). The north-east line branches at Mangalore (109 kilometres) to serve the Goulburn valley. The north-western line branches at Ballarat (119 kilometres) to Maryborough (180 kilometres), thence to Mildura (566 kilometres, Victoria's longest country main line), and at Ararat to Portland, the Western District's port (403 kilometres).

The Gippsland line is electrified as far as Traralgon (158 kilometres), and thence is diesel operated to Bairnsdale (275 kilometres). The goods service, also diesel operated, is continued through to Orbost (372 kilometres). Lines branch from Dandenong to Nyora and from there to Wonthaggi (140 kilometres) and Yarram (219 kilometres) in South Gippsland.

Other main lines are Melbourne-Bendigo (162 kilometres, known as the "main line") from where lines branch further north; and Melbourne-Geelong (73 kilometres), continuing to Warrnambool (267 kilometres) and to Port Fairy (300 kilometres).

#### *Standardisation of gauge in Australian network*

The track length of the standard gauge line between Melbourne and Albury, including loops, departmental sidings, and dual gauge, but not including private sidings, is 391 kilometres.

Linking of Sydney with Perth by an all standard gauge route through Broken Hill has not been to the disadvantage of Victoria. Melbourne consignors have direct access to the Sydney standard gauge line connecting with every station in New South Wales and with Brisbane, and to the broad gauge line to Adelaide, connecting with practically every important centre of population in South Australia. These connections give direct rail access to about three quarters of the population of Australia.

#### *Main types of rolling stock and services*

Diesel-electric locomotives, the S class and X class (1,800-2,200 hp) and B class (1,600 hp), haul Victorian Railways fast passenger and freight trains. The T class (950-1,050 hp) diesel-electric locomotive is mainly a freight train operator, but it also hauls selected passenger trains. The Y class (650-750 hp) diesel-electric locomotive hauls branch line freight trains and is also used on freight yard work. The W class (650 hp) diesel-hydraulic, the F class (350 hp) diesel-electric, and the E class (620 hp) electric locomotives are almost

exclusively used on shunting and transfer work. In addition, there are five H class (1,050 hp) hump shunting diesel-electric locomotives, which can also be used to haul trains. The L class (2,400 hp) electric locomotive hauls passenger and freight trains on the Gippsland line, Victoria's longest electrified track. Country passenger train services are supplemented by 102 hp, 153 hp, 280 hp diesel, 220 hp diesel-electric, and 600 hp diesel-hydraulic rail-cars.

In May 1974 the Victorian Railways placed an order for ten 2,200 hp diesel-electric locomotives at a total cost of about \$4m. The new diesels, to be built in South Australia by the Clyde Engineering Co. Pty Ltd, are urgently needed on main lines to meet present requirements and predicted increase of interstate traffic. These new fleet acquisitions will also release lower horsepower engines, now used in multiple, for more effective utilisation. The first of the 2,200 hp locomotives, X45, was delivered in November 1975. Following this order a further order for ten high powered diesel locomotives was placed early in 1975. This order was also placed with the Clyde Engineering Co. Pty Ltd. These locomotives are 3,300 hp and will cost in excess of \$5m. They will enable the Victorian Railways to cope with future traffic increases. At present the Railways has 398 locomotives, all of which have been delivered since 1951.

Modern multiple-unit saloon type stainless steel suburban electric trains are progressively replacing wooden compartment type trains on the suburban electric service. Most carriages on interstate and some on mainline country trains are of steel construction and air-conditioned, but a larger number of excursion and corridor compartment-type, non air-conditioned carriages of wooden construction are also used for country passenger traffic.

Freight wagons are of the fixed wheel or bogie types. They include many types of wagons and vans, up to 58 tonne capacity, and a wide variety of specially designed wagons to carry loads ranging up to 173 tonnes. The Victorian Railways is studying the application of modern freight-handling techniques to rural industries. A pilot regional freight centre scheme at Horsham is already at an advanced planning stage. The objective of the project is to establish an economically viable operation in the less-than-car-load (LCL) freight market. The scheme involves operating a fast overnight train consisting of high speed bogie vans. Containers on flat top wagons will also play an important role in freight traffic to and from this centre. New facilities and suitable mechanical handling plants will be provided at Melbourne and at the centre. Incoming rail freight will be unloaded at the centre and distributed to smaller towns in the region by road.

#### *New electric trains*

The first of Victoria's 50 new stainless steel metropolitan trains was delivered in late 1972. The trains feature forced air ventilation with winter heating, power closing doors, and air-suspension to give a smoother, quieter ride. They are capable of 110 km/h to cope with high speed express running envisaged in the future.

In peak hours the new trains comprise six carriages, but can serve off-peak running by breaking the trains into two or four carriage sets. Each carriage is 22.8 metres long, compared with 19.2 metres for the "Harris" blue carriages which were introduced in 1956. The six longer carriages, however, have seating capacity slightly in excess of a seven-carriage "Harris" train, and peak hour capacity of 1,500 passengers, sitting and standing, is about 200 more than the "Harris" train. The carriages have tinted glass windows, and ample insulation to keep down noise and maintain a comfortable temperature. Three pairs of doors on each side are electro-pneumatically power closed; they are opened by passengers after the train guard has released, by push button, the power holding them closed.

The order of 50 stainless steel trains is expected to be complete by mid-1978. Negotiations are in progress with the Australian Government for the continuation of delivery of new trains beyond that date. It is anticipated that the Victorian Railways will obtain additional stainless steel, or, alternatively, Australian Urban Passenger Trains on a continuous basis—at the rate of at least 10 six-car trains a year—until all Tait trains are replaced. Martin and King Pty Ltd have contracted to build the 250 motor and driving trailer carriages and the Victorian Railways are building the 50 trailer carriages and assembling all bogies for the entire fleet.

#### *Current works*

The Victorian Railways is spending more than \$32m on work now under way to improve and upgrade Melbourne metropolitan services. Most of the work was recommended by the Metropolitan Transportation Committee in 1969 when the rail system carried almost 382,000 passengers a day. Now about 439,000 passengers a day use the system. The Victorian Railways is on schedule in meeting the improvements recommended in the M.T.C. report. A complete tally of passenger figures for a set period each year by Railways research and development officers helps to decide priorities for the recommended work. Works now in progress include new tracks, stations, and bridges, and a wide variety of renewals and upgradings to enable the system to cope with projected traffic increases. Car parking facilities are also being improved and extended at as many stations as possible. There are now 147 car parks with 13,888 parking spaces. The development of these new works was accelerated when the Australian Government made funds available for urban public transport improvements. As well as metropolitan works, upgrading is also taking place on the inter-urban Geelong line.

A summary of metropolitan works in progress, many of which are being financed on a \$2 for \$1 Australian Government-Victorian Government basis, follows.

#### *Suburban tracks*

##### *Glen Waverley line*

In a major move to encourage more motorists to become train commuters, the Victorian Railways began to overhaul the Glen Waverley line in 1974. It was planned to concentrate on this one line to show the public what could be done to raise travel standards in the metropolitan area, if sufficient finance was made available. The Glen Waverley line was adopted for this project only after an exhaustive study promoted by the Victorian Railways Board.

The Glen Waverley line, if successful, will be the model for the future upgrading of all other metropolitan lines. Work on this line has not been confined solely to track improvements, although extensive upgrading took place in this respect. Some stations have been rebuilt, others renovated and updated, and all ancillary services improved.

At the unique site of Heyington, the station will be built to a design which won the Railways \$1,000 architectural competition.

##### *Pakenham*

On 20 January 1975 the suburban electric train service was extended 27 kilometres from Dandenong to Pakenham. Also on that day train timetables were updated to provide express running on the Pakenham line and many other major metropolitan services. The growth potential of the Pakenham district is expected to accelerate with the introduction of this fast rail line to the City.

##### *South Kensington-Footscray*

Two new tracks are being added to speed train running on the Geelong, Ballarat, Bendigo, Altona, Williamstown, and St Albans lines. Work is well

advanced, and includes alterations at Footscray station, rebuilding Hopkins Street road bridge, a new bridge over the Maribyrnong River, another bridge over Kensington Road, and new buildings and platform alterations at South Kensington station. The project will cost \$6.1m, and work was expected to be completed by December 1975 subject to a satisfactory supply of fabrication steel for bridges.

#### *Sunshine-Deer Park West*

An extra track is being laid to link Deer Park West with the metropolitan network at Sunshine. The project features two new stations, at Ardeer, between Sunshine and Deer Park, and at Deer Park West, between Deer Park and Rockbank. The Kororoit Creek bridge is finished, and tracklaying, using concrete sleepers, is under way between Deer Park and Sunshine. Work was expected to be finished late in 1975, at a cost of about \$2.9m.

#### *Greensborough-Macleod*

Train running will be speeded when a second track is completed. Further construction of earthworks has been suspended pending Country Roads Board advice on freeway proposals. Present plans allow for the freeway to cross the line between Watsonia and Greensborough. The overall project is expected to cost \$2.1m.

#### *Ringwood area*

Train running on both sections will be speeded by a \$6.73m duplication project. The Bayswater section will provide double track from Melbourne through to Fern Tree Gully, and the Croydon section double track through to Mooroolbark. The cost includes power signalling, and both are due to be finished during 1977-78.

#### *Mordialloc-Caulfield*

When the third track is completed it will allow more express running on the Frankston line. Improved signalling in both directions will permit better running according to peak hour demands. Work on the estimated \$10.5m project has begun at Bentleigh, Ormond, and McKinnon stations, as well as bridgeworks. The Glenhuntly-Cheltenham section is due for completion in 1977, and the two remaining sections in 1979.

#### *Other tracks*

Other work now under way on the Melbourne metropolitan system includes new stations at Yarraman, between Noble Park and Dandenong, and at Kananook, between Seaford and Frankston. Improvements to existing station buildings are in progress at Glenbervie, Glenroy, Lalor, Macauley, West Footscray, Hawthorn, Bayswater, Fern Tree Gully, Glen Iris, East Malvern, Rosanna, and Ringwood East. Provision of automatic signalling is gradually being extended throughout the whole metropolitan rail system.

#### *Modal interchanges*

At August 1975 plans were in the hands of consultants for the design of two major modal interchanges—one at Frankston and one at Box Hill. Modal interchanges will enable various modes of transport—e.g., train, taxi, bus, private car, to connect under the one roof.

#### *Flinders Street*

Plans are also being considered for the re-development of the air space over Flinders Street station. Incorporated in this development will be streamlining of facilities for the daily commuter traffic. In excess of 50,000 persons pass through Flinders Street and Princes Bridge stations per hour during peak periods.

### *Train running alterations*

The most comprehensive train running alterations ever made at any one time took place on all Melbourne metropolitan lines late in 1973. Changes involved the first major re-routing of trains since the introduction of suburban electric train services and followed extensive passenger surveys.

Some trains passing through Flinders Street station changed platforms, while a memory timetable of twenty minutes frequency in the off-peak was introduced on most lines. An off-peak twenty minute timetable was introduced on most lines on Mondays to Saturdays up to 11 p.m. Saturday morning and midday train services were increased with express running on longer distance lines for shoppers and workers going to and from the City. There will be further timetable adjustments at the beginning of each year, until the Melbourne underground rail loop begins operating.

### *Fare zones*

On 10 August 1975 metropolitan and country rail fares increased for the first time in four years. The new fare structure revolved around a basic silver coin fare scale. The metropolitan rail network was divided into 13 fare zones, the innermost zone being 2 kilometres from the City and the furthest away zone being 52 kilometres distant.

### *Freight*

Total freight tonnage for the year ended 30 June 1974 was approximately 11.5 million tonnes, while tonne kilometres was over 3,000 million. The main bulk traffic carried by the Victorian Railways consists of grains, which are seasonal in nature, and briquettes, which are slowly declining under the influence of competition from oil and gas. The major possibilities of future growth in the field of true bulk freight are related to the potential growth of the steel industry at Western Port and the movement of crushed stone and petroleum products.

In the field of general merchandise traffic the Victorian Railways plays a vital role in distributing goods from the manufacturing centre of Melbourne to the country areas of Victoria.

The Victorian Railways will introduce a new centralised computer-based freight accounting system in March 1976. The system will mean that all freight account customers will receive periodically one bill direct from the Central Revenue Accounting Office, instead of separate bills from each station which they deal with.

### *Tourism*

One of the advantages of upgrading its public transport is the Victorian Railways' ability to expand its tourist facilities. Intra-State, the Railways runs regular weekend and Sunday tours to many of Victoria's country towns. In conjunction with other rail systems and bus operators, interstate package tours have proved extremely popular. Extended package tours can last from three to eighteen days. One of the Victorian Railways' most popular tourist attractions is the Mount Buffalo Chalet. The Chalet is run by the Victorian Railways. Tourists travel by fast train to Wangaratta where a Chalet bus connects to Mount Buffalo, 1,350 metres above sea level.

### *Melbourne underground rail loop*

Work on the Melbourne underground rail loop is well advanced. The loop is designed primarily to increase the capacity and efficiency of the existing Melbourne rail network. It will disperse the peak hour commuter concentration now centred on Flinders Street and Princes Bridge by distributing a proportion of the city's work force through three additional stations on the eastern and northern edges of the central business district.

The loop is designed to relieve the peak hour train congestion at Flinders Street by speeding up train movements. The additional stations will be linked by four underground tracks connected to the existing surface tracks, thus forming four separate loops encircling the city.

One of these loops will serve the north eastern lines of the suburban system which pass through Jolimont (the Clifton Hill lines loop), another will serve the eastern lines which pass through Burnley (the Burnley lines loop), another the south eastern lines which pass through South Yarra (the Caulfield-Sandringham lines loop), and the other, the northern and western lines will pass through North Melbourne (the northern lines loop). A city circle will be incorporated in the system by linking up the Clifton Hill lines loop to form a closed circuit. The loop will have five stations—the existing Spencer Street and Flinders Street-Princes Bridge stations, Parliament station, Museum station, and Flagstaff station. Two extra overpass tracks are also needed between Flinders Street and Spencer Street stations. A comprehensive article on the loop appears on pages 646–8 of the *Victorian Year Book* 1975.

#### *Viaduct*

Flinders Street station has eleven platforms leading on to the viaduct. Therefore, a number of trains from the eastern suburbs have to be reversed at Flinders Street. Under the Melbourne underground rail loop project there will be two extra tracks providing up to a 50 per cent increase in capacity. The improved track capacity on the viaduct, planned for completion by 1978, should allow the Victorian Railways to expand its peak hour schedules in readiness for the loop opening. Without the extra tracks, the Flinders Street bottleneck will remain.

#### *Finance*

In 1973–74 Victorian Railways passenger income rose by \$3.8m compared with 1972–73. The main factor in this increase was a \$2.4m increase in passenger revenue, which was achieved despite a reduction in certain country and outer suburban fares in September 1973. The encouraging increase in passenger travel during 1973–74 represents the reversal of a trend that had persisted since 1957–58. On the freight side the revenue gained from a general 5 per cent increase in freight rates in October 1973 was partly offset by a sharp reduction in wheat traffic due to poor seasonal conditions.

#### *Operational expenses*

An increase of \$32.6m in expenditure was due in large measure to the effects of wage increases flowing over from the previous year or granted during 1973–74—the overall increase in wages amounted to \$28.3m. It is a paradox that railways, while being a most economical user of labour per passenger per kilometre or tonne per kilometre performed, are at the same time highly labour intensive in terms of wages as a proportion of total costs. This factor makes the railways extremely vulnerable to the financial effects of inflationary wage increases.

#### *Loan liability and interest*

The face value of stock and bonds allocated to the Railways Department, as reduced in accordance with the *Railways (Finances Adjustment) Act* 1936, amounted to \$493.8m at 30 June 1974. After deducting the value of securities purchased from the National Debt Sinking Fund and cancelled (\$81.8m), the net liability on current loans outstanding at that date was \$412.0m.

The total liability of the State for railways construction, etc., at 30 June 1974 (which includes the liability referred to in the previous paragraph) was \$555.8m. Deduction of securities purchased from the National Debt Sinking

Fund and cancelled (\$111.7m) together with cash at credit in the Fund (\$1.0m) reduced the amount outstanding at the end of the year to a net liability of \$443.1m.

The *Railways (Funds) Act* 1961 provided that interest and other charges on moneys borrowed for the purposes of the *Railways Act* 1958 should not henceforth be included in the accounts of the Victorian Railways, but would be charged against the revenues of the State. However, the *Railways (Funds) Act* 1964 reimposed on the Railways, with effect from 1 July 1964, the obligation to pay interest and debt charges on moneys borrowed for the purposes of the *Railways Act* 1958 on and after 1 July 1960. The total annual interest payable on the liability of \$443.1m at 30 June 1974 amounted to \$24.4m at an average rate of 5.505 per cent. Of this amount, the Victorian Railways are liable for \$11.6m. In addition, the State is required to pay a contribution of \$5.0m at a rate of 4.5 per cent on cancelled securities.

Additional funds, which amounted to \$62.3m at 30 June 1974, have been provided for railway construction, equipment, stores, etc., out of the Consolidated Fund, the Uniform Railway Gauge Trust Fund, and other funds. No interest is charged against railway revenue on these amounts, with the exception that interest, at 5 per cent, is payable to the Australian Government on the repayable principal amount outstanding in respect of expenditure on the uniform gauge. (See page 621 of the *Victorian Year Book* 1966.)

**Further reference, 1975**

#### *Railway statistics*

The following tables relate to the State railways and road motor services under the control of the Victorian Railways Board. Certain border railways in New South Wales are, by agreement between the Victorian and New South Wales Governments, under the control of the Victorian Railways Board. Particulars of these have been included with those of the State railways being operated within Victoria. Details of the operations of the road motor services are shown on page 597.

#### *Capital cost of railways and equipment*

The capital cost of all lines constructed and in course of construction, and of all works, rolling stock, and equipment of the Railways Department at 30 June for each of the years 1970 to 1974 is shown in the following table :

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

At 30 June—	Railways		Road motor services	Total capital cost (a)
	Lines open	Lines in process of construction		
1970	377,939	432	20	378,391
1971	386,769	427	19	387,215
1972	395,032	484	19	395,535
1973	403,158	561	19	403,738
1974	416,357	663	19	417,039

(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 course of manufacture.

At 30 June 1974 the capital cost of rolling stock, after being written down in accordance with the *Railways (Finances Adjustment) Act* 1936, and allowing for depreciation was : \$110.7m broad gauge, \$10,661 narrow gauge, and \$4.7m uniform gauge.

*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) paid for each of the five financial years 1969-70 to 1973-74 are shown in the following table :

## VICTORIA—RAILWAYS STAFF : NUMBERS, SALARIES, ETC.

Period	Number of employees at end of year			Salaries, wages, and travelling expenses
	Permanent	Supernumerary and casual	Total	
				\$'000
1969-70	14,588	11,709	26,297	93,415
1970-71	14,669	11,511	26,180	101,825
1971-72	13,982	11,988	25,970	108,272
1972-73	14,081	10,416	24,497	125,025
1973-74	13,459	11,806	25,265	153,910

*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 1970 to 1974 :

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

Rolling stock in service	1970	1971	1972	1973	1974
<b>Locomotives—</b>					
Steam	45	38	37	26	22
Electric	35	35	35	35	35
Diesel electric	240	246	249	249	249
Other (a)	95	95	95	92	92
<b>Total</b>	<b>415</b>	<b>414</b>	<b>416</b>	<b>402</b>	<b>398</b>
<b>Passenger coaches—</b>					
Electric suburban	1,104	1,090	1,090	1,084	1,079
Other (b)	637	616	597	584	576
<b>Total</b>	<b>1,741</b>	<b>1,706</b>	<b>1,687</b>	<b>1,668</b>	<b>1,655</b>
<b>Goods stock (c)</b>	<b>21,050</b>	<b>20,000</b>	<b>20,264</b>	<b>19,831</b>	<b>19,438</b>
<b>Service stock</b>	<b>1,619</b>	<b>1,617</b>	<b>1,602</b>	<b>1,588</b>	<b>1,594</b>

(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.

(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 1970 to 1974 is given in the following table. It should be noted that the Victorian Railways operate certain services in New South Wales. At 30 June 1974 the total length of these services was 326.6 route kilometres. This distance is included in the single track broad gauge section of the table.

VICTORIA—RAILWAYS ROUTE DISTANCE AT 30 JUNE (EXCLUDING  
ROAD MOTOR SERVICES)  
(route distance)

Lines open for traffic		1970	1971	1972	1973	1974
Single track	—Broad gauge (a)	5,853	5,853	5,850	5,829	5,816
	—Narrow gauge	13	13	13	13	13
Double track	—Broad gauge (a)	708	708	707	710	719
Other multi-track	—Broad gauge (a)	129	129	130	135	136
Total route distance		6,703	6,703	6,700	6,687	6,684

(a) Broad gauge refers to 1,600 mm and 1,435 mm gauge track.

*Railways traffic*

The traffic of the railways (exclusive of road motor traffic) for each of the years 1969-70 to 1973-74 is shown in the following table:

VICTORIA—RAILWAYS TRAFFIC (EXCLUDING ROAD MOTOR SERVICES)

Traffic		1969-70	1970-71	1971-72	1972-73	1973-74	
Traffic train kilometres—	Country '000	7,625	7,673	7,662	7,747	7,803	
	Suburban '000	13,456	13,382	13,337	13,290	13,584	
	Goods '000	11,981	12,468	12,176	12,020	11,958	
Total		'000	33,062	33,523	33,175	33,057	33,345
Passenger journeys—	Country '000	4,000	4,080	3,954	4,180	4,507	
	Suburban '000	140,309	138,131	133,840	108,970	110,141	
Total		'000	144,309	142,211	137,794	113,150	114,648
Goods and livestock carried	'000 tonnes	12,024	12,690	11,795	11,475	11,370	

The tonnes carried and tonne kilometres of various classes of goods and the total tonnes carried and tonne kilometres of livestock carried by the Victorian Railways for the years 1972-73 and 1973-74 are shown in the following table:

VICTORIA—RAILWAYS GOODS AND LIVESTOCK TRAFFIC  
(EXCLUDING ROAD MOTOR GOODS SERVICES)  
( '000 tonnes)

Class of goods	Tonnes carried		Tonne kilometres	
	1972-73	1973-74	1972-73	1973-74
Grain—				
Barley	198	237	50,676	66,003
Wheat	1,595	1,431	505,213	453,345
Other	189	141	46,002	34,812
Flour	123	134	28,850	30,767
Stockfood and fodder	147	84	50,492	22,551
Fruit—				
Fresh	125	124	49,493	47,791
Dried	85	35	46,690	18,421
Beverages	183	182	44,275	43,667
Solid fuels	1,112	1,036	194,488	184,036
Cement	923	918	102,501	110,186
Mining and quarry products	273	376	70,368	103,702
Dairy produce	77	51	15,782	11,727
Milk, condensed, powdered, etc.	78	119	14,820	22,380
Tinplate	131	106	41,958	32,993

VICTORIA—RAILWAYS GOODS AND LIVESTOCK TRAFFIC (EXCLUDING ROAD MOTOR GOODS SERVICES)—*continued*  
(‘000 tonnes)

Class of goods	Tonnes carried		Tonne kilometres	
	1972-73	1973-74	1972-73	1973-74
Iron, steel, and metals, unfabricated	723	759	224,062	204,070
Manures	868	908	219,871	226,580
Motor cars and accessories	296	298	94,428	89,295
Petroleum products	375	423	100,213	114,262
Paper products	229	236	59,359	64,101
Pipes	72	114	18,020	30,639
Timber	297	276	95,553	87,696
Wool	151	134	34,249	30,611
All other goods	2,967	3,036	980,526	1,032,760
Total goods	11,217	11,158	3,087,889	3,062,395
Total livestock	258	212	76,692	63,769
Grand total goods and livestock	11,475	11,370	3,164,581	3,126,164

*Railways revenue and expenditure*

Revenue for 1973-74 increased by \$3,796,000 compared with 1972-73. Total working expenses increased by \$32,580,000 as compared with the previous year.

Under the provisions of the *Railways (Funds) Act* 1961, an account was created in the Trust Fund and called the "Railway Equalisation Account". The Act provided for the annual appropriation out of the Consolidated Fund and the payment into the Equalisation Account of any excess of railway income over railway operating expenses for the preceding year. Moneys standing to the credit of the Account were to be available for the purpose of supplementing railway income in the event of its falling short of railway operating expenses. The amounts paid into the Equalisation Account were \$1,840,692 for the year 1960-61, \$7,318 for 1961-62, and \$740,758 for 1963-64. To offset deficits for the years 1962-63 and 1964-65, amounts of \$419,168 and \$2,169,601, respectively, were transferred to Railway Revenue from the Equalisation Account, the latter transfer extinguishing the balance in the Account. The calculation of these amounts was based on Treasury figures (which on the income side are mainly cash records) and not on net revenue shown in the following table:

VICTORIA—RAILWAYS REVENUE AND EXPENDITURE

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
	\$'000	\$'000	\$'000	\$'000	\$'000
REVENUE					
Passenger, etc., business—					
Passenger fares	31,754	31,859	34,806	35,971	38,343
Parcels, mails, etc.	4,122	4,097	4,322	4,515	4,885
Other	104	112	101	91	154
Goods, etc., business—					
Goods	59,641	62,829	62,370	59,937	60,057
Livestock	1,521	1,221	1,566	1,364	1,179
Miscellaneous	607	550	619	732	743
Miscellaneous—					
Dining car and refreshment services	3,461	3,583	3,592	3,808	4,369
Rentals	2,340	2,468	2,655	2,710	2,904
Bookstalls	1,096	1,085	1,085	1,139	1,263
Advertising	246	251	259	273	300
Melbourne Underground Rail Loop Authority special levy		447	952	899	895
Other	227	256	465	491	634
Total revenue	105,119	108,759	112,791	111,930	115,726

VICTORIA—RAILWAYS REVENUE AND EXPENDITURE—*continued*

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
EXPENDITURE					
Working expenses—	\$'000	\$'000	\$'000	\$'000	\$'000
Way and works	23,969	26,153	27,909	31,605	36,278
Rolling stock	30,589	33,469	35,429	39,330	47,444
Traffic	40,505	44,107	47,314	54,194	67,175
Electrical engineering branch	4,683	4,681	4,827	5,165	6,112
Stores branch	1,670	1,838	1,972	2,201	2,872
Pensions	5,724	6,176	6,533	7,308	8,325
Service grants and retiring gratuities	1,419	1,463	1,519	1,511	1,615
Contributions to Railway Renewals and Replacement Fund	400	400	400	400	400
Contributions to Railway Accident and Fire Insurance Fund	1,813	1,497	1,936	1,807	2,347
Pay-roll tax	2,125	2,325	3,400	4,006	6,067
Long service leave	2,118	2,551	2,355	2,621	3,036
Appropriation to Melbourne Underground Rail Loop Authority construction		447	952	899	895
Other (a) (b)	3,697	4,108	4,355	5,280	6,340
Total working expenses	118,712	129,215	138,902	156,327	188,906
Net revenue	-13,593	-20,456	-26,109	-44,397	-73,180
Debt charges—					
Interest charges and expenses (b)	7,062	8,081	9,077	10,021	10,893
Exchange on interest payments and redemption	99	91	81	66	44
Contribution to National Debt Sinking Fund	330	365	393	419	455
Net result for year	-21,084	-28,993	-35,660	-54,903	-84,572
	per cent				
Proportion of working expenses to revenue	112.9	118.8	123.1	139.6	163.1

(a) Including interest paid to the Australian Government under the Railways Standardisation Agreement, namely, in 1969-70, \$205,306; 1970-71, \$200,408; 1971-72, \$195,510; 1972-73, \$190,613; and 1973-74, \$185,714.

(b) Including loan conversion expenses.

The gross revenue and working expenses per average kilometre of railway worked for each of the years 1969-70 to 1973-74 are shown in the following table :

## VICTORIA—RAILWAYS REVENUE AND EXPENDITURE PER AVERAGE KILOMETRE OPEN (EXCLUDING ROAD MOTOR SERVICES)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Average number of kilometres open for traffic	6,711	6,705	6,700	6,687	6,685
Gross revenue per average kilometre open	\$ 15,654	16,621	16,824	16,727	17,300
Working expenses per average kilometre open	\$ 17,666	19,247	20,705	23,347	28,212

*Road motor services*

The following table gives, for each of the years 1969-70 to 1973-74, particulars of the operations of the road motor services under the control of the Victorian Railways Board :

**VICTORIA—ROAD MOTOR SERVICES**  
(Under the control of the Victorian Railways Board)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Bus kilometres	434,911	425,108	422,516	790,907	934,763
Passenger journeys	926,435	902,700	857,406	759,209	760,684
Gross revenue	\$ 65,516	64,010	71,384	73,832	76,047
Working expenses	\$ 153,455	161,068	178,072	207,348	307,021
Capital expenditure at end of year (less depreciation written off)	\$ 20,471	19,292	19,252	19,212	19,172

NOTE. The apparent discrepancy between the amount of working expenses and revenue was brought about by revenue not having received a proportion of combined rail and road services earnings, while working expenses have been charged with road motor operating cost in full.

**Tramway and omnibus services**

*Melbourne and Metropolitan Tramways Board*

The Melbourne and Metropolitan Tramways Act provides for a Board consisting of chairman, deputy chairman, and a member appointed by the Governor in Council. Subject to the direction of the Minister, the Board controls, manages, operates, and maintains the tramways of the metropolitan area, and a fleet of buses plying on routes permitted by the Transport Regulation Board.

**VICTORIA—MELBOURNE AND METROPOLITAN TRAMWAYS BOARD :  
TRAMWAYS**

Period	Track open at end of year		Tram kilometres	Passenger journeys	Operating receipts	Operating expenses	At end of year	
	Double	Single					Rolling stock	Persons employed
	kilometres	kilometres						
1969-70	216	5	24,580	110,692	16,682	17,766	698	(b)4,159
1970-71	217	3	23,978	109,779	16,576	18,881	696	(b)4,323
1971-72	217	3	23,759	101,962	19,026	20,937	696	(b)4,331
1972-73	217	4	24,443	104,719	19,852	23,938	(a)696	(b)4,283
1973-74	217	4	23,873	109,368	20,552	29,370	(a)697	(b)4,193

(a) Includes 42 in reserve or idle.

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

As the community grows and the use of private motor vehicles extends, passengers using public transport become fewer and this causes financial strain. Notwithstanding this, the Board has a policy of expansion and in 1961 acquired a privately owned network of buses in the rapidly developing suburbs of Box Hill, Nunawading, Ringwood, Mitcham, Doncaster, Bulleen, and Warrandyte, and extended some other services.

**VICTORIA—MELBOURNE AND METROPOLITAN TRAMWAYS BOARD :  
MOTOR OMNIBUS SYSTEMS**

Period	Route kilometres	Bus kilometres	Passenger journeys	Operating receipts	Operating expenses	At end of year	
						Rolling stock	Persons employed (a)
1969-70	224	11,141	22,353	3,635	4,540	277	4,159
1970-71	224	11,294	22,753	3,710	4,991	273	4,323
1971-72	230	11,190	20,471	4,067	5,396	272	4,331
1972-73	233	11,882	20,993	4,308	6,393	(b)272	4,283
1973-74	237	11,918	22,168	4,486	7,939	(b)272	4,193

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

(b) Includes 32 in reserve or idle.

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

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
<b>REVENUE</b>					
Traffic receipts	20,141	20,107	22,879	23,909	24,751
Miscellaneous operating receipts	176	179	214	251	287
Non-operating receipts	251	231	259	511	293
Total revenue	20,568	20,517	23,352	24,671	25,331
<b>EXPENDITURE</b>					
Traffic operation costs	9,788	11,070	12,143	14,332	17,587
Maintenance—					
Permanent way	970	988	1,236	1,298	1,331
Tramcars	2,685	2,850	2,948	3,499	4,118
Buses	989	1,078	1,196	1,416	1,710
Electrical equipment of lines and substations	594	675	744	842	945
Buildings and grounds	302	330	324	403	515
Electric traction energy	831	812	802	804	856
Fuel oil for buses	186	218	249	275	329
Bus licence and road tax fees	21	22	21	22	22
General administration and stores department costs	1,394	1,563	1,737	1,885	2,355
Pay-roll tax	380	427	625	771	1,174
Workers compensation payments	418	524	543	649	1,382
Depreciation	1,008	937	922	920	918
Non-operating expenses	86	92	100	106	110
Provisions—					
Long service leave	396	350	366	471	619
Retiring gratuities	671	532	611	732	1,077
Accrued sick leave	96	61	70	59	76
Public risk insurance	220	288	297	325	618
Interest on loans	1,358	1,448	1,498	1,630	1,678
Total expenditure	22,393	24,265	26,433	30,438	37,419
Net surplus (+) or deficit (—)	-1,825	-3,748	-3,081	-5,767	-12,088
Capital outlay	695	712	856	945	992
Loan indebtedness at 30 June	24,874	26,010	26,822	27,620	28,457

The following tables give an analysis of operating receipts, operating expenses, etc., for each of the years 1969-70 to 1973-74 :

**VICTORIA—MELBOURNE AND METROPOLITAN TRAMWAYS BOARD :**  
**TRAMWAYS : OPERATING RECEIPTS, OPERATING EXPENSES, ETC.,**  
**PER KILOMETRE, ETC.**

Period	Operating receipts			Operating expenses		Ratio operating expenses to operating receipts
	Amount	Per vehicle kilometre	Per passenger	Amount	Per vehicle kilometre	
	\$'000	cents	cents	\$'000	cents	per cent
1969-70	16,682	67.87	15.07	17,766	72.28	106.50
1970-71	16,576	69.13	15.10	18,881	78.74	113.91
1971-72	19,026	80.08	18.66	20,937	88.12	110.04
1972-73	19,851	81.21	18.96	23,938	97.93	120.59
1973-74	20,552	86.09	18.79	29,370	123.03	142.91

VICTORIA—MELBOURNE AND METROPOLITAN TRAMWAYS BOARD :  
MOTOR OMNIBUS SYSTEMS : OPERATING RECEIPTS, OPERATING  
EXPENSES, ETC., PER KILOMETRE, ETC.

Period	Operating receipts			Operating expenses		Ratio operating expenses to operating receipts
	Amount	Per vehicle kilometre	Per passenger	Amount	Per vehicle kilometre	
	\$'000	cents	cents	\$'000	cents	per cent
1969-70	3,635	32.63	16.26	4,540	40.75	124.91
1970-71	3,710	32.85	16.31	4,991	44.19	134.53
1971-72	4,067	36.34	19.87	5,396	48.22	132.68
1972-73	4,308	36.26	20.52	6,393	53.80	148.40
1973-74	4,486	37.64	20.24	7,939	66.61	176.97

*Private motor omnibus services*

The following table contains particulars of the operations of Victorian private omnibus services. In addition, details of route operations, charter, school, and other special services are included. In the year 1973-74 route operations accounted for 52 per cent of total distance travelled, while charter, school, and other special services accounted for 17, 30, and 1 per cent, respectively.

VICTORIA—PRIVATE MOTOR OMNIBUS SERVICES

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74	
Number of vehicles	2,899	2,875	3,030	3,171	3,118	
Distance—Petrol vehicles	'000 kilometres	55,279	53,076	53,459	51,231	50,062
Diesel vehicles	'000 kilometres	36,498	39,926	43,200	47,759	51,204
Total distance	'000 kilometres	91,777	93,002	96,659	98,990	101,266
	\$'000	\$'000	\$'000	\$'000	\$'000	
Revenue	23,721	26,330	28,628	32,074	35,916	
Expenditure—						
Drivers' wages	7,974	9,104	10,236	11,368	13,753	
Repairs and maintenance	2,913	3,149	3,477	3,845	4,250	
Depreciation	2,181	2,239	2,364	2,464	2,557	
Other	7,997	8,674	9,741	11,008	12,360	
Total expenditure	21,065	23,166	25,818	28,685	32,920	
Assets (a)—						
Motor vehicles	5,988	6,258	7,221	7,457	7,261	
Other assets	9,671	10,264	11,024	12,333	13,559	
Total assets	15,659	16,522	18,245	19,790	20,820	
Liabilities (a)	6,546	7,042	8,177	9,612	10,834	

(a) Incomplete. Assets and liabilities of operators engaged solely in school bus services are not available.

*Tramways in provincial cities*

Tramway services in Ballarat and Bendigo ceased on 19 September 1971 and 16 April 1972, respectively, both being replaced by privately operated bus services. Part of the Bendigo system re-opened in December 1972 as a tourist attraction.

**Further reference, 1975 ; Melbourne tramways 1930-1961, 1963**

**Motor vehicles***Registration, licences, etc.*

Every motor car and motor cycle must be registered with the Chief Commissioner of Police if used on Victorian roads, 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.

**VICTORIA—REGISTRATION AND LICENCE RATES AT 1 MARCH 1975**

Type of registration or licence	Annual rate
REGISTRATION	
Motor cycle (without trailer, etc.)	\$5.55 plus \$0.50 surcharge (b)
Motor cycle (with trailer, etc., attached)	\$8.25 plus \$0.50 surcharge (b)
Motor car (private use)	\$0.80 for each power-weight unit (a) plus \$0.50 surcharge (b)
Motor car (private and business use)	\$1.00 for each power-weight unit (a) plus \$1.00 surcharge (b)
Trailer (attached to motor car)	From \$3.40 each, according to the unladen weight and use
Motor car (commercial passenger vehicle) operating on a stage omnibus service	\$2.00 plus \$1.00 surcharge (b)
Motor car (commercial passenger vehicle) operating on a temporary school service licence	\$20.00 plus \$1.00 surcharge (b)
Motor car (used for carrying passengers or goods for hire or in the course of trade)	From \$1.50 to \$2.15 for each power-weight unit (a) according to the unladen weight and the type of tyres plus \$1.00 surcharge (b)
Motor car (constructed for the carriage of goods) owned by primary producer and used solely in connection with his business	From \$0.40 to \$1.75 for each power-weight unit (a) according to the number of wheels and the type of tyres (when more than one motor car is so owned, the rate shall apply to one motor car only) plus \$0.50 surcharge (b)
Mobile crane, self-propelled (used otherwise than for lifting and towing vehicles)	\$36.60 (unless a lower fee would otherwise have been payable) plus \$1.00 surcharge (b)
LICENCE	
Driver's or rider's licence	\$18.00 issued for a three year period (An appointment fee of \$3.00 and testing fee of \$10.00 is payable by all applicants for new licences)
Learner's permit	\$2.00 for twelve months and \$2.00 for a three month extension, if required. Appointment and testing fees as above, are also payable
Instructor's licence	\$40.00 issued for a three year period
Recreation vehicle	\$3.00 for vehicle with not more than 3 wheels, in any other case \$10.00

(a) 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.

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

NOTE. The minimum annual fee for the registration of any motor vehicle other than a motor cycle is \$16.00.

**VICTORIA—DRIVERS' AND RIDERS' LICENCES IN FORCE AT 30 JUNE**

Type of licence	1970	1971	1972	1973	1974
Drivers'	1,464,523	1,524,104	1,585,095	1,660,454	1,801,203
Riders'	37,551	42,292	49,023	51,354	55,707
Total	1,502,074	1,566,396	1,634,118	1,711,808	1,856,910

The following table shows the number of motor vehicles on the register by type at the end of 1962 and 1971 (motor vehicle census years), and at 31 December 1971 to 1974. Particulars of Australian Government-owned vehicles with the exception of defence service vehicles are included. Tractor-type vehicles, plant, and trailers are excluded.

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

Type of vehicle	Census, 31 December 1962	Census, 30 September 1971 (a)	At 31 December—			
			1971	1972	1973	1974
			'000	'000	'000	'000
Motor cars	610,974	929,477	940.7	987.1	1,054.9	1,123.0
Station wagons	69,528	201,884	203.2	207.3	213.0	219.8
Light commercial type vehicles—						
Open	94,470	89,764	89.9	91.0	93.4	97.7
Closed	31,851	46,539	47.0	49.7	53.3	57.7
Trucks—						
Rigid	76,591	79,386	79.8	82.1	87.2	92.1
Articulated		9,417	9.5	9.7	10.5	11.1
Other truck type vehicles	2,890	3,520	3.6	3.9	4.3	4.7
Buses	3,409	5,129	5.2	5.6	6.0	6.6
Motor cycles	15,802	28,160	30.7	36.7	44.7	47.3
<b>Total</b>	<b>905,515</b>	<b>1,393,276</b>	<b>1,409.7</b>	<b>1,473.1</b>	<b>1,567.4</b>	<b>1,660.0</b>

(a) A revised classification of motor vehicles was adopted for the census of motor vehicles at 30 September 1971.

The principal differences between the new classification and that at 31 December 1962 are:

- (i) "Light commercial type vehicles" include utilities, panel vans, and trucks with carrying capacity under one tonne, and ambulances and hearses.
- (ii) "Rigid trucks" include utilities and panel vans with a carrying capacity of one tonne 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". Direct comparisons, therefore, between the two censuses can only be made for the categories motor cars, station wagons, and motor cycles. However, for comparative purposes utilities registered at 31 December 1962 have been included in the classification "light commercial vehicles—open" and panel vans and ambulances and hearses, registered at the same date, in the classification "light commercial type vehicles—closed". 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.

The following tables, giving new vehicle registrations by types and makes of vehicles, include details of Australian Government-owned vehicles (other than those of the defence services):

VICTORIA—REGISTRATION OF NEW MOTOR CARS AND  
STATION WAGONS ACCORDING TO MAKE  
(Includes Australian Government-owned vehicles other than those  
of the defence services)

Make	Motor cars			Station wagons		
	1972	1973	1974	1972	1973	1974
Austin (a)	1,166	..	..	..	..	..
B.M.W.	170	252	385	..	..	..
Chrysler (b)	8,288	9,156	7,892	1,321	1,319	1,823
Datsun	6,142	9,415	10,908	330	316	323
Fiat	350	452	783	..	..	..
Ford	25,150	23,846	25,803	4,384	4,519	5,121
Holden (c)	28,316	28,002	23,163	6,300	6,599	5,031
Honda	511	1,312	2,942	..	..	..
Jaguar	306	209	335	..	..	..
Leyland (a)	..	5,943	4,742	..	1	..
M.G. (a)	212	..	..	..	..	..

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

Make	Motor cars			Station wagons		
	1972	1973	1974	1972	1973	1974
Mazda	3,741	6,967	9,170	241	728	1,375
Mercedes Benz	501	758	1,070	..	..	..
Morris (a)	3,378	..	..	..	..	..
Peugeot	466	511	687	..	..	2
Renault	1,655	1,705	1,630	75	197	358
Rover	187	153	152	59	75	132
Statesman	1,181	1,268	1,393	..	..	..
Toyota	7,215	9,718	12,180	111	602	990
Triumph	512	544	519	..	..	..
Volkswagen	1,970	1,636	1,585	473	542	228
Volvo	720	1,138	1,422	72	106	294
Other	665	891	1,665	34	39	140
<b>Total</b>	<b>92,802</b>	<b>103,876</b>	<b>108,426</b>	<b>13,400</b>	<b>15,043</b>	<b>15,817</b>

(a) From 1 January 1973, Austin, Morris, M.G., and B.M.C. are included with Leyland.

(b) Dodge, Hillman, and Mitsubishi are included with Chrysler.

(c) Excludes Statesman, which is shown separately.

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

Make	1973 (a)			1974 (a)				
	Light commercial type vehicles (a)		Other (a)	Total	Light commercial type vehicles (a)		Other (a)	Total
	Open	Closed			Open	Closed		
Bedford	..	..	1,083	1,083	..	..	953	953
Chrysler (b)	1,340	..	825	2,165	1,211	9	758	1,978
Daihatsu	..	113	191	304	..	186	241	427
Datsun	446	48	420	914	516	161	307	984
Ford	1,724	2,005	921	4,650	1,930	2,282	916	5,128
Holden	3,928	2,765	..	6,693	3,390	2,697	11	6,098
International	..	..	1,691	1,691	..	..	1,254	1,254
Land Rover	264	..	120	384	224	6	102	332
Leyland (c)	183	256	163	602	179	307	130	616
Mazda	237	328	180	745	272	482	332	1,086
Mercedes Benz	..	..	154	154	..	..	194	194
Suzuki	1	..	..	1	131	24	..	155
Toyota	..	177	1,795	1,972	..	335	1,796	2,131
Volkswagen	56	912	440	1,408	44	1,092	201	1,337
Volvo	..	..	126	126	..	..	117	117
Other	320	36	455	811	128	27	369	524
<b>Total</b>	<b>8,499</b>	<b>6,640</b>	<b>8,564</b>	<b>23,703</b>	<b>8,025</b>	<b>7,608</b>	<b>7,681</b>	<b>23,314</b>

(a) From 1 January 1972 a revised classification of motor vehicles has been adopted and used also as a basis for a census of motor vehicles at 30 September 1971. For further information see notes to previous table on page 601 dealing with vehicles on the register.

(b) Chrysler includes all Dodge, Commer, Hillman, and Mitsubishi vehicles.

(c) From 1 January 1973, B.M.C., Morris, A.E.C., Albion, Scammell, and Thornycroft are included with Leyland.

### Transport Regulation Board

#### General

The *Transport Regulation Act 1932* set up a Board of Inquiry to investigate Victoria's land transport problems. The recommendations of this Board led to the constitution of the Transport Regulation Board in 1934. The Board, consisting of a chairman, a primary producers' representative, and a representative of commercial interests outside a radius of 40 kilometres of the G.P.O.,

Melbourne, is a statutory authority originally constituted "for the purpose of securing improvement and co-ordination of means of and facilities for locomotion and transport" and for the purposes of carrying into effect the provisions of specific legislation in this field. Although by later amending legislation a Co-ordinator of Transport was set up with particular functions, the Board's function as a licensing authority is still to channel the evolution of road transport in the interests of the most efficient use of community resources.

In effect, the scope of the Board's authority has been confined to the regulation of the operation of commercial road passenger and goods vehicles with a view to maximising service to the community and rationalising road-rail competition. It derives its present authority from the *Transport Regulation Act 1958* and the *Commercial Goods Vehicles Act 1958*.

VICTORIA—TRANSPORT REGULATION BOARD : LICENCES ISSUED :  
SUMMARY OF FINANCIAL OPERATIONS

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
Licences issued "as of right"—					
40 kilometres of Melbourne	15,466	15,622	15,901	16,489	18,113
40 kilometres of Ballarat, Bendigo, or Geelong	1,514	1,546	1,577	1,667	1,869
40 kilometres of owner's place of business	6,904	6,779	6,787	7,004	7,683
Primary producers (vehicles over 2 tonnes load capacity)	17,705	17,271	17,477	17,534	17,363
Butter, milk, and cheese factories	428	388	355	347	420
80 kilometres of owner's place of business (vehicles up to 4 tonnes load capacity)	55,553	56,215	56,612	58,658	47,995
State-wide rights for carriage own goods	..	..	..	..	10,358
Third Schedule commodities	13,136	13,111	13,294	13,461	12,108
Approved decentralised secondary industries	969	1,058	1,128	1,192	1,430
80 kilometres of Melbourne	..	..	..	..	318
80 kilometres of Portland	..	..	..	..	10
Bulk tankers—petroleum products	..	..	..	..	185
"Discretionary" licences—					
Passenger—					
Omnibuses	3,194	3,320	3,391	3,450	3,664
Taxis and hire-cars	3,369	3,493	3,486	3,464	3,531
Temporary	165	156	163	177	34
Goods	14,742	14,986	14,699	14,756	12,451
Goods—passenger	32	30	26	25	22
Total licences issued	133,177	133,975	134,896	138,224	137,554
Financial transactions—	\$'000	\$'000	\$'000	\$'000	\$'000
Revenue	2,662	2,742	2,946	3,125	4,510
Expenditure (including payments to local authorities for comfort stations and bus shelters)	2,452	2,871	2,949	3,231	3,900
Balance	210	-129	-3	-106	610
Collections—	\$'000	\$'000	\$'000	\$'000	\$'000
Road maintenance contributions collected and transferred direct to Country Roads Board	8,558	8,905	9,138	9,745	10,362
Motor boat registration fees collected and paid to Tourist Fund	254	282	305	333	397
Log book fees	11	11	10	10	11

*Licences, permits, and drivers' certificates*

In the year ended 30 June 1974 the Board issued 152,341 goods permits for temporary variation of the operations of a vehicle. No new tow truck licences were issued and at 30 June 1974 there were 703 licences on issue. At that date 23,293 drivers' certificates were on issue: 5,815 bus, 14,815 taxi, 313 temporary, and 2,296 tow-truck.

*Buses*

Commercial buses at 30 June 1974 totalled: metropolitan 964, urban 143 (Ballarat 38, Bendigo 27, and Geelong 78), and country 1,882.

*Taxis and hire-cars*

Taxis and hire-cars at 30 June 1974 totalled: metropolitan 2,802, urban 201 (Ballarat 50, Bendigo 37, and Geelong 114), and country 528.

*Licensing of private buses*

The *Transport Regulation (Private Omnibuses) Act 1975* came into force on 18 August 1975 requiring buses owned by schools, sporting bodies, youth, and other groups to undergo regular maintenance and be licensed by the Board.

*Passenger fares*

At 1 July 1974 adult bus fares were 15c, 25c, 30c, and 32c, respectively, for the first four sections travelled, rising by 1c up to section 8 and thereafter by various amounts. Taxi fares at that date were 30c flagfall (including the first 150 metres) and 5c for each additional 300 metres.

*Public hearings and private sittings*

The Board heard 5 goods and 54 passenger applications at public hearings and 3,652 goods and 3,748 passenger applications at private sittings during the year ended 30 June 1974.

*Motor boats*

At 30 June 1974 the number of motor boats on the Board's register was 63,851.

**Further reference, 1975; Metropolitan Transportation Committee, 1974**

**West Gate Bridge Authority**

The Authority is presently constructing the West Gate Bridge over the lower reaches of the Yarra River and, under the terms of its franchise from the Victorian Government, will operate and maintain this Bridge together with its associated works as a toll crossing.

The overall length of the Authority's works is approximately 5.5 kilometres. The main bridge, which is 2,582 metres long, includes five central steel spans of total length 848 metres, the main span of which is 336 metres long and rises to a height of 58 metres above low water level of the navigation channel. The Bridge has two carriageways each of which will have four traffic lanes and a break-down lane. At opening, traffic volume is expected to be of the order of 45,000 vehicles per day rising to about 100,000 vehicles per day by 1985.

Since the collapse of a span of the steel bridge on 15 October 1970 the design of the steel spans has been completely checked both for in-service and erection conditions, and modifications to the steel box sections, both erected and on the ground, have been put in hand. Contracts have also been let for the replacement of the box sections destroyed in the collapse and for new steel orthotropic deck plates. Special equipment, including three cranes of 130 tonnes capacity, has been designed and supplied, and erection of the main steel bridge girder has now recommenced. On the western half of the steel bridge, six steel box girder sections have been erected; and on the eastern half, the one and a half spans

which were erected prior to the collapse have been modified and strengthened and erection of further steel sections has commenced. There are approximately 500 men on site completing the erection of the steel bridge. The present estimated completion date is 1977.

To encourage as much traffic as possible to use the Bridge, the Authority hopes that adequate feeder routes will be provided so that motorists will not suffer any undue congestion or delays in approaching or leaving the Bridge.

**Further reference, 1975**

#### **Road Safety and Traffic Authority**

The Road Safety and Traffic Authority (RoSTA) has the responsibility of framing policies for the safe and orderly movement of traffic and pedestrians on Victorian roads and implementation of such policies as directed by the Victorian Government. The Authority's functions under the Road Traffic Act are to carry out research and investigation into road accident prevention; promote road accident prevention practices; request municipal councils to adopt specific practices; and advise the Chief Secretary on accident prevention policies, regulations, and any matter for the improvement of traffic conditions or control. These functions embody those of the former Traffic Commission which the Authority replaced in March 1971.

Since 1958 the Authority has received from the Victoria Police a comprehensive statistical record of every road accident reported. From 1960 to 1972 the information on these report forms was transcribed by the Australian Bureau of Statistics to punch cards for research and analysis purposes of the Authority. Accidents occurring in 1973 and 1974 were recorded by the Bureau on computer tape. Since the commencement of 1975 both the coding of reports and production of magnetic tapes has been conducted by the Authority.

The State Traffic Accident Record which shows all reported accidents by location and road user movements has been produced from 1968 to 1974, inclusive. Since 1974 the Authority has provided each quarter's data to highway authorities within two months of the end of that quarter. Accident field data and survey information form the basis of research for use by the Government, the Parliamentary Road Safety Committee, and the promotion work in road safety practices by the Authority. Another major function of the Authority is to set standards for the correct use of traffic control items and to approve applications by highway authorities for installation of defined devices. The Authority recommends to the Minister the application of amounts from the Traffic Authority Fund as subsidies for traffic control signals, school or pedestrian crossings, and any other works, signings or markings calculated to improve road safety or traffic control. The effect of implemented policies is monitored by the Authority. It is noteworthy that the fatality rate has dropped from 9.2 persons killed per 10,000 registered vehicles in 1964 to 6.2 in 1973.

The Authority reports to the Minister of Local Government on proposals by highway authorities to close streets. The Authority advises the Government on the establishment of speed limits and is the sole body responsible for the establishment or alteration of speed restriction zones. The start of the 1975 school year saw the introduction of the School Crossing Supervisor Subsidy scheme whereby municipal councils can receive subsidy payments for the employment of school crossing supervisors. In November 1974 the Authority began to implement a governmental directive that a complete system of intersection control be introduced throughout Victoria. The first phase of the four phase "Statcon" plan, namely, the creation of a 3,000 kilometre priority road network in the Melbourne metropolitan area, was more than 90 per cent complete by June 1975.

The communication of road accident prevention practices has been carried out through a wide range of promotional, advertising, and publicity activities, and the annual conduct of road accident countermeasure seminars. Special campaigns have been concerned with the young drinking driver, elderly pedestrians, correct wearing of seat belts, motor cycle rider and passenger visibility, the use of child restraining devices, child safety, and country drivers. Information campaigns have advised of new legislation, such as the introduction of the 60 mph and 100 km/h absolute speed limits, retrospective fitting of seat belts, and compulsory blood alcohol testing of accident victims over fifteen years of age who are admitted to hospital. The Authority in 1974 produced the Victorian Road Code booklet designed to communicate in simple language the principles of safe driving and acquaint drivers with current road law.

**Further reference, 1975**

### Road traffic accidents

The following tables include particulars of all road traffic accidents reported by the Victoria Police during the periods specified, which satisfied the following conditions :

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

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 those shown on page 257.

### VICTORIA—ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES : NUMBER OF PERSONS KILLED OR INJURED

Period	Number of accidents	Persons killed	Persons injured	Per 100,000 of mean population		
				Number of accidents	Persons killed	Persons injured
1964-65	14,432	907	20,482	460	29	653
1965-66	14,110	933	20,277	442	29	635
1966-67	14,077	963	19,994	433	30	615
1967-68	15,113	868	21,932	458	26	664
1968-69	15,622	964	22,498	465	29	670
1969-70	17,030	1,065	24,502	498	31	716
1970-71	15,327	996	22,067	440	29	634
1971-72	14,988	884	21,090	424	25	596
1972-73	14,611	949	20,312	408	27	568
1973-74	13,452	877	18,634	372	24	515

The table which follows provides a description of types of road users killed or injured in road traffic accidents occurring during the years 1971-72 to 1973-74 :

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

Description	1971-72		1972-73		1973-74	
	Killed	Injured	Killed	Injured	Killed	Injured
Drivers of motor vehicles	317	8,184	334	7,872	313	7,272
Motor cyclists	54	1,345	54	1,505	68	1,445
Passengers (any type)	268	8,242	305	7,764	253	7,179
Pedestrians	217	2,490	230	2,385	210	2,075
Pedal cyclists	28	799	26	757	30	640
Other	..	30	..	29	3	23
<b>Total</b>	<b>884</b>	<b>21,090</b>	<b>949</b>	<b>20,312</b>	<b>877</b>	<b>18,634</b>

Particulars of victims of road traffic accidents during the years 1971-72 to 1973-74 are shown according to age in the following table :

VICTORIA—ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES :  
AGE OF PERSONS KILLED OR INJURED

Age group (years)	1971-72		1972-73		1973-74	
	Killed	Injured	Killed	Injured	Killed	Injured
Under 5	28	862	39	726	35	675
5 and under 7	16	457	21	419	18	361
7 and under 17	69	2,450	81	2,368	77	2,147
17 and under 21	170	4,481	171	4,268	167	3,994
21 and under 30	209	5,167	194	4,695	181	4,422
30 and under 40	92	2,363	90	2,254	74	1,991
40 and under 50	82	2,033	91	1,828	80	1,664
50 and under 60	62	1,524	77	1,481	73	1,245
60 and over	154	1,518	155	1,402	169	1,390
Not stated	2	235	30	871	3	745
<b>Total</b>	<b>884</b>	<b>21,090</b>	<b>949</b>	<b>20,312</b>	<b>877</b>	<b>18,634</b>

Further reference, 1975 ; Traffic Commission, 1961-1971 ; Australian Road Safety Council, 1966 ; Lower Yarra Crossing Authority, 1971, 1974, 1975

## SEA TRANSPORT

## Shipping

*Searoad service between Victoria and Tasmania*

The following table gives details of the searoad service operated by the Australian Coastal Shipping Commission between Victoria and Tasmania :

## VICTORIA—TASMANIA : SEAROAD SERVICE (a), 1973-74

Name of vessel	Passengers	Accompanied vehicles	Trade vehicles (b)	Mail vans
<i>Empress of Australia</i>	110,462	33,351	115	319
<i>Bass Trader</i>	106	15	451	173
Other A.C.S.C. vessels	2	1	7,741	..
<b>Total</b>	<b>110,570</b>	<b>33,367</b>	<b>8,307</b>	<b>492</b>

(a) Excludes commercial cargo which consists of unit loads, i.e., containers, trailers, timber packs, etc.

(b) Motor vehicles available for sale.

*Vessels entered and cleared*

The number of vessels entering Victorian ports, the number cleared from those ports, and their total tonnage in each of the five years 1969-70 to 1973-74 were as follows :

## VICTORIA—OVERSEAS AND INTERSTATE SHIPPING

Particulars		1969-70	1970-71	1971-72	1972-73	1973-74
Entrances	number	3,696	3,920	4,052	3,680	3,530
	'000 net tonnes	20,844	24,440	26,087	22,419	22,192
Clearances	number	3,682	3,925	4,058	3,670	3,510
	'000 net tonnes	20,785	24,465	26,046	22,338	22,075

*Nationality of shipping*

The countries of registration of vessels which entered or were cleared at Victorian ports during the years 1972-73 and 1973-74 were as follows :

VICTORIA—NATIONALITY OF SHIPPING  
( '000 net tonnes)

Vessels registered at ports in—	Vessels entered		Vessels cleared	
	1972-73	1973-74	1972-73	1973-74
Australia	9,488	8,952	9,470	8,919
Denmark	195	157	189	164
France	255	30	255	30
Germany, Federal Republic of	698	750	677	769
Greece	729	818	728	812
Hong Kong	69	60	69	60
India	110	144	115	140
Italy	341	373	325	389
Japan	1,319	1,401	1,319	1,392
Liberia	828	800	846	794
Nauru	74	81	72	83
Netherlands	678	741	669	754
Antilles (Netherlands)	243	338	243	338
New Zealand	191	205	194	204
Norway	692	794	696	792
Panama	435	681	435	639
Singapore	192	197	194	189
South Africa	119	57	126	57
Sweden	494	363	483	363
United Kingdom	4,184	4,070	4,165	4,058
United States of America	273	548	265	513
U.S.S.R.	155	210	155	208
Yugoslavia	69	106	69	91
Other	588	316	579	317
<b>Total</b>	<b>22,419</b>	<b>22,192</b>	<b>22,338</b>	<b>22,075</b>

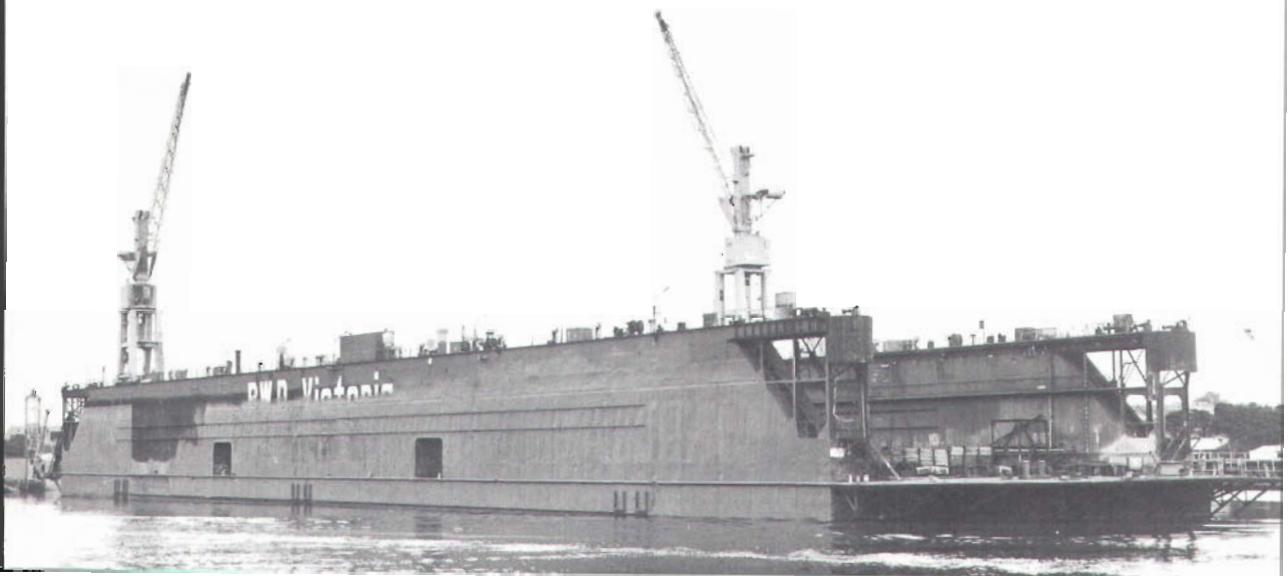


An aerial view of the Union Steamship Roll On-Roll Off facilities constructed by the Melbourne Harbor Trust at Victoria Dock at a cost of \$8m.

*The Melbourne Harbor Trust Commissioners*

The Port of Melbourne's new floating dry dock, some 156 metres in length, which was purchased from West Germany, and will replace the Duke and Orr dry dock.

*The Melbourne Harbor Trust Commissioners*





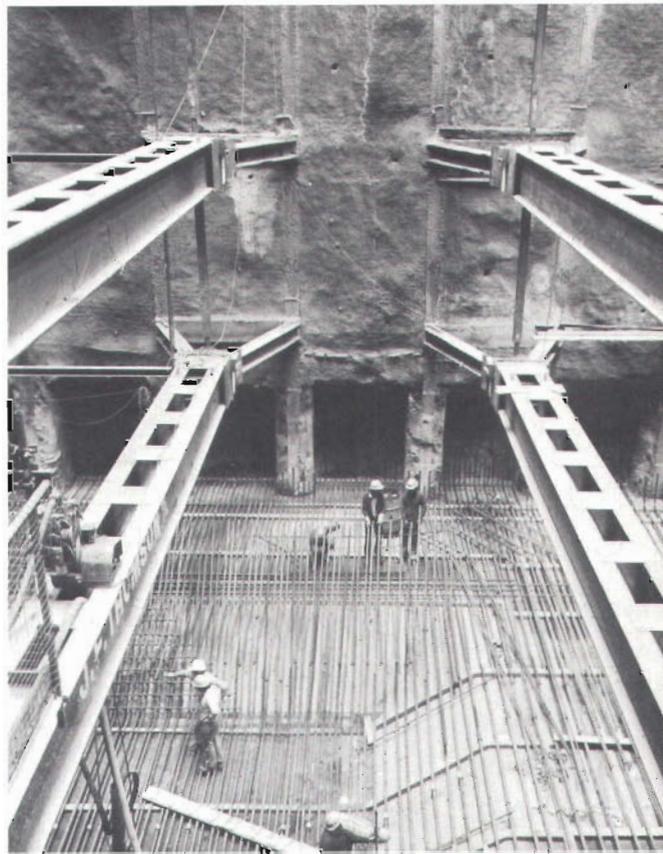


An Alpine mining machine is used to excavate the foundations for the Flagstaff Station site—part of Melbourne's new underground railway.  
*Melbourne Underground Rail Loop Authority*

Provision for concrete lining—the Caulfield-Sandringham loop lines tunnel below Spring Street.  
*Melbourne Underground Rail Loop Authority*

Formwork for a concrete filler wall between the platform tunnel and the escalator concourse at Parliament Station.  
*Melbourne Underground Rail Loop Authority*

A section of Museum Station showing four temporary steel struts, and reinforcing steel being placed in position.  
*Melbourne Underground Rail Loop Authority*



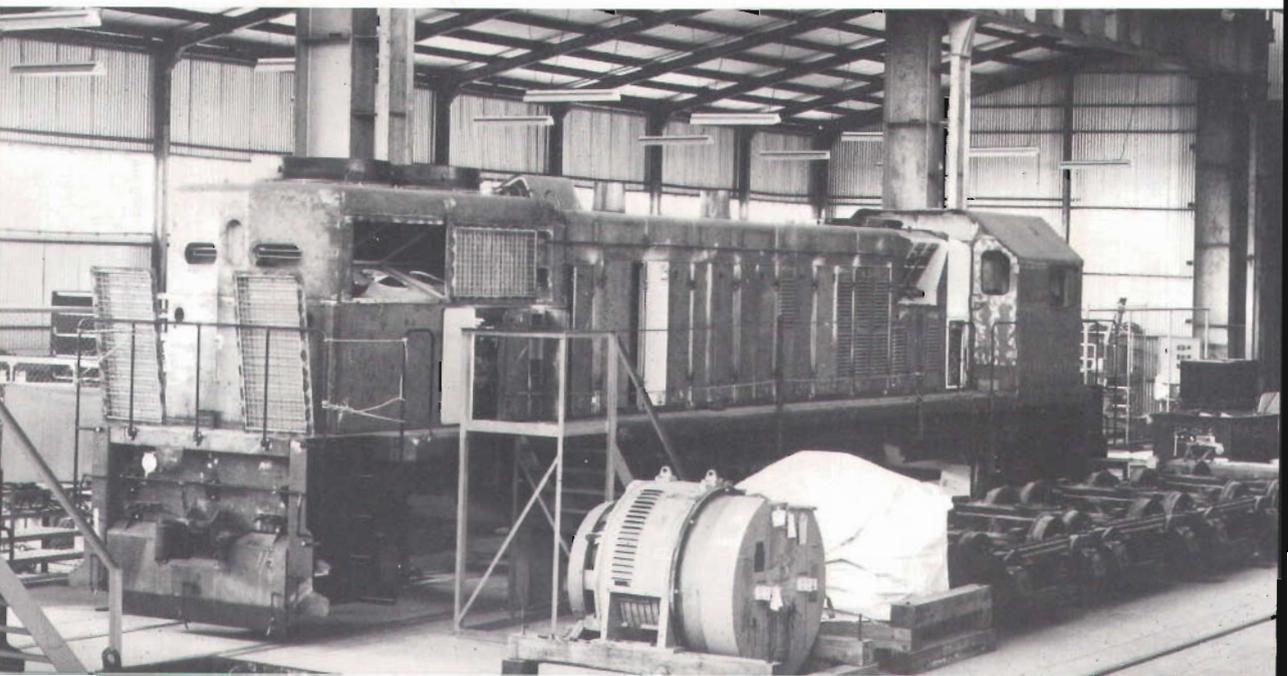


A silver train on the Glen Waverley line, which the Victorian Railways is making into a "model" suburban line.

*Victorian Railways Board*

A main line X-class locomotive under construction for the Victorian Railways—part of an order for 20 locomotives costing about \$9m.

*Victorian Railways Board*



*Shipping entered at Victorian ports*

Particulars of shipping which entered each principal port of Victoria are given in the following table for the years 1972-73 and 1973-74:

## VICTORIA—VESSELS ENTERED AT EACH PORT

Class of vessel	Melbourne		Geelong		Portland		Western Port	
	1972-73	1973-74	1972-73	1973-74	1972-73	1973-74	1972-73	1973-74
NUMBER								
Overseas—								
Direct	355	485	92	101	37	33	51	41
Other	1,206	1,001	180	170	54	51	55	79
Interstate	1,147	1,038	194	187	31	28	275	304
Total	2,708	2,524	466	458	122	112	381	424
NET TONNES ('000)								
Overseas—								
Direct	1,571	2,705	698	679	254	250	763	831
Other	7,800	6,815	1,440	1,604	292	257	213	267
Interstate	4,337	3,394	1,165	1,052	256	246	3,629	4,089
Total	13,708	12,914	3,303	3,335	802	753	4,605	5,187

NOTE. Twelve vessels entered the port of Welshpool from interstate during 1973-74, displacing 4,000 net tonnes.

*Cargoes discharged and shipped*

The following tables show the tonnage of overseas and interstate cargoes discharged and shipped in Victorian ports during 1972-73 and 1973-74, as well as the tonnage of overseas cargoes discharged and shipped during the years 1971-72 to 1973-74 according to the countries of origin and consignment, and the nationalities of the vessels in which the cargoes were carried:

## VICTORIA—CARGOES DISCHARGED AND SHIPPED AT EACH PORT ('000)

Particulars	Melbourne		Geelong		Portland		Western Port	
	1972-73	1973-74	1972-73	1973-74	1972-73	1973-74	1972-73	1973-74
DISCHARGED								
Interstate—								
Tonnes	1,458	1,504	483	569	12	11	57	448
Cubic metres	1,257	1,330	..	8	..	..	9	..
Overseas—								
Tonnes	1,928	2,354	1,697	1,960	254	266	187	116
Cubic metres	2,912	3,660	11	16	..	..	..	..
SHIPPED								
Interstate—								
Tonnes	899	1,067	753	785	18	..	7,578	8,688
Cubic metres	1,358	1,377	1	2	..	..	11	7
Overseas—								
Tonnes	1,681	1,687	1,642	1,566	181	99	1,434	1,515
Cubic metres	1,316	1,212	27	24	..	..	..	..

NOTE. 3,000 cubic metres of cargo was discharged at Welshpool from interstate during 1973-74. Statistics are shown in metrics: 1 ton weight = 1.01605 tonnes; 1 ton measurement = 1.132672 cubic metres.

**VICTORIA—OVERSEAS CARGOES DISCHARGED AND SHIPPED ACCORDING TO GEOGRAPHIC TRADE AREAS**

Geographic trade area of origin or consignment	1971-72		1972-73		1973-74	
	Discharged	Shipped	Discharged	Shipped	Discharged	Shipped
North America and Hawaiian Islands—						
Tonnes	509,892	517,384	519,192	266,921	621,147	225,422
Cubic metres	468,185	124,920	494,707	125,912	680,067	90,540
South America—						
Tonnes	11,800	124,297	1,411	251,603	2,669	125,016
Cubic metres	1,081	2,559	232	10,319	601	2,044
Europe (incl. U.S.S.R.)—						
Tonnes	288,150	789,094	284,292	582,930	401,680	437,475
Cubic metres	1,043,727	292,159	1,158,330	331,291	1,241,105	240,471
Africa—						
Tonnes	52,514	935,935	64,733	300,911	82,965	166,120
Cubic metres	33,960	59,035	26,183	61,267	44,112	53,041
Asia—						
Tonnes	3,223,540	2,812,800	2,671,844	3,110,735	2,878,897	2,948,391
Cubic metres	838,471	422,794	1,003,937	438,921	1,441,451	469,045
Papua New Guinea, New Zealand, and Pacific Islands—						
Tonnes	388,889	500,465	378,744	424,016	517,445	962,358
Cubic metres	209,739	248,088	238,990	373,315	268,320	380,731
Indian Ocean Islands and Antarctic area—						
Tonnes	177,324	..	145,600	12	190,750	1,160
Cubic metres	552	3,455	336	2,374	9	185
<b>Total—Tonnes</b>	<b>4,652,109</b>	<b>5,679,975</b>	<b>4,065,816</b>	<b>4,937,128</b>	<b>4,695,553</b>	<b>4,865,942</b>
<b>  Cubic metres</b>	<b>2,595,714</b>	<b>1,153,009</b>	<b>2,922,716</b>	<b>1,343,399</b>	<b>3,675,665</b>	<b>1,236,057</b>

**VICTORIA—OVERSEAS CARGOES DISCHARGED AND SHIPPED ACCORDING TO NATIONALITIES OF VESSELS ('000)**

Vessels registered at ports in—	1972-73				1973-74			
	Discharged		Shipped		Discharged		Shipped	
	tonne	cubic metre						
Australia	95	190	83	101	20	258	25	120
Denmark	12	36	35	18	10	59	40	18
France	69	57	127	21	9	27	13	4
Germany, Federal Republic of	377	268	103	115	230	329	195	95
Greece	98	39	203	26	215	67	372	1
Hong Kong	4	24	34	42	5	31	13	14
Italy	22	23	48	12	111	78	57	24
Japan	295	342	818	116	552	540	722	104
Liberia	312	48	638	11	406	129	357	25
Netherlands	122	122	354	60	260	207	338	66
Antilles (Netherlands)	294	8	48	10	409	16	19	14
New Zealand	2	191	17	237	9	218	7	276
Norway	258	169	246	43	488	156	202	51
Panama	30	8	342	17	78	4	635	4
Sweden	141	159	132	80	69	141	113	55
United Kingdom	1,655	1,044	1,164	310	1,497	1,064	1,366	244
United States of America	21	72	32	20	49	144	61	21
U.S.S.R.	20	14	94	6	49	33	81	..
Other	239	109	419	98	230	175	250	100
<b>Total</b>	<b>4,066</b>	<b>2,923</b>	<b>4,937</b>	<b>1,343</b>	<b>4,696</b>	<b>3,676</b>	<b>4,866</b>	<b>1,236</b>

NOTE. Part of the cargo is recorded in tonnes and part in cubic metres. As the total cannot be stated accurately as either tonnes or cubic metres, each is recorded and published separately.

Further reference, 1975; Lighthouses, 1964; Principal ports of Victoria, 1965; Australian Shipbuilding Board, 1975

### Port Phillip Sea Pilots

Thirty-nine former shipmasters operate the Port Phillip Pilot Service, eighteen 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 one 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 1965-66 to 1974-75. Although the number of ships has not increased, tonnes carried has risen dramatically because of larger vessels such as container, roll-on roll-off, and LASH ships.

VICTORIA—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
1965-66	4,759	67	1970-71	4,322	541
1966-67	4,606	142	1971-72	3,941	567
1967-68	4,481	127	1972-73	3,921	560
1968-69	4,388	171	1973-74	3,903	644
1969-70	4,433	377	1974-75	4,117	665

Further reference, 1975

### Melbourne Harbor Trust

#### *Administration*

The Melbourne Harbor Trust Commissioners are a financially independent, corporate body operating under the provisions of the *Melbourne Harbor Trust Act 1876* and subsequent amendments and variations. The land and waters of the 27 square kilometre Port area are vested in the six commissioners who are appointed by the Governor in Council. They comprise a full-time chairman who also is virtually the Port's managing director, and five part-time commissioners who, in accordance with the Act must be associated with various port activities, i.e., shipping, primary production, imports, exports, and labour.

The Melbourne Harbor Trust Commissioners are both the port authority and the conservancy authority of the Port of Melbourne. The Trust maintains, improves, and develops the Port, and is empowered under its Act to make regulations for the management and financing of the Port subject to the approval of the Governor in Council.

#### *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 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 1975 the port handled a volume of 17.13 million tonnes of import, export, and transshipment cargo. This volume was handled by coastal and overseas shipping which paid 2,631 calls at the Port.

The changes in the character of the Port became really 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 twelve months ended 30 June 1975 the Port handled 2.77 million tonnes of wet bulk cargo, and 14.36 million tonnes of general cargo including empty returns; 6.77 million tonnes of general cargo was carried in 364,752 containers.

#### *Floating dock*

The Port's new floating dock was purchased by the Victorian Government in Hamburg, West Germany, at a cost of \$2.7m. The provision of a new dock for Melbourne was one of two major projects brought about by the proposed low-level bridge planned to cross the main navigation channel of the Port between berths 6 and 7 North Wharf and berths 10 and 11 South Wharf. The new crossing will form a vital part of a ring-road system for the City of Melbourne.

The other major project brought about by the proposed bridge is the resiting of the specialised facilities for the Union Steam Ship Company's ships from berths 1 and 2 North Wharf (see page 613). Insurance charges, towage and preparation, including dry docking and painting, strengthening of sides and bottom, dismantling and storage of the docks, two electric cranes and the dismantling and storage of end platforms are expected to cost approximately \$4m in addition to the purchase price. Some 156 metres in length, 30.8 metres in width, and 12.6 metres in depth, the new dock will replace the current Duke and Orr's dry dock, which is still the only dry dock available in the Port of Melbourne. The new dock which is positioned immediately downstream of the new low-level bridge and adjacent to 12 South Wharf has a larger capacity than Duke and Orr's and can accommodate ships to 17,000 tonnes dead weight, its pumping capacity being capable of lifting a ship of that size in 40 minutes. The closure of Duke and Orr's will sever the direct link the dock has had with the Port of Melbourne, but it will not be lost to posterity, as it is hoped to use the old dock as the focal point of a Maritime Museum for Victoria.

#### *Roll-on, roll-off facilities*

The Melbourne Harbor Trust, in particular from the late 1950s, has been involved in capital works programmes devoted principally to new specialised areas in the Port of Melbourne to handle container/cellular and roll-on, roll-off ships. The most notable has been the Swanston Dock four-berth container complex, and the roll-on, roll-off complex at Webb Dock. The opportunity to reconstruct this old section of conventional berths into a revenue earner for the Trust was brought about by the Victorian Government's decision to build a low-level bridge (Johnson Street Bridge) across the Yarra River in the upper reaches of the Port, as part of a ring-road system for the City of Melbourne.

The Johnson Street Bridge project made redundant berths up to 6 and 7 North Wharf and berths 10 and 11 South Wharf. Included on the North Wharf section of the Port were berths Nos. 1 and 2 which were roll-on, roll-off

berths for the Union Steam Ship Company of New Zealand vessels operating services to Tasmanian and New Zealand ports.

Preliminary work on the reconstruction and development of Nos. 5 and 7 Victoria Dock for the Union Steam Ship Company roll-on, roll-off services began soon after the Government decided that the Johnson Street Bridge had to be built to ease congestion of vehicular traffic in the city proper and also allow a faster and uninterrupted flow of traffic between industrial areas—including the port and commercial establishment on both sides of the Yarra River. The new roll-on, roll-off terminal became operational on 1 May 1975. The original wooden wharves and timber framed cargo sheds were demolished.

The completed project today is equipped with two roll-on, roll-off berths (1,307.6 metres in length), two stern loading ramps, a new terminal of approximately 4.45 hectares, three steel framed sheds, a sub-station to cater for crane, ramp, and other lighting power needs, a rail siding into the terminal, and crane rails built on the wharf apron for a future container crane, if needed.

#### Finance

The Port of Melbourne is self-supporting and does not receive any financial grants from the Victorian Government. The Trust'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 spend in port. Other charges cover rent of sheds, 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 put back into port development. At 30 June 1975 the Trust had approximately \$137m invested in port assets. Capital works are financed out of revenue and out of loans, which are raised and financed by the Trust itself and guaranteed by the Victorian Government. The Trust is required to pay into the Consolidated Fund of the Victorian Government approximately 8 per cent of its revenue from wharfage and tonnage.

The following table shows particulars of the financial operations of the Melbourne Harbor Trust for the years 1970 to 30 June 1975 :

#### VICTORIA—MELBOURNE HARBOR TRUST : REVENUE, EXPENDITURE, ETC. (\$'000)

Particulars	1970	1971	1972	1 Jan. 1973 -30 June 1974 (a)	1974-75
REVENUE					
Wharfage and tonnage rates	9,475	10,038	9,397	18,187	14,124
Rent of sheds	458	679	652	1,030	639
Special berth charges	402	363	319	522	439
Rent of lands	1,951	2,220	2,492	4,545	3,555
Crane fees	1,963	1,618	1,320	3,049	2,547
Other	798	1,345	1,298	2,782	2,852
<b>Total revenue</b>	<b>15,047</b>	<b>16,263</b>	<b>15,478</b>	<b>30,115</b>	<b>24,156</b>
EXPENDITURE AND APPROPRIATIONS					
Administration and general expenses	1,331	1,584	1,626	2,286	2,156
Port operating expenses	3,304	3,929	4,258	7,138	6,825
Maintenance—					
Dredging	826	938	1,410	2,149	1,663

VICTORIA—MELBOURNE HARBOR TRUST: REVENUE, EXPENDITURE, ETC.—*continued*  
(\$'000)

Particulars	1970	1971	1972	1 Jan. 1973 –30 June 1974 (a)	1974-75
Maintenance ( <i>continued</i> )—					
Harbour	156	156	185	315	300
Wharves	687	774	898	1,398	1,204
Approaches	139	173	203	337	323
Railways	59	68	70	93	93
Cargo handling equipment	369	429	387	838	865
Other properties	83	33	46	195	116
Interest	2,032	2,329	2,506	4,118	3,088
Depreciation and renewals	2,799	3,024	2,745	5,494	4,399
Insurance	120	134	122	254	250
Sinking fund	800	800	..	1,350	650
General reserve	500	..	..	2,000	1,000
Payments to Consolidated Fund	1,559	1,634	1,486	1,470	916
Other	36	23	..	..	52
<b>Total expenditure and appropriations</b>	<b>14,800</b>	<b>16,029</b>	<b>15,942</b>	<b>29,435</b>	<b>23,900</b>
<b>CAPITAL OUTLAY</b>					
Land and property	107	1,272	336	539	6,444
Reclamation	199	975	195	1,250	1,241
Deepening waterways	1,061	1,624	1,013	3,710	2,881
Wharves and sheds construction	2,472	1,651	1,660	4,930	5,222
Cargo handling equipment	527	453	704	237	239
Approaches construction	695	374	638	492	699
Floating plant	18	15	47	545	1,765
Other works, etc.	1,014	1,030	594	692	443
<b>Total capital outlay</b>	<b>6,093</b>	<b>7,394</b>	<b>5,187</b>	<b>12,395</b>	<b>18,934</b>
Loan indebtedness at end of period	40,690	44,059	45,644	48,051	51,060

(a) Eighteen months ended 30 June 1974. The Trust's accounting period was altered from a calendar year to a fiscal year from 1 January 1973.

**Further reference, 1975 ; Changing trends in port development, 1968 ; Port facilities, 1969 ; Port emergency service, 1970 ; Advent of new cargo pattern, 1971 ; New cargo handling era, 1974 ; Forward Development Plan, 1975 ; Co-ordinated port development plan, 1975**

### Geelong Harbor Trust

The Port of Geelong is under the control of the Geelong Harbor Trust which was constituted under an Act of 1905. The Trust consists of three commissioners appointed by the Governor in Council.

Entrance to the Port is by 24 kilometres of channel dredged to a depth of 11 metres and a width of 122 metres.

There are nineteen effective berths in the Port and two berths at the Commonwealth Explosives Pier, Point Wilson—owned and operated by the Australian Government. The Harbor Trust has floating plant which includes six tugs, several barges, and one diesel-powered floating crane of 35 tonnes.

The following table shows particulars of the financial operations of the Geelong Harbor Trust for the years 1970 to 1974 :

VICTORIA—GEELONG HARBOR TRUST : REVENUE, EXPENDITURE, ETC.  
(\\$'000)

Particulars	1970	1971	1972	1973	1974
REVENUE					
Wharfage, tonnage, and special berth rates	2,937	2,724	2,050	2,096	2,175
Shipping services	909	853	773	1,100	1,512
Rents, fees, and licences	82	117	132	136	145
Freezing works and abattoirs	104	100	95	150	171
Other	22	58	50	22	17
<b>Total revenue</b>	<b>4,054</b>	<b>3,852</b>	<b>3,100</b>	<b>3,504</b>	<b>4,020</b>
EXPENDITURE AND APPROPRIATIONS					
Management expenses	517	601	745	985	1,324
Shipping services	775	841	839	992	1,383
Maintenance—					
Wharves and approaches	111	187	147	186	207
Harbour	118	183	146	162	177
Floating plant	19	26	23	32	36
Other	24	41	33	41	58
Interest on loans	388	376	310	263	210
Sinking fund	80	69	49	48	31
Depreciation provision	740	861	873	892	913
Port development fund	500	500	..	..	..
Other	85	93	24	25	11
<b>Total expenditure and appropriations</b>	<b>3,357</b>	<b>3,778</b>	<b>3,189</b>	<b>3,626</b>	<b>4,350</b>
CAPITAL OUTLAY (NET)					
Floating plant	9	..	3	4	..
Land and property	101	40	171	140	46
Deepening waterways	..	..	..	..	..
Wharves and approaches	788	120	178	103	124
Other	11	6	19	..	111
<b>Total capital outlay</b>	<b>909</b>	<b>166</b>	<b>371</b>	<b>247</b>	<b>281</b>
LOAN INDEBTEDNESS AT 31 DECEMBER					
Victorian Government	81	74	67	67	33
Public	6,982	6,854	4,865	4,763	3,110
<b>Total loan indebtedness</b>	<b>7,063</b>	<b>6,928</b>	<b>4,932</b>	<b>4,830</b>	<b>3,143</b>

Further reference, 1975

### Portland Harbor Trust

Situated on the south-west coast of Victoria, the Port of Portland is administered by a board of three commissioners and serves an area of more than 103,600 square kilometres of western Victoria and the south-east of South Australia. The Port is within a few kilometres of main shipping routes with deep-water approaches right to the entrance of the harbour basin.

One significant event which is expected to have a marked effect on future port trade was an agreement for the establishment on No. 2 Quay of new facilities to cater for export of bulk tallow.

The following table shows particulars of the financial operations of the Portland Harbor Trust for the years 1969-70 to 1973-74:

VICTORIA—PORTLAND HARBOR TRUST : REVENUE, EXPENDITURE, ETC.  
(\$'000)

Particulars	1969-70	1970-71	1971-72	1972-73	1973-74
<b>REVENUE</b>					
Wharfage rates	246	282	323	285	347
Tonnage rates	37	58	59	41	37
Shipping services	192	290	287	227	209
Victorian Government grant	650	692	580	785	1,314
Grain terminal	341	563	559	236	265
Cold store operations	..	..	33	32	18
Other	67	74	92	78	122
<b>Total revenue</b>	<b>1,533</b>	<b>1,959</b>	<b>1,933</b>	<b>1,684</b>	<b>2,312</b>
<b>EXPENDITURE AND APPROPRIATIONS</b>					
Administration	118	131	165	183	233
Maintenance	86	97	111	133	120
Shipping services	158	210	214	221	290
Depreciation	34	41	43	52	52
Interest on loans	911	958	1,021	1,055	1,123
Sinking fund	51	50	52	53	51
Loan redemption	60	74	86	87	93
Grain terminal (excl. depreciation)	104	282	268	163	179
Cold store operations	..	..	20	25	16
Other	5	6	..	..	..
<b>Total expenditure and appropriations</b>	<b>1,527</b>	<b>1,849</b>	<b>1,980</b>	<b>1,972</b>	<b>2,157</b>
<b>CAPITAL OUTLAY</b>					
Port rail system	7	2	3	23	97
Reclamation	17	26	7	6	7
Grain terminal	664	22	69	253	114
Deepening waterways	28	26	49	61	1
Wharves and sheds	20	275	188	32	69
Breakwater construction	15	12	..	..	60
Floating plant	152	..	57	358	44
Other	112	96	175	68	123
<b>Total capital outlay</b>	<b>1,015</b>	<b>459</b>	<b>548</b>	<b>801</b>	<b>515</b>
<b>LOAN INDEBTEDNESS AT 30 JUNE</b>					
Victorian Government	3,673	3,673	3,673	3,673	3,673
Public	16,492	16,968	17,502	18,055	18,612
<b>Total loan indebtedness</b>	<b>20,165</b>	<b>20,641</b>	<b>21,175</b>	<b>21,728</b>	<b>22,285</b>

**Further reference, 1975****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 16 kilometres wide. The Port is sheltered from Bass Strait by Phillip Island at its southerly end and the waters between the western side of this island and the mainland form the entrance to the Port. It is approximately 42 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 runs close to the island. This navigable channel extending from the western entrance to Crib Point is 21 kilometres long with low-water depths of 14 metres and 15 metres, respectively, in the northern and western arms. Tidal rises are of the order of 3 metre springs and 2 metre neaps.

The following table shows particulars of port traffic through Western Port for the years 1971-72 to 1973-74 :

## VICTORIA—WESTERN PORT : PORT TRAFFIC

Year	Petroleum products		Steel		General cargo	
	Tankers	Tonnes	Vessels	Tonnes	Vessels	Tonnes
		'000		'000		'000
1971-72	467	13,426	..	..	34	11
1972-73	318	9,587	22	54	34	19
1973-74	247	10,500	88	497	..	..

Further reference, 1975

## AIR TRANSPORT

**Civil aviation***Administration*

The Victorian *Air Navigation Act* 1958 prescribes that control of aviation within Victoria shall be vested in the Australian Government. The Air Navigation Act and Regulations in Victoria are consequently administered by the Australian Department of Transport through its Regional Director in Melbourne.

The functions performed by the Department include the following :

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

*Aerodromes*

Victoria is served by ten Australian Government-owned aerodromes at Melbourne (International), Essendon, Moorabbin, Avalon, Bacchus Marsh, Benalla, Echuca, Mallacoota, Mangalore, and Sale and by twenty-three licensed aerodromes at Ararat, Bairnsdale, Ballarat, Birchip, Corryong, Hamilton, Hopetoun, Horsham, Kerang, La Trobe valley, Mildura, Nhill, Orbost, Portland, St Arnaud, Shepparton, Stawell, Swan Hill, Warracknabeal, Warrnambool, Whittlesea, Wycheproof, and Yarram.

The licences of all the licensed aerodromes except Whittlesea are held by the local government authority. Under the aerodrome local ownership plan assistance is given to local authorities to maintain licensed aerodromes on a dollar for dollar basis. Similar assistance is given the local authority to develop and maintain aerodromes which are or will be served by a regular public transport service. Local authorities which have received developmental assistance include Bairnsdale, Corryong, Horsham, Kerang, Mildura, Nhill, Portland, Shepparton, Swan Hill, Warracknabeal, and Warrnambool. The assistance authorised by the Australian Government to Victorian local authorities for aerodrome works in the year ending 30 June 1974 was \$53,800 for development and \$89,900 for maintenance works.

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

*Private operations*

In this category, aircraft are used for the personal purposes of the owner. The extent of this activity within Victoria may be gauged from the fact that there were 449 aircraft registered in the private category and approximately 3,700 licensed private aeroplane pilots in Victoria at 31 December 1974.

*Aerial work operations*

Aerial survey, spotting, agricultural operations, advertising, flying training, aerial ambulance operations, and aerial photography are examples of the operations included in this category. In terms of hours flown, the most significant operations are agricultural and flying training. To 30 June 1974 over 60,482 training hours were flown by training organisations in Victoria.

*Charter operations*

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 engine aircraft, but there is now an increasing use of the modern small twin engine "executive" aircraft. At 31 December 1974 there were 82 Victorian based operators licensed to conduct charter operations. Flying hours have decreased from 39,200 in 1972-73 to 37,568 in 1973-74.

*Commuter services*

Since the Second World War country or feeder air services within Victoria have commenced on different occasions but ceased when they proved uneconomic. In 1966 the Australian Government decided 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.

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, West 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 1975 commuter services of the type in question were operating between the following centres on a regular basis: Essendon-Sale, Melbourne-Swan Hill, Melbourne-Flinders Island, Essendon-Warrnambool and Portland, and between Essendon-Merimbula on a seasonal basis.

*Gliding clubs*

Gliding is mainly carried out at Bacchus Marsh, Benalla, Bendigo, Casterton, Colac, Corowa, Horsham, Kurweeton, La Trobe valley, Laverton, Leongatha, Mildura, Moorooduc, and Tocumwal. Many other areas are used to a lesser extent. An Australian Government subsidy is granted to clubs through the Gliding Federation of Australia.

*Air traffic control*

Control of air traffic is maintained by the Department of Transport through its Air Traffic Control organisation. This includes the closely co-ordinated sections

of Operational Control, which concern each individual flight; Airport Control, which applies to all movements on or within 32 kilometres of an aerodrome; and Area Control, which controls aircraft along the main air routes to ensure collision avoidance. 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 prescribed in detail on pages 773-6 of the *Victorian Year Book* 1965.

#### *Aircraft parts and materials*

There are 140 organisations in Victoria which have been approved by the Australian Department of Transport to manufacture and/or distribute aircraft parts, materials, and fuel.

#### *Melbourne (Tullamarine) Airport*

The Tullamarine site of 2,140 hectares was chosen for the development of Melbourne Airport when Essendon could not be further enlarged. The completed aerodrome is 20 kilometres from the G.P.O. and 7 kilometres from Essendon Airport, and is accessible by a freeway.

The 15 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. They are 147 mm 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 km/h. 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 1972 to 1974 were as follows:

#### VICTORIA—DOMESTIC PASSENGER MOVEMENTS ON REGULAR AIR SERVICES

Airport	Passenger movements		
	1972	1973	1974
Melbourne	2,950,316	3,582,157	3,990,847
Mildura	52,322	16,130	17,707
Hamilton	59,985	9,695	9,622

The following table shows particulars for 1974 of regular interstate and intrastate air services terminating in Victoria:

#### VICTORIA—REGULAR INTERSTATE AND INTRASTATE AIR SERVICES TERMINATING IN VICTORIA, 1974

Particulars		Interstate	Intrastate	Total
Kilometres flown	'000	51,274	340	51,614
Passenger kilometres	'000	3,235,378	7,987	3,243,346
Freight—				
Tonnes		38,950	48	38,998
Tonne kilometres	'000	32,811	22	32,833
Mail—				
Tonnes		4,152	15	4,167
Tonne kilometres	'000	3,080	7	3,087

The first of the following tables deals with aircraft registered and licences issued by the Australian Department of Transport in Victoria, and the second with details of Melbourne (Tullamarine) Airport activities :

VICTORIA—AIRCRAFT REGISTERED AND LICENCES ISSUED

Particulars	1970	1971	1972	1973	1974
Registered aircraft owners	435	475	528	504	658
Registered aircraft	807	795	817	891	1,012
Student pilot licences	2,886	2,927	2,751	2,963	2,910
Private pilot licences	3,023	3,225	3,484	3,615	3,737
Commercial pilot licences	743	761	844	850	862
Airline pilot licences	893	914	888	963	1,057
Aircraft maintenance engineer licences	909	990	1,040	1,121	1,134

VICTORIA—MELBOURNE (TULLAMARINE) AIRPORT

Particulars	1970	1971	1972	1973	1974
Domestic aircraft movements (a)	..	30,411	59,985	67,517	72,037
Domestic passengers embarked	..	737,360	1,474,973	1,798,331	1,994,115
Domestic passengers disembarked	..	733,127	1,474,664	1,783,826	1,996,732
International aircraft movements (b)	..	1,531	4,309	5,757	6,117
Passengers arriving/departing overseas(b)	65,907	185,094	280,235	587,976	465,642

(a) Domestic operations transferred from Essendon to Tullamarine from 20 June 1971.

(b) International operations transferred from Essendon to Tullamarine from 1 July 1970.

**Further reference, 1975 ; History of civil aviation, 1962 ; Classification of flying activities, 1964 ; Radio aids to air navigation in Victoria, 1965 ; Aerial agricultural operations, 1966 ; Flying training in Victoria, 1967 ; Regular public transport, 1968 ; Commuter services, 1969 ; Radar development in the Melbourne area, 1971 ; Aerodrome local ownership plan, 1974 ; Use of radar in air traffic control, 1975**

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- 14.10 Overseas and coastal shipping
- 14.13 Road accident fatalities
- 14.14 Road traffic accidents involving casualties (preliminary)
- 14.16 Outward overseas shipping cargo
- 14.21 Rail, bus, and air transport
- 17.5 Journey to work and journey to school
- Interstate freight