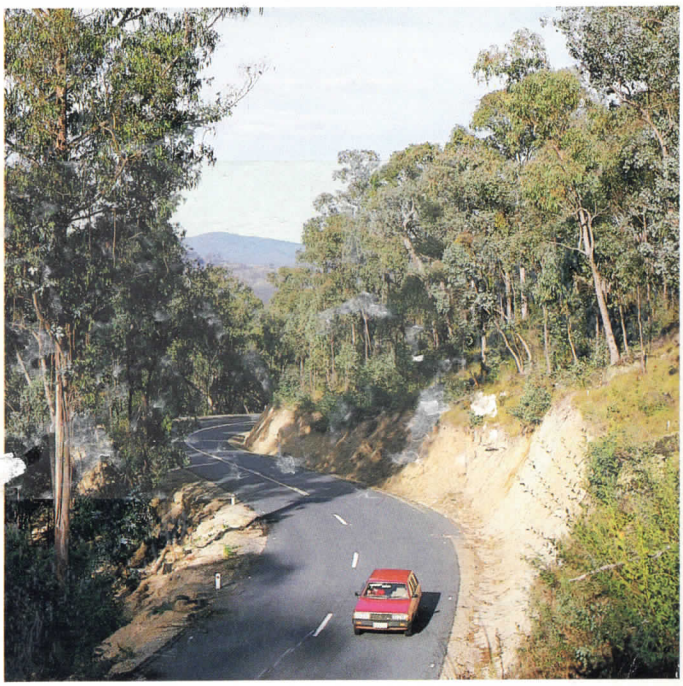
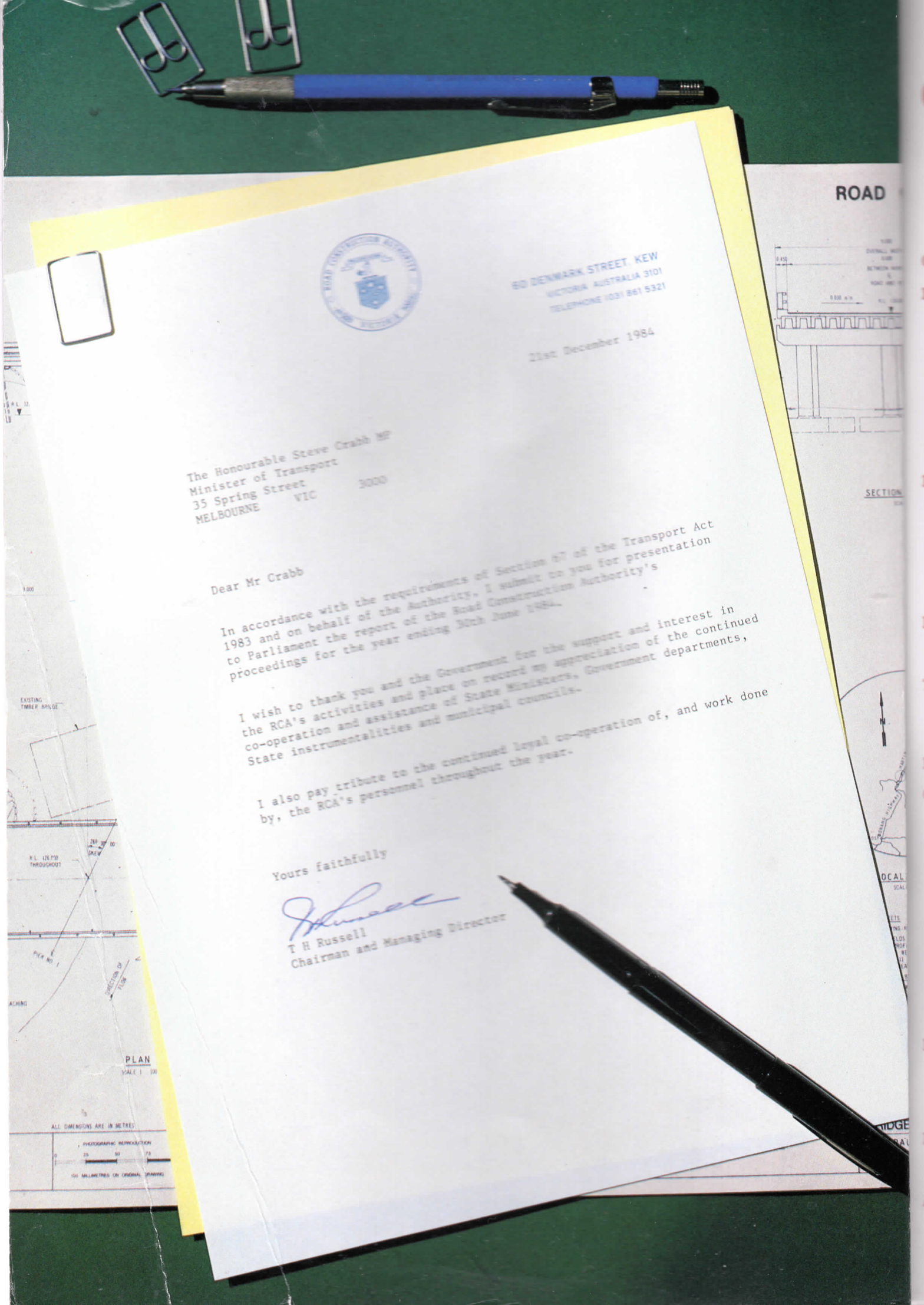
Road Construction Authority
1st Annual Report 1983 – 84



AN AUTHORITY OF VICTORIA TRANSPORT



60 DENMARK STREET KEW
VICTORIA AUSTRALIA 3101
TELEPHONE (03) 861 5321

21st December 1984

The Honourable Steve Crabb MP
Minister of Transport
35 Spring Street
MELBOURNE VIC 3000

Dear Mr Crabb

In accordance with the requirements of Section 57 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 1984.

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.

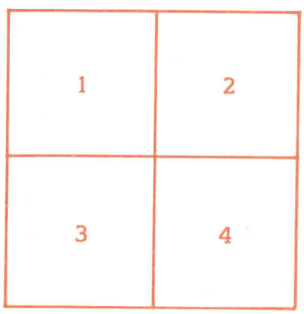
Yours faithfully

T H Russell
Chairman and Managing Director

CONTENTS

Victoria is the most densely populated State of Australia with some four million 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.
On 1st July 1983 the Road Construction Authority commenced operations with a brief to maintain and further improve the state's road system. The Authority was established under the provisions of the Transport Act 1983. This Act abolished seven transport authorities: the Country Roads Board, the Victorian Railways Board, the Melbourne and Metropolitan Tramways Board, the Road Safety and Traffic Authority, the Transport Regulation Board, the Railway Construction and Property Board, and the Melbourne Underground Rail Loop Authority. In their place, four new Authorities were established: the Road Construction Authority, Metropolitan Transit Authority, State Transport Authority and Road Traffic Authority.

Cover Description



1. Duplication work in progress on Canterbury Road, City of Croydon, was funded as an Australian Bicentennial Road Development Urban Arterial Road project.
2. The last gravel section of the Murray Valley Highway at Granya Gap, east of Tallangatta, was sealed in November 1983.
3. The new reinforced concrete bridge to carry Mountain Creek Road across Kiewa River (Shire of Bright).
4. The bypass of Keilor, one of four major projects opened during the year.

OVERVIEW

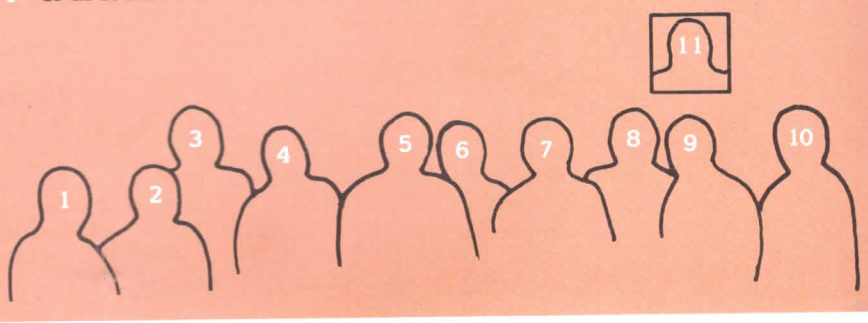
The Road Construction Authority

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.

A meeting of the Road Construction Authority members. Mr Wade, Deputy Director-General (Finance) attended the meeting to represent Mr A S Reiher, Director-General of Transport.

1 Mr D H Swanton
2 Mr E R Banks
3 Mr W J Gardner
4 Cr M K Hallam
5 Mr T H Russell
6 Mr J Davis
7 Dr J M Morris
8 Mr L J Bull
9 Mr R T Underwood
10 Mr P Wade
11 Mr A S Reiher (inset)



As at 30th June 1984, the members of the Authority were:

Mr A S 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 Reiher is a past Member and Chairman of the Australian Road Research Board and the National Association of Australian State Road Authorities.

Mr T H 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 41 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 of the National Association of Australian State Road Authorities.

Mr R T 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 32 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 L J 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 17 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 W J 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 22 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 J 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 15 years.

Mr E R 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 D H 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.

Cr M K Hallam, MBE, JP

Cr Hallam was appointed as a member of the Board of the Authority in his capacity as a municipal councillor. He has been a councillor of the Town of Stawell for almost 30 years and has been mayor on four occasions. He is currently President of the Municipal Association of Victoria and has been a member of the executive committee of the MAV for more than 11 years.

Dr J M 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.

Corporate Management Group

The Corporate Management Group consists of the Chairman and Managing Director and three Chief General Managers. During 1983/84, the Chief General Managers were:

Chief General Manager – Operations

Mr L M Jones, BCE, CE, Dip HC&TE (DUNELM), MIE Aust
Mr Jones has worked for the RCA (CRB) for 34 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 R T Underwood, also a member of the Authority.

Chief General Manager – Corporate Administration

Mr N L Allanson, AASA (Senior), JP
Mr Allanson retired as Chief General Manager – Corporate Administration on 27th February 1984 after 34 years of service with the Country Roads Board and RCA. Mr Allanson joined the CRB in 1950 from the Melbourne City Council. He held various finance and administrative positions in the CRB and was appointed as Secretary of the CRB in August 1962. Mr Allanson was appointed as a member of the Board of the CRB in December 1978 and was appointed as Chief General Manager – Corporate Administration of the RCA in July 1983.

Mr P E Stuart was appointed to the position in May 1984 but had not commenced duty as at 30th June 1984.

In addition, the General Manager – Personnel and Employee Relations (Mr R L Muller) participates in Corporate Management Group discussions in all matters which relate to personnel and employee relations.

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.

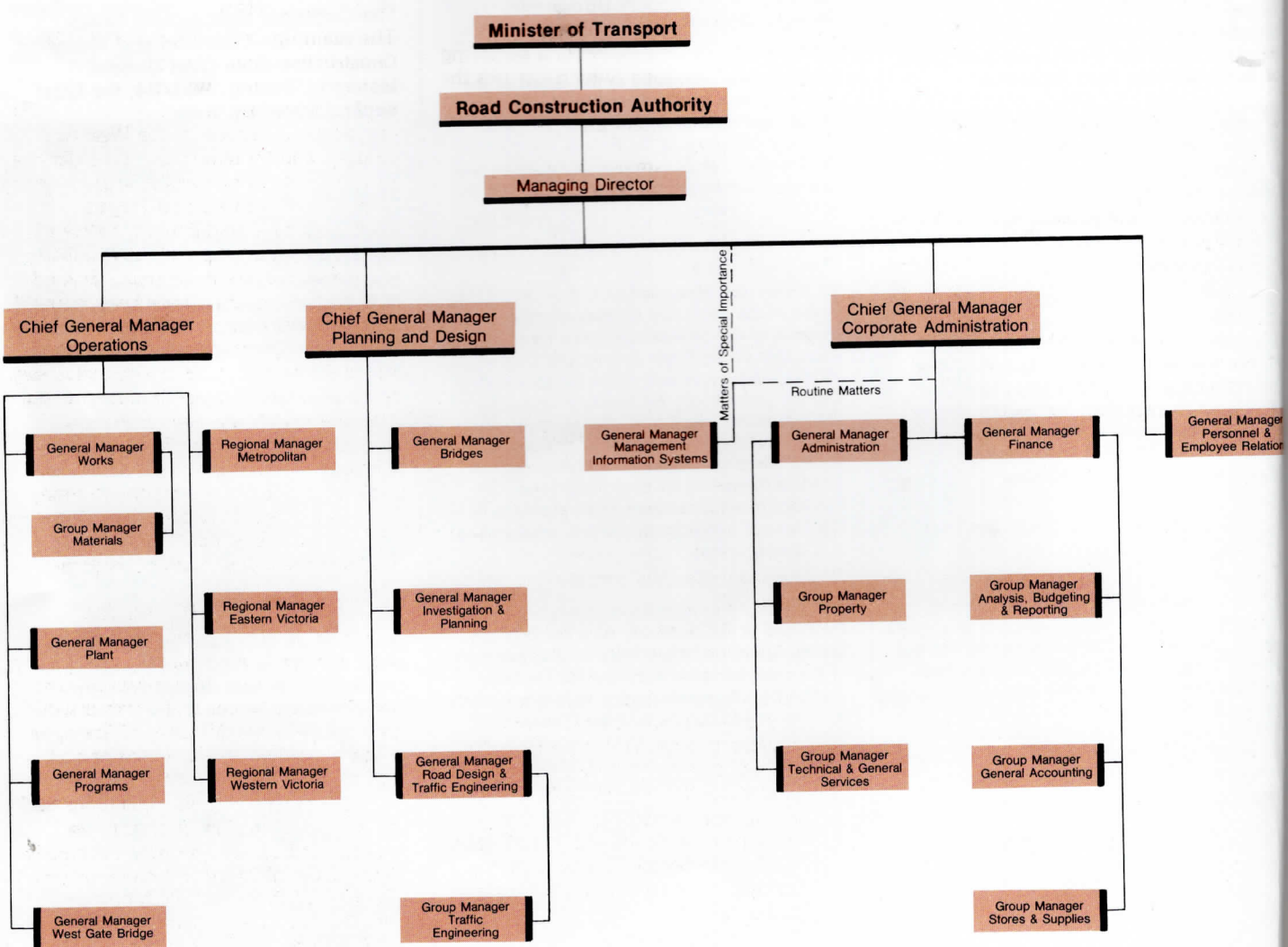
Planning and Design Branch

The Branch as a whole is responsible for 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 Organization Chart, as at 30th June 1984



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 Athority, 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.

Regionalisation

The main operational units of the Road Construction Authority are the ten regional Divisions, which are supplemented by certain specialist units (as for the operation of the West Gate Bridge), and by temporary units (for the implementation of specific large projects). Divisional Engineers and Project Engineers have traditionally exercised significant delegations of responsibility, but when matters have arisen beyond that delegation, they have been referred to Head Office and dealt with by officers with statewide responsibilities. During the latter part of 1983, a significant step towards further regionalisation was put into effect with the appointment of Regional Managers for Eastern Victoria, Western Victoria and the Metropolitan region. Under this arrangement, many of the matters which need to be referred on by Divisional Engineers and Project Engineers are dealt with by Regional Managers.

The Transport Act 1983 contains provision for the appointment of Regional Advisory Boards in conformity with the Government's moves towards greater consultation and involvement. Late in 1983, the Ministry of Transport engaged consultants to examine and report on proposals for further regionalisation, both for operations and for consultation. The Authority was represented on an Advisory committee that was established to provide advice to the Project Team, and RCA officers assisted the Project Team and provided staff support for the consultants.

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.

Regional Divisions

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

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

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

Bendigo Division
57 Queen Street
Bendigo 3550
Tel. (054) 43 9133

Dandenong Division
360 Maroondah Highway
Nunawading 3131
Tel. 878 0555

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

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

Metropolitan Division
700 High Street
East Kew 3102
Tel. 860 3211

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

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

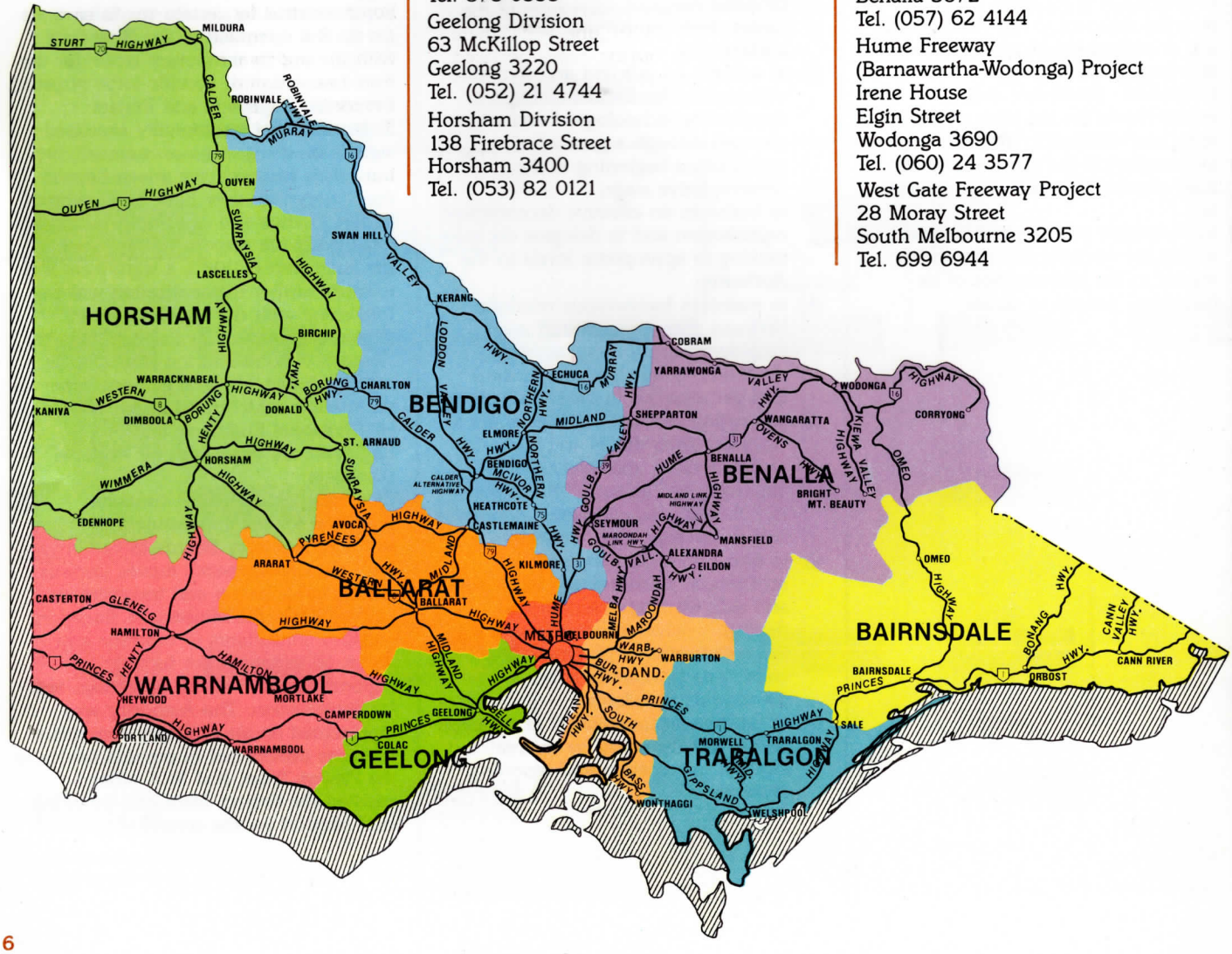
Project Offices

Eastern Projects
463 Waverley Road
Chadstone 3148
Tel. 211 7111

Hume Freeway
(Baddaginnie-Bowser) Project
Kelferra Road
Benalla 3672
Tel. (057) 62 4144

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

West Gate Freeway Project
28 Moray Street
South Melbourne 3205
Tel. 699 6944



Bob Gardiner ←

2391

M/U 4th Floor SA

Road Classifications

There are some 160,000 kilometres of public roads in Victoria, of which 24,252 km comprise the State's principal road network. The lengths of roads declared or proclaimed under the Transport Act as at 30th June 1984 were State highways 7,134 km, freeways 418 km, main roads 14,847 km, tourists' roads 840 km and forest roads 1013 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 1984, there were 7,134 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 1984, there were 418 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 1984, 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 cost 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 1984, there were 1013 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 1984, there were 14,847 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.

Left: Early morning sunlight filtering through the trees on the Calder Highway duplication project at Big Hill

REVIEW

Summary of Activities

During 1983/84 the Road Construction Authority:

- Expended $373.2 million on new roads and bridges and the maintenance and improvement of existing roads and bridges including expenditure of $154.8 million for works on main roads and unclassified roads which are the responsibility of municipal councils
- Completed, and opened to traffic, 26 km of dual carriageway roads
- Reconstructed 230 km of State highways, freeways and tourists' roads
- Sealed or resealed with bitumen 5,375 km of road
- Commenced the construction of 128 new bridges (including 65 commenced by municipal councils with financial assistance from the RCA) with an estimated total cost of $78.5 million
- Linemarked 41,000 km of roads at a total cost of $4.83 million
- Entered into 511 contracts with a total value of $153.5 million
- Received 37,050 emergency service calls from motorists
- Replied to 167,508 requests for information on the effect of the RCA's road proposals on particular properties
- Paid $16.6 million in compensation and associated costs for land required for roadworks
- Published 43 technical papers
- Employed 20 new apprentices, making a total of 77 apprentices
- Provided work experience for 200 students
- Held 101 internal training courses
- Provided training, under the Australian Development Assistance Bureau aid programme, for 13 overseas trainees.

Structuring the Road Construction Authority

At the first meeting of the Authority held on 1st July 1983, an interim organisational structure was adopted showing key positions in the organisation reporting to the Chief General Managers Operations, Planning and Design, and Corporate Administration, and the General Manager, Personnel and Employee Relations.

At the same meeting, delegations of authority were made to the Managing Director, the Chief General Managers, and the General Manager Personnel and Employee Relations. The Managing Director was authorised to exercise all authorities, powers and discretions conferred upon the Road Construction Authority which are necessary for the management of the affairs of the Authority, except for certain specified matters, and subject to certain directions. The Authority confirmed that all other officers would continue to undertake duties as assigned in the "former authority" as defined in the Transport Act, except where varied by further instruction issued as a result of the reorganisation process.

During July 1983, applications were invited for thirteen more RCA positions which became known as "Level 3" positions, being the next line of management below the Managing Director ("Level 1") and the Chief General Managers ("Level 2"). Level 3 included nine General Managers, three Regional Managers and the Manager – Internal Audit. Appointments were made on 25th October 1983, and a revised interim organisation structure was adopted incorporating the Level 3 positions. Agreement was reached with the staff associations that joint working parties would be established to review the organisation structure in each of the main areas. The review of the Corporate Administration Branch led to an agreement following which five Level 4 positions were advertised in January 1984 and appointments made. The reviews of the Operations Branch and the Planning and Design Branch were influenced by other events including the formation by the Ministry of Transport of two Project Teams, managed by consultants, one on regionalisation and the other on strategic and operational planning and works programming. Advertising of all Level 4 positions in the Operations Branch and the Planning and Design Branch had not been completed as at 30th June 1984.

Comprehensive sets of delegations of authority were adopted by the Authority for Chief General Managers and Regional Managers in December 1983 and for General Managers in January 1984.

West Gate Freeway

In August 1983 a contract was let for the construction of an elevated structure for the West Gate Freeway through South Melbourne. The 3.6 km West Gate Freeway is being constructed to provide a direct link between the West Gate Bridge and Kings Way. The contract for the 1.85 km elevated structure is the largest contract let by the RCA for bridgeworks and was awarded to Citra Constructions Ltd which will build the structure as a joint venture with their French parent company Spie Batignolles Batiment Travaux Publics.

The contract provides for the construction of the northern carriageway structure, but it also provides flexibility to enable a decision to be made at a later date, for the possible construction of the southern carriageway structure. The structure is being constructed in prestressed concrete using a match-cast segmental construction technique which involves each concrete segment of the bridge structure being cast against the preceding segment. The segments are then lifted into position and secured by high tensile steel tendons. The technique is used extensively overseas, but this will be only the second project in Australia to use this method of construction. (The Bowen Bridge over the Derwent River in Tasmania was the first.)

The advantages of this method are the elimination of conventional falsework, the increased speed of construction, the accuracy in construction and improved quality control.

The construction of the northern carriageway structure is expected to be completed by July 1986 at an estimated cost of $40 million.

Australian Bicentennial Road Development Program

In 1982 the Federal Government enacted the Australian Bicentennial Road Development Trust Fund Act which provides for an estimated $2,500 million to be spent on Australian roads in the period 1982/83–1988/89.

The 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) Program and will continue until 31st December 1989 to allow any residual funds to be disbursed in accordance with the objectives of the Act.

Funds paid into the Trust Fund are currently made available on the basis of 45% for National roads, 30% for urban arterial roads, 16% for rural arterial roads and 12% for local roads. The funds available under the Act may be spent only on construction works which have been approved by the Federal Minister for Transport as "Bicentennial Road Projects". The Act further provides that up to 25% of the urban arterial roads funds allocated to each State may be expended on urban public transport projects, subject to certain conditions.

The primary objective of the Act is to provide funds for projects which will significantly develop the nation's road network and which are relevant to the Bicentenary, i.e. are expected to be completed by, or soon after, the Bicentennial Year, 1988. The program is intended to enhance the safety of Australian roads and to facilitate the reliable and efficient movement of road traffic.

In 1982/83 ABRD funds of $36.7 million were made available to Victoria, of which $33.5 million was directed to roads projects and $3.2 million to urban public transport projects. Total ABRD roads expenditure in 1982/83 was $16.355 million. The following table shows the amounts of ABRD roads funds available to the RCA in 1983/84 for each road category, together with expenditure incurred in each category.

ABRD Roads Funds 1983/84[1] – Victoria

	National Roads	Urban Arterial Roads[1]	Rural Arterial Roads	Local Roads	Total
	$'000s	$'000s	$'000s	$'000s	$'000s
Commonwealth Allocation	29,400	22,500	16,000	10,100	78,000[1]
Expenditure 1983/84	26,405	18,016	14,136	11,427	69,984[1]

[1] Excludes urban public transport component.

The National Roads Expenditure of $26.405 million was incurred on the following thirteen projects on the Hume Highway, the Western Highway and the Princes Highway (Dandenong to Traralgon).

Project location/description

Hume Highway

Benalla-Wangaratta Section:

- Construct bypass of Benalla, west of Baddaginnie to Winton interchange (24.3 km)
- Construct bypass of Winton, including Winton interchange to Chivers Road (12.3 km)
- Construct bypass of Glenrowan (10 km)
- Construct bypass of Wangaratta (18 km)

Wangaratta-Wodonga Section:

- Construct duplication, Bowser to Chiltern (20.6 km)
- Construct duplication, Barnawartha to Wodonga (12.6 km)
- Construct twin bridges over NE Railway at 297 km

Western Highway

Melbourne-Ballarat Section:

- Construct bypass of Melton from Ferris Road to Harkness Road (8.8 km)

Ballarat-Horsham Section:

- Construct passing lanes, repair sections, realign and regrade between Trawalla and Beaufort (4.4 km)
- Reconstruction and regrading, including climbing lanes at Deep Lead (8.7 km)
- Construct deviation in Dimboola (6.1 km)

Princes Highway East

- Construct duplication, Nar Nar Goon to Bunyip River (17.2 km)
- Construct duplication, Longwarry Section (7.7 km)

In 1983/84 an additional 38 ABRD projects on Victorian arterial roads were approved by the Commonwealth Government. There are currently 34 such projects in rural areas and 32 projects in the urban areas of Melbourne, Geelong, Ballarat and Bendigo.

In selecting ABRD projects on local roads particular emphasis has been given to the replacement of timber bridges, the reconstruction of old, narrow pavements and the improvement of heavily trafficked roads in urban areas.

Work carried out under the ABRD program is subject to tender and as a result there has been a boost in the amount of work available to contractors in the road construction industry.

Opening of Four Major Projects

During the year, four major projects were opened to traffic.

Bypass of Berwick

On Wednesday 14th December 1983 the Federal Minister for Transport, the Honourable Peter Morris MHR, and the Victorian Assistant Minister of Transport, the Honourable Jack Simpson MP, jointly opened the 7.3 km bypass of Berwick on the Princes Highway. The $19.6 million bypass extends from the Princes Highway near Hessell Road, east of Narre Warren, to Pink Hill, Beaconsfield and has removed through traffic from the Berwick shopping centre. Seven overpass

structures have been constructed as part of the project including twin overpasses to carry the bypass over the Gippsland Railway at Narre Warren and near Pink Hill.

Bypass of Keilor

On Tuesday 17th April 1984 the Victorian Assistant Minister of Transport, the Honourable Jack Simpson MP, opened the Bendigo bound carriageway of the bypass of Keilor from Arundel Road to west of Oakbank Road to mark the completion of the bypass.
The whole bypass of Keilor, from Erebus Street to west of Oakbank Road was constructed to provide a safer and speedier route away from the busy Keilor shopping and business centre on the old highway. The whole project was constructed at a cost of $30 million.

Hume Highway, Longwood

On Friday 18th May 1984 the Victorian Assistant Minister of Transport, the Honourable Jack Simpson MP, opened a 10 km section of divided highway at Longwood on the Hume Highway. The 10 km section extends from Glenburys Road to Creighton Road and includes a 3 km bypass of Old Longwood. The $10 million project brought the total length of divided highway on the Hume route to 151 km which marks the half way point of the duplication of the highway between Melbourne and Wodonga.

Extension of the Mornington Peninsula Freeway

At the invitation of the Victorian Minister for Transport, the Honourable Steve Crabb MP, the Federal Minister for Transport, the Honourable Peter Morris MHR, opened the 5 km extension of the Mornington Peninsula Freeway on Friday 8th June 1984.

The $18.5 million extension between Dromana and the Nepean Highway at Mt Martha has initially been constructed as a single two lane, two way carriageway with dual carriageways over the Nepean Highway interchange and its approaches at Dromana.

Extension of the work to Moorooduc Road, Moorooduc South is expected to commence in the 1984/85 financial year.

Opposite page
Top left: A ceremonial ribbon cutting marked the official opening of the bypass of Berwick. Pictured here, from left to right, are Mr Tom Russell (Chairman & Managing Director, RCA), Cr Michael Moore (President, Shire of Pakenham), Mr Jack Simpson (Victorian Assistant Minister of Transport), Mr Peter Morris (Federal Minister for Transport) and Cr John Byron (Mayor of Berwick)
Top left: Construction of the Hume Highway, Longwood Section. Rollers compacting the work of the Longwood
Lower left: The newly-opened Longwood Section of the Hume Highway

This page
Right: Pictured at the official opening of the Mornington Peninsula Freeway Extension are, from left to right, Mr Nelson Waslin (Federal Dept of Transport), Mr David Hassett MP (Member for Kunyung), the Hon Steve Crabb MP (Victorian Minister of Transport), the Hon Jack Simpson MP (Victorian Assistant Minister of Transport), and the Hon Peter Morris MHR (Federal Minister for Transport)

Measures and Indicators of Performance

The Program 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. Midway through 1983/84, the Victorian Transport Directorate approved a small group of quantitative targets for the RCA. The following table shows these targets and the actual achievements.

Quantitative Targets

Category	Indicator	1983/84 target	1983/84 actual achievement
Financial (Aggregate)	Total recurrent expenditure	$345.9m	$342.2m
	Total capital expenditure	$161.6m	$164.7m
	Current estimated expenditure by Local Government for main and unclassified roads	$149.1m	$137.8m
Network upgrading and improvements	Freeways with surface retreatment	10.0%	approx. 11.0%
	State highways with surface retreatment	11.0%	approx. 9.6%
	Freeways reconstructed/resheeted	2.0%	1.2%
	State highways reconstructed/resheeted	2.0%	2.7%
	New bridges commenced under RCA supervision	58	54
Employees	Total employment (full time equivalent-year average)	4,856	4,933
	Hours lost through sickness/ million worked hours	30,000	27,563
	Lost time injuries/million worked hours (disabled injury frequency rates)	45	48.03

It should be noted that the total overall performance in the category 'Network Upgrading and Improvements' approximates the total target figures.

Transfer of Functions to the Road Traffic Authority

The Transport Act 1983 prescribes the functions of each of the Authorities in the Transport portfolio and provides for Authorities to enter into agreements with each other for the exercise of their respective functions. Such an agreement was used for the first few weeks of 1983/84 to enable RCA officers to continue to issue permits related to the mass and dimensions of commercial vehicles while arrangements were being negotiated for the transfer of the officers engaged on these activities to the Road Traffic Authority.

A Ministerial Directive issued in August 1983 established the basis for defining the relative responsibilities of the RCA, RTA and municipal councils for road management and traffic management including traffic signal systems. Operating guidelines to put the Ministerial Directive into effect have now been implemented.

South Eastern – Mulgrave Arterial Road Link

Initial field activities related to the construction of the $104 million arterial road to connect the South Eastern Freeway with the Mulgrave Freeway commenced in March 1984.

Approximately 48,000 vehicles enter or leave the Mulgrave Freeway at Warrigal Road each day, whilst 59,000 vehicles enter or leave the South Eastern Freeway at Toorak Road. Much of the traffic travelling between the two freeways uses existing residential streets and the construction of the arterial road link will ease traffic problems in the area and divert through traffic from residential streets.

The design of the 6.7 km arterial road provides for two lanes of traffic in each direction separated by a narrow median. Signalised intersections will be provided at Toorak Road, Tooronga Road, Burke Road and Warrigal Road.

Overpasses to carry traffic over the arterial road will be constructed at High Street, Moira/Dunlop Street connection and Winton Road, and the arterial road will pass over Great Valley Road and Waverley Road.

Pedestrian overpasses will be constructed at York Road, Brixton Rise, Darling Railway Station, East Malvern Railway Station and Shrewsbury Street. A pedestrian underpass will be provided at Allenby Avenue.

The arterial road link will generally be built parallel to the Glen Waverley Railway Line for most of its length, on an alignment known as C3. The Melbourne and Metropolitan Board of Works has commenced sewer relocation work which is estimated to cost $1.8 million. This work is expected to be completed by the middle of 1985. Other service relocation work for power, telephones and gas will follow the Board of Works' activities and actual roadworks are scheduled to commence between Toorak Road and Burke Road in mid 1985.

Some of the significant stages of the works program involve:

- Construction of a road-rail grade separation at Scotchmans Creek, near Waverley Road, early in 1985.
- Reconstruction of Burke Road in mid 1985.
- Reconstruction of Tooronga Road in late 1985.
- Completion of the entire project by late 1988.

During the year a display featuring the arterial road proposal attracted some 1,400 visitors of which 350 filled in comment sheets on the project.

The analysis of these comments is as follows:

- 33% gave unqualified support to the proposals
- 24% would prefer a full freeway and/or grade separations
- 30% did not oppose the proposals and made specific comments
- 13% opposed provision of a connection between the freeways.

NAASRA Roads Study

In May 1980, the National Association of Australian State Road Authorities (NAASRA) decided that, for it to be able to speak authoritatively on the subjects of road conditions and road funding, it would carry out a comprehensive study of Australian roads. The NAASRA Roads Study (NRS), commenced in late 1980 and was completed in March 1984.

The NRS was conducted on an Australia-wide basis and covered all roads. They were grouped into three categories; rural arterial roads, urban arterial roads and local roads.

The main objectives were:

(i) to provide a clear picture of the nature and condition of the Australian road network, taking 198 as the base year; and

(ii) to illustrate the effects of various levels of future road funding on the nature and condition of the Australian road system and of the cost of transportation on it.

The NRS was an extensive study, carried out co-operatively by the Road Authorities in the seven States (including the Northern Territory), the Commonwealth Department of Housing and Construction, and Local Governmen In addition to technical aspects, consideration was also given to land us social and environmental factors, natura resources, recreation and tourism, and defence.

The Bureau of Transport Economics also carried out a program of road studies concurrently with the NRS. Close liaison and good working relationships were established between the NRS and the Bureau in order to minimise duplication of effort and resources.

Specialist advice was obtained from consultants and from the Australian Road Research Board.

The results of the NRS are summarised in a final summary report entitled "Funding the Future: Australian Roads" and a final study report entitled "Repor on the Australian Road Network". In addition 18 other technical reports set out details of the study procedures and results and discuss technical aspects. Th RCA also issued a brochure and a repor on the Victorian road network.

The NRS is the most comprehensive roa study ever carried out in Australia.

A summary of the results of the

NAASRA Roads Study in relation to Victoria is detailed below:

(a) in 1981 24% of national highways were below the minimum standards set by the Federal Government; motorists were experiencing poor traffic conditions on roads carrying 20% of travel on Melbourne arterial roads and 15% of travel on rural arterial roads; the standard of local roads fell well below community expectations with 20% of urban streets being unsealed and only 23% of rural local roads being sealed (of which 4% were very rough); in summary there was considerable cause for concern;

(b) over the past decade road funding has declined in real terms, particularly on urban arterial roads; this has only partially been reversed by the advent of the Australian Bicentennial Road Development (ABRD) Program;

(c) road travel is expected to continue to increase in the future, although at a lesser rate than in recent years. During the period 1981 to 1991, it is estimated that total travel on urban and rural arterial roads in Victoria will to increase by 30% and 22% respectively. The increase in traffic on most local roads will be considerably less, except that there will be substantial increases on some of the more important urban local roads as arterial roads become more congested. The numbers, size and gross mass of trucks are likely to continue to increase;

(d) on urban arterial roads, if 1980-81 funding levels were maintained in real terms over the period up to 1991, travel conditions would progressively worsen. Even if the average funding over the period were increased by 50% in real terms, conditions generally would be worse than at present;

(e) on rural arterial roads, if 1980-81 funding levels were maintained in real terms over the period up to 1991, the length of road with poor or fair travel conditions would slightly reduce but the total amount of travel with poor or fair conditions would increase. At this funding level the roughness of arterial road pavements would worsen. Significantly increased funding would be required to reduce the backlog of pavement reconstruction. There is likely to be some improvement in the strength and width of bridges on rural arterial roads at all future funding levels;

(f) on both rural and urban arterial roads, increased road funding would provide worthwhile economic returns, and would result in a reduction in accidents and fuel consumption;

(g) on both rural and urban local roads significant road and bridge reconstruction needs will remain in 1991 even with an increased level of funding;

(h) in addition to direct economic benefits, investment in roads can result in many other benefits such as improved access to a wide range of cultural and social activities and community services, increased employment, reduced effect on the amenity of local areas (in urban areas).

Review of Road Vehicle Limits Study

In May 1984 NAASRA decided that it would carry out a study to review the mass and dimension limits for vehicles using Australian roads. This NAASRA Study is expected to be completed by mid 1985.

The recommendations of the Economics of Road Vehicle Limits Study (ERVLS) undertaken by NAASRA in 1973–75 will be used as the basis for the new study on mass and dimension limits for heavy vehicles in Australia. Since the 1975 Study, marked changes have occurred in the vehicle fleet and in the road network. These changes have prompted the review of mass and dimension limits with an aim of recommending appropriate limits to apply for future years.

An additional objective of the Study is to provide a more effective data base for

- road planning relating to road freight
- pavement and bridge design, and
- a study of the economics of load enforcement.

The study will include a survey of the present heavy vehicle fleet including data on

- axle loadings and gross vehicle mass
- vehicle configuration and dimensions
- vehicle movement by time, day and date
- trip origin and destination.

In recent years, there has been a dramatic increase in the use of heavy vehicles on Victorian roads, arising from increased use of articulated trucks and buses, particularly on interstate routes. Survey by the Australian Bureau of Statistics on motor vehicle usage indicate that between 1979 and 1982, the total annual distance travelled by large Victorian registered semi-trailers (i.e. those with a tare weight of 11 tonnes or more), increased by 40%. This represents an average annual increase of 12% over the 3 year period. Furthermore, the average load (mass) carried by these trucks has increased. As a result, the freight task, in terms of tonne kilometres moved, performed by these vehicles has increased by 47% over the three year period, representing a 14% average annual increase.

The increase in travel by large trucks has been due, in part, to increases in interstate truck travel. Between 1979 and 1982, interstate travel by trucks with a tare mass of 11 tonnes and over increased by 39%, about the same percentage increase that has occurred for all Victorian registered trucks in this category. Of all travel in Victoria by these large trucks, about one third is by trucks registered in other States.

Similarly, coach bus travel on Victorian highways has been increasing in recent years.