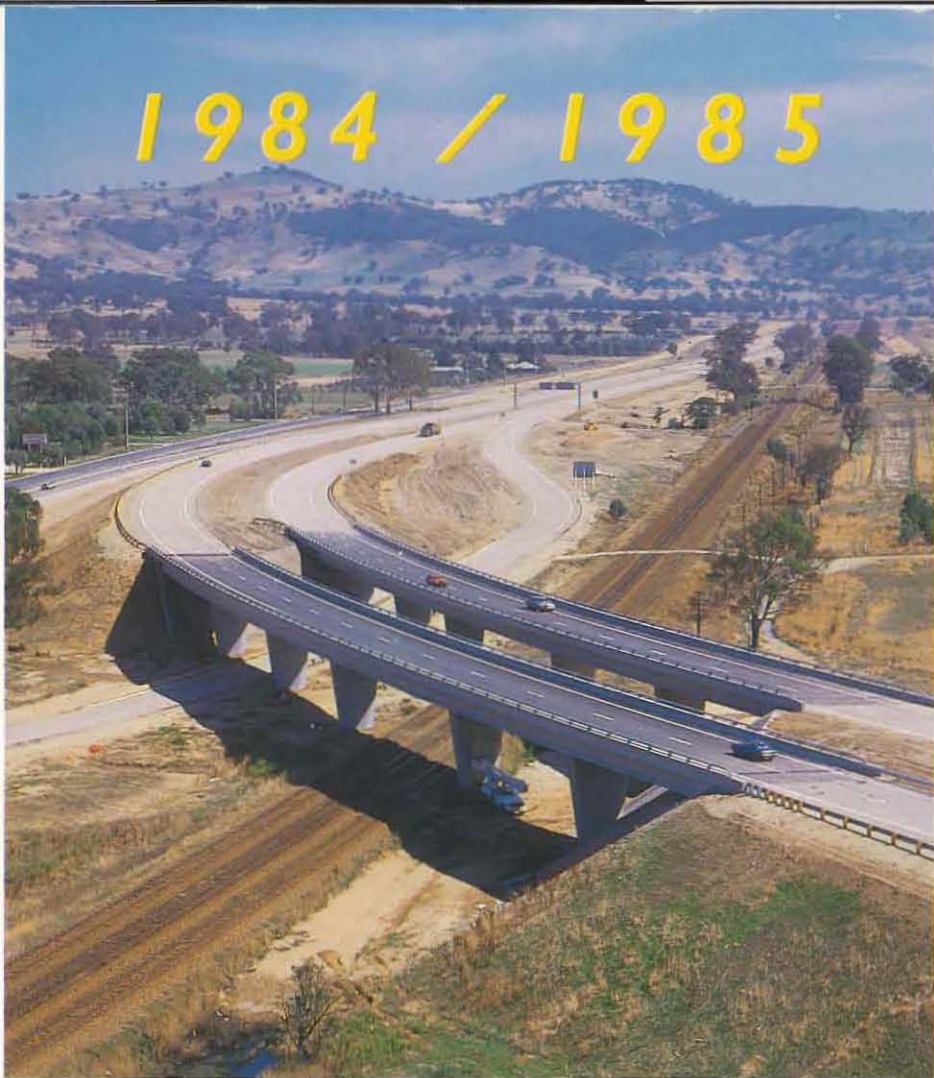


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1984 / 1985



*Road Construction Authority
2nd Annual Report*



Road Construction Authority
An Authority of VICTORIA TRANSPORT

Contents



Overview		2
Review	New Minister for Transport	8
	Obituary - Cr K Hallam	8
	Summary of Activities	8
	Opening of Four Major Projects	9
	NAASRA Review of Road Vehicle Limits	10
	Rural Emergency Telephone System	10
	Accelerated Loading Facility	11
	Awards Received by the RCA	11
Roads and Bridges	Roads	12
	Significant Roadworks	14
	Bridges	17
	Bituminous Surfacing	18
	Contracts	18
	West Gate Bridge	19
Municipal	Municipal Allocations	22
	Visits to Municipalities	22
	Significant Roadworks	23
Traffic Services	Emergency Services	26
	Linemarking	26
	Snow Clearing	27
	State Route Numbering	27
	Metropolitan Direction Signing Project	27
	Safety Street Lighting Poles	28
Planning	Planning Studies	29
	COGO Computer program	30
Other Activities	National Association of Australian State Road Authorities	31
	NAASRA Review of Road Vehicle Limits	31
	Australian Road Research Board	33
	Australian Transport Advisory Council	33
	Safety	33
	Land Acquisition - Property Management	34
	Travel Overseas - RCA Officers	35
	41st Conference of Municipal Engineers	35
	Deputations	35
	Freedom of Information	36
	Corporate Relations	36
	Management Information Systems	37
	Legislation Affecting the RCA	37
Personnel	Staffing	38
	Personnel Services, Safety and Welfare	38
	Apprenticeships	38
	Training and Development	38
	Industrial Relations	39
Finance	RCA Funding 1984/85	41
	Trends	41
	Victorian Transport Borrowing Agency	41
	Programme Budgeting	41
	Road Cost Index	42
	Financial Statements	43
Appendices		54

The Honourable Tom Roper MP
 Minister for Transport
 589 Collins Street
 Melbourne Victoria 3000

31 October 1985

Dear Mr Roper

In accordance with the requirements of Section 67 of the Transport Act 1983 and on behalf of the Authority, I submit to you for presentation to Parliament the report of the Road Construction Authority's proceedings for the year ending 30th June 1985.

I wish to thank you and the Government for the support and interest in the RCA's activities and place on record my appreciation of the continued co-operation and assistance of State Ministers, Government departments, State instrumentalities and municipal councils.

I also pay tribute to the continued loyal co-operation of, and work done by, the RCA's personnel throughout the year.

Yours faithfully

T H Russell
 Chairman and Managing Director



Overview

THE ROAD CONSTRUCTION AUTHORITY MEMBERS



Mr Alan Reiher



Mr Tom Russell



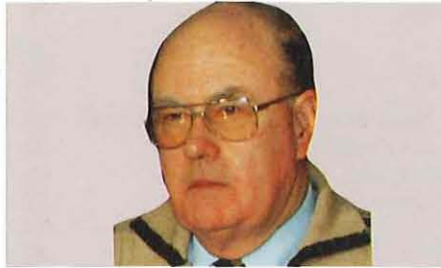
Mr Robin Underwood



Mr Les Bull



Mr Ian Gardner



Mr Jim Davis



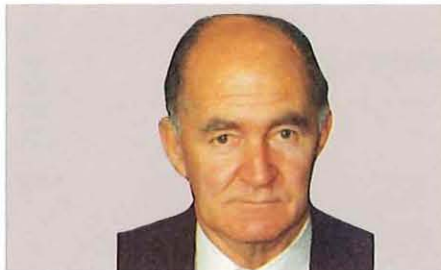
Mr Roger Banks



Mr Don Swanton



Dr Jenny Morris



Cr Keith Hallam (deceased)

Victoria is the most densely populated State of Australia with 4,074,900 people living in 227,600 square kilometres. Over the years an extensive road system has been developed to serve the State and to link Victoria with the road systems of neighbouring States. The Road Construction Authority maintains and further improves the state's road system. The Authority was established under the provisions of the Transport Act 1983.

The Road Construction Authority

Under the provisions of the Act an Authority of ten members was established, consisting of:

- the Director-General of Transport
- the Managing Director
- an officer of the Authority nominated by the Managing Director
- two persons elected by the officers of the Authority
- a person having knowledge of and experience in employment in the transport industry
- a person having knowledge of and experience in the use of passenger cars
- a person having knowledge of and experience in the operation of road transport vehicles
- a councillor of a municipality
- one other person.

The members of the Authority in 1984/85 were:

Mr Alan Reiher, BCE, FIE Aust, FAIM, FCIT

Mr Reiher is the Director-General of Transport and as such is a member of the Board of the Authority. He has an extensive background in engineering and management in the transport industry. Mr Reiher was the Director-General of the Commonwealth Department of Works 1967-1973; Secretary of the Australian Department of Housing and Construction and Director-General of Works 1973-75, Director-General of the Commonwealth Department of Construction 1975-76; and Chief Commissioner of the NSW Public Transport Commission 1976. In 1980 he was appointed Chairman of the Victorian Railways Board and was appointed Director-General of Transport

in October 1982. Mr Reifer is a past Member and Chairman of the Australian Road Research Board and the National Association of Australian State Road Authorities.

Mr Tom Russell, M Eng Sc, BCE, Dip CE, CE, FIE Aust, FCIT

Mr Russell is the Chairman and Managing Director of the Authority. He has worked for the RCA for 42 years and has held various engineering and management positions in both the road and bridge areas in the RCA, including the position of Chief Engineer of the CRB. Mr Russell was appointed as a Member of the Board of the CRB in 1971; Deputy Chairman in 1974 and Chairman in 1978. He was appointed Chairman and Managing Director of the RCA in November 1982. Mr Russell is a member, and past Chairman, of the Australian Road Research Board and a member and Chairman of the National Association of Australian State Road Authorities.

Mr Robin Underwood, ME, BCE, Dip T&RP, CHT (Yale), CE, FITE, FIHT, FCIT, FRAPI, FIE Aust

Mr Underwood is the RCA's Chief General Manager - Planning and Design and is a member of the Board of the Authority. He has worked for the RCA (CRB) for 33 years and has held various engineering and management positions in the RCA. Mr Underwood was appointed to the position of Chief Planning Engineer (CRB) in 1975 and was appointed to Chief General Manager - Planning and Design in May 1983.

Mr Les Bull, AASA (Snr)

Mr Bull was elected to the Board of the Authority by officers of the RCA. He has worked for the RCA (CRB) for 18 years and has worked in methods evaluation and finance positions in both metropolitan and regional Divisions in the RCA. He has been a committee member of the RCA Municipal Officers Association Sub-branch for the past eight years. Mr Bull is currently the RCA's Divisional Accountant for the Dandenong Division.

Mr Ian Gardner, B Sc (Eng)

Mr Gardner was elected to the Board of the Authority by officers of the RCA. He has worked for the RCA (CRB) for 23 years and has held various engineering positions in regional Divisions in the RCA. Mr Gardner is currently the RCA's Divisional Engineer for the Traralgon Division.

Mr Jim Davis

Mr Davis was appointed to the Board of the Authority as a result of his knowledge of and experience in employment in the transport industry. Mr Davis is the Federal President of the Transport Workers Union of Australia and has been involved with the Union at branch level for 16 years.

Mr Roger Banks, BEE, FTS, FIE Aust, FAIM, FSSE

Mr Banks was appointed as a member of the Board of the Authority to represent the interests of the private road user. He is a councillor of the Royal Automobile Club of Victoria and a member of the Finance and Service Committees. He is also a councillor of the Australian Institute of Management and a member of the Institute's Finance Committee. As the Director of Business Development for Telecom Australia, Mr Banks has been involved in senior management positions in the fields of telecommunications, engineering and management.

Mr Don Swanton, MCIT, AMIMI

Mr Swanton was appointed as a member of the Board of the Authority as a result of his knowledge of and experience in the operation of the road transport industry. He has been involved in the motor vehicle industry in both Australia and England and was President of the Victorian Road Transport Association for 1980, 1981 and 1982 and is a council member of the Australian Road Transport Federation.

Dr Jenny Morris, BA (Hons), Ph D

Dr Morris worked for the Australian Road Research Board from 1976 to 1982 and has been involved with transport research both in Australia and England.

She brings to the Authority expertise in transport modelling.

Cr Keith Hallam, MBE, JP

Cr Hallam was appointed as a member of the Board of the Authority in his capacity as a municipal councillor. He was a councillor of the Town of Stawell for almost 30 years and was mayor on four occasions. Cr Hallam died on 1 June 1985.

Corporate Management Group

The Corporate Management Group consists of the Chairman and Managing Director, the three Chief General Managers, and the General Manager of Personnel and Employee Relations, where personnel and employee relations are involved. During 1984/85, the Chief General Managers were:

Chief General Manager - Operations

Mr Laurie Jones, BCE, CE, Dip HC&TE (DUNELM), MIE Aust
Mr Jones has worked for the RCA (CRB) for 35 years and has held various engineering and management positions in both metropolitan and regional Divisions in the RCA. Mr Jones was appointed to the position of Chief Works Engineer (CRB) in 1978 and became Chief General Manager - Operations in May 1983.

Chief General Manager - Planning and Design

Mr Robin Underwood, also a member of the Authority.

Chief General Manager - Corporate Administration

Mr Peter Stuart, MBA, B Com, AASA (Senior)
Mr Stuart has recently joined the Authority following a period of secondment to the Ministry of Transport. For the past eight years, he has been involved in the Transport Portfolio. In October 1976 he joined the then Victorian Railways Board as Director, Management Controls. Subsequently, in October 1978, he was appointed Director of Personnel and in October 1980 he held the position of Assistant General Manager, Marketing and Planning.

In 1982, Mr Stuart was seconded to the Transport Ministry where as a project team member he became involved with the transport reorganisation. For two years prior to his appointment to the RCA he was Co-ordination Manager, Transport Reorganisation Support Group.

Prior to his roles in public employment, Mr Stuart worked in private enterprise both in Australia and overseas.

The Three Branch Structure

The Road Construction Authority consists of three main branches, namely:

Operations Branch

The Branch as a whole is responsible for those activities of the Road Construction Authority associated with the construction, maintenance and operation of the road network, ensuring that it is properly maintained and upgraded where necessary within the limits of available funds.

Planning and Design Branch

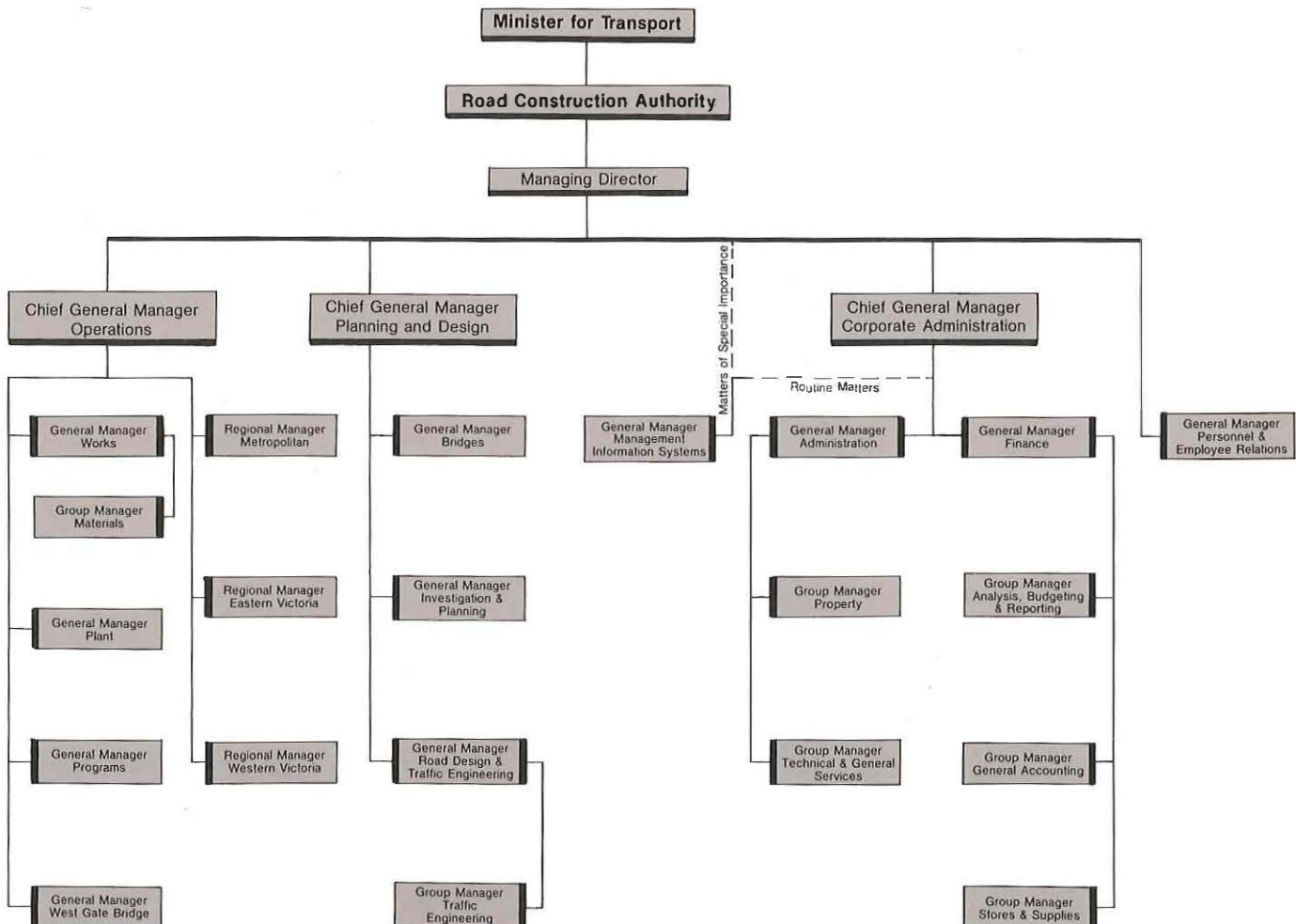
The Branch as a whole is responsible for the management and co-ordination of investigation and planning, road design,

survey, traffic engineering and bridge engineering functions in order to efficiently identify issues and develop solutions which contribute to the Road Construction Authority's objectives.

Corporate Administration Branch

The Branch as a whole is responsible for management and co-ordination of finance, management information systems, legal services, property acquisition and disposal, and administration functions and to ensure the provision of efficient corporate services.

RCA Organisation Chart (as at 30 June 1985)



Functions of the Authority

The Act sets out the functions of the Road Construction Authority as follows:

- (a) to maintain, upgrade, vary and extend the State's declared road network;
- (b) in conjunction with municipalities, to assist in the maintenance, upgrading and construction of other roads;
- (c) subject to agreement with the Road Traffic Authority to purchase, design, construct, erect, install, maintain and operate traffic signals and other traffic facilities for the purposes of traffic management and control;
- (d) to determine load limits and advisory speed limits for any road, bridge or culvert and to determine maximum speed limits for travel on roads under construction or repair or over bridges or culverts;
- (e) to provide and maintain roadside reserves adjacent to any road for the use or enjoyment of persons using any such road;
- (f) to establish guidelines and requirements for the issue of vehicle mass and dimension permits;
- (g) to compete on the open market for road construction and other projects; and
- (h) to investigate and to promote and undertake research into any matter related to the performance of its functions, powers or duties.

Objectives of the Authority

The Act requires the Road Construction Authority, in exercising its functions, to have regard to the achievement of the following objectives:

- (a) to make use of available transport resources in ways which are most beneficial to the community and with due regard to the enhancement of the environment;
- (b) to improve the State's principal road network to facilitate the efficient vehicular movement of persons and goods;
- (c) to operate efficiently and effectively within Government policy and other parameters determined by the Victorian Transport Directorate;
- (d) to improve productivity;
- (e) to establish and maintain a satisfying work environment which ensures the broadest range of opportunities for career development and job enrichment;
- (f) to achieve an efficient and dynamic organisation by implementing appropriate technological and other changes through a process of consultation beginning at the contemplative stage;
- (g) to maintain an effective decentralised organisation and to delegate decision making to appropriate levels in the Authority;
- (h) to maintain harmonious relations between management staff and employee organisations through processes of effective consultation and participation in decision making;
- (i) to develop and train all personnel to carry out their duties and responsibilities effectively and efficiently, to interact with the public in a helpful and courteous manner, and to enhance their workskills;
- (j) to maintain a high level of motivation, performance, team work and safe working practices and develop a sense of commitment to the organisation with employment conditions in keeping with community standards;

- (k) to facilitate accountability at all levels within the Authority by maintaining suitable information and reporting systems;
- (l) to effectively manage its assets, including real estate, to protect future options, and to provide for the planning, design, construction and management of new infrastructure and facilities as required;
- (m) to minimise interference to the community arising from the construction and maintenance activities of the Authority; and
- (n) to provide mechanisms and full information to enable effective and timely participation by the community in decision making about roadworks.

The road system is a community asset and contributes to the development of both urban and rural areas in the State. Victoria is rich in power sources, such as brown coal, oil and gas and has a diverse manufacturing and agricultural base. The road system provides the means for the essential movement of people, goods and services.

The maintenance and improvement of this road system is carried out as a co-operative effort between the Road Construction Authority and municipal councils.

Road classifications

There are some 160,000 kilometres of public roads in Victoria, of which 24,241 km comprise the State's principal road network. The lengths of roads declared or proclaimed under the Transport Act as at 30th June 1985 were State highways 7,110 km, freeways 424 km, main roads 14,854 km, tourists' roads 840 km and forest roads 1,013 km.

State highways

State highways are the principal arteries forming interstate connections and links between the larger centres of population in the State. Some State highways in Victoria form part of the National Route system of highways with uniform route numbering throughout Australia. The Road Construction Authority accepts the full cost of both construction and maintenance works on State highways required to meet the needs of through traffic. As at 30th June 1985, there were 7,110 km of State highways declared under the Transport Act 1983.

Freeways

A freeway is a road usually having dual carriageways with no direct access from adjoining properties and side roads. All crossings of a freeway are by means of overpass or underpass bridges, and traffic enters or leaves the freeway carriageways by means of carefully designed ramps. The Road Construction Authority accepts the total cost of all work on freeways. As at 30th June 1985, there were 424 km of freeway declared under the Transport Act 1983.

Tourists' roads

Tourists' roads provide access to places of special interest to tourists, both in summer and winter. The Road Construction Authority accepts the full costs of works on tourists' roads required to cater for the needs of through traffic. In general these works are carried out under the direct supervision of the RCA's staff. As at 30th June 1985, there were 840 km of tourists' roads declared under the Transport Act 1983.

Forest roads

Forest roads are situated within or adjacent to State forests or in areas which are considered to be timbered, mountainous or undeveloped. The RCA accepts the full costs of works on forest roads required to cater for the needs of through traffic, with approximately half the work carried out on these roads being undertaken by municipal councils. As at 30th June 1985, there were 1,013 km of forest roads declared under the Transport Act 1983.

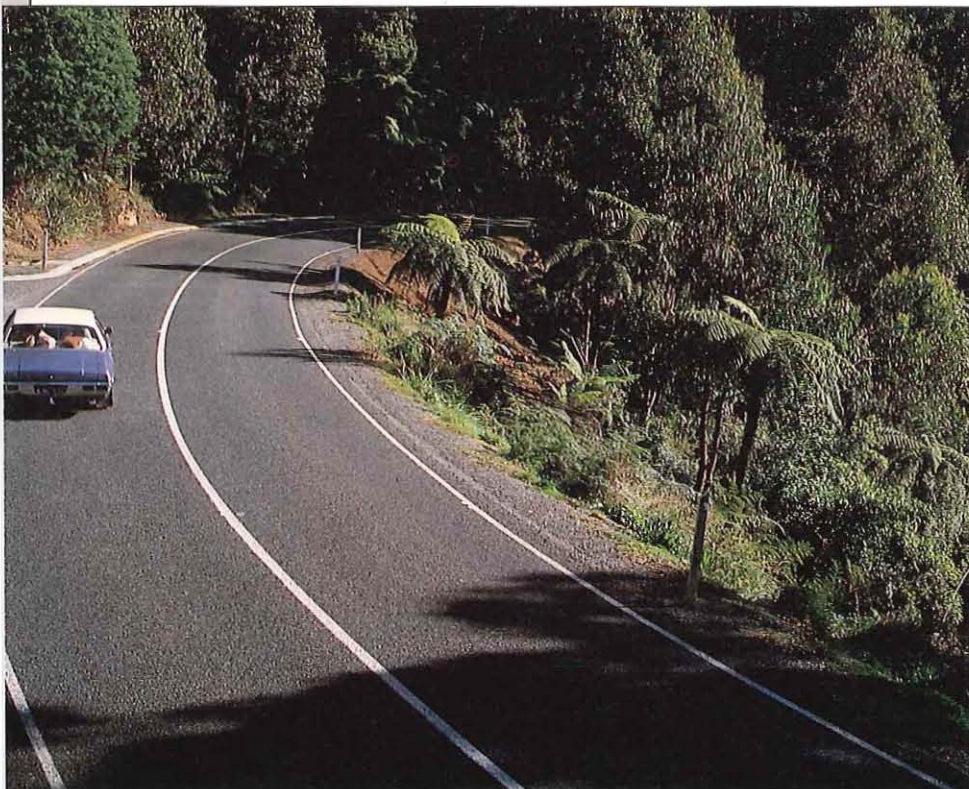
Main roads

Main roads are roads linking centres of population with other centres or with areas of industry, commerce or settlement. Generally main roads have been constructed and maintained by municipal councils to the satisfaction of, and with financial assistance from, the Road Construction Authority. In some cases, at the request of the council and with the approval of the Minister, works have been carried out under the direct supervision of the RCA's staff. As at 30th June 1985, there were 14,854 km of main roads declared under the Transport Act 1983.

Unclassified roads

Roads which are not declared or proclaimed under the provisions of the Transport Act 1983 are referred to as unclassified roads. These roads are the responsibility of municipal councils, but each year the Road Construction Authority provides financial assistance towards the cost of construction and maintenance works, generally in accordance with priorities allotted by municipal councils. Municipal contributions towards the cost of such works are determined at the time the allocation is made, and are based on many factors including the nature, extent and location of the particular work and the financial position of the municipal council concerned.

Maroondah Highway, reconstruction near the Hermitage, south of Dom Dom Saddle



Road Construction Authority offices

Regional divisions

Bairnsdale Division
75 Nicholson Street
Bairnsdale 3875
(051) 52 3344

Ballarat Division
1315 Sturt Street
Ballarat 3350
(053) 32 7361

Benalla Division
50 Clarke Street
Benalla 3672
(057) 62 2288

Bendigo Division
57 Queen Street
Bendigo 3350
(054) 43 9133

Dandenong Division
360 Maroondah Highway
Nunawading 3131
(03) 878 0555

Geelong Division
63 McKillop Street
Geelong 3220
(052) 21 4744

Horsham Division
138 Firebrace Street
Horsham 3400
(053) 82 0121

Metropolitan Division
700 High Street
East Kew 3102
(03) 860 3211

Traralgon Division
120 Kay Street
Traralgon 3844
(051) 74 3311

Warrnambool Division
29 Jamieson Street
Warrnambool 3280
(055) 62 3955

Hume Freeway
Baddaginnie-Bowser) Project
Kelfeera Road
P O Box 414
Benalla 3672
(057) 62 4144

Hume Freeway
Barnawartha-Wodonga) Project
Irene House
Elgin Street
Wodonga 3690
(060) 24 3577

Princes Freeway
Tynong & Longwarry) Project
John Street
Pakenham 3810
(059) 41 2422

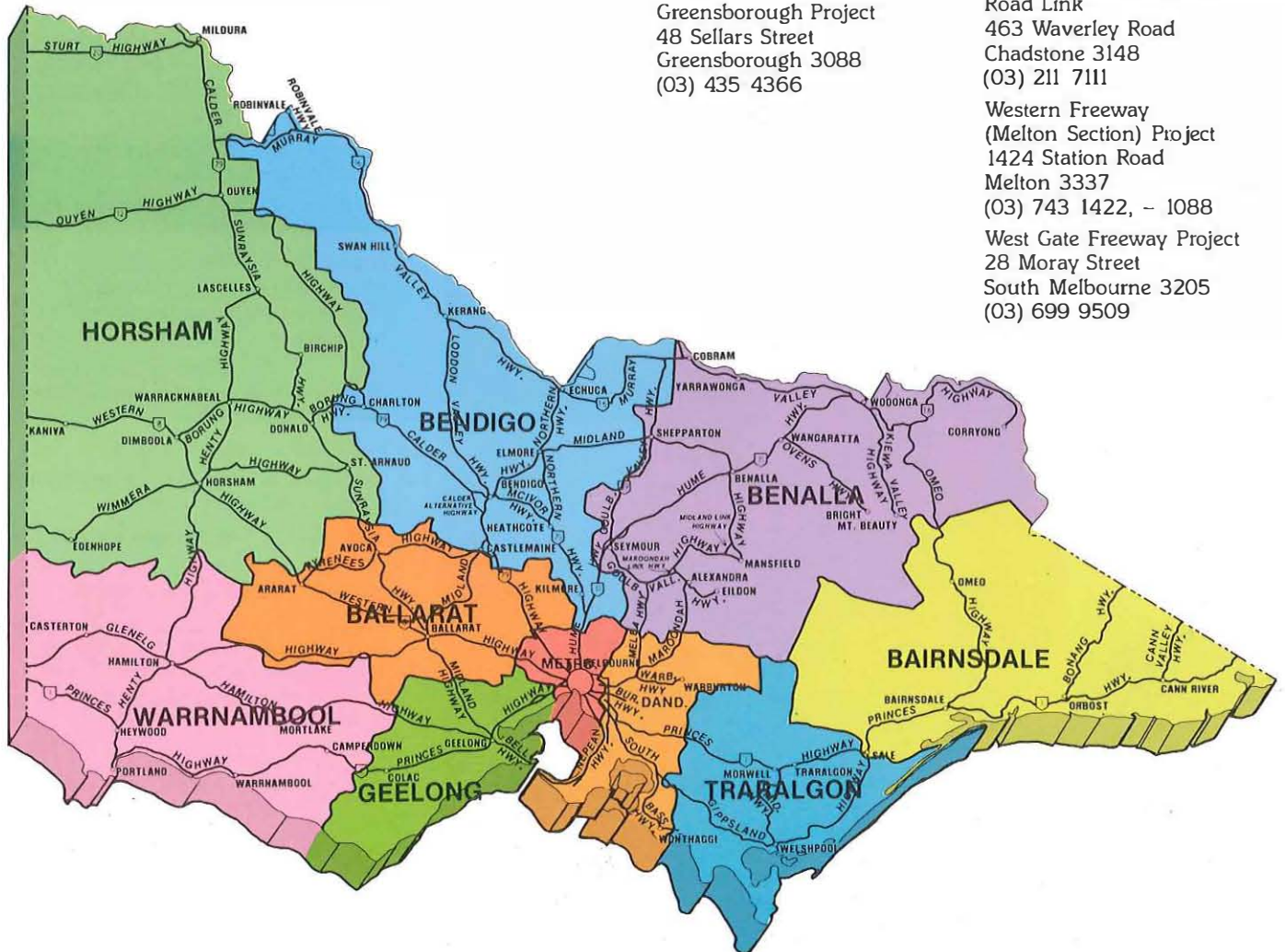
Projects

Greensborough Project
48 Sellars Street
Greensborough 3088
(03) 435 4366

South Eastern Mulgrave Arterial
Road Link
463 Waverley Road
Chadstone 3148
(03) 211 7111

Western Freeway
(Melton Section) Project
1424 Station Road
Melton 3337
(03) 743 1422, - 1088

West Gate Freeway Project
28 Moray Street
South Melbourne 3205
(03) 699 9509



New Minister for Transport

In April 1985, the Honourable T W Roper was appointed Minister for Transport, replacing the Honourable S M Crabb. Mr Crabb took up the portfolio of Employment and Industrial Affairs. Educated in Sydney University where he gained his Bachelor of Arts, Mr Roper was Tutor and Senior Lecturer in Education at La Trobe University before he entered Parliament in 1973. He was Opposition Spokesman for Health for six years before becoming Minister of Health in April 1982. The Authority wishes to welcome Mr Roper as its new Minister, and to record its appreciation of the support and interest shown by Mr Crabb.

Obituary – Cr Keith Hallam, MBE

Cr Keith Hallam, MBE, passed away on Saturday 1 June, 1985.

Cr Hallam was a member of the Road Construction Authority in the capacity of 'a councillor of a municipality', and his long and distinguished contribution to local government, and his all-too-short involvement in the Road Construction Authority, will be sorely missed.

He was a councillor of the Town of Stawell for almost 30 years, and was mayor on four occasions. For more than 12 years, he was a member of the executive committee of the Municipal Association of Victoria, and was the president from 1982 to 1984. He was also an executive member of the Victorian Water and Sewerage Authorities Association for the past 13 years, and was president of that Association in 1982/83.

Cr Hallam is survived by his wife, three children and six grandchildren.

Summary of activities

During 1984/85 the Road Construction Authority:

- Expended \$400.1 million on new roads and bridges and the maintenance and improvement of existing roads and bridges including expenditure of \$161.3 million for works on main roads and unclassified roads which are the responsibility of municipal councils
- Completed, and opened to traffic, 21 km of dual carriageway roads
- Reconstructed 250 km of State highways, freeways and tourists' roads
- Sealed or resealed with bitumen 4,784 km of road
- Commenced the construction of 99 new bridges (including 61 commenced by municipal councils with financial assistance from the RCA) with an estimated total cost of \$43.5 million
- Linemarked 44,100 km of roads at a total cost of \$5.5 million
- Entered into 348 contracts with a total value of \$83.8 million
- Received 33,934 emergency service calls from motorists
- Replied to 167,459 requests for information as to the effect of the RCA's road proposals on particular properties
- Paid \$27.045 million in compensation and associated costs for land required for roadworks
- Published 6 technical papers
- Employed 13 new apprentices, making a total of 68 apprentices
- Provided work experience for 200 students
- Held 85 internal training courses
- Provided training, under the Australian Development Assistance Bureau aid programme, for 14 overseas trainees from South Yemen, Burma and Indonesia.

The Minister for Transport, the Honourable Tom Roper MP



Measures and indicators of performance

The Programme Budgeting System which has been adopted by the Government aims to provide information on activities of the RCA in a format that enables the Government to monitor progress in implementing transport policies and to re-allocate resources (if necessary) to improve that progress.

The system requires objectives to be set, indicators to be identified, and performance to be measured against an estimate or target. The table shows the targets and the actual achievements.

Sources of Funds

The RCA administers its expenditure through four programmes - National Roads, Metropolitan Roads, Rural and Provincial City Roads, and Corporate Services.

Funds were received for these programmes in 1984/85 from both State and Federal sources. State funds were derived primarily from fees collected under the Motor Car Act and from fuel franchise fees. Federal funds were

provided under the Roads Grants Act and the Australian Bicentennial Road Development Trust Fund Act (ABRD).

The Roads Grant Act, which expired on 30 June 1985, provided \$832.4 million to the States (including the Northern Territory) in 1984/85. Victoria's share of the grant was \$165.979 million, or 20.16%. In future years Federal funds will be provided under the Australian Land Transport (Financial Assistance) Act 1985.

The ABRD Act provided for the establishment of the Australian Bicentennial Road Development Trust Fund into which is paid the proceeds of a surcharge on motor spirit and diesel excise and any income earned by the investment of funds held in the Fund. The amount of the surcharge is currently 2¢ per litre. The Trust Fund is used to finance the Australian Bicentennial Road Development (ABRD) Programme and will continue until 31 December 1989 to allow any residual funds to be disbursed in accordance with the objectives of the Act. In 1984/85 funds totalling \$78.139 million were spent by the RCA on ABRD projects.

Opening of Four Major Projects

During the year four major projects were opened to traffic:

Nepean Highway Duplication

On 25 September, 1984, the Premier, the Honourable John Cain MP, with the Federal Minister for Transport, the Honourable Peter Morris MHR, opened the final duplicated section of the Nepean Highway which now provides 25 km of duplication between Princes Bridge and Mordialloc. The section opened was 7 km long and took just over five years to complete, at a cost of \$60 million. All traffic lights along the 25 km section have been linked to the computerised traffic signal system, "SCRAM". The highway between Elsternwick and Moorabbin had previously had a poor safety record, with numerous intersection and head-on collisions. In the five years before construction began there were more than 200 accidents reported, with eleven fatalities. The section is expected to improve access to the commercial centre of Melbourne and to the West Gate Bridge, and to reduce traffic levels on Beach Road. A bicycle path has also been constructed on the west side of the highway.

Bypass of Wodonga

The Federal Minister for Transport, the Honourable Peter Morris MHR, opened the new \$20 million four lane Wodonga Bypass on 29 March 1985. The Bypass was constructed to relieve congestion in the City of Wodonga by removing the through traffic consisting of an estimated 12,500 vehicles using the highway daily. Construction of the bypass is part of the upgrading of the Hume Highway from Sydney to Melbourne to a four lane highway.

Princes Highway - Malvern

On 11 September, 1984, the then Minister for Transport, the Honourable Steve Crabb MP, opened a new section of dual four lane carriageways between Tooronga Road and Waverley Road. This eased the previous traffic bottleneck, and in addition the tram lane was relocated in the highway median, so removing conflicting movement between vehicles and trams. The project cost \$5.25 million.

Category	Indicator	Quantitative Targets	
		1984/85 target	1984/85 actual achievement
Financial (Aggregate)	Total recurrent expenditure	\$336m	\$314m
	Total capital expenditure	\$216m ¹	\$211.3m
Network	Expenditure by Local Government for main and unclassified roads	\$156m	\$146m
	Surface retreatment of freeways	12%	15.6%
	Surface retreatment of state highways	10%	9.8%
	Reconstruction/resheeting of state highways	2.5%	2.3%
Employees	New structures commenced under RCA supervision	39	39
	Total employment (full time equivalent - year average)	5000	4824
	Hours lost through sickness/million hours worked	27,500	28,200
	Lost time injuries/million hours worked (disabling injury frequency rates)	47	45.6
	Hours lost through industrial dispute/million hours worked	370	148

¹ Includes an amount of \$15 million which is in excess of currently available ABRD funds.

Murray River Crossing, Mildura

The new Murray River crossing and approaches were opened to traffic on 12 March by the Federal Minister of Transport, the Honourable Peter Morris, the Minister for Roads, New South Wales, the Honourable Laurie Brereton, and the then Minister of Transport, Victoria, the Honourable Steve Crabb.

The project was funded under the Australian Bicentennial Road Development Programme, and was constructed at an estimated total cost of \$14 million.

The new river crossing extends from San Mateo Avenue in Mildura across the river, a short distance upstream of the original truss bridge. The main structure of the crossing has been named George Chaffey Bridge, in public acknowledgment of the contribution George Chaffey made to the development of Mildura and the district known as Sunraysia.

The nine-span, 331 metre long, prestressed concrete bridge was designed and constructed by the Department of Main Roads, NSW. The Victorian approach is 0.5 kilometres in length, with a six-span, high strength reinforced concrete I-beam floodway bridge, 80.4 metres long and 9.8 metres wide.

The Federal Minister for Transport, the Honourable Peter Morris MHR, (second from left) assisted by primary school children from around Wodonga, opens the newly completed Wodonga Bypass.

The New South Wales approach to the main bridge crossing is 1.3 kilometres in length, and includes three floodway bridges.

NAASRA Review of Road Vehicle Limits

The National Association of Australian State Road Authorities (NAASRA) is conducting a review of the mass and dimension limits for heavy vehicles in Australia. The RCA is heavily involved in this study, which is expected to be presented by the Study Team in 1985. Further details of this review are given in the "Other Activities" section of this Annual Report, page 31.

Rural Emergency Telephone System

A system of emergency telephones is to be established on the Hume Freeway between Beveridge and Euroa. Previous policy has been not to install telephones on rural roads, but the extension of the divided road conditions along the Hume corridor has meant that more towns have been bypassed, and drivers now tend to keep travelling rather than detour for petrol or to have their cars checked.

The system being developed involves the installation where possible of telephones

no more than 6 km apart, and at intersections and interchanges. It will enable the operator to not only relay messages to nearby emergency services, but also to contact on request some other number such as the RACV or the caller's home or business.

The system is expected to be in place during the 1985/86 financial year and, after extensive evaluation, may be extended to other remote sections of rural freeways.

Accelerated Loading Facility

The testing of a section of the Benalla Bypass on the Hume Highway began in May, using the Australian designed and built Accelerated Loading Facility (ALF). The ALF is intended to simulate the long term performance of road pavements under heavy loads. After six months, the ALF will have applied loadings equivalent to 30 years of commercial traffic.

The 25 km bypass was chosen for this test because the unbound construction of its pavement is typical of those used on the Hume Freeway and other Victorian roads. The pavement consists of a sandstone sub-base and a crushed rock base, finished with a sprayed bitumen seal. The ALF testing programme will

The Premier, the Honourable John Cain MP, and Mr Morris unveil a plaque commemorating the opening of the Nepean Highway Duplication



provide more information about the limits and performance of this and other types of construction.

The ALF was based upon design concepts put forward by different state road authorities. In 1982, the Australian Road Research Board, in conjunction with the National Association of Australian State Road Authorities, prepared a specification for the ALF, which was constructed by the Department of Main Roads, NSW.

The ALF is owned by the ARRB, and will be used by various state road authorities over the next few years. Each test pavement selected will be typical of construction materials and methods used widely in Australia, so that all road authorities will be able to share the results of the test programme.

Awards Received by the Road Construction Authority

The RCA received two awards in 1984/85 from the Victorian Roadside Conservation Committee for restoration work done on the Walhalla Forest Road, and for the rest areas constructed on the Hume Highway 105 km north of Melbourne. The Coach Road Rest Area, for Melbourne bound traffic, is located on the original Melbourne to Sydney coach route, traces of which are still visible, and the Grass Tree Rest Area, for Wodonga bound traffic, next to a stand of 'grass trees', some of which are believed to be six hundred years old. The awards were presented to the Chairman by the Minister for Conservation, Forests and Lands, the Honourable Rod Mackenzie, at a function on Monday 26 November, 1984.

The Berwick Bypass Project received a citation from the Institution of Engineers, Australia Engineering Excellence Awards.



The Accelerated Loading Facility (ALF)

Roads and Bridges

Roads

Road improvement works are carried out to maintain and improve the road system, which is a community asset that contributes to the economic development of the State. Good roads enable the fast and efficient movement of goods, and the safe transport of people. During the year, the RCA carried out work on many major projects throughout the State, including the construction of divided roads to increase the total length of dual carriageways on freeways, State highways and main roads to 984 km.

Major Projects

Some of the major projects under construction, each having an estimated cost of at least \$5 million were:

Barwon River Crossing and Approaches, Geelong

Work continued on the first stage of construction for the approaches to a new crossing of the Barwon River at Geelong. The project involves the construction of a new bridge across the Barwon River, a new roadway across the Belmont Common and the reconstruction and duplication of Settlement Road through Belmont. The new route when completed will become part of the Princes Highway, linking the existing highway (La Trobe Terrace) north of the Barwon River with the Princes Highway at Belmont south of the river.

Work continued on the reconstruction and duplication of 2 km of Settlement Road from Rosslyn Road to High Street in Belmont. The first stage from Torquay Road to High Street has been completed. Earthworks and drainage on the Belmont Common are completed, and the design of the bridge structure is almost completed. The whole project, including the construction of the new bridge over the Barwon River is due for completion in 1988 at a total cost of \$23 million (1984 prices).

Calder Highway

Bypass of Gisborne

Work continued on the construction of the 6 km Bypass of Gisborne between McGregor Road, south of Gisborne, and Macedon Road, north of Gisborne, to remove through traffic from the Gisborne shopping and business area. The Bypass will include the construction of twin bridges over Jacksons Creek and Station

Road, Gisborne, as well as overpasses to carry the Gisborne-Kilmore Road and Howey Street over the Bypass. Earthworks and drainage, including fill for overpass approaches, are continuing, and preliminary works for the construction of the twin bridges and overpasses are well advanced. The Bypass is expected to cost \$20 million and is scheduled for completion in early 1988.

Bypass of Greensborough Commercial Centre

Work commenced in October on a 5.5 km bypass of the busy commercial centre of Greensborough from Lenola Street, Macleod, to Diamond Creek Road, Greensborough. Currently 38,000 vehicles per day use Grimshaw Street and Main Street, Greensborough, and it is estimated that half these vehicles are through traffic. The bypass will relieve the existing heavily congested sections of these roads, reduce travel time for motorists passing through the area, and improve safety and conditions for shoppers, residents and local traffic. The 3.5 km first stage from Diamond Creek Road/Civic Drive intersection to Grimshaw Street is under construction and is expected to be completed in mid 1987. The 2 km second stage from Grimshaw Street to the Greensborough Road/Lenola Street intersection is expected to commence in 1986 and to be completed in mid 1988. The total project is expected to cost \$18 million.

Hume Highway

Work continued on the construction of dual carriageways from Melbourne to Wodonga. The development of the Hume Highway route involves the construction of bypasses around towns to remove through traffic from shopping, business and residential areas.

Bypass of Benalla

The construction of the 25 km Bypass of Benalla from the existing duplication south of Baddaginnie to south of Winton continued during the year. Paving of the Baddaginnie to Midland Highway section was completed and work on the construction of ten bridges continued. Overpasses to carry traffic over the Bypass at the Midland Highway and Kelfeera Road were almost completed and construction continued on twin

bridges over Holland Creek, Blind Creek and the Broken River and its anabranch, and overpasses of the Freeway for the Benalla-Tatong Road and the existing Hume Highway. The total estimated cost of the Bypass is \$54 million at 1985 prices, and it is scheduled for completion in December 1986.

Bypass of Winton

Work continued on the construction of the 12 km Bypass of Winton on the Hume Highway from west of Winton to Chivers Road west of Glenrowan. Paving commenced during the year on the section between the interchange with the existing highway and Hernans Road and drainage and earthworks were continued on the balance of the 12 km section. Major culverts will be constructed at Winton Creek, Seven Mile Creek and Eleven Mile Creek. The total estimated cost of the Bypass is \$18 million at 1985 prices, and it is scheduled for completion in December 1986.

Princes Highway East

Work is underway on several projects on the Princes Highway as part of a strategy to construct dual carriageways from Melbourne to Traralgon. The development of the Princes Highway route involves the construction of bypasses around towns to remove through traffic from shopping, business and residential areas.

Tynong-Longwarry Section

Work continued on the construction of a 17.2 km duplicate carriageway between Nar Nar Goon and the Bunyip River. The work is an extension of the existing divided highway and will be constructed in two stages. The 9.1 km first stage is being constructed north of the existing highway to Brew Road and then south of the highway to Garfield North Road. The 8.1 km second stage will be constructed north of the existing highway from Garfield North Road to Bunyip River. The first stage is due for completion in mid 1986 and the total project in 1988, at a total cost of \$36.5 million.

Bypass of Warragul

The construction of the 7 km Bypass of Warragul between the eastern terminal of the Bypass of Drouin and the existing Princes Highway east of Warragul continued during the year. The Bypass of Warragul includes the construction of

bridges at the railway interchange (western terminal), Lardners Track, King Street and the Warragul-Korumburra Road. As part of the project, an 8.2 km duplicate highway carriageway easterly from the Warragul Bypass to the Moe River is also under construction. The pavement was completed during the year except for a short section through and to the east of Darnum, and the construction of the six bridges was almost completed. The Warragul Bypass and duplication to Darnum is scheduled for completion in December 1985 and the section from Darnum to Moe River in April 1986. The total estimated cost of the project in 1984 prices is \$28 million.

Bypass of Morwell

Work continued on the construction of the 10 km Bypass of Morwell to the south of the town, from the Morwell River to east of Alexanders Road. The Bypass will be constructed in two stages, the first stage extending from the existing duplication west of Morwell to the Midland Highway, a distance of 6.4 km, and including interchanges at the Morwell-Thorpdale Road, Commercial Road, and the Midland Highway. Eight bridges and five major culverts will also be constructed on this section. The 3.8 km second stage will extend from the Midland Highway to the Princes Highway east of Alexanders Road, and will include bridges at Tramway Road and the Eastern Railway Line. The first stage is scheduled for completion in 1989 and the second stage is expected to begin in 1987 and be completed in 1990. The total estimated cost of the project at 1984/85 prices is \$35 million.

South Gippsland Highway

Work continued on the duplication of 35 km between Cranbourne and the Bass Highway intersection at Lang Lang. This single carriageway section of highway has had a poor safety record. The construction of a divided road will improve safety and increase capacity. The project includes the construction of 11 bridges and 11 major culverts. During the year, work was carried out at Five Ways, Tooradin, and between Monomeath and the Bass Highway. The total cost of the project is estimated at \$19 million and it is expected to be completed in December 1988.

South Eastern Freeway/Mulgrave Freeway Arterial Road Link

Work commenced on the construction of an arterial road link between the South Eastern Freeway at Toorak Road, Hawthorn and the Mulgrave Freeway at Warrigal Road, Chadstone. The project includes the construction of a four lane divided road, with bridges at High Street, Winton Road, Great Valley Road, Waverley Road and between Moira and Dunlop Streets. Five pedestrian bridges and a pedestrian walkway at Allenby Avenue will also be constructed. The project is due for completion in late 1988 at a total estimated cost of \$104 million at 1984 prices.

Western Highway

Bypass of Melton

Work continued on the construction of the 8.8 km Bypass of Melton to the south of the town, from east of Ferris Road to west of Harkness Road. This will remove the last undivided section of the Western Highway between Melbourne and Ballarat. The project includes interchanges at Ferris Road and Coburns Road, an overpass at Station Road, dual

bridges over Toolern Creek and culverts at Arnolds Creek East. The project is expected to cost \$30 million at 1984 prices and is scheduled for completion in mid 1987.

West Gate Freeway

South Melbourne Section

Work continued on the 3.6 km West Gate Freeway between Graham Street, Port Melbourne and Grant Street, South Melbourne including the construction of foundation piles for the 1.85 km elevated section of the freeway. Work continued on the construction of the piers and superstructure for the elevated section of the northern carriageway from west of Johnson Street to east of Kings Way. Construction of the surface section between Rogers Street and Johnson Street, and a bridge to carry Ingles Street over the freeway also continued. The surface section between Rogers Street and Johnson Street is expected to be opened to traffic by the end of 1985. The completion of the northern carriageway is expected in mid 1987 at an estimated cost of \$45 million at 1984 prices.

Western Freeway: construction of the Melton Bypass in progress, looking towards Melbourne



Significant Roadworks

Significant works completed or substantially completed during the 1984/85 financial year were:

State Highways and Freeways

Bass Highway

Bass Shire: Reconstruction and realignment of 0.7 km at Kilcunda (\$350,000).

Borong Highway

Warracknabeal Shire: Widening and resurfacing of 4 km near Jeffcott (\$320,000).

Calder Freeway

Keilor City: Asphaltting of 6.3 km between Erebus Street, Keilor and Oakbank Road, Keilor North (\$1,200,000).

Calder Highway

Keilor City/Melton Shire: Resealing of 5.5 km from west of Oaklands Road to Holden Road (\$123,000).

Walpeup Shire: Widening and reconstruction of 6.6 km south of Ouyen (\$420,000).

Wycheproof Shire: Channelisation of the St Arnaud-Wycheproof Road intersection south of Wycheproof (\$110,000 RTA funded).

Cann Valley Highway

Orbost Shire: Reconstruction of 2.7 km between Winnots Creek and the NSW border (\$550,000).

Glenelg Highway

Grenville Shire: Reconstruction including realignment of 2 km north-east of Smythesdale (\$500,000).

Ripon Shire: Reconstruction and minor realignment of 2.1 km east of Carranballac (\$530,000).

Goulburn Valley Highway

Numurkah Shire: Intersection treatment at Rockliffs Road and Nathalia-Katamatite Road (\$225,000 RTA funded).

Yea Shire: Reconstruction and realignment of 3.8 km at Homewood (\$1,000,000).

Great Ocean Road

Barrabool Shire: Reconstruction of 2.1 km at Aireys Inlet (\$571,000).

Otway Shire: Reconstruction and realignment of 2.2 km at Marengo, west of Apollo Bay (\$1,000,000).

Hamilton Highway

Hampden Shire: Widening and resheeting of 5.3 km east of Darlington (\$550,000). Reconstruction of 1.5 km of the highway through Lismore (\$360,000).

Mortlake Shire: Widening and resheeting of 2 km east of Hexham (\$370,000).

Mount Rouse Shire: Resurfacing of 3.5 km west of Mustons Creek (\$330,000).

Newtown City: Reconstruction of 1 km between Shannon Avenue and Deviation Road in Newtown (\$702,000).

Warrnambool Shire: Reconstruction and realignment of 1.6 km east of Caramut (\$670,000).

Henty Highway

Dundas/Hamilton Shires: Widening and resurfacing of 3.7 km south of Hamilton (\$600,000).

Karkaroc Shire: Widening, reconstruction and resurfacing of 2.3 km north of Hopetoun (\$160,000).

Portland Shire: Widening and resurfacing of 4 km between Sunday Creek and Milltown (\$560,000).

Hoddle Street

Collingwood City: Asphalt overlay of 1 km from Eastern Freeway to Gibbs Street (\$190,000).

Hume Freeway

Kilmore Shire: Asphalt resurfacing of 11.2 km of both carriageways between Beveridge and Wallan (\$1,250,000).

Asphalt resurfacing of 6.9 km of the Sydney bound carriageway between Kal Kallo and Beveridge (\$400,000).

Asphalt resurfacing of 3 km of the Melbourne bound carriageway south of Beveridge (\$280,000).

Hume Highway

Broadmeadows City/Whittlesea Shire: Asphalt resurfacing of 6.6 km between Campbellfield and Craigieburn (\$225,000).

Wangaratta City: Duplication of 1.8 km in Wangaratta (\$1,700,000).

Loddon Valley Highway

Marong Shire: Widening and resurfacing of 4.5 km between Bullock Creek and Yarrayne (\$200,000).

Maroondah Highway

Alexandra Shire: Widening and resurfacing of 2.7 km and provision of a climbing lane at Merton Gap (\$492,000).

Healesville Shire: Reconstruction of 3.5 km between Dom Dom Saddle and Narbethong (\$600,000).

Lillydale Shire: Intersection improvement and duplication at Victoria Road (\$760,000).

Midland Highway

Bannockburn Shire: Reconstruction of 2 km near Lethbridge (\$478,000).

Benalla Shire: Widening and resurfacing and minor realignment of 2.4 km north of Swanpool (\$440,000).

Widening of 1.6 km between Yin Barun and Swanpool (\$189,000).

Buninyong Shire: Reconstruction and realignment of 4.3 km between Clarendon and Scotsburn (\$1,050,000).

Daylesford and Glenlyon Shire: Reconstruction and realignment of 2 km south of Guildford (\$510,000).

Mt Alexander Road (Moonee Ponds Junction)

Essendon City: Major improvements to the intersection of Mt Alexander Road, Pascoe Vale Road, and Puckle Street at Moonee Ponds (\$1.2 million).

Murray Valley Highway

Numurkah Shire: Intersection treatment at Rockliffs Road (\$327,000).

Swan Hill Shire: Widening and resurfacing of 2.2 km north of Castle Donnington Railway Crossing (\$105,000). Realignment of Hobsons Lane to form a "T" intersection and provide a right turn lane (\$160,000 RTA funded).

Widening and resurfacing of 2.9 km north of Wood Wood (\$250,000).

North Road

Brighton/Caulfield Cities: Reconstruction and duplication of 1.1 km from Nepean Highway to Hawthorn Road (\$1.8 million).

Northern Highway

Echuca City: Construction of a roundabout at Hare Street (\$120,000 RTA funded).

Ormeo Highway

Ormeo Shire: Construction of 0.7 km of approaches to a new bridge over the Big River at Glen Valley (\$190,000).

Ouyen Highway

Walpeup Shire: Widening of 20 km between Walpeup and Underbool (\$280,000).

Princes Freeway

Buln Buln Shire: Construction of a 1 km access road near Longwarry (\$250,000).

Princes Highway East

Bairnsdale Town: Duplication of 1.7 km in Bairnsdale (\$1,050,000).

Berwick City: Construction of a third lane between South Gippsland Freeway and Belgrave-Hallam Road (\$810,000).

Orbost Shire: Reconstruction of 2.4 km between Mt Raymond and Murrungower east of Orbost (\$874,000).

Construction of 1.7 km of approaches to the Wingan River Bridge east of Cann River (\$847,000).

Prahran/St Kilda Cities: Asphalt resurfacing of 1.5 km between Hornby Street and Redcourt Avenue (\$175,000).

Springvale City: Intersection improvement at Springvale Road (\$900,000).

Princes Highway West

Footscray City: Asphalt resurfacing of 1.2 km between Wales Street and Angliss Street, Footscray (\$350,000).

Hampden Shire: Widening and resurfacing of 2.1 km west of Boorcan (\$250,000).

Resurfacing of 2.2 km at the Garvoc Rail overpass (\$290,000).

South Barwon City: Extension of Pioneer Road to connect with the highway at Grovedale (\$210,000).

Sunshine City: Asphalt resurfacing of 0.4 km between Millers Road and MacDonald Road, Brooklyn (\$180,000).

South Eastern Freeway

Hawthorn/Richmond Cities: Resealing of 1.2 km between Punt Road and Toorak Road (\$110,000).

South Gippsland Highway

Dandenong City: Intersection treatment at Greens Road (\$420,000).

South Gippsland Shire: Widening of 2.1 km and the provision of climbing lanes at O'Gradys Ridge Road, Foster North (\$750,000).

Woorayl Shire: Reconstruction of a roundabout in Leongatha (\$200,000).

Springvale Road

Nunawading City: Duplication of 0.6 km between Efron Street and Koonung Creek (\$1.2 million).

Sturt Highway

Mildura City: Construction of the Victorian approaches to the new Murray River crossing at Mildura (\$980,000).

Sunraysia Highway

Kara Kara Shire: Resurfacing of 1 km, including reconstruction of the Moyreisk-Natte Yallock Road intersection north of Redbank (\$145,000).

Tullamarine Freeway

Broadmeadows City/Bulla Shire: Asphalt resurfacing of 3.1 km between Mickleham Road and Marker Road (\$320,000).

Brunswick City: Asphalt resurfacing of 0.75 km at the Brunswick Road interchange (\$125,000).

Warburton Highway

Lillydale Shire: Construction of a climbing lane between Pine Hill Caravan Park and Crombie Road (\$300,000).

Westall Road

Oakleigh/Springvale Cities: Realignment of 0.6 km from Rosebank Avenue to Rayhur Street, in conjunction with the installation of boom barriers at the Railway Crossing (\$850,000).

Western Highway

Melton Shire: Resealing of 14.3 km between Robinsons Road, Deer Park and Reserve Road, Melton (\$280,000).

Ripon Shire: Reconstruction and widening of 4 km, including the construction of passing lanes between Trawalla and Beaufort (\$965,000).

Stawell Shire: Widening and realignment of 4 km, including climbing lanes south of Deep Lead (\$800,000).

Sunshine City: Reconstruction of kerb and channel, drainage improvement and asphalt resurfacing from Ashley Street to Duke Street, Braybrook (\$900,000).

Wimmera Highway

Stawell Shire: Reconstruction and realignment of 1.5 km west of Marnoo (\$196,000).

Tourists' Roads

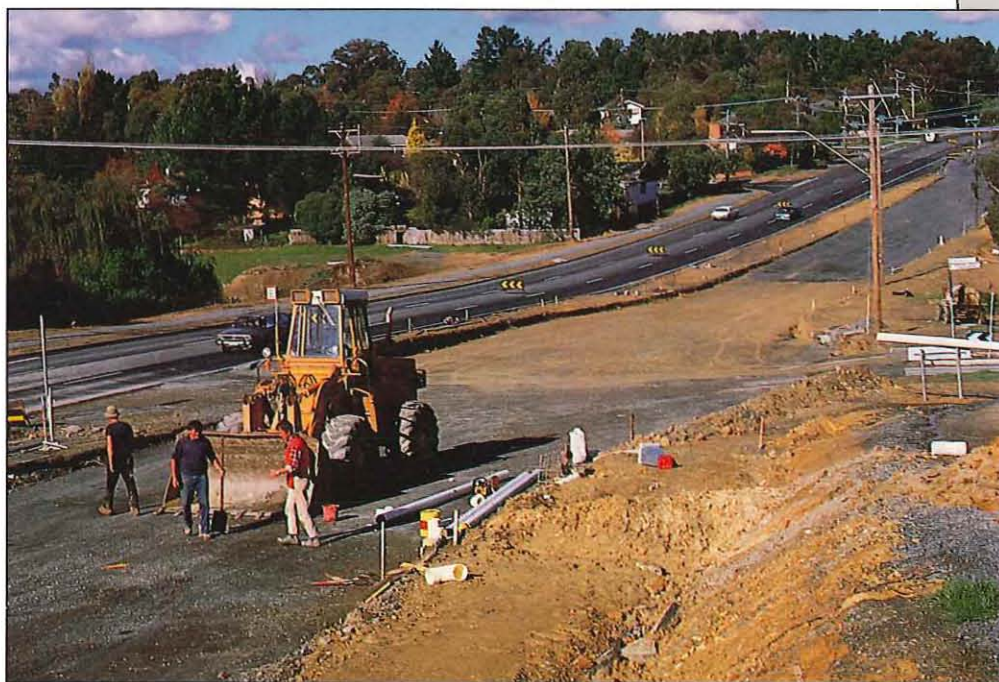
Alpine Road Omeo Shire: Resurfacing and sealing of 4 km west of Jim and Jack Creek (\$820,000).

Reconstruction of 5 km between Horsehair Plain and Cobungra Hill (\$320,000).

Phillip Island Road

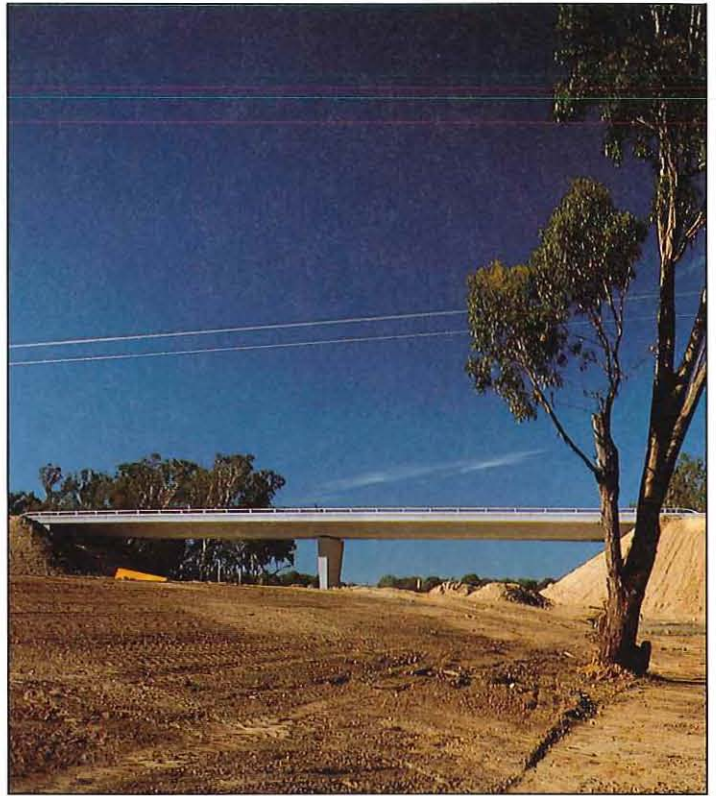
Bass Shire: Widening and resurfacing of 1.6 km west of Anderson (\$300,000).

The duplication of Springvale Road State Highway at Koonung Creek, Nunawading





Princes Highway: new bridge over the Wingan River west of Genoa



Hume Freeway – Benalla Bypass: recently opened Midland Highway Overpass Bridge

New Loddon River Bridge on the Bridgewater–Serpentine Road, south of Serpentine. The old bridge is visible in the background



Bridges

The construction of many new bridges is commenced each year by the RCA and municipal councils. The table below gives a comparison between the number and estimated costs of bridge projects in 1984/85 and the preceding financial year.

Description	1984/85		1983/84	
	No	Est Cost \$000's	No	Est Cost \$000's
New bridges commenced under the supervision of RCA staff	39	32,719	65	71,775
New bridges commenced under municipal supervision with financial assistance from the RCA	61	10,282	65	7,618
Miscellaneous - Sign Structures, etc.		464		369
Total Bridges Commenced	99	43,465	130	79,762*

* Includes \$35,760,300 for contracts let for the construction of the North Structure, West Gate Freeway.

Major bridges completed during the year under the direct supervision of the RCA's staff included:

Bonang Highway

A three span reinforced concrete slab bridge, 30.7 m long and 8.6 m wide between kerbs, over Martins Creek (\$245,000).

Hume Freeway (Wodonga Section)

A two span box girder bridge, 64 m long and 16.1 m between kerbs on Melrose Drive, over the Freeway (\$870,000).
Dual six span reinforced concrete beam and slab bridges 176 m long and 11.6 m between kerbs over the North East Railway near Wodonga (\$3.1 million).

Mornington Peninsula Freeway

A four span box girder bridge 139.8 m long and 11.3 m between kerbs on the Nepean Highway over the Mornington Peninsula Freeway at Mt Martha (\$1.2 million).

Princes Highway East

A three span pre-stressed beam and slab bridge 54.5 m long and 9.8 m between kerbs over Reedy Creek (\$370,000).
A three span reinforced concrete slab bridge 32.2 m long and 9.8 m between kerbs over Drummer Creek (\$250,000).
Two three span reinforced concrete beam and slab bridges each 46.5 m long and 9.8 m between kerbs over the Wingan River and floodplain (\$740,000).

Mansfield Woods Point Road

A three span steel girder and reinforced concrete deck bridge over Raspberry Creek on Mansfield-Woods Point Main Road 40 m long and 8.6 m between kerbs (\$250,000).

South Gippsland Highway

A three span reinforced concrete beam and slab bridge 38.6 m long and 9.8 m between kerbs over the Lang Lang River (\$300,000). A three span pre-stressed concrete bridge 18.3 m long and 11.3 m between kerbs at Sawtells Inlet, Tooradin (\$480,000).

Sturt Highway, Mildura

A six span reinforced concrete beam and slab bridge 80.4 m long and 9.8 m between kerbs over the Murray River floodway at Mildura (\$600,000).

Western Freeway (Melton Section)

A two span box girder bridge 73.9 m long and 8.6 m between kerbs on Ferris Road over the Western Freeway (\$750,000). A twin cell 3 x 3 m crown unit culvert 455 m long under the Freeway at Melton (\$1.45 million).

Larger bridges constructed during the year under municipal supervision with financial assistance from the RCA included:

Avon Shire

Bengworden Road
Avon River Floodway - two 2-span reinforced concrete slab bridges each 21.75 m long (\$284,000).

Dandenong City

Stud Road
Dandenong Creek - three span pre-stressed beam and slab bridge 43 m long (\$270,000).

Dundas Shire

Victoria Point Road
Wannon River and Floodplain - three reinforced concrete slab bridges total length 84 m (\$270,000).

East Loddon Shire

Bridgewater Serpentine Road
Loddon River - six span reinforced concrete beam and slab bridge 90.2 m long (\$680,000).

Kara Kara Shire

Carols Bridge Road
Avon River - three span reinforced concrete slab bridge 31.5 m long (\$137,000).

Numurkah Shire

Rockliff's Road
Broken Creek - three span reinforced concrete slab bridge 37.5 m long (\$275,000). Officially opened and named Rockliff's Bridge by the Chairman and Managing Director on 7 June 1985.

Oxley Shire

Whorouly River Road
Rushy Creek - three span reinforced concrete slab bridge 27.9 m long (\$175,000).

Waranga Shire

Corinella Church Road
Wanala Creek - two span reinforced concrete slab bridge 21.8 m long (\$92,000).

Warrnambool Shire

Naringal Panmure Road
Brucknell Creek - three span reinforced concrete slab bridge 29 m long (\$140,000).

Bituminous Surfacing

Bituminous surfacing forms an important part of road construction and maintenance work.

In 1984/85, the RCA was involved in the surfacing of 4,784 km of roads, the cost of which was approximately \$63 million.

Types of Work

Approximately 95.9% of the total length of bituminous surfacing done was of the

sprayed seal type. This process involves the spraying of a thin hot bituminous layer on to the road surface, followed by spreading a layer of aggregate which is rolled into the bitumen by pneumatic tyred rollers and controlled traffic. It is an economical surfacing process which provides a safe, skid resistant surface.

The balance of bituminous surfacing work consisted of asphalt surfacing which is plant mixed and spread in a layer with a mechanical paver.

Extent of Work

The RCA's 16 mobile bituminous surfacing units, together with plant owned by municipal councils and contractors, completed 4,925 km of sprayed work at a cost of \$42.5 million on roads to which the RCA contributes, plus 337 km of sprayed work for other authorities.

Contractors operating from fixed asphalt plants completed 196 km of plant mix work at a cost of approximately \$23 million using 389,544 tonnes of asphalt.

The lengths of various types of work completed during the year were:

- 176 km of sealing widened pavements
- 37 km of initial sealing of dual carriageways
- 719 km of restoration of seal coats on reconstructed sections
- 625 km of final sealing on initial treatments
- 2834 km of maintenance retreatments
- 33 km of sealing on ancillaries to other major works
- 359 km of extensions to the bituminous sealed road system including 53 km of roads declared or proclaimed under the Transport Act 1983
- 337 km sealed on behalf of Municipalities and other State authorities.

Contracts

Details of the types and numbers of contracts which were carried out under the RCA's direct supervision during 1984/85 and for which formal tenders were called are shown in the following table:

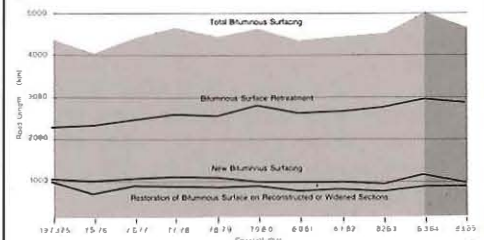
Type of Contract	No of Contracts	Value \$
Road Construction		
• over \$1 million	4	8,816,630
• \$250,000 to \$1 million	17	7,830,509
• under \$250,000 (not incl. quotations)	13	1,742,456
Bridge Construction		
• over \$1 million	1	1,341,505
• \$250,000 to \$1 million	6	3,004,631
• under \$250,000	11	1,790,721
• supply of roadmaking materials	101	20,187,665
• bituminous treatment and supply of materials	77	25,946,572
• bridge components and fabricated steel	29	3,329,651
• building construction	6	437,888
• construction equipment	20	2,829,644
• divisional facilities	-	-
• miscellaneous stores	2	1,050,000
• miscellaneous services	14	1,463,902
• kerb and channel construction	8	531,003
• fence and guardrail construction	3	66,549
• subsoil drainage and supply of materials	10	725,741
• traffic signal maintenance	3	21,224
• consultant contracts	23	2,669,782
Total	348	83,786,073

By comparison, the total number of contracts carried out under direct supervision during 1983/84 was 511 with a total value of \$153,519,917.

During the year the RCA submitted "bids" for a number of contract works on National Highways and some ABRD works which are subject to the tendering process. The RCA "bid" was successful on 20 occasions. The value of the work undertaken in 1984/85 at contract rates amounted to \$4,002,853 and the work was carried out at an actual cost of \$3,721,666.

The type of work undertaken by the RCA was varied, including pavement works and sealing, intersection widening, sub-surface drainage construction, manufacture of piles, crown units and culverts.

Annual length of bituminous surface treatment on roads to which RCA contributes funds
This graph shows lengths of bituminous surfacing including both sprayed seal work and asphalt mix work done by RCA plant, municipal councils or by contract. The plot of New Bituminous Surfacing includes extensions to the sealed road system, initial sealing of dual carriageways and final sealing on initial treatments. The total length of the sealed road network is increasing by about 1000 km each year. As the length of road maintenance retreatment is required to be a fixed proportion of the total sealed network to provide for adequate maintenance, this item is increasing annually. There has been an increase in the amount of funds being allocated to bituminous surfacing to satisfy this need.



Materials

The following quantities of material were used by the Road Construction Authority and by contractors during the year on bituminous surfacing works:

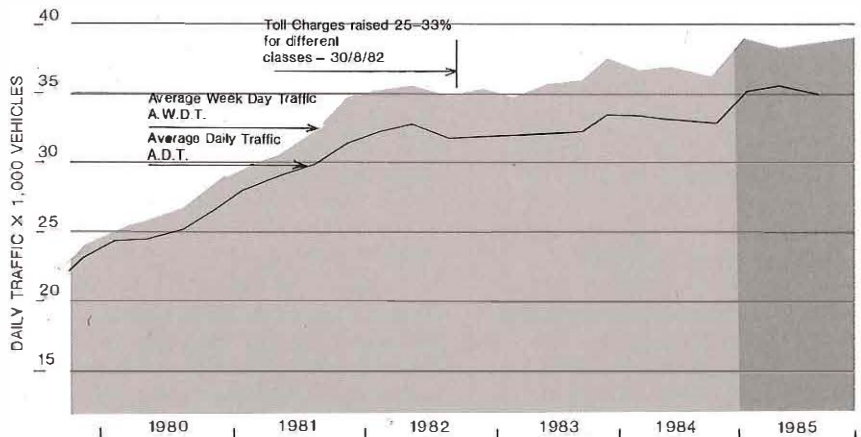
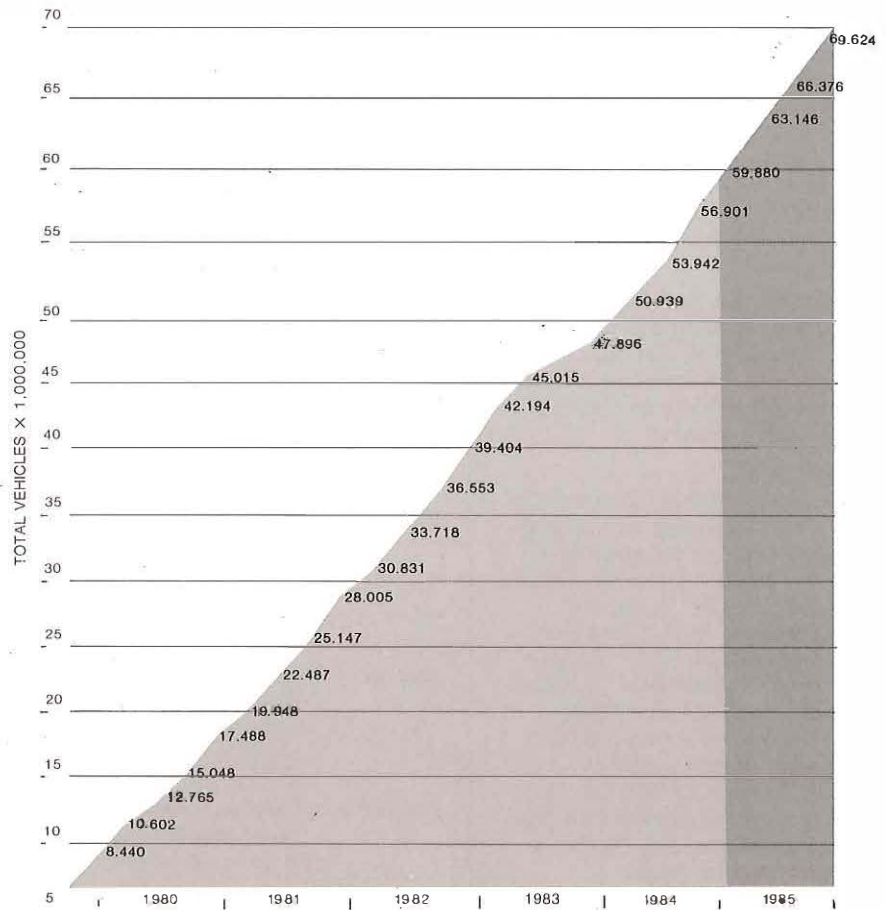
Bitumen for sprayed work	39,984 tonnes
Bitumen for asphalt	19,867 tonnes
Aggregate for sprayed work	331,010 metres ³
Aggregate for asphalt	264,890 metres ³
Other bituminous materials for sprayed work and maintenance	10,650 tonnes

West Gate Bridge

Bridge Traffic

A total of 12,723,175 vehicles crossed the West Gate Bridge during the year ended 30 June 1985, bringing total traffic to 69,624,257 since the Bridge was opened on 15 November 1978. This overall level of traffic compared with the year to 30 June 1984, showed an increase of 7.34%. The average daily traffic volume for the year was 34,858 vehicles per day (1983/84 - 32,475 VPD). The weekday traffic volume (Monday to Friday) averaged 37,992 vehicles per day (1983/84 - 35,324 VPD), an increase of 7.55%. Weekend and public holiday traffic averaged 28,458 vehicles per day (1983/84 - 26,413 VPD), an increase of 7.74%. This traffic continues the strong growth commenced last year following the raising of the tolls by approximately 25%-33% in August 1982. There has been no increase in toll values this year, to affect traffic volumes. In 1984/85 commercial vehicles accounted for 6.21% of all traffic, compared with 6.01% in 1983/84. During the year, the highest daily traffic volume since the opening of the Bridge was recorded on Friday 8 March 1985, the eve of the Labour Day long weekend. The traffic volume on that day was 48,619 vehicles.

In previous years the highest daily traffic volume has regularly been on the Friday before the Australia Day long weekend in January. In 1985, the traffic on this day was 47,658 vehicles, compared to 45,737 vehicles on the same day in 1984. On this day, peak hour traffic was 4,379 vehicles between 4 pm and 5 pm (last year 4,400 vehicles) of which 65.8% was westbound (last year 66.86%).



Vehicle Accidents

During the year, 35 vehicle accidents were recorded, bringing the total number since the opening of the Bridge to 163, representing one accident for each 427,142 vehicle crossings, or one accident for each 2,135,710 vehicle kilometres of travel within the franchise area. None of the accidents recorded resulted in severe injuries to drivers or third parties.

In these statistics, an 'Accident' is defined as "any damage to structures or vehicles within the West Gate Bridge franchise area as a result of impact of any nature and which requires any attendance or action by Bridge personnel".

Vehicle Breakdowns

During the year, a total of 2,214 vehicle breakdowns were attended to, bringing the total number since the opening of the Bridge to 14,606. Mechanical failures accounted for 59.44%, "out of fuel", 29.04%, punctures, 11.34% and fires, 0.18%, of the breakdowns for the year. These represent 1 breakdown for each 4,767 vehicle crossings since Bridge opening (1 breakdown for each 5,747 vehicle crossings for this year) or 1 breakdown for each 23,835 vehicle kilometres of travel within the franchise area (1 breakdown for each 28,735 vehicle kilometres this year).

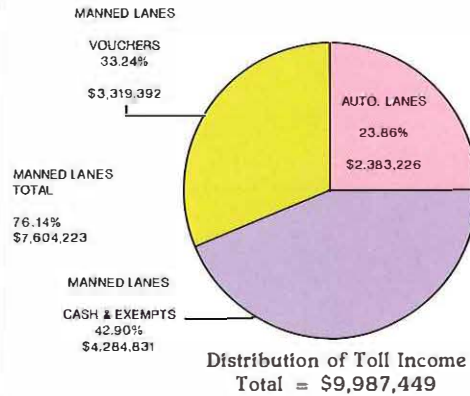
Toll Revenue

There was no change to the toll schedules during the year. Total net toll revenue for the year amounted to \$9,987,449, an increase of \$728,324 or 7.87% compared to 1983/84.

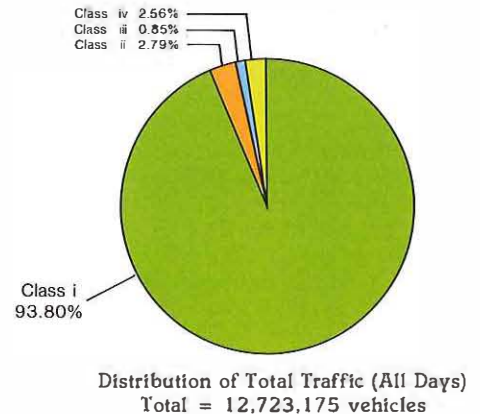
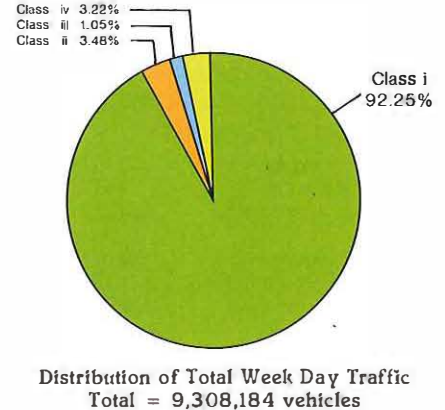
The net toll revenue was \$157,449 above budget. The budget had assumed that toll values would rise in May 1985, and this indicates that traffic was significantly higher than estimated to provide a budget surplus with toll values retained at the original levels for the whole year.

The average net toll per vehicle crossing was \$0.785, substantially the same as last year.

The overall proportion of motorists using the automatic toll lanes decreased slightly from 26.22% to 23.86% with a corresponding increase in the proportion of motorists using manned lanes. The proportion of motorists using vouchers decreased marginally from 34.01% to 33.24%.



- Class i Cars, station wagons, motor cycles, utilities, small vans.
- Class ii Vehicles - two axles with dual tyres fitted to one or more axles or more than three axles without dual tyres.
- Class iii Large trucks, both rigid and semi-trailer - three axles with dual tyres fitted to one or more axles.
- Class iv Large semi-trailers - four or more axles with dual tyres fitted to one or more axles.



During 1984/85, the value of tolls that would have been paid by those vehicles using the Bridge which are exempted from paying tolls under the Act was \$83,973 (\$83,058 in 1983/84). The value of Staff Travel was \$16,941 (\$16,069 in 1983/84).

Abolition of Tolls

During the year, the Government announced the abolition of the tolls on the West Gate Bridge. An agreement has been finalised between the Government and the Victorian Trades Hall Council regarding the time of removal of tolls and the future of those Bridge employees whose services become redundant as a result of this decision.

The abolition of tolls is to take effect from 31 December 1985, unless it is not practicable to man adequately the toll collection activities from some date prior to this; and employees under the agreement are being given the option of

redeployment or of accepting a separation settlement.

Inspections

Regular inspections of both the Steel and Concrete Spans of the Main Bridge to monitor both performance and behaviour of the structures have continued during this year and all elements of the structure have performed satisfactorily.

Associated structures, pavements and Bridge Utilities have also performed satisfactorily.

Maintenance of Project Works and Area

The normal regular and preventative maintenance of all structures, bridge utilities and project area generally, and the carrying out of urgent repairs to parts of the structures when damaged by vehicle impact when accidents occur, have continued satisfactorily during the year.

Toll Collection, Traffic Surveillance and Data Processing

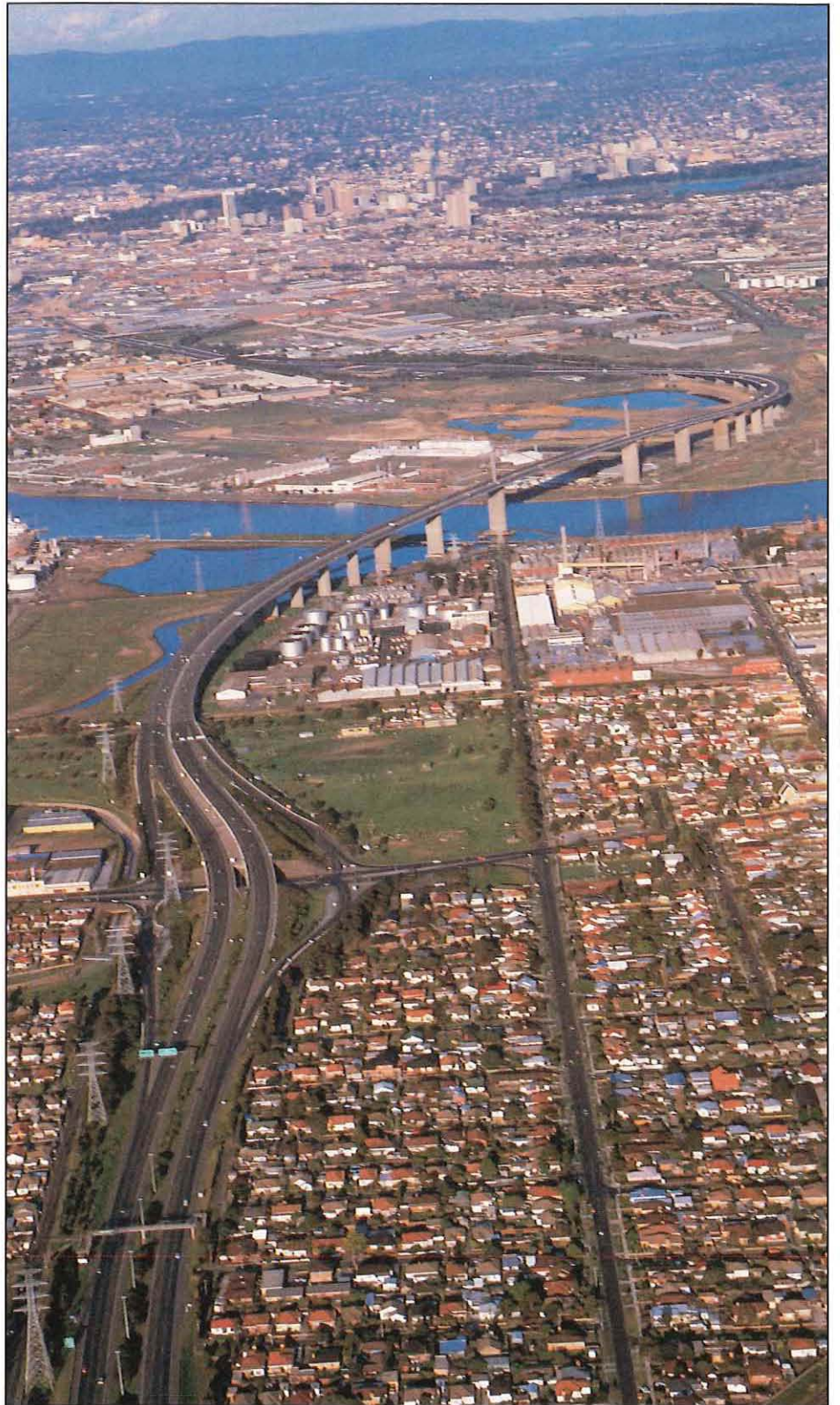
Following the abolition of the tolls, all investigations into new variable message and toll plaza canopy signs, the upgrading of the toll collection equipment and the replacement of the original IBM 1800 data processing system, have been terminated.

There is increasing incidence of faults in the existing equipment, due to its age and increasing levels of traffic, but it should continue to operate satisfactorily until the removal of tolls at the end of the year.

Administration

The total personnel strength of West Gate Bridge as at 30 June 1985 was:

Administration	14
Operations	74
Maintenance	29
Engineering and Technical Services	6
Total	123



The West Gate Bridge, looking towards the City of Melbourne

Municipal Allocations

During the 1984/85 financial year, the RCA allocated \$130,182,000 to Victoria's 211 municipal councils and French Island for the maintenance, construction, reconstruction, and improvement of main and unclassified roads. In making these allocations, regard was given to the formula agreed to by the RCA and the Municipal Association of Victoria in 1983/84. As in previous years, applications exceeded the level of funds available by many millions of dollars, reflecting the backlog of needed and justifiable roadworks over a considerable period where road funds did not keep pace with the rate of cost inflation associated with road construction and maintenance.

In addition to the normal municipal allocations for main and unclassified roads, special allocations totalling \$34,429,000 were made by the RCA in 1984/85:

- (a) \$29.980 m from the Australian Bicentennial Road Development Fund for projects approved by the Federal Minister for Transport;
- (b) \$2.465 m for works which were urgently required to assist in the implementation of, or provide relief from, the impact of government policies;
- (c) \$0.37 m for the construction and improvement of road access to tourist resorts or areas of tourist nature;
- (d) \$0.33 m for works on roads in or near National Parks;
- (e) \$1.234 m under the Natural Disaster Relief Scheme. These funds were provided by the State Government for emergency and restoration works on roads as a result of damage caused by various floods throughout the financial year; and
- (f) \$50,000 which was made available from the Works and Services Account to assist municipal councils in the improvement and protection of roads adjacent to State Forests areas and to facilitate the extraction of forest produce.

Allocations for works on roads of a tourist nature were made in conjunction with the Victorian Tourism Commission, while allocations for roads in or near National Parks were made after consultation with the National Parks Service.

Visits to Municipalities

The RCA makes regular municipal visits which include a tour of municipal roads and bridges with councillors and council officers and discussions on matters of common interest including local road problems, roadworks programmes and road finance. The visits provide the RCA with up-to-date information on road conditions and developments in municipalities.

During the year the Chairman and Managing Director and/or senior managers of the RCA made official visits to 29 municipalities: the Cities of Ararat, Mildura, Moe, Moorabbin, Northcote, Port Melbourne and Preston; the Borough of Queenscliffe; and the Shires of Ararat, Avon, Bass, Bellarine, Bright, Chiltern, Donald, Grenville, Heytesbury, Leigh, Lillydale, Mclvor, Mildura, Portland, Rosedale, Rutherglen, South Gippsland, Walpeup, Wannon, Waranga and Yarrowonga.

The RCA places on record its appreciation of the assistance given by the councils and municipal officers during these visits.

Significant Roadworks

Significant works completed or substantially completed during 1984/85 were:

Main Roads

Beechworth Shire

Beechworth-Wangaratta Road: reconstruction and realignment in Beechworth, including an intersection treatment at Ford and High Streets (\$130,000).

Bellarine Shire

Portarlington-Queenscliff Road: reconstruction and sealing of 2 km of the existing pavement (\$255,000).

Bendigo City

Strathfieldsaye Road: reconstruction of 0.3 km from Back Creek to Sternberg Street (\$145,000).

Berwick City

Heatherton Road: an intersection treatment at the Power Road intersection (\$500,000).

Bright Shire

Harrietteville Road: reconstruction and sealing of 2 km (\$136,000).

BuIn BuIn Shire

Bloomfield Road: reconstruction and realignment of 1.3 km near the Crossover (\$310,000).

Camberwell City

Canterbury Road: reconstruction of 0.4 km between Essex Street and Union Road (\$275,000).

Reconstruction of 0.3 km between Kennealy Street and Essex Street (\$320,000).

Corio Shire

Geelong-Bacchus Marsh Road: widening of 1.8 km north of Heales Road (\$148,000).

Geelong-Bacchus Marsh Road: widening of 1.1 km from Cox Road to Purnell Road (\$295,000).

North Shore Road: reconstruction of the North Shore Level Crossing and duplication of 0.25 km of Station Street (\$950,000).

Cranbourne Shire

Dandenong-Hastings Road: reconstruction of the Cranbourne-Frankston Road intersection (\$262,000).

Croydon City

Mt Dandenong Road: duplication of 0.52 km from Bayswater Road to Main Street (\$327,000).

Canterbury Road: reconstruction of 0.83 km from Gracedale Avenue to Bayswater Road (\$518,000).

East Loddon/Kerang Shires

Bridgewater-Serpentine Road: construction of a bridge over the Loddon River and 1.4 km of approaches (\$750,000).

Eltham Shire

Eltham-Yarra Glen Road: reconstruction of 1.2 km from Doncaster-Eltham Road to Mt Pleasant Road, and widening of the bridge over Diamond Creek (\$1.9 million).

Euroa Shire

Euroa-Strathbogie Road: reconstruction, realignment and sealing of 1.7 km (\$367,000).

Fitzroy/Collingwood Cities

Heidelberg Road: reconstruction and alterations to channelisation at the intersection with Smith Street (\$460,000).

Korumburra Shire

Loch Wonthaggi Road: reconstruction including realignment of 2.6 km south of Loch (\$275,000).

Nyora-Poowong Road: reconstruction and realignment of 2 km east of Nyora (\$240,000).

Lillydale Shire

Canterbury Road: reconstruction of 0.3 km from Airlie Crescent to Actoal Drive (\$548,000).

Mordialloc City

Beach Road: reconstruction and widening of 0.3 km from the Centreway to Nepean Highway (\$300,000).

Nunawading City

Mitcham Road: reconstruction of 0.8 km north of Canterbury Road (\$230,000).

Oakleigh City

Warrigal Road: reconstruction of 1.6 km from North Road to Centre Road (\$1.02 million).

Otway Shire

Charleys Creek Road: reconstruction and realignment of 1.7 km (\$190,000).

Oxley Shire

Mansfield-Whitfield Road: reconstruction and realignment of 2.5 km (\$114,000).
Bright Road: reconstruction and sealing 1.2 km (\$800,000).

Ringwood City

Ringwood-Warrandyte Road: reconstruction of 0.3 km north from Wonga Road (\$202,000).

South Barwon City

Pioneer Road: intersection treatment at Princes Highway West (\$209,000).

Sunshine City

Ascot Vale-Keilor Road: reconstruction of 1.2 km of the southern carriageway from the Maribynong River to Rosamond Road (\$320,000).

Maribynong-Tottenham Road:

reconstruction of 0.6 km from Ballarat Road to South Road (\$360,000).

Swan Hill Shire

Ouyen-Piangil Road: reconstruction including realignment of 8.7 km (\$726,000).

Wangaratta Shire

Wahgunyah-Wangaratta Road: reconstruction and sealing of 2.3 km (\$135,000).

Waverley City

High Street Road: reconstruction and widening of 1 km from Surrey Road to Blackburn Road (\$326,000).

Werribee Shire

Bacchus Marsh-Werribee Road: widening of 1.5 km from Hobbs Road to Cobbledick Ford Road (\$106,000).

Williamstown City

Kororoit Creek Road: duplication of 0.8 km from Maddock Road to Fink Street (\$875,000).

Wodonga Rural City

Wodonga-Beechworth Road: reconstruction, realignment and sealing of 1.7 km (\$180,000).

Woorayl Shire

Leongatha-Mirboo Road: reconstruction and realignment of 1.7 km south of Berrys Creek (\$220,000).

Yackandandah Shire

Myrtleford-Yackandandah Road: reconstruction including realignment and sealing of 0.8 km north of Myrtleford (\$110,000).

Kiewa East Road: reconstruction and sealing of 1.2 km near Tangambalanga (\$130,000).

Unclassified Roads

Ballaarat City

Grant Street: reconstruction and widening of 0.3 km from Armstrong to Humffrey Streets (\$486,000).

Barrabool Shire

Mt Duneed Road: widening and sealing from Anglesea Road to Cape Otway Road (\$182,000).

Bellarine Shire

Bonneyvale Lane: construction and sealing from Ocean Throughway to Shell Road (\$335,000).

Bendigo City

Holdsworth Road: reconstruction of 0.2 km from the Railway to Holmes Road (\$130,000).

Olinda Street: reconstruction of 0.3 km from Pyke Street to Russell Street (\$315,000).

Brunswick City

Dawson Street: reconstruction of 0.8 km from Grantham Street to the Railway (\$360,000).

Camberwell City

Butler Street/Fairholm Grove: reconstruction of 0.6 km (\$460,000).

Castlemaine City

Wheeler Street: construction of bridge over railway and 0.5 km of approaches (\$775,000).

Coburg City

Melville Road: reconstruction of 0.8 km from Reynard Road to Bell Street (\$420,000).

Corio Shire

Avalon Road: reconstruction including widening and resurfacing (\$180,000).

Deakin Shire

Winter Road: reconstruction and resurfacing of 2.2 km between Irving Road and Fraser Road (\$226,000).

Diamond Valley Shire

Karringal Drive: reconstruction of 0.7 km between Parklands Avenue and the Shire boundary (\$480,000).

East Loddon Shire

Richards Road: reconstruction of 4.7 km between Calivil-Mail Road and Jarklin-Yarrowalla Road (\$170,000).

Eltham Shire

Eltham-Greensborough Road: reconstruction and widening of 0.4 km between Calrossie Avenue and Bayswater Road (\$220,000).

Fitzroy City

Nicholson Street: reconstruction of 0.5 km of the eastern carriageway from Victoria Parade to Gertrude Street (\$340,000).

Geelong City

Garden Street: reconstruction and sealing (\$135,000).

Gordon Shire

Boort-Quambatook Road: reconstruction, widening and resurfacing of 5.6 km north of Boort (\$280,000).

Hawthorn City

Burwood Road: reconstruction of 0.8 km from Auburn Road to Harold Street (\$520,000).

Keilor City

Sunshine Avenue: reconstruction of 0.4 km from Taylors Road to Wimmera Court (\$570,000).

Kew City

Glenferrie Road: reconstruction from Barkers Road to Cotham Road, Kew (\$520,000).

Knox City

Cathies Lane: reconstruction and widening of 0.9 km south of the Burwood Highway (\$335,000).

Wantirna Road: reconstruction of 0.6 km from Wantirna-Sassafras Road to Clarence Avenue (\$379,000).

Korumburra Shire

South Road: reconstruction including realignment of 2 km east of Loch (\$240,000).

Tullochs Road: reconstruction including realignment of 1 km at Kongwak (\$125,000).

Lillydale Shire

Switchback Road: reconstruction and widening of 1.5 km between Edward Road and Roseman Road (\$220,000).

Mooroolbark Road: reconstruction of 0.6 km north from Railway underpass (\$249,000).

Malvern City

Waverley Road: reconstruction of 0.8 km from Belgrave Road to Chadstone Road (\$430,000).

Melton Shire

Brooklyn Road: reconstruction of 0.9 km between Station Road and Coburns Road (\$305,000).

Mildura Shire

Boonoonar Road: reconstruction and realignment of various sections east of the Calder Highway (\$140,000).

Redcliffs-Morkalla Road: reconstruction and sealing of 38 km (\$800,000).

Moorabbin City

Centre Road: reconstruction of 0.6 km between Bolinda Street and Tucker Road (\$525,000).

Morwell City

Tramway Road: reconstruction of 1.2 km north of Churchill (\$120,000).

Nathalia Shire

Ryans Road: construction of bridge and 0.6 km of approaches over Broken Creek (\$300,000).

Nunawading City

Blackburn Road: reconstruction of 0.3 km between Central Road and The Avenue (\$235,000).

Numurkah Shire

Rockliffs Road: construction of 1.5 km between Saxton Street and Broken Creek (\$220,000).

Rockliffs Road: construction of a bridge and 0.2 km approaches over Broken Creek (\$366,500).

Richmond City

Swan Street: reconstruction of 0.7 km between Church Street and Burnley Street (\$520,000).

Romsey Shire

Burke and Wills Track: reconstruction and realignment of 8 km north east of Lancefield (\$575,000).

Springvale City

Windsor Road: reconstruction of 1.2 km Springvale Road (\$261,000).

Strathfieldsaye Shire

Edwards Road: reconstruction of 3.4 km between Greenwood Drive and One Tree Hill Road (\$160,000).

Sunshine City

Melon Street: reconstruction of 0.7 km between Churchill Avenue and South Road (\$275,000).

Traralgon City

Grubb Avenue: reconstruction of 0.5 km (\$160,000).

Warragul City

Platts Road: reconstruction of 1 km at Buln Buln (\$160,000).

Werribee Shire

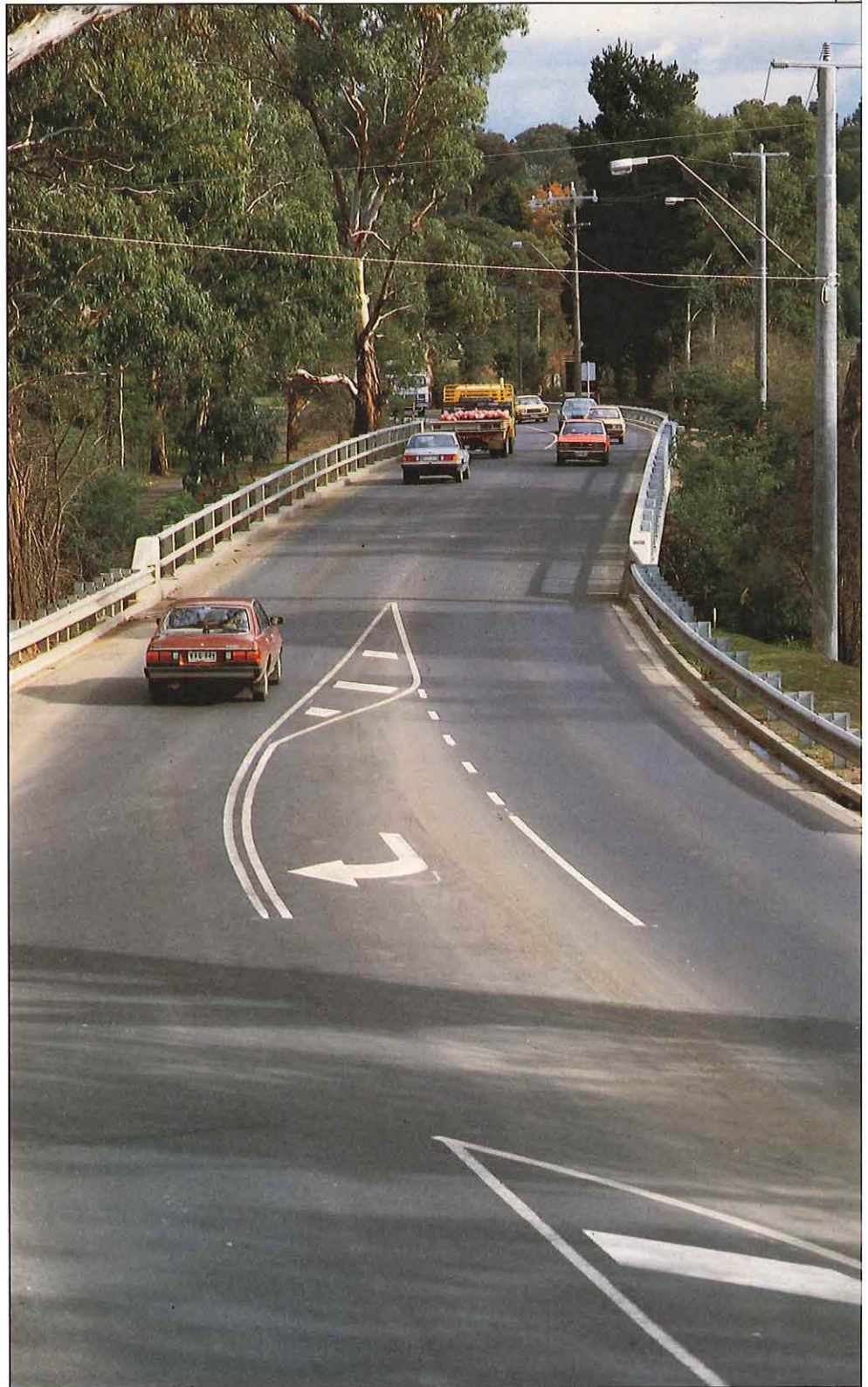
Doherty Road: reconstruction east of the Sewer Outfall to Cherry Lane. (\$140,000).

Sayers Road: reconstruction from Marquands Road to Morriss Road (\$140,000).

Whittlesea Shire

Edgars Road: duplication of 0.6 km from Winnamurra Crescent to Franklin Road (\$520,000).

Dalton Road: duplication of 0.6 km north of the Boulevard (\$275,000).



The Eltham-Yarra Glen Road, Shire of Eltham, reconstructed and widened bridge over Diamond Creek

Traffic Services

Emergency Services

The RCA maintains a free emergency telephone service to provide assistance to drivers of immobilised vehicles on the following eight major metropolitan traffic routes:

- Eastern Freeway
- Kings Bridge/Queens Way
- Mulgrave Freeway/South Gippsland Freeway
- Tullamarine Freeway
- South Eastern Freeway
- West Gate Freeway
- Calder Freeway
- Mornington Peninsula Freeway/Frankston Freeway.

The 24 hours per day emergency service is maintained to monitor potentially hazardous road problems and to provide assistance to drivers of vehicles with minor mechanical problems. A towing service is provided so that immobilised vehicles can be cleared from the carriageways, and motorists who run out of petrol are sold a sufficient quantity to enable them to drive clear of the freeway.

A total of 33,934 calls was received at the Emergency Service Centre at Head Office during 1984/85. This was 3,116 fewer than for the previous year, due partly to the transfer of responsibility for traffic lights to the Road Traffic Authority. Mechanical failure of vehicles represented 35% of all breakdown calls, and 19% were the result of vehicles running out of petrol.

The Emergency Services Centre is equipped with a radio base station giving 24 hour communication with road maintenance personnel. Members of the public and emergency organisations can also obtain up-to-date information on road conditions outside normal working hours, especially during times of flood or bushfire.

During the year the emergency telephone network on the South Eastern Freeway, Kings Bridge/Queens Way and the West Gate Freeway was upgraded by the installation of new Australian designed telephone pedestals. In addition, a Stored Program Control PABX modified by Telecom Australia to RCA specifications was installed to improve the telephone service for motorists, particularly during peak periods. Specifications were being prepared to fully automate the call logging system and to improve communications between the RCA and the contractor engaged to attend immobilised vehicles.

Linemarking

During the year the RCA spent \$5.5 million extending and maintaining roadmarkings including STATCON markings and raised pavement markers throughout the State. The length of linemarking painted by the RCA's machines was:

- State Highways and Freeways - 26,000 km, or 73,000 km of equivalent standard stripe
- Other declared roads - 13,300 km, or 25,200 km of equivalent standard stripe
- Unclassified roads - 4,800 km, or 9,650 km of equivalent standard stripe.

The term 'equivalent standard stripe' means a line 100 mm wide, 3 m long and a 9 m gap. The average unit cost of the work was \$48.00 per km of standard stripes, and \$85.00 per km of solid stripes.

The cost of extending and maintaining the system of raised pavement markers was \$453,000, and 136,000 markers were laid.

The RCA's linemarking machines also painted 182,000 m² of STATCON and other intersection markings for the Road Traffic Authority at a cost of \$7.50 per m² and a further 10,200 m² of 'Degadur' long life markings at a cost of \$25.00 per m².

The use of thermoplastic as a roadmarking material increased markedly during the year. 7,900 m² of STATCON markings were laid, and on several primary arterial roads in the metropolitan area all longitudinal markings were converted to thermoplastic. Four small machines were purchased to use thermoplastic as an adhesive for raised pavement markers, and approximately 12,000 markers were laid in this manner.

The programme for extending edge lines and markers was continued during the year. A further 1,000 km of roads were edgeline and 900 km of markers were laid.

Snow Clearing

Snow clearing of roads to snow resorts was again carried out during the year, and although snow conditions were light at the resorts compared to other years, there were heavy snowfalls in August and September.

The roads cleared were the Alpine Road to Mt Hotham, Mt Buffalo Road, Mt Buller Road, the Bogong High Plains Road to Falls Creek, Lake Mountain Road, Mt Donna Buang Road, and the Omeo Highway.

As in previous years, night snow clearing was carried out on the Alpine Road on Friday and Saturday nights. Clearing of car parks was carried out at all resorts as a charge against the respective administering authorities or against a special Road Construction Authority/National Parks Service Grant in the case of Mt Buffalo.

Six 6 wheel drive grader snowploughs, three Rolba R1500 snowblowers, one Rolba R1200 snowblower, and two MAN truck snowploughs, were used to carry out snow clearing for the season.

investigation is to be undertaken into the extension of the system to other important roads in the Victorian rural area.

Metropolitan Direction Signing Project

Last year it was reported that the RCA had commenced a programme for improved direction signing which was ultimately to encompass some 300 intersections in the metropolitan area. The signs, their method of mounting and procedures for their design, were to involve a number of technological innovations such as improved reflective materials to be used on the signs, use of single post supports, and the use of Computer Aided Design techniques for sign design.

This project is now well under way with one major arterial road, Princes Highway East, and six other routes partially or substantially complete.

It is expected that the project will run for approximately two more years.

Favourable comments have been received from motorists on the effectiveness of the signs installed to date, especially at those intersections where directional information was formerly deficient.

Clearing for the Season

Road	Resort	Earliest Snowfall	No of Snow Days	Cost 1984 Season \$
Alpine Road	Mt Hotham	9.6.84	50	493,327
Mt Buffalo Road	Mt Buffalo	9.6.84	32	110,441
Mt Buller Road	Mt Buller	9.6.84	38	155,120
Bogong High Plains Road	Falls Creek	9.6.84	40	122,690
Lake Mountain Road	Lake Mountain	19.6.84	32	10,780
Mt Donna Buang Road	Mt Donna Buang	2.7.84	16	5,670
Omeo Highway	Mt Wills area (through route)	-	-	4,000

Note: Costs do not include the clearing of carparks for committees of management. The cost of night clearing at Mt Hotham is included in the figures for Mt Hotham.

State Route Numbering

Concern has been expressed in recent years by motorists about the adequacy of directional signs and information on the rural road system. The implementation of a Route Numbering System on the more important rural routes will considerably assist drivers, especially tourists, in navigating their way through an area they are unfamiliar with.

The RCA proposes to number most State Highways, incorporating the existing national Route Numbering System. Currently, only the national routes are numbered in Victoria: Route 1 being the Princes Highway, Route 8 the Western Highway, Route 12 the Ouyen Highway, Route 16 the Murray Valley Highway, Route 20 the Sturt Highway, Route 31 the Hume Highway, Route 39 the Goulburn Valley Highway, and Route 79 the Calder Highway.

Implementation of the scheme is expected to begin early in the 1985/86 financial year. Where routes cross State

borders, comments from the adjoining State Road Authority will be obtained.

The shield used on national routes is a black legend on a reflectorised white background, except for the National Highways, which have a yellow legend and border on a freeway green background. The proposed shield for State routes is to conform to the Australian Standard AS 1742 for State Route Numbering, and will consist of a white legend and border on a blue background, similar to the shields used for the route numbering in the Melbourne metropolitan area. The shields will be placed on direction sign assemblies, or erected as free standing markers, as appropriate.

The proposals for the first stage of the scheme have been forwarded to organisations that produce road and touring maps, so that the details of the numbering system will be disseminated to motorists, especially tourists. While the scheme is being implemented, an

Safety Street Lighting Poles

For a number of years, "slip-base" poles have been installed on freeways, freeway ramps and terminals where the poles could be vulnerable to vehicle collisions and where they could not be protected. As a result of the success of "slip-base" poles in urban areas, the use of this type of pole was extended to some rural intersections during the year.

In 1981 and 1983 the RCA was instrumental in initiating a series of full-scale crash tests by the NSW Traffic Accident Research Unit, to prove a new type of impact absorbent lighting pole. This pole has a weakened lower section designed to crush on impact to contain the vehicle and bring it to rest in a relatively safe and controlled manner while still in contact with the pole. This feature makes this type of pole more

useful than the slip-base type in certain urban and other applications where the vehicle containment within the collision site is highly desirable, e.g. in the vicinity of footpaths and property boundaries.

The RCA, the State Electricity Commission and the Municipal Association of Victoria, have reached agreement to guidelines for the use of both slip-base and impact absorbent poles generally, on declared roads throughout the State. It is expected that supplies of the impact absorbent poles will be available by the end of 1985, after which time all proposed new street lighting installations to be put forward to the Street Lighting Committee for approval, will incorporate safety poles of the appropriate type at vulnerable locations.

Linemarking the newly constructed Wodonga Bypass



Planning

The planning function of the RCA is an essential and important activity, involving many diverse skills. While the Ministry of Transport is responsible for strategic transport planning, the RCA carries out project and operational road planning studies within the overall strategic framework set out by the Ministry. The RCA also assists the Ministry as required in its planning studies. The staff of the Investigation and Planning Sub-Branch bring together engineering, sociological, economic, environmental and town planning expertise in formulating and evaluating future road proposals and designing projects. In addition, specialised equipment is used to provide technical information on noise and air pollution, landscaping and general environmental matters.

Planning Studies

Planning Studies in which the RCA was involved during the year included the following:

Pascoe Vale Road Relief Study

This study was conducted by a Steering Committee chaired by a representative of the Ministry of Transport, and including representatives of the Ministry, local councils, RCA and other agencies. The detailed investigations were carried out by an RCA Study Team responsible to the Steering Committee.

Several important phases of this study were completed during the year. A formal Environment Effects Statement was prepared and published recommending the adoption of a major new road development in the R5 planning scheme reservation (Outer Ring Road) between the Hume Highway Fawcner, and Sharps Road, Tullamarine. The statement and a public display on the findings of the study were made available for information and comment. The Minister for Planning and Environment provided an interim environment assessment and this was taken into account when formulating the final recommendations. These recommendations were forwarded to the Minister for Transport together with the final Environment Assessment. Separate studies of particular issues such as traffic management, noise insulation and

redevelopment options for property along Pascoe Vale Road are in progress.

Western Bypass Investigation

This Study is being carried out by a Consultative Committee chaired by a representative of the Ministry of Transport, and including representatives of the Ministry, local councils, RCA and other agencies. The detailed investigations are being carried out by an RCA Study Team working under the guidance of the Steering Committee.

This study is examining the form and precise location of a new road connection which will link the southern end of Tullamarine Freeway to Footscray Road generally along Moonee Ponds Creek. The new connection is needed to improve conditions for road freight movement, to support Government objectives for the Central Activities District, to relieve traffic related environmental and traffic congestion problems and improve the amenity in the inner north western area.

A number of feasible options were publicised at an early stage to promote community feedback on the important road related issues in the area. The number of options is limited by several important physical constraints such as the Moonee Ponds Creek, high rise housing estates, extensive railway facilities, an SECV terminal station and other significant existing developments. The feasibility of tunnel options is being examined with assistance and advice from expert consultants.

The study is continuing and the results of investigations will be published in an Environment Effects Statement before recommendations are finalised and submitted to the Minister for Transport.

Other Investigations

Other planning investigations on which work was undertaken during the year included:

Eastern Corridor, Doncaster to Ringwood:
An overall study of the roads in this corridor, examining the development of a new arterial route along the main road reservation as an extension of the Eastern Freeway Arterial to overcome deficiencies that exist in the road network in this rapidly developing corridor. This study being carried out by officers of the RCA, working in close liaison with officers of the Municipal Councils concerned and officers of the Ministry of Transport.

Jolimont and Southbank Development Proposals:

To provide analyses and advice on road network and traffic changes associated with these major Land Use and Development Strategy Studies being conducted by interdepartmental task forces. This work is being carried out in close liaison with officers of the Ministry of Transport and Planning and Environment.

METRAS, Ten year metropolitan arterial road improvement program:

RCA planning staff have been seconded to this Ministry of Transport Study throughout the year. In addition specific tasks have been performed for the Study and comment and critiques submitted on several draft study papers.

Hume Freeway, Euroa Bypass:

A review of earlier planning proposals and adjustments to locate the proposed bypass around the Seven Creeks Run Tourist Park. A special Planning Scheme amendment reserving the land for the bypass was exhibited together with the Shire of Euroa's planning scheme.

Hume Freeway - Albury/Wodonga Connection:

Work has recommenced on this proposal during the year so that a final location for a major new Murray River Crossing can be fixed to link the recently opened Wodonga bypass to the proposed Albury Relief Route at Bridge Street, Albury.

Princes Highway East, Moe River to Moe:

The investigation into the medium and longer term development of this 18 km section of route linking Melbourne and the Latrobe Valley Region reached the conclusion that duplication of the existing route should proceed and that longer term proposals for conversion to freeway conditions need not be committed at this stage.

COGO Computer Program

During the year, the "COGO" computer program was incorporated into the RCA mainframe computer to achieve the required degree of accuracy in the preparation of "Base Plans". These Base Plans are subsequently used to establish right-of-way boundaries, tenure plans and definitive plans necessary to reserve land for road projects in Planning Schemes.

"COGO" is a civil engineering oriented computer language that can be used in the solution of geometric problems, including right-of-way matters. The "COGO" program used in the RCA has been developed from the Queensland Main Roads Department "COGO" Program.

In this case the Australian Map Grid (AMG) with Permanent Survey Marks (PSM's) superimposed, is plotted onto a stable plastic base at any desired scale. PSM sketch plans are then used to relate known title corners to the AMG to obtain a co-ordinated base plan.

Advantages of "COGO" are:

- a drafting officer at the terminal has direct control over the computations, unlike the punch card system. Immediate editing of any misclosure is possible via the keyboard, unlike the desk-top calculator or punch card system;
- the addition of a PLOT command will generate a plot on the mainframe plotter, replacing the traditional manual plotting procedure.

The use of "COGO" will enhance the productivity of the preparation of base plans and contribute to improved job satisfaction.

Other Activities

National Association of Australian State Road Authorities

The National Association of Australian State Road Authorities (NAASRA) is an organisation of the Road Authorities of the six States, the Northern Territory Department of Transport and Works and the Federal Department of Housing and Construction. The members of NAASRA are the heads of the various authorities. The Association was established in 1934 as the Conference of State Road Authorities and adopted its present name in 1959.

NAASRA aims to provide a central organisation where, by co-operative effort, a uniform approach to the development and improvement of the national road system can be achieved. Over the years this co-operation has enabled the Association to co-ordinate and rationalise road and bridge design standards, construction and maintenance practices and road research projects, and also to gather and publish facts about Australia's principal roads and their financing. From these activities NAASRA has developed a national approach to Australia's road problems.

The technical work of NAASRA is performed by the Principal Technical Committee (consisting of the chief engineering officers of the Authorities) and a number of standing and ad hoc committees on which the RCA is represented. NAASRA's views on such matters as finance for roads, road design, construction and maintenance standards on national highways and road vehicle limits are conveyed to the Australian Transport Advisory Council (ATAC), the meeting of Transport Ministers which determines national transport policies. Before being presented to ATAC these matters are first considered by the ATAC Road Advisers Group which comprises the heads of the State and Territory Road Authorities and the Commonwealth Department of Transport.

The following NAASRA meetings were held during the year and were attended by Mr T H Russell, Chairman and Managing Director

- 73rd (Annual) Meeting, Melbourne, 5 and 7 November 1984 - Mr Russell was elected NAASRA Chairman until November 1985

- 74th (Intermediate) Meeting, Melbourne, 7 May 1985.

Items considered by NAASRA during the year include:

- XVIII World Road Congress
- Australian Development Assistance Bureau Courses
- Proposed Australian Land Transport Programme funding arrangements
- Tendering and Contracts
- Full-scale Pavement Testing using the Accelerated Loading Facility (ALF)
- Road Studies
- State Road Legislation
- Vehicle Surveys
- Review of Road Vehicle Limits Study
- Publications - technical and general information.

NAASRA Review of Road Vehicle Limits

Current mass and dimension limits for heavy vehicles in Australia are based on the recommendations of the Economics of Road Vehicle Limits Study (ERVLS) undertaken by the National Association of Australian State Road Authorities (NAASRA) between 1973 and 1975. These recommendations have now generally been incorporated by the States and Territories in the appropriate regulations.

Implementation of the ERVLS recommendations resulted in a high degree of uniformity throughout Australia, although some differences still exist between eastern and western States, where the allowable gross mass is 38 and 42 tonnes respectively.

Over the nine years since the Study, marked changes have occurred in vehicle fleets and in the road network. These changes, together with continued pressure from the transport industry for increases in allowable limits, indicated the desirability of a review of the mass and dimension limits.

In May 1984, NAASRA agreed to proceed with a Review of Road Vehicle Limits (RoRVL). The Road Construction Authority is heavily involved in this Review, particularly in relation to data collection activities.

The objectives defined for the study were to:

- provide a clear picture in measurable terms of the nature and condition of the Australia road system
- provide a basis (along with earlier surveys and continuing surveys) for assessing changes in (and the rate of change of) the nature and condition of the Australian road system
- provide a basis for assessing the effects of alternatives for the management of the road system
- illustrate the physical effects on the Australian road system, and in the cost of transport on it, of various levels of funding
- present the findings in a manner that can be readily communicated to and understood by all.

Subsidiary objectives were:

- the achievement of greater uniformity in vehicle limits and regulations across Australia
- the provision of a data base for road planning, road and bridge design and enforcement of limits
- the identification of matters requiring further study and review.

The Review is designed to determine what mass and dimension limits are to apply to road transport vehicles, not what commodities are to be carried, nor the efficiency of alternative modes of transport.

Heavy Vehicle Data Collection

The data on the spectrum of heavy vehicles using Victorian roads was obtained by a classification survey and a mass and dimension survey.

The classification survey classified vehicles by type (rigid, articulated and truck/trailer) and by the number of axles. The length of each classification survey varied from 6 hours to 24 hours. They covered 132 sites and yielded classification information on 109,360 heavy vehicles in Victoria.

The detailed mass and dimension survey involved 4,935 vehicles at 41 locations.

Detailed information obtained on heavy vehicles was:

- vehicle and body type
- axle and gross vehicle loads
- vehicle dimensions
- payload dimensions
- commodity carried
- suspension type
- origin and destination.

To assist the collection of data, the RCA purchased a PAT DAW 300 Portable Dynamic Weighing Device. This device weighs the vehicle within the range of 2 to 8 km/h and provides:

- separate identifying number
- the time and speed of the vehicle
- the individual axle weights
- the group loads, and
- the gross mass of the vehicle.

A cassette recorder was developed to enable this information to be placed onto tape for later analysis on the RCA's mainframe computer.

Road Network Data Collection

The pavement characteristics and bridge detail of Victorian roads was primarily obtained from the inventory held by the RCA. However, road roughness data was updated and costing histories were collected.

Local Government

As local roads account for some 85% of the total length of roads and carry approximately 23% of vehicle travel, they are obviously important in any examination of mass and dimension limits.

A qualitative assessment is being undertaken by means of a questionnaire forwarded to local government authorities throughout Australia.

Industry and Community Values

The Study requested submissions from interested parties and over 100 submissions were received within the time frame allotted. These submissions will be evaluated and taken into account as a qualitative assessment during the review process.

Public meetings have been held in most States and private motoring associations have been contacted.

Overseas Trends and Practices

The latest overseas information about regulations and equipment has been obtained.

Conclusion

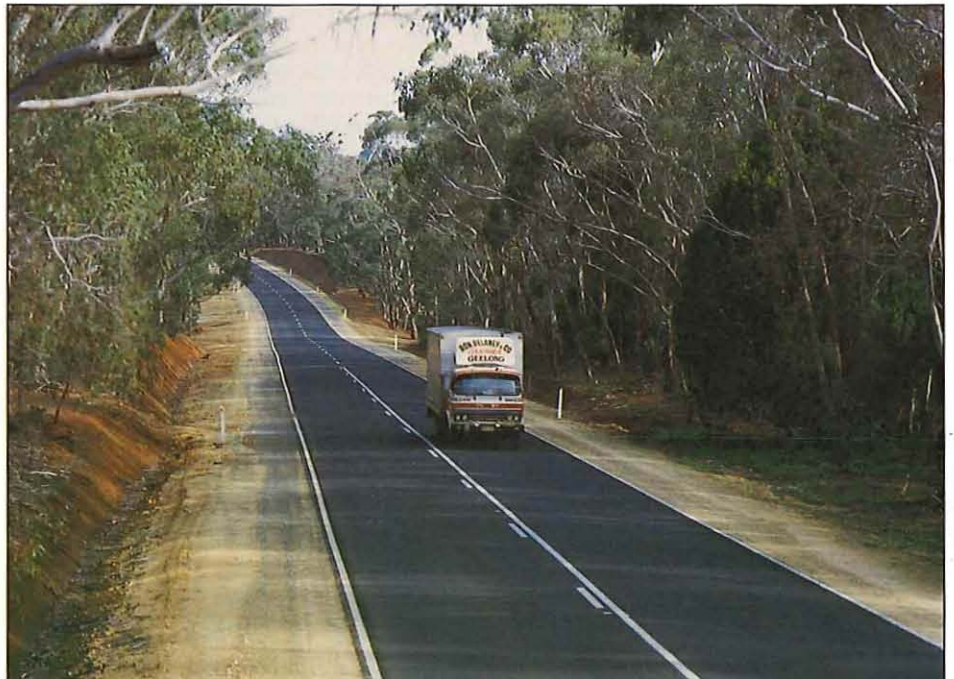
The recommendations of the Study Team are expected to be presented to NAASRA in the latter part of 1985.

Implementation of the recommendations in individual States and Territories is expected to commence in 1986 after consideration and adoption by the Australian Transport Advisory Council (ATAC).

This major study of vehicle limits and its consequences on Australian roads and the transport industry is timely and most important. The economic benefits of larger and heavier vehicles have been identified by studies world-wide, with the NAASRA ERVL Study in 1975 being in the forefront.

However, the severe funding limitations placed on authorities responsible for road construction and maintenance are, and must continue to be, a major factor in the consideration of road vehicle limits. This Study will balance these conflicting concerns and recommend appropriate vehicle mass and dimension limits for the near future.

Henty Highway reconstruction from Sunday Creek to Milltown



Australian Road Research Board

The Australian Road Research Board (ARRB) was established by NAASRA in 1960 and is the focal point of road research in Australia. The 25th Anniversary was celebrated with a series of successful open days held in March 1985.

The Board of Directors includes the heads of the six State Road Authorities, the Northern Territory Department of Transport and Works, the Federal Department of Housing and Construction, the Federal Department of Transport, and the Executive Director of ARRB.

In 1965 ARRB was registered as a non-profit making company. Approximately 40% of its annual expenditure is provided by the Federal Government through the Department for Transport and the remainder is shared by the Road Authorities on the percentage basis adopted by the Federal Government in making grants to the States under the Roads Grants Amendment Act 1982. The objective of ARRB is to co-ordinate, encourage and arrange continuing research into problems associated with roads and traffic in Australia. The current research program includes:

Road Technology

(aggregates, pavements, testing, etc.)

Road Transport

(road utilisation, economics, planning, etc.)

Road Users

(visual perception, attitudes, etc.)

Devices

(weighing, microprocessors, etc.)

Trucks

(suspensions, tyres, 5th wheel, etc.)

Information

(road based international data base contribution, Australian reference point, etc.)

The forward program for 3 and 1 year time scales is published in the quarterly journal 'Australian Road Research' so that any interested party may offer comments and suggestions.

ARRB's scientists are leaders in their area of expertise and ARRB's reputation means that it takes a leading national and international profile. Its work on roads and road transport continues to be

of major significance in terms of efficiency, economics and safety.

As part of ARRB's 25 year celebrations in 1985, a professionally made 30 minute film outlining ARRB's activities is available for purchase or loan from ARRB.

The Directors of the Australian Road Research Board meet twice a year to consider management and policy matters and to review the progress of research projects. Mr T H Russell, Chairman and Managing Director of the RCA, attended the 49th Meeting at Melbourne on 7 and 8 November 1984 and the 50th Meeting at the Australian Road Research Centre, Vermont on 8 and 9 May 1985.

Mr Russell was Deputy Chairman of ARRB for the year ending May 1985. Technical conferences for the wider dissemination of research results and the exchange of knowledge are held biennially. The 13th ARRB Conference, combined with the 5th Road Engineering Association of Asia and Australasia, will be held in Adelaide in August 1986.

A number of RCA Officers served as members of ARRB technical or specialist committees.

Australian Transport Advisory Council

The Australian Transport Advisory Council (ATAC) was established in 1946 to initiate discussions on transport matters and to report to the Federal Government. ATAC is comprised of the Federal, State and Territory Transport Ministers and acts as an advisory body to promote the better co-ordination of transport developments.

ATAC is supported and advised through a Standing Committee on Transport, by a number of Boards, Committees and Groups encompassing motor vehicle, motor transport, railway, road and general transport interests. The Road Advisers Group considers and advises on matters such as road safety, construction and maintenance of roads, road funding, vehicle limits, national highway strategy plans and road transport policy issues in general. The National Association of Australian State Road Authorities (NAASRA) also directs matters relating to roads through the Road Group.

Mr T H Russell, the Chairman and Managing Director of the RCA, attended the following Road Advisers Group meetings during the year:

- 22nd Meeting, Brisbane, October 1984
- 23rd Meeting, Melbourne, May 1985.

Safety

The construction and maintenance of roads and bridges, and associated activities, is a potentially dangerous occupation. The RCA's policy on occupational health and safety requires that the safety of personnel and the public be regarded as a prerequisite of all operations.

The implementation of safe working practices initially rests with a six member Safe Working Practices Committee which is responsible for developing procedures, practices, guidelines, instructions and codes to ensure the protection of employees and the general public.

Twenty-two Regional Safety Committees work at an operational level to ensure workplace implementation of safe working practices, the solving of local safety issues, and the surveillance of accident and personal injuries. The structure of the RCA includes a Group Manager-Road Construction and Safety Practices, and is expected to include a Manager-Safety Practices and three Safety Officers.

A Safety Conference, attended by representatives from all regional committees, is held twice yearly to consider and communicate proposals for improvement to safe working practices. The dissemination of safety information to RCA personnel is made through regular training courses and workshops or by:

- (i) the issue of circulars, to cover broad issues or to introduce a code or instruction
- (ii) the issue of codes of practice to detail specific practice for important topics, and
- (iii) the issue of pocket sized instructions that explain workplace safety matters, e.g., hand mowing, chainsaws, etc.

During the year, the issuing of protective clothing continued to be high priority so as to reduce the incidence of personal injury accidents. Protective clothing

available for personal issue included safety footwear, high visibility clothing for both day and night, hearing protection devices, eye protection glasses, breathing apparatus, safety helmets, and many ancillary items.

A safety campaign was again mounted in November on the theme of an "Accident Free November". November was chosen because of the formerly high recorded incidence of accidents in that month. The campaign included inspection of worksites and protective clothing and also encouraged implementation of new initiatives.

Work during the year included the continued preparation of a draft "Occupational Health and Safety Agreement".

Measures were introduced to reduce the incidence of eye injuries. These include the designation of certain work areas, work activities and items of equipment as requiring the compulsory wearing of eye protection by personnel associated with them and the issue of protective eye wear for use in the designated situations and in other operational situations such as conditions of wind, dust, or glare.

A system was introduced to provide information to employees on the nature of chemical products used in the workplace and the precautions required when handling them. This involves the production of a hazardous materials register, materials safety data sheets, and hazardous materials posters for display in workplaces.

Land Acquisition - Property Management

The estimated total value of property holdings of the RCA is \$199.97 m, and comprises:

Offices, depots and workshops, employee housing, quarries etc.
\$43.66 million

Properties purchased for roadworks*
\$156.31 million

* Excludes West Gate Bridge valued at \$187.89

Properties in the first category are essential to the operations of the RCA. The total number of properties held by the RCA for future roadwork purposes includes 771 houses, 127 shops, 22 commercial properties, 34 farms and approximately 200 areas of vacant leasable land. It is the policy of the RCA to obtain commercial rentals for all of its properties, and the only vacant properties held by the RCA are small areas of vacant land and properties

which are unlettable, and improved properties which are currently being renovated, or which are temporarily unoccupied because of a change in tenants.

During the year, the RCA paid compensation and associated costs totalling \$27.045 million for land required for the construction of new roads and the widening or deviation of existing roads.

When the land required for roadworks has finally been determined, every effort is made to dispose of surplus land as soon as practicable by auction or at valuation.

Of the \$27.045 million expended on compensation and associated costs during the year, \$6.34 million was spent in purchasing properties at the request of owners who demonstrated that they were incurring hardship due to the RCA's future road proposals.

Income from the rental of 920 residential or commercial properties and 234

The table below shows the number of land purchase transactions completed and the amount of compensation and associated costs paid by the RCA for the period 1980/81 to 1984/85.

	1980/81	1981/82	1982/83	1983/84	1984/85
Number of land purchase cases settled	527	489	440	405	518
Compensation and associated costs paid by the RCA	\$17.8m	\$20.88m	\$17.54m	\$16.63m	\$27.04m
Land purchase expenditure on unclassified roads under council supervision	\$0.73m	\$0.69m	\$1.06m	\$0.56m	\$0.54m

The table below shows the expenditure incurred during the year on land purchase in relation to the RCA's road classification and the Commonwealth road categories.

RCA road classification	Commonwealth road category			Total
	National roads	Arterial roads	Local roads	
	\$'000s	\$'000s	\$'000s	\$'000s
Freeways	4 036	4 432		8 468
State Highways	396	14 388		14 784
Tourists' roads		117	8	125
Forest roads			8	8
Main roads		2 265	176	2 441
Unclassified roads		718	501	1 219
Total	4 432	21 920	693	27 045

separate areas of vacant land during the year was \$4.149 million.

The RCA has pursued an active policy of disposal of surplus properties and during the year properties to the value of \$13.6 million were sold. Property sales included 49 residential and commercial properties, 204 separate areas of unimproved land, and the improvements on 14 properties.

Travel Overseas – RCA Officers

Mr K J H Burke, Group Manager – Road Design and Survey, represented the RCA at the 54th Annual Institute of Transportation Engineers Meeting held in San Francisco between 23-27 September 1984. He also studied current road design standards in New Zealand, the U.S.A. and Britain, with the objective of introducing improved and more cost effective methods to the RCA.

Mr R C Meggs, Group Manager – Bridge Design, undertook a study tour of the U.S.A., Germany, the Netherlands and Britain, to investigate methods to overcome current and significant problems of bridge abutments and bridge geometry in Victoria.

41st Conference of Municipal Engineers

The 41st Conference of Municipal Engineers convened by the RCA, in conjunction with the Local Government Engineers Association of Victoria, was held at the RCA's Head Office on Monday, 4 March 1985 and at Camberwell Civic Centre on Tuesday, 5 March 1985. The theme of the Conference was "Engineering Achievements – Victoria 150 years – IGEA 25 years" in recognition of both Victoria's 150th Birthday (the Conference was an official 150 year function) and the 25th Anniversary of the IGEA of Victoria. The program included a Seminar on the Tuesday afternoon to which municipal councillors were also invited.

Over 250 local government, RCA and other authority engineers attended the conference technical sessions, while an additional 180 councillors and representatives from other authorities attended the seminar session. The opening address at the technical sessions was delivered by Mr A G Lewis, City

Engineer, City of Sale (Vic) who spoke on "Sale Station Relocation and 'Centre Gippsland' Development". The Governor of Victoria, Rear Admiral Sir Brian Murray KCMG, AO, KSt.J., and Lady Murray were guests at the Conference luncheon on the Tuesday. His Excellency officially opened the Seminar sessions, and the following papers were presented and discussed:

"CANAC Study" by Dr S Joy, Deputy Director-General of Transport;

"The Development of Victorian Roads" by Dr M G Lay, Executive Director, ARRB;

"Local Government Management" by Mr A L Bramley, Shire Engineer, Shire of Diamond Valley;

"NAASRA and BTE Studies and Road Funding" by Mr T H Russell, Chairman and Managing Director, RCA, and Councillor G Frecker, President, Municipal Association of Victoria (and Councillor, City of Waverley).

Other papers presented at the Conference covered:

Engineering heritage, general conditions of contract, accelerated loading facility, bridge and culvert waterway design, "Landata" computer based information system, computer aided drafting, stability of trucks, review of road limits and computer aided disaster management systems.

The assistance and co-operation of the Local Government Engineers Association of Victoria in planning the conference and seminar, and the contribution to its success by those who presented papers, was greatly appreciated.

Deputations

The RCA is always prepared to discuss matters of common interest with representatives of councils or other official bodies. These discussions provide a useful channel of communication between the RCA and municipal administration and local and sectional interests.

During the year deputations were received from the Shires of Alexandra and Goulburn and a joint deputation was received from the Shires of Tallangatta and Corryong. The topics raised by the Councils included road classifications and the need for road reconstruction. Several discussions were also held with representatives of the Municipal Association of Victoria.

Deputations were also received from the Australian Federation of Construction Contractors, the Australian Asphalt Pavement Association, commercial enterprises and staff associations.

Freedom of Information

The Freedom of Information Act 1982, which came into operation on 5 July, 1983, embodies four basic principles:

- that government departments and agencies are required to publish information concerning the documents they hold
- that members of the public have a legally enforceable right to have access to government information
- that people may ask that incorrect or misleading information in their personal files be corrected or removed, and
- that people may appeal against a decision by a government department or agency not to give access to the information or not to amend a personal record.

The RCA has a full-time Freedom of Information Officer and an area has been made available in the RCA Head Office for use by applicants wishing to peruse documents.

During the year the RCA conformed with the requirements of the Freedom of Information Act and provided documentary evidence when requested, and compiled and published annual statements containing information about its operations, functions, rules and practises, and information held by it in documentary form.

Statistical information on requests for documentary information received by the RCA during the year is shown below:

Details	1984/85	1983/84
Requests for documents	109	170
Request for amendment of personal records	2	-
Requests granted in full	75	127
Requests granted in part	14	12
Requests refused	13	11
Requests transferred, cancelled, being processed etc.	15	20
Internal reviews	3	-
County Court Appeals	3*	-

* 2 appeals withdrawn.

Corporate Relations

The RCA pursues a policy of informing the public about its functions and works. To achieve this, it prepares news releases, publications, audio visual productions, and displays.

The major promotional activities for 1984/85 included the screening of the RCA Corporate Television Commercial between 21 October and 1 December, 1984, and a radio commercial which was aired on both urban and rural stations prior to Christmas and during the holiday period.

Media events included the erection of the first noise attenuation fencing on the Tullamarine Freeway on 23 April 1985, by the Minister for Transport, the Honourable Tom Roper MP and the turning of the first sod on 13 February, 1985 by the Premier, the Honourable John Cain MP, to commence work on the next stage of the Greensborough Bypass.

During the year, 115 news releases were prepared on the RCA's activities, and opening ceremonies were held to mark the completion of the Bypass of Wodonga, the widening of the Nepean Highway in Moorabbin, and the conversion of the Princes Highway to dual carriageway in Malvern. Media tours were also arranged of construction works on the Bypasses of Benalla and Winton on 14 November, 1984, and the Melton Bypass on the Western Freeway, on 20 June, 1985.

A weekly Motoring Bulletin was distributed to the media, to advise motorists of the location of any roadworks that may affect traffic flow. Road condition reports on flood and snow affected roads were also issued as required. A display featuring the Berwick Bypass and the Extension of the Eastern Freeway was prepared for the ARRB Conference in Hobart in August 1984. The 1984 Royal Melbourne Show featured a display on the history of the Great Ocean Road, and on roads to tourist areas around Victoria. Technical displays included The History and Development of Victoria's Road System for the Civil Engineering Exhibition at Werribee Park in March, and a display as part of the Ministry of Transport's Contribution to National Engineering Week in the Great Space in Collins Street

in March. Smaller displays were held at the Benalla Rose Festival and for the Trafalgar International Childrens Day.

Publications produced for the year were:

- ROADS, Victoria (three editions)
- Interchange (six editions)
- Road Construction Authority Annual Report, 1983/84
- Brochures: "Calder Highway, Bypass of Gisborne", "South Gippsland Highway, Duplication Project", "Bypass of Greensborough Commercial Centre", "Great Ocean Road - a brief history" (reprint), "South Eastern - Mulgrave Arterial Road Link", "Noise Barriers", "Western Freeway - Bypass of Melton" (reprint).

An Information Bulletin on the Mulgrave Arterial Road Link, was produced to inform residents living near the Project of the progress of works, and of future proposals.

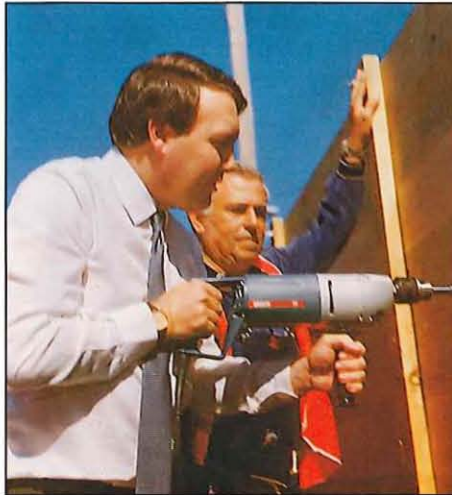
Management Information Systems

The Management Information Systems Sub-branch set standards for the design, development, implementation and operation of computing and information systems within the RCA. It co-ordinates all these activities and acquires all hardware and software used within the RCA.

During the year, the Sub-branch commenced the development of an Information Systems Strategy Plan (ISSP) which will identify the information systems and computing needs of the RCA. This is a critical project as it will set an information systems and computing direction for the next five years and develop a framework for meeting the identified needs.

In the last financial year, the Sub-branch installed micro-computers, word processors and terminals in the Kew Head Office complex and Divisional and Project offices. There have now been 24 word processors and 53 personal computers purchased by the RCA.

The personal computers are being used for planning, budgeting, engineering, drafting, laboratory analysis, stock control and small administrative applications. The word processors have been installed for general typing,



The Minister for Transport, the Honourable Tom Roper, commenced the work on the Noise Barriers along the Tullamarine Freeway in April

preparing letters, reports, specifications and contracts, record retrieval and other secretarial support services.

A new communications controller has been acquired for the mainframe. This will allow up to 52 remote terminals (previously 24) to be connected to the computer. There are currently over 100 devices attached to the mainframe and this figure will increase significantly in the next year.

The RCA has recognised that advances in information technology will impact staff and their activities. Therefore, before new technology equipment is installed in any area, staff that may be affected are involved in the implementation of systems. Staff associations are also advised and consulted through the Joint Committee on Technological Change, prior to implementation.

The RCA is also concerned with staff safety and health and in this regard has established an Ergonomics Section in the MIS Sub-branch to provide advice on and set standards for furniture, office design and the general work environment for all areas with screen based equipment, in an attempt to prevent injuries that may result from the use of such equipment. In addition, Screen Based Equipment guidelines for the work place have been agreed to by Staff Associations and the RCA.

Legislation Affecting the RCA

Australian Land Transport (Financial Assistance) Act 1985

This establishes a Trust Fund to provide for Federal road (and rail) grants over a five year period, following the expiration of the Roads Grants Act on 30 June 1985. The Trust Fund is separate from the Bicentennial Road Development Trust Fund which provides further Federal roads grants up to 1988/89. Revenue from customs and excise duties on motor spirit and diesel fuel, currently set at approximately 3.66 cents per litre of net revenue but to yield a total of \$810 million in 1985/86, will be paid into the new Trust Fund from 1 July 1985. In the future years of the Act, the rate is to be adjusted twice yearly in line with Consumer Price Index movements. The Act requires that tenders be called for National Road projects involving construction, reconstruction or bringing the road to a higher standard.

Dangerous Goods (Road Transport) Act

This Act provides for the safer regulation of the transportation by road of dangerous goods. The Act does not apply to vehicles used for marking road lines or vehicles (other than vehicles carrying liquid bitumen) being used for the making or repairing of roads. It provides for the making of regulations concerning the packaging, storage and transportation of goods prescribed by the Act.

National Parks (Further Amendment) Act

This Act provides for the creation of new National Parks and the alteration of certain National Parks boundaries. Among other matters it provides that, with the consent of the Minister, the RCA may perform its function and exercise its powers in relation to the declared National Parks listed in Schedules in the Act. Authority is given to the responsible Minister to place signs, traffic control devices and signals, erect buildings and to make repairs to roads in parks, subject to the consent of the RCA.

Personnel

Staffing

The following table sets out the Road Construction Authority's personnel strength as at 30 June 1984 and 30 June

1985. (Figures exclude personnel on secondment or extended leave):

	As at 30 June 1984	As at 30 June 1985
Engineers	502	518
Administrative Staff	635	619
Technical Staff	549	556
Scientists	23	23
Surveyors	42	43
Other Technological Staff (Qualified)	28	35
Printing and other General	22	32
Division Staff - Depot Staff and Employees	836	823
Field Staff and Employees	2 275	2 151
	4 912	4 800

Number of employees and officers by category as reported to the Australian Bureau of Statistics - Employment and Earnings Survey:

	Males	Females	Total Employees
Full Time	4 387	410	4 791
Part Time	2	33	45
	4 389	443	4 836*

*Includes 30 personnel on secondment and 6 personnel on extended leave.

During the year, the Road Construction Authority continued its policy of examining carefully all requests for staff recruitment and staff replacements. The recruitment and replacement of staff only proceeded where this was considered to be essential for operating requirements. The Road Construction Authority was also able to provide 200 school students with work experience under the Work Experience Act 1975, in clerical, technical and field positions.

Personnel Services, Safety and Welfare

During the year an Occupational Welfare Programme was introduced and an Occupational Welfare Counsellor appointed. The aim of the Programme is to provide assistance to personnel who may have a personal problem which is reducing their ability to perform their duties. The types of problems addressed by the programme include marital, financial, interpersonal relationships, drugs and alcohol etc.

Investigations continued on the development of user specifications for a human resource information system.

Increasing emphasis is being given to the rehabilitation of injured personnel. In some situations, long term rehabilitation may only be possible on part time employment.

Apprenticeships

Thirteen new apprentices were employed during the year in the trades of motor mechanics (10), electrical mechanics (1), structural steel fabrication (1), and fitter/motor mechanic (1).

The total number of apprentices in training at 30 June 1985 was:

Motor Mechanics	45
Fitting and Turning	2
Structural Steel Fabrication	4
Instrument Making	1
Electrical Mechanics	2
Automotive Electrics	1
Radio Tradesman (Electronics)	1
Carpentry	2
Carpentry and Joinery	1
Painting	2
Gardening	2
Landscape Gardening	4
Printing Machining	1
	68

Training and Development

The Training and Development Section provides a service in advising and assisting line managers in identifying training needs for their staff.

Following the distribution of a training needs survey, a comprehensive in-service training programme was again provided for the staff of the RCA.

Many training courses are of a technical nature designed to update and inform staff of technological changes in road and bridge design and construction, traffic engineering, materials testing and bituminous surfacing. Supervisory and management training is also provided for staff of all disciplines.

External sources of training are also utilised and officers attended a variety of courses, conferences and seminars. The main external courses attended by officers were as follows:

- Advanced Course - Australian Administrative Staff College
- Management Development Course - Australian Administrative Staff College
- Summer School of Business Administration - University of Melbourne
- Graduate Course in Hydrology - University of NSW
- Transport Planning Management & Control Course - University of NSW
- Construction/Project Management Course - University of NSW.

A number of Career Development Programmes are operating for staff to provide greater job satisfaction and promotional opportunities. These include job rotation programmes for young engineers, draftsmen and potential overseers.

Staff in the RCA are encouraged to improve their educational qualifications and a study leave scheme provides time off from work to attend courses of study relevant to the RCA's operations.

The RCA is supportive of Australia's aid programme to South East Asia and Africa. Many road and bridge projects in developing countries are partially funded by Australian aid and engineers, particularly from Indonesia, Burma, Thailand, South Yemen and Malaysia received training attachments to work with the RCA.

Industrial Relations

During the year there were a number of significant industrial relations developments affecting the RCA.

Commissioner Merriman of the Conciliation and Arbitration Commission made a decision which has resulted in the insertion of a new "Major (Rural) Road Construction Projects" Appendix in the AWU Construction and Maintenance Award. The Appendix has the effect of providing site allowances to all contractors' employees and all direct labour RCA employees engaged on major highway works on various nominated projects.

Negotiations on a new Victorian Public Sector Award to replace the AWU Construction and Maintenance Award were well advanced as at 30 June 1985. Mr Justice Alley of the Conciliation and Arbitration Commission handed down a decision to the effect that the Builders Labourers Federation had no right to enrol its members or to represent the industrial interests of workers engaged on the construction of bridges. This decision removes the coverage the BLF has had for many years and awards it to the Australian Workers Union. The decision has been appealed and has

been the subject of consideration by a Full Bench of the Conciliation and Arbitration Commission. The matter was not finally resolved as at 30 June 1985.

The Joint Committee on the introduction of Technological Change established by the RCA in 1984 with management and staff association representation has facilitated consultation over the introduction of new items of technology (especially screen based technology) into the RCA.

Issues related to occupational health and safety are becoming increasingly prominent in the industrial relations area with agreements on these matters being sought by various unions and associations.

The State Government's announcement in February that it planned to abolish toll collection at West Gate Bridge resulted in negotiations with unions on an agreement concerning a redeployment and redundancy package to apply to persons whose positions became redundant.

Details of the Federal and State Awards of major significance to the RCA, and the number of its employees covered by these Awards as at 30 June 1985 are as follows:

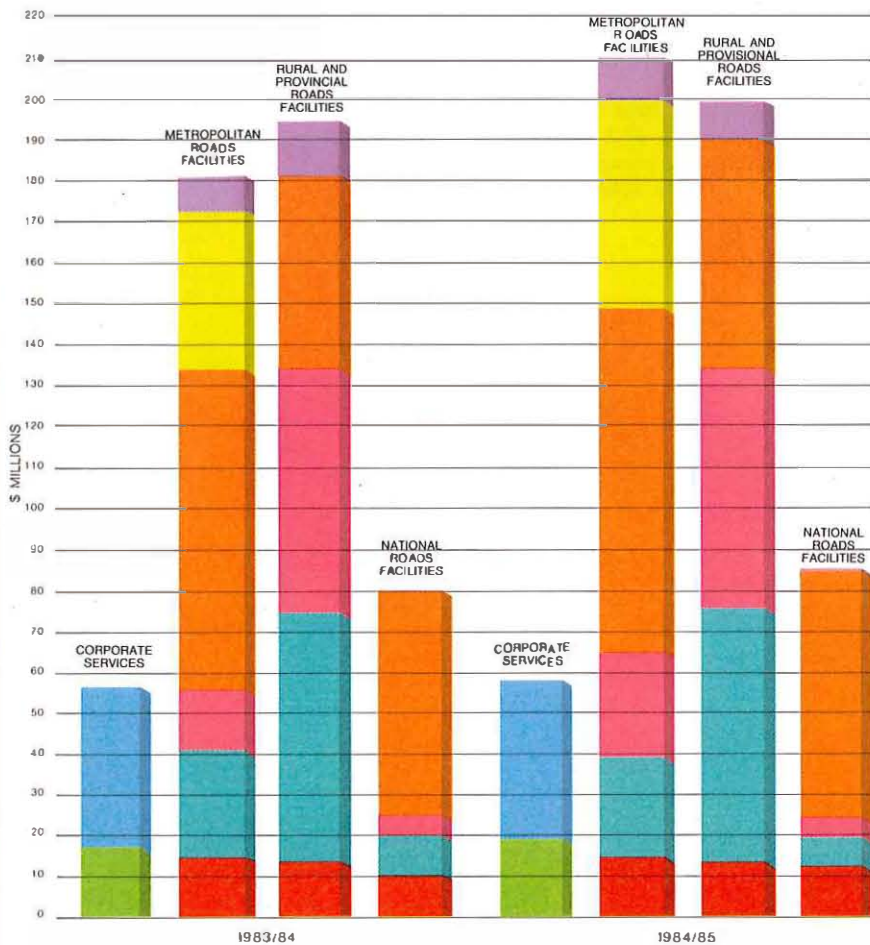
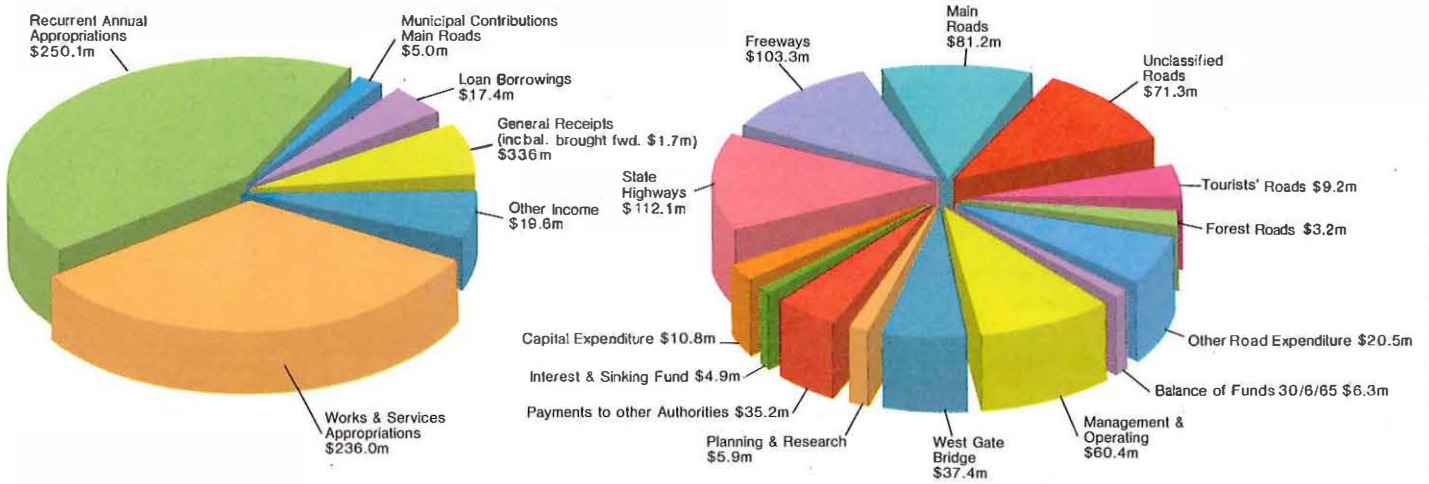
	No of Persons
Australian Workers Union (Construction and Maintenance Award)	1518
Building Construction Employees and Builders' Labourers Award	73
National Building Trades Construction Award	35
Metal Industry (Victorian Government Departments and Instrumentalities) Award	283
Transport Worker (State Government Departments and Instrumentalities) Award	223
Country Roads Board Salaried Staff Award	1937
Professional Engineers (CRB Agreement)	476
Professional Engineers (Country Roads Board, Victoria)	
Senior Engineers Award	13
Senior Executive Service	39
Canteen Workers Award	37
Storemen and Packers and Sorters Award	52

The remainder of the RCA's personnel are employed under Federal and Victorian State Awards, by private agreement, and by an industrial

agreement lodged with the Registrar of the Australian Conciliation and Arbitration Commission.

RCA Expenditure 1984/85

Total Expenditure \$561.7m
(on a cash accounting basis)



Expenditure 1983/84 and 1984/85 in Programme Budget Format (on a Cash Accounting basis)

The graphs show expenditure by the RCA in the two financial years for each of the four programmes for which the RCA is responsible.



The most significant development in the financial operations of the RCA during 1984/85 was the revision of the organisation structure of the Finance Sub-Branch. The revision was designed to enable better response to changes in budgeting and reporting requirements and was chosen after consultation with the relevant staff association.

Work continued on the development and refinement of the computerised Financial Accounting (general ledger) System and a further micro-computer was purchased to help with budgeting and costing applications and also with the maintenance of loan borrowing records.

RCA Funding 1984/85

The RCA received funds during 1984/85 from both State and Federal sources.

Funds from State Sources

State funds were received primarily via an appropriation from the Current Account, and to a lesser extent from revenues collected directly by the RCA. In addition some funds arising from disposal of surplus properties previously acquired for road purposes were made available to the RCA via appropriation from the Works and Services Account. The balance of such funds were made available to the RTA for Traffic Facilities Projects. As a result of legislative and administrative changes over the past three years the payment of particular revenues such as motor car fees, fuel franchise fees, etc., into an account specifically for roads expenditure, has ceased. These fees are now paid to the credit of the Consolidated Fund, and in 1984/85 approximately equivalent revenues were made available for roads expenditure by appropriation from the Current Account. Records of Revenues received from these particular fees are maintained by the RCA for the purpose of calculating the levels of funding which should be appropriated.

The RCA's direct revenues during 1984/85 included receipts of West Gate Bridge tolls, rents and municipal contributions towards main roads expenditure.

Funds from Federal Sources

The Federal Government provided roads funds to the States under the Roads Grants Act and the Australian Bicentennial Roads Development Trust Fund Act (ABRD). The RCA receives its share of Federal roads funds via an appropriation from the Works and Services Account. Details of these funds are shown in the financial statements. One of the requirements of the Federal Government in relation to the provision of ABRD funds is that State-funded roads expenditure must be at least maintained each year in real terms. This requirement is currently being met by Victoria.

Funding of the Traffic Facilities Programme

The RTA is now responsible for the Traffic Facilities Programme and appropriations were made to the RTA for this work. In 1984/85 the RCA and municipal councils performed particular works on the Programme as agents for the RTA and were reimbursed by the RTA.

Trends

State funds were maintained at approximately the same level in real values as in 1983/84.

Federal Roads Grants Act funds were increased by 6% over the 1983/84 levels in accordance with the provisions of the Act. Since road construction and maintenance costs are generally increasing at a faster rate, it can be seen that the real value of these grants is declining.

Because the ABRD Act does not provide for further increases in the fuel levy, the total revenues payable to the ABRD Trust Fund are expected to decline in real terms over the remaining years of the Programme. When considered in the light of the reductions in funding under the Australian Land Transport (Financial Assistance) Act 1985, it can be seen that the real level of Commonwealth funding will not be maintained at the level existing in 1983/84 and 1984/85. The State Government has announced increased funding for roads for 1985/86 to offset the effects of reduced Commonwealth funding.

Victoria Transport Borrowing Agency

During 1984/85 the Victoria Transport Borrowing Agency raised approximately \$40 million of loan moneys on behalf of the RCA by way of issue of inscribed stock. The loan funds were used to repay maturing inscribed stock and to finance WGB operations and road and bridge works.

The VTBA also handled the rollover of promissory notes totalling approximately \$13.4 million for the RCA's purposes.

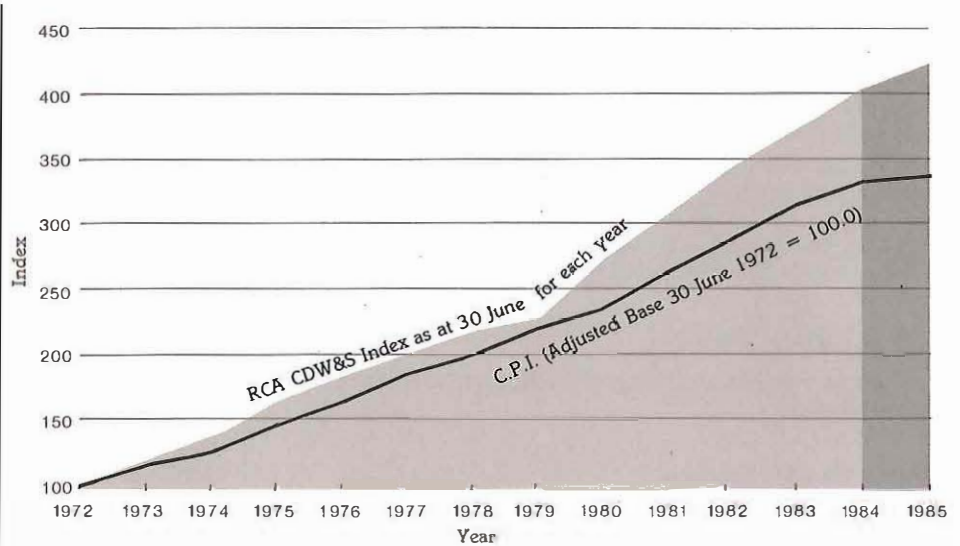
Programme Budgeting

The State Government has introduced a system of Programme Budgeting which facilitates resource allocation and the review of the results of Government programmes.

Parliamentary appropriations of funds are made for identifiable programmes rather than for the general operations of individual departments and authorities. Programmes are service oriented rather than function oriented and generally represent discrete areas of operations. The Government has defined its policy for each programme. Programmes have been established with a hierarchical structure which includes sub-programme, component and activity levels. The Programmes for which the RCA is responsible are those for National Roads, Metropolitan Roads, Rural and Provincial City Roads and Corporate Services.

Programme Budgeting provides for measurement of the results of each programme and of the performance of the departments and authorities responsible for implementing programmes. Objectives and quantitative targets reflecting Government policy have been determined for each programme and the actual results are monitored and form the basis for future policy.

Planning for the implementation of Programme Budgeting commenced during 1982/83. The RCA's 1983/84 and 1984/85 revenue and expenditure budgets were prepared in both the traditional format and in Programme Budget format. Appropriations of Funds in Programme Budget format to programme level commenced as from the 1984/85 financial year.



NB. CDW&S means Composite Direct Works & Salaries
C.P.I. is the Consumer Price Index

Road Costs Index

As part of its normal costing procedures, the RCA carries out regular surveys of the prices of the major components of road construction and maintenance expenditure. The items surveyed include asphalt, bitumen, aggregate, culverts, pipes, steel, cement, fuel, land acquisition and labour. On the basis of the information collected, price indices are maintained for each of the major expenditure components, together with a "Composite Direct Works and Salaries" Index. This composite index provides a weighted representation of current overall prices for road construction and maintenance works.

Since 1972, the RCA's Composite Direct Works and Salaries Index has increased at a significantly higher rate than the CPI, due mainly to the effects of large increases in the prices of bituminous materials and fuels.

**Financial Statements of the Road Construction Authority
for the Financial year 1984/85**

STATEMENT OF INCOME & EXPENDITURE FOR YEAR ENDED 30 JUNE 1985

1983/84			1984/85				
Roads & Bridges Operations	West Gate Bridge Operations	Total	Items	Notes	Roads & Bridges Operations	West Gate Bridge Operations	Total
\$000's	\$000's	\$000's	Income		\$000's	\$000's	\$000's
223 400	10 000	233 400	Recurrent Annual Appropriations		240 112	10 000	250 112
208 918		208 918	Works and Services Appropriations		236 000		236 000
22 866		22 866	Miscellaneous funds - other authorities	2.1	20 276		20 276
18 099	9 283	27 382	Other income	2.2	13 390	10 172	23 562
473 283	19 283	492 566	Total Income		509 778	20 172	529 950
			Road Expenditure				
74 117		74 117	Main Roads	3.1	76 843		76 843
112 404		112 404	State Highways	3.2	98 335		98 335
92 619		92 619	Freeways	3.3	92 541		92 541
10 255		10 255	Tourists' Roads	3.4	8 840		8 840
3 022		3 022	Forest Roads	3.5	3 169		3 169
67 324		67 324	Unclassified Roads	3.6	70 612		70 612
			Works Performed for Other Authorities	3.7	19 998		19 998
23 306		23 306	Other	3.8	3 934		3 934
3 672		3 672	Total Road Expenditure		374 272		374 272
386 719		386 719	Management and Operating Expenditure	4.1	95 394	6 589	101 983
			Total Expenditure (excluding Finance Expenses and Special Payments)		469 666	6 589	476 255
			Operating Surplus (before Finance Expenses and Special Payments)		40 112	13 583	53 695
3 047	12 725	15 772	Less Finance Expenses	4.2	4 299	31 343	35 642
2 689	28 825	31 514	Less Special Payments	4.3	43 414		43 414
25 595		25 595	Deficit for the year		(7 601)	(17 760)	(25 361)
(25 237)	(16 100)	(41 337)	Add Accumulated Deficit (Adjusted) B/fwd		(42 766)	(109 086)	(151 852)
(165 859)	(92 986)	(258 845)	Accumulated Deficit as at 30 June 1985		(50 367)	(126 846)	(177 213)
(191 096)	(109 086)	(300 182)					

STATEMENT OF ASSETS & LIABILITIES AS AT 30 JUNE 1985

1983/84					1984/85		
Roads & Bridges Operations	West Gate Bridge Operations	Total	Items	Notes	Roads & Bridges Operations	West Gate Bridge Operations	Total
\$000's	\$000's	\$000's	Assets		\$000's	\$000's	\$000's
			Current Assets				
12 131	410	12 541	Cash at Bank and Deposits	5.1	34 735	573	35 308
			Trust Fund				
			Balances held by the Dept. of Management & Budget	5.2	472		472
466		466	Debtors	5.3	6 354	16	6 370
8 735	44	8 779	Prepayments	5.4	3 199	528	3 727
2 891	57	2 948	Inventories	5.5	21 476	93	21 569
5 422	90	5 512	Repayable Advances -				
			Municipalities	5.6	103		103
98		98	Property Loans	5.7	516		516
758		758	Other	5.8		43	43
30 501	601	31 102			66 855	1 253	68 108
			Non Current Assets				
			Long Term				
39	43	82	Investments	6.0	39		39
1 769		1 769	Property Loans	5.7	977		977
			Repayable Advances -				
			Municipalities	5.6	1 326		1 326
1 429		1 429	Land & Buildings in Service	6.1	42 834	823	43 657
42 506	834	43 340	Land & Buildings Acquired for Roadworks	6.2	156 315		156 315
	189 802	189 802	West Gate Bridge Plant and Motor Vehicles	6.3		187 890	187 890
22 528	213	22 741	Equipment	6.4	24 528	197	24 725
4 873	1 025	5 898	Leased Equipment	6.5	7 716	733	8 449
1 455		1 455		6.6	1 498		1 498
74 599	191 917	266 516			235 233	189 643	424 876
105 100	192 518	297 618	Total		302 088	190 896	492 984

STATEMENT OF ASSETS & LIABILITIES AS AT 30 JUNE 1985

1983/84				1984/85			
Roads & Bridges Operations	West Gate Bridge Operations	Total	Items	Notes	Roads & Bridges Operations	West Gate Bridge Operations	Total
\$000's	\$000's	\$000's			\$000's	\$000's	\$000's
			Liabilities				
			Current Liabilities				
5 000		5 000	Provision for Superannuation	6.7	5 000	52	5 052
1 510		1 510	Loan Liability - Dept. of Management & Budget	6.8	1 028		1 028
10 427	14 070	24 497	Temporary Financial Accommodation	6.9	28 357	13 065	41 422
2 11	12 593	12 804	Inscribed Stock	7.0			
100	4 779	4 879	- Principal		43	51 292	51 335
			- Interest		510	5 682	6 192
18 219	166	18 385	Creditors and Other Accruals		17 672	119	17 791
7 982	157	8 139	Provision for Employee Benefits	7.1	7 964	198	8 162
72	462	534	Prepaid income	7.2	35	454	489
			Liabilities - Property	7.3	6 777		6 777
			Provision for Quarry Restoration	7.4	113		113
			Advances	7.5	62		62
431	15	446	Other	7.6	461		461
43 952	32 242	76 194			68 022	70 862	138 884
			Non Current Liabilities				
203 933	67	204 000	Provision for Superannuation	6.7	225 948		225 948
16 289		16 289	Provision for Employee Benefits	7.1	17 605		17 605
9 038	240 295	249 333	Inscribed Stock	7.0	18 343	217 880	236 223
			Advances - Dept. of Management & Budget	7.7		29 000	29 000
	29 000	29 000	Loan Liability - Dept. of Management & Budget	6.8	20 842		20 842
21 871		21 871	Liabilities - Property	7.3	613		613
1 113		1 113	Other	7.8	1 082		1 082
252 244	269 362	521 606			284 433	246 880	531 313
			Capital Reserves				
(191 096)	(109 086)	(300 182)	Accumulated Deficit	7.9	(50 367)	(126 846)	(177 213)
105 100	192 518	297 618	TOTAL		302 088	190 896	492 984

Statement of Sources and Application of Funds for the Year Ended 30 June 1985

Sources of Funds	1984/85 \$000's	1983/84 \$000's
Funds from Operations		
Net Deficit for the Year	25,361	-
Less-Items included in the Net Deficit not requiring Funds		
Provision for - Depreciation	8,255	-
- Amortisation	454	-
- Superannuation	22,000	-
- Long Service & Other Leave	1,338	-
	32,047	-
Deduct		
Profit on Disposal of Assets	1,746	-
Funds available from Operations	4,940	-
Sale of Assets	12,677	1,817
Decrease in Current Assets		
Debtors	2,463	-
Property Loans	243	-
Trust Fund Balances held at the Department of Management & Budget	-	1,270
Short Term Investments	-	400
	2,706	1,670
Decrease in Non Current Assets		
Long Term Investments	43	-
Property Loans	791	1,110
Repayable Advances - Municipalities	104	98
	938	1,208
Increase in Current Liabilities		
Temporary Financial Accommodation	16,925	7,127
Inscribed Stock Principal & Accrued Interest	39,843	8,211
Property Liabilities	6,777	-
Provision for Quarry Restoration	113	-
Advances	62	-
Loan Liability - Department of Management & Budget	-	10
Creditors & Other Accruals	-	14,689
Prepaid Income	-	120
Other Current Liabilities	15	442
	63,735	30,599
Increase in Non Current Liabilities		
Inscribed Stock Principal	-	13,681
Property Liabilities	613	-
Other Non-Current Liabilities	-	1,113
	613	14,794
	85,609	50,088

Application of Funds1984/85
\$000's1983/84
\$000's**Funding of Operations**

Net Deficit for the Year		-		41,337
Less-Items included in the Net				
Deficit not requiring Funds				
Provision for - Depreciation	-		5,368	
- Amortisation	-		210	
- Doubtful Debts	-		122	
- Superannuation	-		20,000	
- Long Service & Other Leave	-		80	
- Bad Debts Written Off	-		3	25,783
Funds Applied to Operations		-		15,554
Increase in Current Assets				
Cash at Bank & Deposits	22,767		10,827	
Debtors	-		5,454	
Deferred Charges	-		359	
Prepayments	779		2,673	
Inventories	16,058		884	
Repayable Advances - Municipalities	5		3	
Property Loans	-		758	
Short Term Investments	43		-	
Trust Fund Balances held at the Department of Management & Budget	6	39,658	-	20,958
Increase in Non Current Assets				
Deferred Charges		-		798
Increase in Fixed Assets				
West Gate Bridge	55		152	
Land & Buildings in Service	2,136		1,394	
Land & Buildings Acquired for Roadworks	19,713		-	
Plant & Motor Vehicles	5,652		6,473	
Equipment	2,610		1,712	
Leased Equipment	496	30,662	1,513	11,244
Decrease in Current Liabilities				
Loan Liability - Department of Management & Budget	482		-	
Creditors & Other Accruals	593		-	
Prepaid Income	45	1,120	-	-
Decrease in Non Current Liabilities				
Inscribed Stock Principal	13,110		-	
Loan Liability - Department of Management & Budget	1,028		1,534	
Other Non Current Liabilities	31	14,169	-	1,534
		85,609		50,088

Notes to and forming part of the financial statements of the Road Construction Authority for the financial year ended 30 June 1985

The Financial Statements of the Road Construction Authority have been prepared in accordance with the provisions of Section 67 of the Transport Act 1983.

1. Accounting Policies

The accounting policies adopted by the Road Construction Authority, except where otherwise stated, include relevant accounting standards issued by Australian Accounting bodies. The Financial Statements have been drawn up on an accrual basis in accordance with the historical cost convention except where otherwise stated.

A significant change in the Road Construction Authority's accounting policies has been adopted for 1984/85 with respect to the treatment of expenditure on the acquisition of properties required for roadworks. In the past, expenditure of this nature has been charged as operating expenditure in the same manner as expenditure on road and bridge works. Details of the value of such properties were disclosed in a note to the Financial Statements.

Following further consideration of the appropriate accounting treatment of such expenditure, it has been decided that the cost of property assets will now be expensed at the time physical possession of the properties takes place in order to commence constructing the roadway.

Although the absolute property in land incorporated in roadworks does not legally vest in the Crown until formal declaration of the roads in question, it is considered that properties utilised for roadworks have no realisable value once physical possession for construction purposes occurs, since this action is considered to be the initial stage in the process of constructing the roadway and the eventual formal declaration of the road.

As from 1 July 1984, the cost or value of such properties not incorporated in the road network has been disclosed as an asset in the Statement of Assets and Liabilities. As a consequence the value of assets as at 1 July 1984 has been increased by an amount of \$146.479 million and the accumulated deficit reduced by a corresponding amount. Expenditure on the acquisition of such properties amounted to \$19.531 million in 1984/85.

The value of assets as at 30 June 1985 of \$156.315m is based on the values shown for properties included in the property register, which has been recently compiled. Such values are either at historical cost or at values assessed by Authority officers. Due to time constraints and the complexity of the task of compiling the register, the Authority has not been able to verify that all properties acquired for roadworks have been included in the register, that the assessed values are reasonable and that all properties incorporated into roadworks have been expensed.

It is intended that such verification, together with further refinements to the system of recording the purchase and use of such properties in roadworks will continue to be undertaken on an ongoing basis.

Expenditure on the acquisition of such properties amounted to \$19.531 m in 1984/85 of which \$2.524 m was incorporated into roadworks in the current year and has therefore been expensed. The total value of properties incorporated into roadworks and expensed in 1984/85 was \$7.207 million.

The improvements to these properties are not depreciated due to the assumed short nature of the assets in that they have been purchased with the intention of being partly or fully incorporated into road construction works.

Legal costs, etc., associated with actual negotiations and settlement of acquisition are written off in the year of incurrence.

As at 30 June 1985, the Road Construction Authority has also adopted a policy in relation to the vesting of ownership in properties for which a Notice of Acquisition has been issued and the Road Construction Authority has taken formal possession and where final settlement had not been achieved as at 30 June 1985. The majority of such properties have been included as assets in the Statement of Assets and Liabilities. Estimated liabilities in such circumstances have been based on valuations, including costs of acquisition, and included as liabilities.

The liability as at 30 June 1985 is \$7.390m of which \$7.312m has been included in the Assessed Value of Land & Buildings Acquired for Roadworks (refer Note 6.2) and \$0.078m has been expensed in the current year having been incorporated into roadworks.

A further change in accounting policy adopted for 1984/85 has been to capitalise significant stocks of road making materials on hand at 30 June 1985. Previously, purchases of such materials were charged to road expenditure in the year of purchase. The value of such stocks capitalised as at 30 June 1985 is \$13.566m.

Adoption of the changes in the accounting policies above has had the effect of reducing road expenditure in 1984/85 by \$12.324 million for property acquisitions and \$13.566 million for capitalisation of stockpiled material.

In order to reflect the financial operations and position of the West Gate Bridge the financial transactions and assets and liabilities of the West Gate Bridge have been identified separately in the Statement of Income and Expenditure and the Statement of Assets and Liabilities from those other activities associated with the maintenance and construction of roads and bridges undertaken by the Road Construction Authority.

Inventories of Stores and Precast Materials held in Depots have been valued at standard prices which approximates average cost.

Depreciation on depreciable assets associated with the West Gate Bridge facility is calculated on a straight line basis and on depreciable assets associated with roads and other bridges it is calculated on a diminishing balance basis. A full year's depreciation is charged against the opening value of all such assets; however, six months depreciation only is charged against current year additions and improvements with the exception of Buildings in Service for Road and Bridge Operations where twelve months depreciation was charged.

Superannuation Provision – an actuarial assessment of liability for the employees' contribution to the State Superannuation Fund has been made by the Office of the Government Statist and Actuary. As the above Office only performs a full actuarial valuation once every three years, an interim calculation as at 30 June 1985 has been carried out by that Office based on 1984/85 contribution information provided by the Road Construction Authority and the full actuarial valuation as at 30 June 1984.

Long Service Leave liability has been calculated and is based on current wage and salary rates for:

- (i) those employees aged less than sixty years as at 30 June 1985, with a length of net service in excess of the statutory period of ten years, and
- (ii) for those employees aged sixty years or more as at 30 June 1985 with a length of net service of four years or more.

2. Income

2.1 Miscellaneous Funds - Other Authorities

This comprises the following:	1985 \$000's	1984 \$000's
Ministry for Planning and Environment -		
Commonwealth Employment Programme	78	-
Road Traffic Authority -		
Traffic Facilities Work	15 907	15 287
Local Government Department -		
Municipalities' Forest Roads Improvement Works	50	50
Local Government Bodies -		
Expenditure Recoupment:		
Natural Disaster Relief	65	-
Department of Management and Budget		
- Natural Disaster Relief	766	4 059
- Wage Pause Programme	8	892
Other Federal and State Government Departments and Bodies	3 402	2 578
	20 276	22 866

2.2. Other Income

This comprises the following:	1985 \$000's	1984 \$000's
Rental Income	4 149	3 451
Municipal Contributions	4 894	4 206
Interest	1 563	1 036
Property Enquiry Fees	837	422
Gain/Loss on Disposal/Transfer of Assets	1 746*	7 810
Toll Revenue	10 003	9 335
Other	370	1 122
	23 562	27 382

* This reflects the introduction in the 1984/85 Annual Accounts of the policy of capitalising the value of Property Acquired for Road Deviations (refer Accounting Policies).

3. Road Expenditure

This comprises the following:	1985 \$000's	1984 \$000's
3.1 Main Roads		
- Construction & Reconstruction	49 064	47 877
- Maintenance	27 779	26 240
	76 843	74 117
3.2 State Highways		
- Construction & Reconstruction	64 536	77 172
- Maintenance	33 799	35 232
	98 335	112 404
3.3 Freeways		
- Construction & Reconstruction	83 543	84 060
- Maintenance	8 998	8 559
	92 541	92 619
3.4 Tourists' Roads		
- Construction & Reconstruction	4 619	6 142
- Maintenance	4 221	4 113
	8 840	10 255
3.5 Forest Roads		
- Construction & Reconstruction	1 347	1 256
- Maintenance	1 822	1 766
	3 169	3 022
3.6 Unclassified Roads*		
- Construction & Reconstruction	57 591	54 396
- Maintenance	13 021	12 928
	70 612	67 324
Programmed Road Expenditure	350 340	359 741

* This includes amounts paid/payable to the Metropolitan Transit Authority for reconstruction of roadway associated with the

reconstruction and relaying of tram tracks.

N.B. See Accounting Policies regarding effects of changes in policy on expenditure levels.

3.7 Works Performed for Other Authorities

This comprises the following:	1985 \$000's	1984 \$000's
Ministry for Planning and Environment -		
Commonwealth Employment Programme	115	-
Road Traffic Authority -		
Traffic Facilities Programme	15 905	15 287
Local Government Department Municipalities		
Forest Roads Improvement Works	47	208
Department of Management and Budget		
- Natural Disaster Relief	769	4 059
- Wage Pause Programme	21	1 220
Other Federal and State Government Departments and Bodies	3 141	2 532
	19 998	23 306

Expenditure on works for other Authorities includes, where applicable, that portion to be funded by the Road Construction Authority.

Expenditure was incurred on the following road classes:	1985 \$000's	1984 \$000's
Main Roads		
- Construction & Reconstruction	6 040	5 807
- Maintenance	43	738
State Highways		
- Construction & Reconstruction	6 758	3 867
- Maintenance	3 092	3 162
Freeways		
- Construction & Reconstruction	292	223
- Maintenance	23	205
Tourists' Roads		
- Construction & Reconstruction	340	386
- Maintenance	8	(30)
Forest Roads		
- Construction & Reconstruction	-	101
- Maintenance	-	7
Unclassified Roads		
- Construction & Reconstruction	3 074	8 208
- Maintenance	328	632
	19 998	23 306
3.8 Other	1985	1984
This comprises the following:	\$000's	\$000's
- Murray River Bridges & Punts	799	484
- Traffic Line Marking	3 135	3 188
	3 934	3 672

4. Management and Operating Expenditure

4.1 This item comprises expenditure on the following:	1985 \$000's	1984 \$000's
Planning and Research	5 936	5 552
Management and Operating		
Salaries and Associated Costs (including Superannuation Provision)	70 538	66 210
Administrative Overheads	5 699	4 024
Technical Services Overheads	5 692	4 500
Property Maintenance	1 363	1 489
Depreciation		
- Buildings in Service	1 666	55
- Equipment and Furniture	1 820	965
- West Gate Bridge	1 967	1 967
Amortisation -		
Computer Equipment (leased)	454	57
Bad and Doubtful Debts	12	125

Early Retirement Payments (excluding interest)	227	5 171
Other	4 421	4 126
	99 795	94 241
Add/deduct		
Net Over/Under Absorption on Operations	3 890	(2 049)
Amounts charged to other programs	(1 702)	(2 117)
	101 983	90 075

N.B. Gain or loss on the Transfer/Disposal of Assets has been included in Other Income (refer to Note 2.2).

4.2 Finance Expenses

This comprises the following items of	1985	1984
Interest, Premium and Discount Expense:	\$000's	\$000's
- Overdraft	-	32
- Leased Equipment	264	49
- Promissory Notes	1 632	79
- Commercial Bills	-	1 522
- Short Term Loans	11	-
- Inscribed Stock		
- West Gate Bridge	29 700	27 192
- Roads and Bridges	1 913	551
Loans from Dept. of Management & Budget	2 122	2 089
	35 642	31 514

4.3 Special Payments

This comprises the following:	1985	1984
	\$000's	\$000's
Road Traffic Authority	(1) 20 000	18 876
Ministry of Transport	(2) 417	562
Public Account	(3) 13 923	6 134
Metropolitan Transit Authority	(4) 9	23
Public Account - Natural Disaster Relief	(5) 65	-
Public Account - Loan Raisings	(6) 9 000	-
	43 414	25 595

- (1) Payment represents a contribution to the costs of administration of the Road Traffic Authority.
- (2) Payment represents a contribution to the costs of administration of the Ministry of Transport.
- (3) Payment represents the net proceeds arising from sale of land - paid into the Public Account in accordance with Section 66(4)(b) of the Transport Act 1983.
- (4) Payment of proportion of rental income due to the Metropolitan Transit Authority from property on Bundoora Tram Route under specific agreement.
- (5) Refund of unspent Natural Disaster Relief payments returned by Municipalities.
- (6) Payment through Department of Management and Budget of Capital Works loan raisings.

5. Assets

5.1 Cash	1985	1984
	\$000's	\$000's
Cash at Bank and on Hand	537	541
Short Term Deposit		
- Victorian Development Fund.	34 771	12 000
	35 308	12 541
5.2 Trust Fund Balances	1985	1984
This item represents Security deposit	\$000's	\$000's
Account Balances held by the Department of Management and Budget.	472	466

5.3 Debtors

This comprises the following:	1985	1984
Government Departments and Statutory Authorities	\$000's 3 122	\$000's 2 565
Municipalities	2 404	3 709
Contractors and Individuals	370	571
Sale of Road Construction Authority Properties	220	1 847
Tenants	317	233
	6 433	8 925
Less Estimated Doubtful Debts	63	146
	6 370	8 779

5.4 Prepayments

This comprises the following:	1985	1984
	\$000's	\$000's
Prepaid Interest	463	-
Employee Entitlements	215	209
Principal on Loans	-	237
Maintenance Contracts	-	7
Insurance	88	60
Works	2 908	2 109
Operating Stock	53	326
	3 727	2 948

5.5 Inventories

This comprises the following:	1985	1984
	\$000's	\$000's
Stores and Precast Materials held in depots	7 587	5 142
Construction/Maintenance Materials held "on site"	13 566	-
Stationery	416	370
	21 569	5 512

* Refer to Accounting Policies.

5.6 Repayable Advances - Municipalities

Represents amounts of principal due in accordance with the provisions of Clause 8 Schedule 5 of the Transport Act 1983.	1985	1984
	\$000's	\$000's
Current	103	98
Non-Current	1 326	1 429
	1 429	1 527

5.7 Property Loans

Represents amounts of principal due under terms contracts relating to the sale of land and associated improvements and the acquisition of properties for roadworks.	1985	1984
	\$000's	\$000's
Current	516	758
Non-Current	977	1 769
	1 493	2 527

5.8 Other

Represents the cost of SEC Inscribed Stock originally purchased for sinking fund purposes. The par value of the stock is \$0.048 million.	1985	1984
	\$000's	\$000's
	43	-

6. Long Term Investments

Represents the cost of SEC Inscribed Stock originally purchased for sinking fund purposes. The par value of the stock is \$0.039 million.	1985	1984
	\$000's	\$000's
	39	82

6.1 Land and Buildings in Service	1985	1984
This item refers to those assets which are in service (i.e. Offices and Laboratories, Divisional Residential Properties, Storage Sites, Depots and Patrol Garages).	\$000's	\$000's
Land and Buildings at Valuation.*	42 457	42 251
Land and Buildings at Cost.	3 017	1 240
	45 474	43 491
Less Accumulated Depreciation	1 817	151
Written Down Value as at 30 June	43 657	43 340

* Valuations were made by registered valuers and Road Construction Authority Property staff.

6.2 Land and Buildings acquired for road works
At 30 June 1985 the Road Construction Authority owned properties which are required for future roadworks, situated in a "band of interest" or planning scheme for future roadworks, surplus to requirements and awaiting final survey after roadworks, or landlocked awaiting plans of consolidation and restoration of access before being sold.

	1985	1984
	\$000's	\$000's
Land and Buildings acquired for roadworks		
• At Road Construction Authority Valuation	139 374	-
• At Cost	16 941	-
Value as at 30 June	156 315	-

Where possible, these properties are rented or leased until required for roadworks or sold after being deemed surplus to requirements.

6.3 West Gate Bridge	1985	1984
Represents -	\$000's	\$000's
West Gate Bridge at cost	196 745	196 690
Less Accumulated Depreciation	8 855	6 888
Written down value as at 30 June	187 890	189 802

This item refers to the West Gate Bridge facility.

6.4 Plant and Motor Vehicles	1985	1984
Represents -	\$000's	\$000's
Plant and Motor Vehicles (Historical Cost)	43 674	40 209
Less Accumulated Depreciation	18 949	17 468
Written down value as at 30 June	24 725	22 741

6.5 Equipment	1985	1984
Represents -	\$000's	\$000's
Equipment (at valuation)	12 402	8 031
Less Accumulated Depreciation	3 953	2 133
Written down value as at 30 June	8 449	5 898

As at 30 June 1985 the Road Construction Authority undertook a complete physical stocktake of all items of equipment and determined values for all such items. In addition, the Road Construction Authority reviewed depreciation rates attributable to such equipment and adopted revised rates for 1984/85.

As a result of the physical stocktake and valuation carried out at 30 June 1985, a variation with the value of equipment disclosed at 30 June 1984 was revealed. Although this resulted from revaluation of items and the inclusion of items not previously included it was not possible to place separate values on each component. Consequently, the variation was adjusted against the accumulated deficit brought forward as at 1 July 1984 (see Note 7.9).

6.6 Leased Equipment	1985	1984
Represents the unamortised capitalized value of leased computer equipment	\$000's	\$000's
- Leased Equipment	2 009	1 512
- Less Accumulated Amortisation	511	57
Written down value as at 30 June	1 498	1 455

The commitments associated with the above leases are as follows:

• commitment due within 1 year	671	562
• commitment due within 2 years	710	562
• commitment due within 3 years	545	563
• commitment due within 4 years	39	422
Minimum Lease Payments	1 965	2 109
Deduct: future finance charges	422	737
Lease Liability as at 30 June	1 543	1 372

Current lease liability excluding finance charges \$0.461 million.
Non current lease liability excluding finance charges \$1.082 million.

Finance expenses related to 1984/85 lease liability amounted to \$0.264 million.

6.7 Superannuation Liability	1985	1984
	\$000's	\$000's
Current	5 052	5 000
Non Current	225 948	204 000
Total Superannuation Liability as at 30 June	231 000	209 000

Payment of the employer's contribution to the State Employees' Retirement Benefits Fund, the MMBW Superannuation Fund and private superannuation funds is made on a progressive basis.

6.8 Loan Liability - Department of Management & Budget

Represents amounts owing to the Department of Management and Budget in respect of loans provided for permanent works.	1985	1984
	\$000's	\$000's
Current	1 028	1 510
Non Current	20 842	21 871
Total Loan Liability as at 30 June	21 870	23 381

6.9 Temporary Financial Accommodation

This comprises the following:	1985	1984
Cash Book Overdraft. (As at 30 June 1985 the bank statement did not show the bank account to be overdrawn, the difference being due to unrepresented cheques, cash on hand and uncredited deposits.)	\$000's	\$000's
	28 357	10 427

	1985	1984
	\$000's	\$000's
Promissory Notes less Deferred	13 400	13 400
Borrowing Costs	335	330
Short Term Loan - Victorian Development Fund	-	1 000
Total Temporary Financial Accommodation as at 30 June	41 422	24 497

Promissory Notes on issue are guaranteed by the Government of Victoria pursuant to Section 76(3) of the Transport Act 1983.

7. Inscribed Stock

	1985	1984
	\$000's	\$000's
The Road Construction Authority undertakes a substantial borrowing programme each year for capital works and to service the funding of construction of the West Gate Bridge.	Current Liability	52 049
	less: Deferred Borrowing Cost	714
	Net Current Liability as at 30 June	13 182
		378
		51 335
		12 804

These loans were raised by the Victoria Transport Borrowing Agency and on - passed to the Road Construction Authority.

Non Current Liability	238 422	250 131
less: Deferred Borrowing Cost	2 199	798
Net Non Current Liability as at 30 June	236 223	249 333

7.1 Provisions for Employee Benefits	1985	1984
This comprises the following:	\$000's	\$000's
Annual Leave and Leave Loading	5 935	5 780
Long Service Leave		
• Current Liabilities	2 227	2 359
• Non - Current Liabilities	17 605	16 289
Total Provisions for Employee Benefits as at 30 June	25 767	24 428

7.2 Prepaid Income	1985	1984
This comprises the following:	\$000's	\$000's
Prepaid Toll Revenue	454	462
Prepaid Rent	35	72
Total Prepaid Income as at 30 June	489	534

7.3 Liabilities - Property
This amount represents the estimated value of properties required for road purposes including costs of acquisition where a Notice of Acquisition has been formally served on the property owner and the Road Construction Authority has taken formal possession although final settlement had not been achieved as at 30 June 1985.

	1985	1984
	\$000's	\$000's
Current	6 777	-
Non-Current	613	-
Total Liabilities - Property as at 30 June	7 390	-

Amounts have been based on valuation data prepared by external valuers or Road Construction Authority Property Section staff.

7.4 Provision for Quarry Restoration
This item represents an amount provided for the purpose of further site works, including access roads, and environmental restoration works at the Mt. Drummond Quarry in the Shire of Stawell following completion of current quarrying operations.

	1985	1984
	\$000's	\$000's
Total Provision for Quarry Restoration as at 30 June	113	-

7.5 Advances
Represents advance payments received from other Government Departments and Statutory Bodies for works to be carried out on their behalf in the ensuing year.

	1985	1984
	\$000's	\$000's
Total Advances as at 30 June	62	-

7.6 Other (Current Liabilities)	1985	1984
	\$000's	\$000's
Equipment Leases (Current)	461	259
Undistributed Suspense Balances	-	172
Sinking Fund Reserve	-	15
Total Other Current Liabilities as at 30 June	461	446

7.7 Advances - Department of Management and Budget

This item represents advances made by Department of Management and Budget to assist in the financing of the West Gate Bridge deficit. Although subject to repayment at one month's notice, the Department of Management & Budget has not given any indication that such amounts will be required to be repaid during 1985/86.

	1985	1984
	\$000's	\$000's
Total Advances - Department of Management and Budget as at 30 June	29 000	29 000

7.8 Other (Non Current Liabilities)	1985	1984
This comprises the following:	\$000's	\$000's
Leased Equipment:		
Non-Current Liability as at 30 June	1 082	1 113

7.9 Accumulated Surplus/Deficit
Represents accumulated deficit at 30 June 1985 of the Road Construction Authority, after providing for the adjustments as noted, plus surplus (deficit) for the year - viz.:

	Roads & Bridges Operations	West Gate Bridge Operations	Total
	\$000's	\$000's	\$000's
Accumulated deficit at 30 June 1984	(191 096)	(109 086)	(300 182)
Adjustments			
MMBW Loan Adjustment	55	-	55
Adjustment to Land & Building assets. (Capitalisation of Properties Acquired for Roadworks) - refer Accounting Policies	146 479	-	146 479
Adjustment to Plant Capital value brought forward.	187	-	187
Adjustment to Plant Capital Accumulated Depreciation brought forward.	(152)	-	(152)
Adjustment to Equipment Asset value for items not previously included in the Balance Sheet or revalued (refer to Note 6.5).	1 761	-	1 761
• Adjusted accumulated funds 30 June 1984	(42 766)	(109 086)	(151 852)
• Deficit for year 1984/85	(7 601)	(17 760)	(25 361)
Accumulated Surplus (Deficit) as at 30 June 1985	(50 367)	(126 846)	(177 213)

8. Commitments

8.1 Forward Contracts

	1985 \$000's	1984 \$000's
The outstanding liability on Capital Expenditure contracts as at 30 June 1985 is:		
Road, Bridge and Ancillary Works	67 452	96 280
Land Acquisition - formal possession not taken as at 30 June 1985 (refer Notes 6.2 & 7.3).	30 495	20 685
Total Value of Forward Contracts as at 30 June	97 947	116 965

8.2 Operating Leases

As required under paragraphs 58 and 59 of AASi7 the following information is provided. This information was unavailable for 1983/84.

- (i) The amount of rental expense under operating leases included in the determination of the 1984/85 deficit amounted to \$0.855 million.
- (ii) For non-cancellable operating leases with a lease term in excess of one year, lease commitments aggregated as at balance date are as follows:

	1985 \$000's
- not later than one year	855
- later than one year and not later than two years	764
- later than two years and not later than five years	1 570
- later than five years	5 487

9. Other Matters

No resolution has been reached with regard to a claim lodged with the State Transport Authority concerning \$9.75 million of road funds expended in relation to the possible provision of a railway line in the median of the Eastern Freeway.

Certification of Accounts

The Financial Statements of the Road Construction Authority have been prepared in accordance with the provisions of Section 67 of the Transport Act 1983, and contain such matters and are in the format as determined by the Treasurer.

In accordance with Section 67(3)(d) of the Transport Act 1983 we hereby certify that these statements give, to the best of our knowledge and belief, a true and fair view of the financial transactions for the year and the state of affairs of the Road Construction Authority as at 30 June 1985 and are not aware of any circumstances that would render any particulars included in the statements misleading or inaccurate.

T H Russell
Chairman & Managing Director
Road Construction Authority

D G Thompson
Acting General Manager - Finance
Road Construction Authority

Auditor-General's Report

The accompanying financial statements comprising the Statement of Assets and Liabilities, Statement of Income and Expenditure, Statement of Sources and Application of Funds and notes to and forming part of the financial statements of the Road Construction Authority for the year ended 30 June 1985 have been audited as required by Section 67 of the Transport Act 1983 and in accordance with Australian Auditing Standards.

The item 'Land and Buildings Acquired for Roadworks' shown in the Statement of Assets and Liabilities represents land and buildings acquired but not yet used for roadworks. When such land and buildings are used for roadworks they are deducted from this item and charged as an expense in the Statement of Income and Expenditure.

As stated in Note 1 the Authority has been unable to verify that all properties acquired for but not incorporated into roadworks at 30 June 1985 have been included in the property register, that the assessed values of properties recorded in the property register are reasonable and that properties incorporated into roadworks have been removed from the property register. Audit tests disclosed that a number of properties recorded in the property register at 30 June 1985 had, in fact, been incorporated into roadworks before that date. It was not practicable for audit to identify all such properties. Consequently, I am unable to form an opinion on the adequacy or otherwise of the amounts shown for the following items:

- Land and Buildings Acquired for Roadworks \$156.315 million, included in the Statement of Assets and Liabilities.
- Properties Incorporated into Roadworks \$7.207 million referred to in Note 1 and included in the Statement of Income and Expenditure under the item Road Expenditure.
- Adjustment to Land and Building Assets \$146.479 million shown in Note 7.9 as an adjustment to the Accumulated Deficit brought forward at 30 June 1984.

In my opinion the financial statements have been properly drawn up in accordance with the Transport Act 1983 and, subject to the effect on the financial statements of the matters referred to above, present fairly the state of affairs of the Road Construction Authority as at 30 June 1985 and its financial transactions during the year ended on that date.

Melbourne
6th November 1985

B J Waldron
Auditor-General

Appendices

Appendix 1

Lengths of State highways, freeways, tourists' roads and forest roads

State highways - declared as at 30.6.85

Name	Route	Length (kms)
Bass	Lang Lang-Inverloch	60.1
Bellarine	Geelong-Queenscliff	32.3
Bonang	Orbost-NSW border near Delegate	114.2
Borong	Dimboola-Charlton	123.3
Burwood	Burwood-Ferntree Gully	20.4
Calder*	Melbourne-Mildura	552.4
Calder Alternative	Ravenswood-Marong	20.1
Cann Valley	Cann River-NSW border	44.9
Eastern*	Nicholson Street-Gold Street	1.2
Glenelg	Ballarat-SA border near Mt Gambier	285.1
Goulburn Valley	Eildon-NSW border near Tocumwal	239.9
Hamilton	Geelong-Hamilton	231.0
Henty	Portland-Iascelles	333.2
Hume*	Melbourne-NSW border near Albury	152.5
Kiewa Valley	Bandiana-Mt Beauty	78.5
Loddon Valley	Bendigo-Kerang	123.7
Maroondah	Melbourne-Mansfield	184.6
Maroondah Link	Cathkin-Yarck	4.4
McIvor	Heathcote-Bendigo	44.1
Melba	Coldstream-Yea	62.6
Midland*	Geelong-Mansfield	415.1
	Morwell-Port Welshpool	79.2
Midland Link	Maindample-Barjarg	8.9
Murray Valley	Corryong-Hattah	736.5
Nepean	Melbourne-Portsea	90.5
Northern	Kilmore-Echuca	161.9
Omeo	Bairnsdale-Tallangatta	282.5
Ouyen	Ouyen-SA border near Pinnaroo	130.7
Ovens	Wangaratta-Bright	76.2
Princes (East)*	Melbourne-NSW border near Genoa	481.6
Princes (West)*	Melbourne-SA border near Mt Gambier	400.5
Pyrenees	Elphinstone-Ararat	147.1
Robinvale	Lake Powell-Robinvale	17.7
South Gippsland*	Dandenong-Yarram-Sale	254.0
Sturt	Mildura-SA border near Renmark	113.6
Sunraysia	Ballarat-Calder Highway	340.0
Unnamed	Edithvale-Coburg	49.7
Warburton	Lilydale-Warburton	34.6
Western*	Melbourne-Serviceton	360.9
Wimmera	Apsley-St Arnaud	222.7

* Lengths quoted do not include freeway sections

Freeways - as at 30.6.85

Name	Section	Length (kms)
Calder	Keilor	9.8
	Elphinstone	2.8
Eastern	Gold Street to Doncaster Road	11.7
Frankston	Armstrongs Road to Beach Street	5.8
Hume	Craigieburn to Kalkallo	8.3
	Beveridge to Longwood	91.2
	Violet Town-Baddaginnie	20.7
	Chiltern	21.3
	Wodonga	4.7
Midland*	Yinnar	9.6
Mornington Peninsula	Springvale to Armstrongs Road	8.1
	Dromana to Rosebud	13.5
Princes	Mulgrave	19.5
	Berwick	6.5
	Drouin, Moe and Haunted Hills	23.7
	Orbost	5.9
	Laverton to Lara	49.0
	Dartmoor	3.0
South Eastern	Anderson Street to Toorong Road	6.8
South Gippsland	Princes Freeway to South Gippsland Highway	5.6
	Whitelaw	3.8

Tullamarine	Flemington Bridge to Melbourne Airport	20.9
West Gate	Bertie Street to Graham Street	0.3
	Williamstown Road to Princes Freeway	5.4
Western	Deer Park to Melton	13.3
	Bacchus Marsh to Bungaree	52.8

Tourists' roads - declared as at 30.6.85

Name	Municipalities	Length (kms)
Acheron Way	Healesville and Upper Yarra Shires	35.9
Alpine	Bright and Omeo Shires	83.0
Arthurs Seat	Flinders Shire	8.1
Bogong High Plains	Bright and Omeo Shires	66.7
Cameron Drive	Gisborne, and Newham and Woodend Shires	4.3
Donna Buang	Healesville and Upper Yarra Shires	34.0
Gipsy Point	Orbost Shire	2.4
Grampians	Ararat, Dundas and Stawell Shires and Stawell Town	69.5
Great Ocean Road	Barrabool, Winchelsea, Otway, Heytesbury and Warrnambool Shires	208.0
Lake Mountain	Alexandra and Healesville Shires	11.0
Mallacoota	Orbost Shire	22.5
Mount Abrupt	Ararat and Mount Rouse Shires	24.8
Mount Baw Baw	Narracan Shire	36.3
Mount Buffalo	Bright Shire	39.0
Mount Buller	Mansfield Shire	27.0
Mount Dandenong	Sherbrooke and Lillydale Shires	21.8
Mount Victory	Arapiles, Stawell and Wimmera Shires	30.7
Marysville-Woods Point	Healesville Shire	13.0
Otway Lighthouse	Otway Shire	12.9
Phillip Island	Bass and Phillip Island Shires	23.4
Silverband	Stawell Shire	9.1
Sydenham Inlet	Orbost Shire	21.6
Wartook	Wimmera Shire	3.5
Wilson's Promontory	South Gippsland Shire	31.0

Forest roads - declared as at 30.6.85

Name	Municipalities	Length (kms)
Bairnsdale-Dargo	Avon and Bairnsdale Shires	20.8
Bealiba-Moliagul	Bet Bet Shire	9.0
Beech Forest-Mt Sabine	Otway Shire	12.6
Benambra-Corryong	Omeo, Tallangatta and Upper Murray Shires	76.5
Benambra-Limestone	Omeo Shire	14.3
Bendoc-Orbost	Orbost Shire	20.9
Brookville	Omeo Shire	15.9
Bruthen-Buchan	Tambo Shire	36.5
Bullumwaal-Tabberabbera	Bairnsdale Shire	30.3
Carrajung-Woodside	Alberton Shire	17.7
Dargo	Avon Shire	74.8
Deans Marsh-Lorne	Winchelsea Shire	22.9
Drummond-Vaughan	Daylesford and Glenlyon, and Newstead Shires	20.9
Epsom-Fosterville	Huntly Shire	20.4
Forrest-Apollo Bay	Otway Shire	19.7
Greendale-Trentham	Ballan and Kyneton Shires	23.8
Heyfield-Jamieson	Mansfield and Maffra Shires	145.5
Inglewood-Rheola	Korong Shire	17.3
Kimbolton	Strathfieldsaye Shire	13.5
Lavers Hill-Cobden	Heytesbury and Otway Shires	42.7
Meredith-Steiglitz-Maude	Bannockburn Shire	20.7
Murrungower	Orbost Shire	21.3
Portland-Nelson	Portland Shire	38.6
Red Knob	Tambo Shire	7.2
Tatong-Tolmie	Benalla Shire	36.3
Timbarra	Tambo Shire	19.5
Walhalla	Narracan, Mansfield and Upper Yarra Shires	110.7
Warburton-Woods Point	Healesville, Upper Yarra and Mansfield Shires	102.6

Appendix 2

Retirements

Personnel who retired during the year with substantial services:

Name	Position	Location	Years of RCA Service
ADAMS O S	Roadmaster	Dandenong	38
ANGUS R W	Asst Chief Works Engineer	Works	37
HAYLOCK N C	Exec Bridge Engineer	Bridge	37
KENNEALLY J W	Depot Foreman	Geelong	35
BEDGOOD R R	Overseer	Metropolitan	34
WILLS R L	Workshop Supervisor	Plant	34
DONOHUE E	Signwriter	Geelong	33
BLACKALL G	Plant Operator	Dandenong	32
BAUM L H	Overseer	Benalla	31
DYALL W F	Asst Divisional Engineer	Bairnsdale	31
GOODWIN E W	Overseer	Traralgon	31
KIRALY M	Special Fitter	Benalla	30
STUBINGTON W E	Engineer	Benalla	30
WATTS O L B	Foreman	Plant	30
MIERZWA M	Truck Driver	Dandenong	29
BUSH C T	Signwriter	Horsham	28
GUERIN N S	Dep Eng in Chief	Plan & Design	27
McKENNA R F	Asst Overseer	Benalla	27
PFEIFFER W M	Truck Driver	Ballarat	27
GUY R V	Leading Heater Hand	Ballarat	26
LEVERETT K J	Truck Driver	Ballarat	26
MADEJSKI K	Plant Operator	Benalla	26
PORRITT C E W	Personal Asst to Chairman	Secretariat	25
WHITE H D	Storeman	Bairnsdale	25
ROBINSON E W	Patrolman	Bairnsdale	24
HAIN E D	Project Surveyor	Baddaginnie-Bowser	23
KOUTZAS G	Skilled Builders Labourer	Bridge	23
SEBASTIAN I M	Cook	Benalla	23
CARTER A K	Stores Purchasing Asst	Benalla	21
JEFFREYS P M	General Manager	Plant	21
KENNY E C	Roadmaster Operator	Bairnsdale	21
KERRUISH T H	Truck Driver	Horsham	21
PUTT B W E	Plant Operator	Bendigo	21
BRADLEY W J	Engineer	Bridge	20
LINSTEDE W P	Industrial Relations Officer	Industrial Relations	20
PAGE A M M (Deceased)	Skilled Builders Labourer	Ballarat	20
PREUSS S A	Traffic Controller	Horsham	20

Appendix 3

Public sources of information

The following publications can be obtained from:

Corporate Relations Section
Road Construction Authority
60 Denmark Street
Kew Vic 3101

RCA project leaflets

- Bypass of Greensborough Commercial Centre
- Calder Highway, Bypass of Gisborne
- Calder Freeway, Keilor Section
- Hume Freeway, Baddaginnie to Bowser
- Hume Freeway, Barnawartha to Wodonga
- Mornington Peninsula Freeway Extension, Dromana to Frankston
- Nepean Highway Widening
- Princes Freeway, Bypass of Berwick
- Princes Freeway, Bypass of Morwell
- Route 1, Warragul Bypass
- South Eastern-Mulgrave Arterial Road Link
- South Gippsland Highway, Cranbourne to Bass Highway Junction
- Western Freeway, Bypass of Melton (revised)
- Western Freeway, Melbourne to Ballarat

RCA general publications

- 70 years of growth, 1913-1983
- Bridges
- Early days of the CRB, The
- Film catalogue
- Great Ocean Road: A brief history
- Heavy duty flexible pavements
- Hume challenge, The
- Library guide
- Noise barriers
- Roads
- ROADS Victoria
- Roadscapes
- Snow driving
- Summer driving
- Urban arterial roads

NAASRA pamphlets

- Australian roads, 1983
- Cost of roads, The
- Film and video tape catalogue
- Funding the future: Australian roads
- History and challenge of road transport, The
- Landscaping of roads, The
- NAASRA and its publications, 1985
- Public transport on roads

- Road bridges
- Road legislation and practice
- Road signs and markings
- Roads and computers
- Roads and energy
- Roads and national development
- Roads and neighbourhood planning
- Roads and public utilities (revised)
- Roads, bicycles and bikeways
- Roads and vehicle limits
- Roads for recreation and tourism
- Statutory limits on road vehicles
- Toll roads and bridges
- Victorian aspects of the NAASRA roads study, 1984

From time to time the RCA produces road planning and associated reports. Copies of reports on current activities are available from RCA Divisional Offices or are available for perusal at the RCA Library, 60 Denmark Street, Kew 3101. Technical manuals on construction standards are produced for use as a reference by the road construction industry and copies can be purchased from the RCA Purchasing Section at Coleman Parade, Glen Waverley 3150.

An information bulletin was produced, as required, to inform residents living near the South Eastern Mulgrave Arterial Road Link of the stage of works.

Appendix 4

Pecuniary Interest Declarations

The following officers of the Road Construction Authority have completed pecuniary interest declarations.

Officer	Position
Addis B	General Manager - Bridges
Barton E V	Group Manager - Traffic Engineering
Berketa P P	General Manager - Management Information Systems
Berry D J	General Manager - Road Design and Traffic Engineering
Bethune J D	Group Manager - Materials
Burke K J H	Group Manager - Road Design and Survey
Cullinan M F	Group Manager - Information and Networks
Currie D T	General Manager - Programs
Elfts H E J	Divisional Engineer - Metropolitan
Foster J G	Group Manager - Property
Gardner W J	Divisional Engineer - Traralgon
Hodgson S H	Divisional Engineer - Dandenong
Jones L M	Chief General Manager - Operations
Jones R B	General Manager - West Gate Bridge
Kemp B T	Group Manager - Bridge Construction
Lowe P W	General Manager - Works
McCullough P J	General Manager - Administration
Marshallsea G W	Regional Manager - Western
Mills G F	Group Manager - Stores and Supplies
Moll V R	Acting Principal Construction Engineer
Muller R I	General Manager - Personnel and Employee Relations
Murray W	Group Manager - Administrative Services
Patterson R R	Regional Manager - Metropolitan
Roscoe P J	Group Manager - Legal Services
Roy C W R	Divisional Engineer - Geelong
Sandy F	Group Manager - General Accounting
Solly R H	Manager - Corporate Planning
Stuart P E	Chief General Manager - Corporate Administration
Thomas W N	General Manager - Investigation and Planning
Thompson D G	Group Manager - Analysis, Budgeting and Reporting
Turner W F	General Manager - Finance
Underwood R T	Chief General Manager - Planning and Design
Wheat N	Manager - Internal Audit
Williams M L	Regional Manager - Eastern

COVER: Autumn on the Ovens Highway
at Bright. Inset: The Hume Freeway,
Bypass of Wodonga, railway overpass