

VICTORIA

Report

of the

ROAD CONSTRUCTION AUTHORITY

for the

Year ended 30 June 1986

Ordered by the Legislative Assembly to be printed

MELBOURNE
F D ATKINSON GOVERNMENT PRINTER
1985-86





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

24 September 1986

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 1986.

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 acknowledge the contributions made by my predecessors, Mr T H Russell and Mr R T Underwood. Mr Russell retired on 18 April 1986, after 43 years with the RCA, including the last eight years as its Chairman. Mr Underwood was appointed for a three month period following Mr Russell's retirement. Their terms of office have significantly contributed to the formation and development of the RCA.

I thank all our employees for their continued efforts to ensure that the Victorian community has an efficient and effective road system, and for their unstinting loyalty to their organisation and its objectives.

Kindest regards.
Yours sincerely

Ian F X Stoney
Chairman and Managing Director

1985/86 Annual Report
Road Construction Authority
ISSN 0816-3499

CONTENTS

OVERVIEW	The Road Construction Authority	1
	Commentary	
	The Road Outlook.....	4
	Mr T H Russell retires.....	6
	New Chairman and Managing Director appointed.....	7
	Major Project Opened	7
	Summary of Activities	7
	Measures and indicators of performance.....	8
	RCA Structure and Divisions	9
	Road Classifications	10
MAJOR ACTIVITIES	Summary of works	
	Major roadworks.....	15
	Major bridgeworks.....	19
	Bituminous surfacing.....	20
	Visits to municipalities	20
	Deputations	21
	Landscaping	21
COMMUNITY SERVICES	Public information	
	Property enquiries.....	30
	Corporate Relations.....	30
	Freedom of Information.....	31
	Emergency Services	32
	Snow clearing	33
	Wayside stops and facilities	34
RCA PEOPLE	Special achievements of personnel	35
	Staffing	35
	Apprenticeships	36
	Personnel services, safety and welfare	36
	Human Resource Development	36
	Industrial Relations	37
	Equal Employment Opportunities	37
	Occupational Health and Safety	38
	Overseas Travel – RCA Officers	38
GENERAL ACTIVITIES	Linemarking	42
	State Route Numbering	42
	Direction and Street Signing Projects	43
	Planning studies and activities	43
	Road Design and Traffic Engineering	47
	Other organisations	
	National Association of Australian State Road Authorities.....	47
	Australian Road Research Board.....	48
	Australian Transport Advisory Council.....	48
	42nd Conference of Municipal Engineers	49

Land Acquisition and Property Management	49
Research and Development	
Accelerated Loading Facility.....	51
CULWAY/AXWAY automatic vehicle weighing.....	51
Legislation Affecting the RCA	51
Activities	53
Funding 1985/86	53
Program Budgeting	55
Financial Statements and Notes	59

FINANCE

OVERVIEW

Victoria is the most densely populated state of Australia, with a population of approximately 4,100,000 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 its 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, replacing the previous Country Roads Board.

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
- a person having knowledge of and experience 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
- two members elected by RCA employees

The members of the Authority during 1986 were:

Mr Russel Ingersoll ***Director-General of Transport***

Mr Ingersoll, B Bus, ASTC, replaced Mr Alan Reiher as the Director-General of Transport on 26 May 1986, and ex officio became a member of the Authority. Mr Ingersoll has been appointed for a five year term as Director-General and this follows three years as General Manager of the Melbourne and Metropolitan Board of Works. Prior to his employment with the MMBW, Mr Ingersoll was Assistant Director of the NSW Department of Public Works, in which capacity he was directly responsible for approximately 1200 employees.

Mr Alan Reiher was appointed the Victorian Commissioner for North America after three years as Director-General of Transport, and three years as Chairman of VicRail (now V/Line).

Mr Tom Russell ***Chairman and Managing Director***

Mr Russell, M Eng Sc, BCE, Dip CE, CE, FIE Aust, FCIT, was the Chairman and Managing Director of the Authority until his retirement in April 1986. He worked for the RCA for 43 years and 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 Chief Executive Officer (Road Construction) in November 1982 and Chairman and Managing Director of the RCA in July 1983. Mr Russell has been a member and past chairman of the Australian Road Research Board and a member and past chairman of the National Association of Australian State Road Authorities.

Mr Robin Underwood ***RCA Officer nominated by the Chairman and Managing Director***

Mr Underwood, ME, BCE, Dip T&RP, CHT (Yale), CE, FITE, FIHT, FCIT, FRAPI, FIE Aust, is the RCA's Chief General Manager – Planning and Design, and a member of the Authority. He has worked for the RCA for 34 years and has held various engineering and management positions in the RCA. Mr Underwood was appointed to the position of Chief Planning Engineer in the Country Roads Board in 1975, and to the position of Chief General Manager – Planning and Design in May 1983. He was appointed the Chairman and Managing Director for a term of three months following the retirement of Mr Tom Russell in April 1986.

Mr Bill Shum ***Elected by RCA officers***

Mr Shum is employed in the Survey Investigations and Development Section of the RCA, after having worked on the West Gate Freeway and Nepean Highway projects. Formerly a shop steward at West Gate Freeway Project, Mr Shum

is a member of the RCA Sub-Branch and Victorian Branch Committees of the Municipal Officers Association. He has travelled widely overseas and in Australia, and worked on projects in Western Australia and the Northern Territory.

In November 1985, Mr Shum replaced Mr Les Bull, who was elected to the Authority by RCA employees in October 1983. Mr Bull has been a Committee member of the RCA Municipal Officers' Association Sub-branch and is the Divisional Accountant at the RCA's Dandenong Division.

Mr W J (Ian) Gardner
Elected by RCA officers

Mr Gardner, B Sc (Eng), was elected to the Authority by officers of the RCA in 1983. He has worked for the RCA for 24 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
Involved in the transport industry

Mr Davis was appointed to 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 the branch level for 17 years.

Mr Roger Banks
Representing private road users

Mr Banks, BEE, FTS, FIE Aust, FAIM, FSSE, is a councillor of the Royal Automobile Club of Victoria and a member of the Finance and Service Committees of the RACV. He is also a councillor of the Australian Institute of Management and a member of the Institute's Finance Committee. As Director of Business Development for Telecom Australia, Mr Banks has been involved in senior management positions in the field of telecommunications, engineering and management.

Mr Ivan Backman
Knowledge of road transport vehicles

Mr Backman has been Managing Director of Linfox Transport (Aust.) Pty Ltd since May 1985. He joined Linfox in 1978 as general manager and became Operations Director in 1980. Over the last five years, he has kept a close watch on innovations in road transport methods and equipment and set up a support operation for Redec, a Saudi Arabian transport company.

Cr Leon Trembath
Councillor of a municipality

Cr Trembath is a councillor of the City of Springvale and, in addition to representing Springvale on the Municipal Association of Victoria, he is a member of the MAV executive and represents that organisation on a number of working parties, committees and State government bodies. A past chairman of the Natural Resources Conservation League, Cr Trembath maintains that interest along with his leisure activities of botany and photography.

Dr Jenny Morris
Nominee of the Minister for Transport

Dr Morris, BA (Hons), Ph D, 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 research.

Functions of the Road Construction Authority

The Act sets out the functions of the 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 Road Construction 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 that 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 the 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 resources 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.

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 concerned. During 1985/86, the Chief General Managers were:

Chief General Manager – Operations

Mr Laurie Jones, BCE, CE, Dip H&TE (DUNELM), MIE Aust, has worked for the RCA for 36 years and has held various engineering and management positions in both metropolitan and regional divisions of 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 Comm, AASA (Senior) joined the Authority following a period of secondment to the Ministry of Transport. For the past nine 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.

Commentary

The Road Outlook

Road programs and priorities

The Road Construction Authority undertakes three road programs on behalf of the State

government: the Metropolitan Roads Facilities Program, the Rural and Provincial City Road Facilities Program, and the National Roads Program. The programs support the government's policy initiatives, "Economic Strategy for Victoria", "State and Regional Industry Policies", "The Tourism Strategy", and the "Metropolitan Land Use Development Strategy".

Each year, the the Minister for Transport specifies strategic program guidelines for the following three years. The road programs reflect the government's goals and objectives by supporting freight movement, commerce and tourism to assist the Economic Strategy and the Industry Policies; by improving road safety; by assisting public transport; by protecting and enhancing the environment; and by giving priority to routes carrying high volumes of traffic. Emphasis is given to small scale works in all programs, and for major projects, to staging construction and compressing construction times.

For the **Metropolitan Roads Facilities Program** a large proportion of expenditure is on three major commitments, the South Eastern–Mulgrave Arterial Road Link, the Greensborough bypass and the West Gate Freeway South Melbourne Section. Other significant works are the duplication of major rural and recreational outlet corridors, and the widening and/or duplication of narrow rural-type roads in the outer developing areas of Melbourne.

The significant works of the **Rural and Provincial City Road Facilities Program** include the approach and new crossing of the Barwon River in Geelong, and the duplication of a section of the Glenelg Highway in Ballarat (Skipton Street). Other significant works include major bridges (new Genoa River crossing on the Princes Highway), major duplications and bypasses (e.g., Gisborne and Kyneton on the Calder Highway) and major realignments (e.g., the Great Ocean Road).

The major current objective of the **National Roads Program** is the provision of four lanes on the Hume Highway from Melbourne to the N.S.W. border. Significant works are currently underway to bypass Benalla, Winton, Glenrowan and Wangaratta, and to duplicate between Wangaratta and Wodonga. On the Western Highway, work has commenced on the bypass of

Dimboola. With the Developmental Road Sections of the Princes Highway, major works are underway at Tynong, Longwarry, and Darnum, together with a bypass of Morwell. While the content of this program is largely determined by Federal government standards and objectives, which funds the program, it nevertheless makes a significant contribution to State government goals and objectives by assisting commercial vehicles and tourist traffic.

METRAS

In June 1986, the Minister for Transport, Mr Tom Roper, released a draft report of the Metropolitan Arterial Road Access Study (METRAS) for public comment. This report recommends a ten year development strategy for this road category. When decisions of the strategy have been made by the government, the approved roadworks will be included in RCA road programs.

Road needs

Another high priority for road funding is for the Metropolitan arterial road sub-program. The need for increased funding and the high economic and safety benefits have been extensively documented in studies by the National Association of Australian State Road Authorities and the Bureau of Transport Economics. The BTE roads study found that

"Urban arterial roads constitute the category of most concern, in that it seems likely that a continuance of existing trends in expenditure will result in a general fall in level of service".

Urban roads cater for 99.5% of urban goods movement, 94.5% of urban person trips, 90% of urban journey-to-work trips and 50% of peak-hour trips to the Central Activities District. The total travel on arterial roads in Melbourne is expected to increase by 40% over the next decade.

METRAS improvement proposals total over \$1000 million, and although all are warranted now and would contribute to the Economic Strategy, they are being delayed by lack of funds. Without additional funding in the next ten years, essential improvements to freight connections between National and State highways and the industrial zones of Melbourne cannot proceed.

Information from the 1982 and 1985 motor

vehicle usage surveys by the Australian Bureau of Statistics shows that there has been a growth of 30% in the annual tonne-kilometres of road freight moved in Victoria over the last three years. These figures again substantiate the rapid growth in commercial vehicle travel on Victorian roads in recent years.

Australia needs to accelerate its road infrastructure programs to assist export and import-substituting manufacturing industries and the fast growing international tourist industry, by lowering transport costs as well as reducing the road toll. This would also provide substantial employment flow-on effects and improve the quality of life for the whole community.

Road funding

1985/86 financial year

On 1 July 1985, a new five-year Australian Land Transport (Financial Assistance) Act (ALTP) commenced. This replaced the Road Grants Act 1981 (RGA).

The ALTP funding of National and Local road categories was maintained at approximately the same level in real terms as for 1984/85, but funding of urban and rural Arterial roads was cut by over 20% in real terms. In 1985/86 the State government provided \$39 million additional funds (above normal sources) to offset the decline in Federal funding. This prevented substantial reductions in employment levels in the RCA, municipalities and the road construction contracting industry. Federal cutbacks for Arterial roads was contrary to the studies mentioned above. These both showed that the greatest needs could be alleviated and the best economic returns to the nation achieved by increasing expenditure on urban and rural Arterial roads.

The Year Ahead

The Federal road funds for 1986/87 announced in the 1986 Budget represent a further substantial cutback of about 8% in real terms. The ability of the State government to make up this shortfall has been severely hampered by Federal oil import parity pricing decisions, which have seriously reduced State revenue. However, the State government has decided that it will maintain its road funding contribution in real terms in 1986/87, in contrast to the Federal reduction of

\$23 million in real terms. Over the first two years of the Australian Land Transport Program, Victoria has lost over \$40 million due to Federal cutbacks.

The inequitable Victorian share of road taxes

Victorian motorists are paying for roads in other states with funds that should be used in Victoria. The Victorian government's submission to the Independent Committee of Inquiry into the Distribution of Federal Road Grants clearly establishes a need to increase Victoria's share of road funds on economic grounds. It argues that on equity, road usage, efficiency and relative cost criteria, a greater share of Federal road funds is justified.

Victorians only get \$39 p.a. per head returned by the Federal government as road funds—the lowest of any Australian state. New South Wales residents get \$47 p.a. per person, 20% more than Victorians; Queenslanders get 66% more than Victorians, and Northern Territorians get more than \$4 p.a. per head for every \$1 Victorians get.

Victoria's submission seeks a change to the 15% return to Victoria on Federal fuel taxes, when the Australia-wide return is 18%. Victorian motorists contribute \$2 billion in the form of Federal fuel taxes and charges, almost 25% of the total amount collected nationally. Less than 20% of the road funds distributed is returned to Victoria, yet more than 25% of all travel in Australia is in Victoria.

Road investment should be directed to areas with the highest concentration of people and industry, where the greatest economic benefit will be derived not only by road users but also by all Australians, through reduced freight costs and improved competitiveness.

The equitable distribution of road funds is essential to the economic development of Victoria by providing motorists and business with a safe and efficient road system.

Beyond the Bicentenary

The Australian Bicentennial Road Development (ABRD) Trust Fund Act legislation, funded by a 2¢ per litre levy on petroleum products, will continue until 1988/89. There is no Federal commitment as yet to continue funding after that year.

ABRD funds currently constitute over \$90 million of the Victorian road and public transport programs, mostly on National and Arterial Road Programs. A failure to continue the ABRD program would have a drastic effect on RCA and municipal employment levels and those of private road construction contracting and associated industries. Furthermore, the effects on the level of service provided to the motoring community and freight-moving industry would be very substantial.

The ABRD program has provided an important boost in rehabilitating and upgrading the nation's road infrastructure, lowering transport costs and helping to meet the rapidly expanding travel needs of Australian industry and commerce. It is important that the partial catch-up of roads needs achieved under the ABRD program is consolidated by a further Federal road program.

Both BTE and NAASRA are currently undertaking studies aimed at advising governments on desirable road funding levels to the year 2000.

Mr T H Russell retires

Mr Tom Russell retired from the Road Construction Authority as Chairman and Managing Director on 18 April 1986 after 43 years of involvement in the development of roads and bridges in the State.

In the early years of his career, Mr Russell held various positions in regional Divisions and Head Office, including approximately one year on survey and engineering supervision work associated with the construction of the North-South Road between Alice Springs and Darwin during the Second World War.

He was appointed Assistant Divisional Engineer for Traralgon Division in October 1950, and Assistant Engineer for Plans and Surveys in April 1959. Later appointments included Assistant Bridge Engineer, Deputy Chief Engineer – Bridge, Deputy Chief Engineer, and in August 1970 he became Chief Engineer.

He was appointed to the Board of the Country Roads Board in 1971, became Deputy Chairman in 1974 and Chairman in 1978. With the restructuring of the transport portfolio he was

appointed Chief Executive Officer (Road Construction) in November 1982 and on 1 July 1983 he became the Chairman and Managing Director of the Road Construction Authority.

Mr Russell has been a member of the National Association of State Road Authorities and of the Australian Road Research Board for many years, serving terms as Chairman of both organisations. He was a member of the Executive Committee of the Australian Organising Committee for the XVI World Road Congress of the Permanent International Association of Road Congresses, held in Sydney in 1983. He has also been an active member of many other committees at both the state and national level.

At its meeting on 8 April 1986, the Road Construction Authority placed on record its appreciation of the services of Mr Russell as its first Chairman and Managing Director, noting particularly his "outstanding leadership and very able guidance to the Authority in its deliberations", and also his "substantial contribution to the current high standard of roads and bridges in Victoria."

New Chairman and Managing Director appointed

Mr Robin Underwood was appointed the interim Chairman and Managing Director for a three month period from 21 April 1986. Mr Underwood is the Chief General Manager – Planning and Design and has been with the RCA for 34 years.

On 3 July 1986, the Minister for Transport, Mr Tom Roper, announced the appointment of Mr Ian F X Stoney, AASA, Dip. Bus. Studies, MAGI, FAIM, as Chairman and Managing Director of the Road Construction Authority. Mr Stoney was previously the Managing Director designate of the proposed Victorian Ports Authority, and prior to that the General Manager of the Grain Elevators Board of Victoria. His free time is largely devoted to the Catholic Family Welfare Bureau, of which he is Chairman.

Major Project Opened

The Minister for Transport, the Hon. Tom Roper, M.P., together with the Federal Transport Minister,

the Hon. Peter Morris, M.H.R., opened the 9 km Bypass of Warragul on the Princes Highway (East) on 12 December 1985.

The highway is one of the busiest and commercially important rural highways in Victoria, providing a road link to the Latrobe Valley and the holiday resorts and rural produce areas along the east coast. The bypass is part of a strategy to provide a divided highway from Melbourne to Traralgon, and brings the length of divided highway on that section to 108 km.

The project began in May 1981, and was jointly financed by the State and Federal governments after the route was classified as a National Developmental Road. The construction cost of the Bypass was \$23 million. The bypass is expected to reduce congestion in Warragul, and result in less road accidents and their associated costs to the community in medical expenses, welfare compensation and repairs. A further 10 km Bypass of Morwell is under construction, and is due to be opened to traffic in 1988/89.

Summary of Activities

During 1985/86 the Road Construction Authority:

- Expended \$431.8 million on new roads and bridges and the maintenance and improvement of existing roads and bridges including expenditure for works on main roads and unclassified roads which are the responsibility of municipal councils
- Completed, and opened to traffic, 47 km of dual carriageway roads
- Reconstructed 138 km of State Highways, Freeways and Tourists' Roads
- Sealed, or resealed with bitumen 5167 km of road
- Commenced the construction of 92 new bridges (including 48 commenced by Municipal councils with financial assistance from the RCA) with an estimated total cost of \$43.646 million
- Linemarked 43,500 km of roads at a total cost of \$6.638 million
- Entered into 470 contracts with a total value of \$156.7 million
- Received 33,232 emergency service calls from motorists
- Replied to 154,891 requests for information as to the effects of the RCA's road proposals on particular properties
- Paid \$30.24 million in compensation and associated costs for land required for roadworks
- Employed 15 new apprentices, making a total of 69 apprentices
- Provided work experience for 250 students
- Held 122 internal training courses
- Provided training, under the Australian Development Assistance Bureau Aid Program, for 8 overseas trainees from Austria (1), Burma (1), Egypt (1), Indonesia (4) and Japan (1).

Measures and indicators of performance

The Program Budgeting System which has been adopted by the State government aims to provide information on activities of the Road Construction Authority 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.

In addition, the Transport Act, Section 4 (1) (e) requires that the Minister for Transport establish quantitative targets to be attained by the Authority. These targets and their actual achievements are shown in Box 1.

Box 1 – Measures and Indicators of Performance

Category	Indicator	1985/86 Targets	1985/86 Actual	1986/87 Targets
		\$million	\$million	\$million
<i>Financial (Aggregate)</i>	Total recurrent expenditure	289.8 ¹	291.7	301.5
	Total capital expenditure	279.4	280.2	277.3
	Current estimated expenditure by local government for main and unclassified roads	153	155.7	147.4 ²
		%	%	%
<i>Network Upgrading & improvements</i>	Freeways – surface retreatment	7.0	14.8 ³	9.7
	State Highways – surface retreatment	11.3	12.4 ⁴	9.8
	State Highways reconstructed/resheeted	1.2	1.6	1.4
		No.	No.	No.
	New structures commenced under RCA supervision	40	40	41
		km	km	km
	Construction of additional lane kilometres	68	79	85
		No.	No.	No.
<i>Employees</i>	Total employment (full-time equivalent – year average)	4,850	4,761	4,600
	Hours lost through sickness/million worked hours	27,500	28,400	27,500
	Lost time injuries/million worked hours (disabled injury frequency rates)	45	45.5	40
	Hours lost through industrial disputes/million worked hours	150	41	100

Figures quoted above for 1986/87, which are based upon the 1985/86 results, are preliminary estimates only.

1. Includes West Gate Bridge expenditure and agency works.
2. Reflects decline in ABRD funds available for expenditure by local government in 1986/87 compared to 1985/86.
3. The over-target performance achieved in 1985/86 in relation to surface retreatment of freeways followed significant additional work in Benalla, Bendigo and Metropolitan Divisions.
4. The over-target performance in State Highway resurfacing was due to additional work in the final seal component where 2.3% of the network was treated compared with the target component of 1.3%.

Sources of funds

The RCA administered its expenditure through four programs—Corporate Services, National Roads, Metropolitan Roads Facilities, and Rural and Provincial City Road Facilities.

Funds were received for these programs in 1985/86 from both State and Federal sources. State funds were provided from the Consolidated Fund. Federal funds were provided by the Australian Land Transport (Financial Assistance) Act and the Australian Bicentennial Road Development (ABRD) Trust Fund Act.

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) Program and will continue until 31 December 1989 to allow funds to be disbursed in accordance with the objectives of the Act, although the surcharge ceases as at 31 December 1988.

RCA Structure and Divisions

The Three Branch Structure

The Road Construction Authority is organised into three main branches:

Operations Branch

The Operations Branch 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 limitations of available funds.

Planning and Design Branch

The Planning and Design Branch is responsible for the management and co-ordination of investigation and planning, road design, survey, right-of-way and traffic engineering and bridge engineering functions in order to efficiently identify issues and develop solutions to the Road Construction Authority's objectives.

Corporate Administration Branch

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

The addresses and telephone numbers of Road Construction Authority offices and regional divisions are shown in Box 2.

Box 2 – RCA Offices and Divisions

RCA Head Office
60 Denmark Street, Kew 3101
Tel. (03) 861 5321
(03) 860 2684 (24 hour emergency)

West Gate Bridge
Cook Street, Port Melbourne 3207
Tel. (03) 646 4544 (24 hour)

Central Depot
Coleman Parade, Glen Waverley 3150
Tel. (03) 235 3333

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 3350
Tel. (054) 43 9133

Dandenong Division
360 Maroondah Highway, Nunawading 3131
Tel. (03) 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. (03) 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

Greensborough Bypass
48 Sellars Street, Greensborough 3088
Tel. (03) 435 4366

Hume Freeway – Baddaginnie to Bowser
Kilfeera Road, Benalla
P.O. Box 414, Benalla 3672
Tel. (057) 62 4144

Hume Freeway – Chiltern to Wodonga
Irene House, Elgin Street, Wodonga 3690
Tel. (060) 24 3577

South Eastern to Mulgrave Arterial Road Link
463 Waverley Road, Malvern East 3144
Tel. (03) 211 7111

Western Freeway, Melton
142-4 Station Road, Melton 3337
Tel. (03) 743 1422, -1088

West Gate Freeway
28 Moray Street, South Melbourne 3205
Tel. (03) 699 6944

Road classifications

There are some 160,000 km of public roads in Victoria, of which 24,247 km comprise the State's principal road network. The lengths of roads declared or proclaimed under the Transport Act

as at 30 June 1986 were **Freeways**—424 km, **State Highways**—7,105 km, **Main Roads**—14 867 km, **Tourists' Roads**—845 km, **Forest Roads**—1,006 km.

The estimated lengths of individual highways, freeways, tourists' roads and forest roads are shown in Box 3.

Box 3 – Lengths of the Road Network in Victoria**Lengths of State Highways – declared as at 30 June 1986**

Name		Length (km)
Bass	Lang Lang – Inverloch	60.1
Bellarine	Geelong – Queenscliff	32.3
Bonang	Orbost – NSW border near Delegate	114.2
Borong	Dimboola Charlton	123.3
Calder*	Melbourne – Mildura	547.5
Calder Alternative	Ravenswood – Marong	20.0
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	237.4
Hamilton	Geelong – Hamilton	321.0
Henty	Portland – Lascelles	333.2
Hume*	Melbourne – NSW border near Albury	151.9
Kiewa Valley	Bandiana – Mt Beauty	78.5
Loddon Valley	Bendigo – Kerang	123.7
Maroondah	Melbourne – Mansfield	184.6
Maroondah Link	Cathkin – Yarck	4.2
Mclvor	Heathcote – Bendigo	44.1
Midland*	Geelong – Mansfield	414.7
	Morwell – Port Welshpool	78.9
Midland Link	Maindample – Barjag	8.7
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	17.5
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	30.7
Western*	Melbourne – Serviceton	360.9
Wimmera	Apsley – St Arnaud	222.7

* Lengths quoted do not include freeway sections

Lengths of Freeways – as at 30 June 1986

Name	Section	Length (km)
Calder	Keilor	9.8
	Elphinstone	2.8
Eastern	Gold Street – Doncaster Road	11.7
Frankston	Armstrongs Road – Beach Street	5.8
Hume	Craigieburn – Kalkallo	8.3
	Beveridge – Longwood	91.2
	Violet Town – Baddaginnie	20.7

	Chiltern	21.3
	Wodonga	3.1
Midland	Yinnar	9.6
Mornington Peninsula	Springvale - Armstrongs Road	8.1
	Dromana - Rosebud	13.5
Princes	Mulgrave	19.9
	Berwick	6.5
	Drouin, Warragul, Moe and Haunted Hills	31.1
	Orbost	5.9
	Laverton - Lara	49.0
	Dartmoor	3.0
South Eastern	Anderson Street - Toorong Road	6.8
South Gippsland	Princes Freeway - South Gippsland Highway	5.6
	Whitelaw	3.8
Tullamarine	Flemington Bridge - Melbourne Airport	20.9
West Gate	Montague Street - Graham Street	1.4
	Williamstown Road - Princes Freeway	6.1
Western	Deer Park - Melton	13.3
	Bacchus Marsh - Bungaree	52.8

Lengths of Tourists' Roads - declared as at 30 June 1986

Name	Municipalities	Length (km)
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	209.5
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	33.8
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	30.9
Marysville - Woods Point	Healesville Shire	18.9
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

Lengths of Forest Roads - declared as at 30 June 1986

Name	Municipalities	Length (km)
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	75.0
Benambra - Limestone	Omeo Shire	14.3

Bendoc - Orbost	Orbost Shire	19.0
Brookville	Omeo Shire	15.9
Bruthen - Buchan	Tambo Shire	36.5
Bullamwaal - Tabberabbera	Bairnsdale Shire	27.5
Carrajung - Woodside	Alberton Shire	17.7
Dargo	Avon Shire	74.8
Deans Marsh - Lorne	Winchelsea Shire	22.6
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	10.9
Lavers Hill - Cobden	Heytesbury and Otway Shires	44.7
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

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 30 June 1986 there were 7,105 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 30 June 1986 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 30 June 1986 there were 845 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 Road Construction Authority 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 30 June 1986 there were 1,006 km of forest roads declared under the Transport Act 1983.

Main roads

Main roads are roads linking centres of population with other centres or within 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 30 June 1986 there were 14,867 km of main roads declared under the Transport Act 1983.

Unclassified roads

Roads which are not declared or proclaimed under the 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 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.

MAJOR ACTIVITIES

Summary of works

Major roadworks

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 over 1000 km.

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 construction of 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 during the year and test piling for the new Barwon River Bridge and the construction of a retaining wall north of the Barwon River were completed.

The duplication of Settlement Road, Belmont between Barwon Heads Road and Torquay Road commenced. The construction of the new Barwon River Bridge is expected to commence in early 1987. The total project is expected to be completed in late 1988 at an estimated cost of \$23 million.

Calder Freeway – Gisborne Section

Work continued on the construction of a 6 km bypass of Gisborne between McGregor Road, south of Gisborne and Macedon Road, north of Gisborne, to remove the through traffic from the Gisborne commercial centre. The bypass includes 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 works continued during the year and preliminary works for the construction of twin freeway bridges over Jacksons Creek commenced.

Work continued on the construction of bridges at Station Road and overpasses for the freeway for Kilmore Road and Howey Street.

The bypass is expected to cost \$23 million and is scheduled for completion in late 1988.

Doncaster – Mitcham Road, Donvale

A 1.7 km section of the State Highway from Pine Way to Springvale Road is being duplicated to provide three lanes in each direction, separated by a median strip with turning slots.

Work commenced during the year on the duplication of the first section between Old Warrandyte Road and Springvale Road. The project is expected to cost \$5 million and is scheduled for completion in late 1987.

Bypass of Greensborough Commercial Centre

Work continued on the construction of the 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 bypass will be constructed in two stages. The first 3.5 km stage, from Diamond Creek Road to Grimshaw Street, will be constructed as a single two lane, two-way road with climbing lanes for east-bound traffic north of Kempston Street and east of Plenty River.

The second 2 km stage, from Grimshaw Street to Greensborough Road/Lenola Street, is being constructed as a divided road. Drainage and earthworks continued during the year on the first stage and work commenced on the construction of a five span composite steel and concrete bridge over Plenty River.

A roundabout at the intersection of Diamond Creek Road and Civic Drive, where the bypass is to terminate was completed during the year.

Work commenced on the second stage late in the year with the construction of a deviation of Greensborough Road near Watsonia Railway Station to allow work to commence on the new road over rail structure. The project is estimated to cost \$18 million and be completed in early 1989.

Hume Freeway

Work continued on the construction of dual carriageways from Melbourne to Wodonga. The development of the Hume Highway 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 section between Holland Creek and the Winton Interchange was completed.

During the year, overpasses to carry traffic over the bypass at the Midland Highway and Kilfeera Road were completed and opened to traffic. Overpasses of the freeway for the Benalla – Tatong Road and the existing Hume Highway and twin bridges over Blind Creek were completed. The construction of twin bridges over Holland Creek and Broken River and its anabranch continued.

The project is expected to be completed in March 1987 at an estimated cost of \$55 million.

• 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 was completed between Winton Interchange and Hernan Road. Construction of the Winton Rest Area commenced and earthworks proceeded towards Chivers Road. The construction of a local access road was completed.

The project is expected to be completed with the Benalla Bypass in March 1987 at an estimated cost of \$18 million.

• Bypass of Glenrowan

Construction on the 12 km bypass of Glenrowan from Chivers Road to Taminick Gap Road, Wangaratta South, commenced during the year. The freeway crosses to the south side of the Hume Highway near Chivers Road and follows a route immediately south of the township, where it passes through the Warby Ranges and skirts the Laceby Flats to the Hume Highway near Taminick Gap Road. Half diamond interchanges will be located on Glenrowan West Road and at Glenrowan – Moyhu Road and Glenrowan – Milwa Road. An interchange near Taminick Gap Road will provide access to Wangaratta.

During the year drainage and earthworks commenced either side of the Glenrowan township, and relocation of the Glenrowan public park facilities commenced, which when completed will enable the commencement of drainage and earthworks on the central section.

The project is estimated to cost \$28 million and is expected to be completed in December 1988.

• Chiltern to Barnawartha

Work continued on the 21 km duplication of the existing highway from west of Gilmours Road near the Chiltern Shire boundary to Hanson Road east of Barnawartha.

The work also includes the construction of 2 km of dual carriageway adjacent to the Barnawartha township. The duplicate carriageway will be along the south side of the existing highway except for a 3 km section

through the Chiltern State Park, which will be constructed on the north side of the existing highway to avoid intrusion upon the Park.

Initially, full diamond interchanges will be built at the Chiltern – Beechworth Road and on Indigo Creek Road at Barnawartha. An at-grade intersection is to be constructed at Old Cemetery Road 3.5 km west of Chiltern, at a future overpass site.

Drainage and earthworks commenced on the 2.5 km section at the eastern end and on several major culverts, the duplicate freeway bridges at the Chiltern – Beechworth Road interchange and at Black Dog Creek. The project is estimated to cost \$32 million and is expected to be completed in early 1989.

• **Barnawartha to Wodonga**

Work continued during the year on the duplication of 12.6 km from Hanson Road, east of Barnawartha to Parkers Road at Wodonga West.

The work generally involves duplication of the existing highway, but includes 2.4 km of new dual carriageway road near the present Murray Valley Highway intersection. The Murray Valley Highway will be deviated to join the Hume Freeway at a major interchange near Quarry Road, 6 km east of Barnawartha.

A 3.4 km section west of Parkers Road has been completed and drainage and earthworks for the remaining section, including the 1.7 km Murray Valley Highway deviation continued. Construction of bridges for the Murray Valley Highway over the railway and for the freeway interchange commenced in February.

The work is estimated to cost \$24 million and is expected to be completed in early 1987.

Mornington Peninsula Freeway extension

The 9 km extension of the Mornington Peninsula Freeway is being constructed in two stages.

The first stage involves the construction of dual carriageways from the Nepean Highway, Dromana to Dunns Creek and the construction of a single two-lane, two-way carriageway from Dunns Creek to the Nepean Highway, Mt Martha. This stage was opened in June 1984.

The second stage involves the construction of a duplicate two-lane carriageway from Dunns Creek to the Nepean Highway, Mt Martha and the construction of dual carriageways from the Nepean Highway, Mt Martha to Moorooduc Road, Moorooduc South. The project will also include the duplication of 9.5 km of Moorooduc Road from Moorooduc South to the existing divided road south of Frankston.

During the year a bridge at Nepean Highway, Mt Martha and large multi-cell culverts at Teurong Creek and Devils Bend Creek were completed and earthworks and drainage commenced on the second carriageway between Mt Martha and Dromana.

Work also commenced during the year on the duplication of Moorooduc Road, and as part of this work, a roundabout was constructed at the Mornington – Tyabb Road intersection and opened to traffic.

The total project is estimated to cost \$26 million and the second carriageway between Mt Martha and Dromana is expected to be completed in December 1986. The remainder of the project is expected to be completed in 1988.

Princes Highway East

Work is continuing 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 16.7 km duplicate carriageway between Nar Nar Goon and 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.

During the year drainage and earthworks were completed west of Garfield and commenced on the section easterly to Bunyip River. Pavement

construction works continued on the section west of Garfield and a major culvert at Ti Tree Creek was completed.

The Tynong section is estimated to cost \$23 million and to be completed in 1988, and the Longwarry section to cost \$16 million and be completed in 1990.

• 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 be constructed on this section.

The 3.8 km section 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.

Work continued during the year on the relocation of major services and the realignment of Commercial Road and ancillary roadworks between the Morwell River and the Midland Highway. Work also continued on earthworks and drainage for a 3.2 km section, the construction of twin bridges at Commercial Road, and commenced on twin bridges over the SECV railway.

The 6.4 km first stage is estimated to cost \$22 million and is expected to be completed by 1988.

• Genoa River Crossing

Work commenced during the year to replace the existing timber truss bridge at Genoa with four concrete bridges on a new flood-free alignment across the Genoa River floodplain. The 4.4 km project includes realigning 2.2 km of the Princes Highway and construction of a 2.2 km climbing lane east of Genoa.

The main structure over the river will be a seven span reinforced concrete bridge. Surcharging to compact the approach foundations for four bridges across the floodplain was completed during the year and bridge

construction commenced in early 1986. The project is estimated to cost \$5.9 million and is expected to be completed in mid-1988.

South Eastern – Mulgrave Arterial Road Project

Work continued 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 will be constructed.

During the year service relocation by service authorities continued including the relocation of towers for the major SECV transmission line which is located along sections of the alignment.

Earthworks and drainage works were completed between Tooronga Road and Burke Road and the Brixton Rise access road was completed. A side track was built around the Moira/Dunlop Streets bridge site and the reconstruction of a section of Waverley Road commenced.

The widening of the Burke Road bridge over Gardiners Creek continued and work commenced on the Tooronga Road bridge over Gardiners Creek and the Moira/Dunlop Streets overpass structure. Construction of a bridge over Great Valley Road and a bridge over Gardiners Creek at Great Valley Road also commenced. Work also progressed on the earthworks, base slab and erection of arch units for the Scotchmans Creek conduit and work commenced on the rail tunnel structure at Scotchmans Creek.

The project is estimated to cost \$104 million and is expected to be completed by late 1988.

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 a 9.9 km duplicated section south of Lang Lang was opened to traffic, increasing the length of duplication now carrying traffic to 14 km. Work continued on the Cranbourne to Five Ways and Tooradin to Dalmore Road sections. The construction of bridges and culverts at the Yallock Creek outfall and preliminary earthworks commenced for a section across swampy ground near Cardinia Creek. The total project is expected to be completed in late 1988 at a cost of \$19 million.

West Gate Freeway

Work continued on the 3.3 km West Gate Freeway extension from Graham Street, Port Melbourne to Sturt Street, South Melbourne. The section between Rogers Street and Johnson Street was opened to traffic in December 1985 and the freeway overpass structure at Ingles Street was completed in May 1986.

Casting and erection of the superstructure segments for the elevated roadway and construction of the eastern approaches to the elevated roadway continued.

The completion of the northern carriageway and associated works is expected in mid 1987 at an estimated cost of \$137 million.

Western Freeway

• Bypass of Melton

Work continued on the construction of a 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. During the year earthworks, drainage and sub-base pavement construction of the Ferris Road overpass were completed. Construction of the road connections to the existing highway at both ends of the project commenced and construction of the Station Road and Coburns Road overpasses continued.

The project is scheduled for completion in mid 1987 at a total estimated cost of \$33 million.

Major bridgeworks

The construction of many new bridges is commenced each year by the Road Construction Authority and municipal councils. Box 4 gives a comparison between the number and estimated costs of bridge projects in 1985/86 and the preceding financial year.

Box 4 – Construction of new bridges in 1985/86 and 1984/85

Description	No	1984/85 Est Cost \$000's	No	1985/86 Est Cost \$000's
New bridges commenced under the supervision of RCA staff	38	32,719	44	32,509
New bridges commenced under municipal supervision with financial assistance from the RCA	61	10,282	48	10,916
Sign Structures		301		58
Weigh Stations		94		79
Retaining walls		-		84
Expansion Joint Test Unit		20		-
Bridge Railing		49		-

The number of structures directly commenced by the Road Construction Authority in 1985/86 are given in Box 5. The number of structures commenced by municipal councils in 1985/86 are given in Box 6.

Box 5 – Bridge structures commenced by the Road Construction Authority in 1985/86

Municipality	No of Structures	\$ 000
Bairnsdale	2	381
Ballarat	3	1,286
Benalla	10	4,513
Bendigo	1	93
Dandenong	4	1,426
Geelong	1	322
Metropolitan	15	18,255
Traralgon	6	3,950
Warrnambool	4	2,313

Box 6 – Bridge structures commenced by municipal councils in 1985/86

Municipality	No of Structures	\$ 000
Bairnsdale	4	887
Ballarat	7	1,165
Benalla	5	1,010
Bendigo	4	357
Dandenong	6	1,904
Geelong	2	63
Horsham	4	861
Metropolitan	2	556
Traralgon	10	3,425
Warrnambool	4	687

Bituminous surfacing

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

In 1985/86, the RCA was involved in the surfacing of 5,167 km of roads, at a cost of approximately \$71 million.

Types of work

Approximately 95.5% 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 onto 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 was asphalt surfacing which is plant-mixed and spread in a layer with a mechanical paver.

The RCA's 15 mobile bituminous surfacing units, together with plant owned by municipal councils and contractors, completed 4,600 km of sprayed work at a cost of \$43.11 million on roads to which the RCA contributes, plus 332 km of sprayed work for other authorities.

Contractors operating from fixed asphalt plants completed 235 km of plant mix work at a cost of approximately \$24.85 million using 404,956 tonnes of asphalt.

The lengths of various types of work completed during the year are shown in Box 7.

Box 7 – Bituminous Surfacing Works in 1985/86

179 km of sealing widened pavements
41 km of initial sealing of dual carriageways
636 km of restoration of seal coats on reconstructed sections
689 km of final sealing of initial treatments
2,933 km of maintenance retreatments
23 km of sealing on ancillaries to other major works
336 km of extensions to the bituminous sealed road system including 46 km of roads declared or proclaimed under the Transport Act 1983
332 km sealed on behalf of municipalities and other State authorities

Visits to Municipalities

In 1913 the first members of the Country Roads Board toured the State to decide which roads were to be declared as main roads and financed from central funds. From that time, most municipalities in Victoria have been visited by the Board approximately once in every six years.

The RCA Corporate Management Group has continued these regular municipal visits which comprise a tour of municipal roads and bridges with councillors and council officers and discussions on matters of common interest such as local road problems, roadworks programs and road finance. The visits provide the Corporate

Management Group with up-to-date information on road conditions and developments in the municipalities visited. The municipalities visited are listed in Box 8.

During the year, the Chairman and Managing Director and/or senior managers of the RCA made official visits to thirty three municipalities, listed in Box 8. The RCA places on record its appreciation of the assistance given by the councils and municipal officers during these visits.

Box 8 – Municipalities visited by the RCA in 1985/86

Cities –

Ballaarat, Benalla, Chelsea, Frankston, South Melbourne and St Kilda;

Boroughs –

Eaglehawk and Kerang;

Shires –

Ballarat, Bannockburn, Benalla, Buln Buln, Bungaree, Cohuna, Corio, Creswick, Diamond Valley, East Loddon, Glenelg, Gordon, Hastings, Kara Kara, Kerang, Korong, Myrtleford, Newham and Woodend, Omeo, Otway, Sherbrooke, Strathfieldsaye, Talbot and Clunes, and Warracknabeal.

Deputations

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

During the year, deputations were received from the Cities of Camberwell and Sunshine, and the Shires of Bairnsdale and Whittlesea. The topics raised by these councils included road classifications, the need for road and bridge construction and ferry operations. A deputation was also received from the Committee for Increased Funds for Victorian Roads, and several discussions were also held with representatives of the Municipal Association of Victoria, commercial enterprises and staff associations.

Landscaping

The RCA continued its commitment to the provision of a pleasant and ecologically balanced environment for motorists and the community with a number of landscaping activities.

These included a special treatment of the rock face left by excavation of Thomas Hill for the Princes Freeway construction at Tynong.

The possibility of boulders being dislodged from the rockface due to erosion concerned the engineers for the project, and the use of a hydraulic seeding treatment was chosen. This treatment involved the spraying of grass and native shrub seed and fertiliser onto the rockface, stabilised by fibreglass rovings and bitumen emulsion, to protect the face from erosion until the grass had taken root. A mulch of chopped straw and a tack spray of bitumen insulated the seed and helped retain moisture, thus promoting a faster germination. The finished result blends into the surrounding hillside.

Roadworks affected a stand of trees on the Moorooduc Road duplication near Craigie Road, and 800 indigenous plants were replanted there from locally collected seed. A further 1,000 to 1,500 plants will be planted in Spring and Autumn of 1986/87.

Planting of approximately 35 km of the South Gippsland Highway duplication commenced during the year. Two stages of the total project have now been planted, and work is expected to continue until at least 1988.

A program has commenced to improve the landscaping and provide a greater number of plantations along a 163 km section of the Hamilton Highway, from Cressy to Hamilton. Stage I of this project has been completed by the RCA's Road Maintenance Gang, together with field workers from the Australian Trust for Conservation Workers. This organisation provides workers for \$9.50 per person per day, including transportation, allowing the work to be completed at a very economical cost.

Extensive landscaping work has been carried out on the Murray Valley Highway medians, and also on the roundabout at the intersection of the Northern Highway and the Murray Valley Highway at Echuca.

In Metropolitan Division, a total of 38,800 trees was planted at an average cost of \$1.40 each, including the seeding of batter faces on the Calder Freeway, Keilor, and the revegetation of a quarry site at Bacchus Marsh using local plants and shrubs.

Box 9 – Significant roadworks

Significant roadworks completed or substantially completed by the Road Construction Authority in 1985/86 were:

State Highways and Freeways

Burwood Highway

Box Hill City: Intersection improvements, including widening and part reconstruction at Warrigal Road intersection. (\$512,000)

Eastern Freeway

Kew, Northcote, Doncaster and Templestowe Cities: Asphalt surfacing from Merri Creek to Doncaster Road. (\$1.1 million)

Glenelg Highway

Dundas Shire: Resheeting of 2.1 km west of Warrayure. (\$385,000)

Grenville Shire: Reconstruction north of Smythesdale, including minor realignment, of 0.7 km. (\$130,000)

Mt Rouse Shire: Resheeting of 3.4 km west of Glenthompson, including the elimination of a floodway. (\$390,000)

Widening of a culvert and resheeting of 1 km of approaches over Nine Mile Creek west of Glenthompson. (\$150,000)

Goulburn Valley Highway

Shepparton Shire: Reconstruction and realignment of the intersection with Murchison – Violet Town Road at Moorilum to improve safety. (\$240,000)

Yea Shire: Reconstruction and realignment of 3.7 km at Homewood, including the relocation of the Tallarook – Mansfield rail crossing. (\$1 million)

Hamilton Highway

Dundas Shire: Regrading and realignment of 2.5 km between Tarrington and Hamilton, including curve improvements at Breakneck Corner. (\$575,000)

Hampden Shire: Resheeting of 1.5 km (Stage I) of 3.3 km at Duverney rail crossing. (\$500,000). The balance is scheduled for completion in 1989/90.

Reconstruction of 1.5 km through the township of Lismore. (\$430,000)

Warrnambool Shire: Regrading and realignment of 2 km east of Carramat, including intersection improvements. (\$768,000)

Henty Highway

Dundas Shire: Resheeting and minor reggrading of 3.7 km south of Hamilton. (\$655,000)

Resheeting and minor reggrading of 4 km north of Kanawalla. (\$750,000)

Regrading, realignment and widening of 3.4 km (Stage I) between Cavendish and Mooralla. The total 8.4 km project is expected to cost \$1.1 million and be completed in June 1987.

Hume Freeway

Kilmore Shire: Asphaltting of 12.4 km between Wallan East and Broadford. (\$1.56 million)

Kilmore/Broadford Shires: Asphaltting of 14.4 km between Wandong and Broadford (\$1.65 million)

Kilmore/Whittlesea Shires: Restoration of 6.8 km of the slow lane between Kal Kallo and Beveridge and asphaltting over the full sealed width. (\$747,000)

Hume Highway

Broadmeadows City: Construction of a 0.5 km third lane on the Melbourne bound carriageway and the reconstruction of a sealed shoulder on the Sydney bound carriageway between Glenbarry Road and Ainslie Road. (\$560,000)

Reconstruction of 1.2 km of kerb and channel and an asphalt overlay between Leo Street and Queens Parade (\$415,000)

Asphalt surfacing between Mahoneys Road and Ainslie Road. (\$424,000)

Wodonga City: Widening and resheeting between Moorefield Park Drive and Melrose Drive, Wodonga, including the reconstruction of a roundabout at Melrose Drive (\$530,000)

Kiewa Valley Highway

Yackandandah Shire: Reconstruction, realignment and sealing of 1.4 km between Running Creek and Deep Creek (\$280,000)

Loddon Valley Highway

East Loddon Shire: Widening and resheeting of 1.8 km north of Jarklin. (\$280,000)

Madden Grove – Loyola Grove

Richmond City: Reconstruction of 0.8 km of pavement between Swan Street and Twickenham Crescent and construction of roundabout. (\$445,000)

Maroondah Highway

Croydon/Ringwood Cities/Lillydale Shire: Major patching and resheeting of 2.1 km of the east bound carriageway between Hillcrest Avenue, Lillydale and Mt Dandenong Rd, Ringwood. (\$420,000)

Healesville Shire: Widening and resheeting of the existing pavement between Gracedale and Fernshaw. (\$233,000)

Melba Highway

Healesville Shire: Resheeting, major patching and widening of 0.5 km between Anzac Avenue and the Eltham-Yarra Glen Road, Yarra Glen (\$180,000)

Yea Shire: Reconstruction, realignment and sealing of 2 km, north of Devlins Bridge (\$500,000)

Midland Highway

Bannockburn Shire: Widening and resheeting of 2.8 km near Lethbridge. (\$690,000)

Corio Shire: Construction of a 0.9 km climbing lane at Batesford (\$320,000)

Buninyong Shire: Reconstruction, including realignment, of 1.7 km immediately north of Elaine township. (\$382,000)

Creswick Shire: Resheeting of 1.3 km north of Newlyn. (\$158,000)

Murray Valley Highway

Cobram Shire: Pavement widening east of Cobram. (\$208,000)

Wodonga City: Duplication of High Street, Wodonga including the reconstruction of an existing channelised roundabout at Beechworth Road. (\$600,000)

Nepean Highway

Brighton/Moorabbin Cities: Asphalt surfacing between Hawthorn Road and South Road, Bentleigh. (\$520,000)

Moorabbin City: Access improvements to Southland Shopping Centre between Karen Street and Jamieson Street, Cheltenham, together with 0.5 km of highway widening and intersection improvements, including new traffic signals. (\$400,000)

Omeo Highway

Omeo Shire: Construction of approaches to a new concrete bridge over Big River at Glen Valley. (\$204,000)

Resheeting and sealing of 1.8 km at Middle Creek. (\$160,000)

Princes Freeway

Werribee Shire: Resheeting of 3 km of the Melbourne bound carriageway at Little River. (\$500,000)

Princes Highway East

Avon Shire: Reconstruction and widening east of Stratford. (\$150,000)

Berwick City: Construction of a 1.8 km third lane on each carriageway between the South Gippsland Highway and the Belgrave - Hallam Road, including minor modifications at the South Gippsland Freeway interchange. (\$1.2 million)

Caulfield/Malvern Cities: Asphalt surfacing between Tooronga Road and Grange Road. (\$230,000)

Oakleigh City: Intersection improvements at North Road/Wellington Road intersection. (\$830,000)

Orbost Shire: Construction of a 1.6 km climbing lane west of Newtons Creek, east of Orbost. (\$750,000)

Construction of a 1.3 km climbing lane at Storeys Creek, west of Cann River. (\$247,000)

Springvale/Waverley Cities: Modifications to the layout of the Springvale Road intersection, together with works at the intersections with Police Road and Centre Road. (\$1.2 million)

Princes Highway West

Footscray City: Asphalting between Somerville Road and Millers Road, Brooklyn. (\$240,000)

Hampden Shire: Resheeting of 1.3 km east of Weerite. (\$356,000)

Portland Shire: Resheeting of 3.8 km at Tyrendarra. (\$300,000)

South Gippsland Highway

Korumburra Shire: Construction of a 1 km climbing lane east of Loch. (\$340,000)

South Gippsland Shire: Construction of 2.1 km of climbing lanes at Foster North. (\$1.04 million)

Springvale Road

Doncaster and Templestowe/Nunawading Cities: Duplication of 0.9 km between Mitcham Road and Worrell Street to provide three lanes and protected right hand turn slots in both directions. (\$1.7 million)

Sunraysia Highway

Avoca Shire: Reconstruction, including kerb and channel construction, of 1.6 km at Avoca North. (\$222,500)

Westall Road

Oakleigh/Springvale Cities: Realignment of 0.8 km of Westall Road at Rayhur Street and the construction of a new rail crossing between Ida Street and the Rayhur Street extension. (\$966,000)

Western Freeway

Ballan Shire: Pavement strengthening and sealing of 2.7 km of the Ballarat bound carriageway at Pykes Creek, including some works on the Melbourne bound carriageway. (\$2.4 million)

Western Highway

Ballarat Shire: Asphalt surfacing of 15.6 km between Ballarat and Burrumbeet. (\$368,000)

Sunshine City: Reconstruction of 0.9 km of kerb and channel and an asphalt overlay on the Melbourne bound carriageway between Annesley Street and Duke Street, Sunshine. (\$410,000)

Asphalt surfacing between Kororoit Creek and Marcellin Court, Deer Park. (\$172,000)

Tourists' Roads

Alpine Road, Omeo Shire

Widening, resheeting and sealing of 10 km between Jim and Jack Creek and Victoria River. (\$150,000)

Pavement construction, realignment and extension of 1.6 km of sealed road between Buckland Gap and the Dargo Road. (\$270,000)

Great Ocean Road

Barrabool Shire: Widening and resheeting of 0.7 km at Urquharts Bluff near Aireys Inlet. (\$250,000)

Otway Shire: Construction of 2.3 km in the township of Marengo (\$950,000)

Mt Buffalo Road

Bright Shire: Regrading and realignment between Porepunkah and Buffalo House as Stage 1 of a three year program of improvement to the road. (\$500,000). The total estimated cost of the project is \$1.3 million.

Phillip Island Road

Bass Shire: Repair of a landslip at San Remo. (\$300,000)

Box 10 – Municipal roadworks

Significant roadworks completed or substantially completed during 1985/86 by municipalities and funded in whole or part by the RCA were:

Main Roads

Altona City

Kororoit Creek Road:
reconstruction and duplication of 0.7 km between Millers Road and the Altona railway (\$750,000)

Beechworth City

Beechworth – Wangaratta Road:
reconstruction and sealing of 0.5 km (\$137,000)

Bellarine Shire

Geelong – Portarlington Road: duplication of 5 km between Moolap and Leopold (\$1.2 million)

Berwick City

Heatherton Road:
duplication of 1 km between Power Road and Matthew Flinders Avenue (\$785,600)

Broadmeadows City

Broadmeadows – Tullamarine Road:
reconstruction of 0.7 km between Paris Road and Railway Crescent (\$645,000)

Corio Shire

Geelong – Bacchus Marsh Road:
duplication between Cox Road and Purnell Road, Geelong (\$100,000)

Cranbourne Shire

Dandenong – Hastings Road:
construction of a roundabout at the intersection with the Cranbourne – Frankston Road (\$262,000)

Berwick – Cranbourne Road:

reconstruction of 1.1 km between the South Gippsland Highway and Collisons Road (\$478,000)

Creswick Shire

Glengower Road:
reconstruction and sealing of 1.6 km at Glengower (\$108,700)

Diamond Valley Shire

Heidelberg – Kinglake Road:
reconstruction of 0.5 km at the Yan Yean Road intersection (\$670,000)
reconstruction and duplication of 0.5 km between Church Street and Hailes Street East, Greensborough (\$710,000)

Dundas Shire

Hamilton – Port Fairy Road:
realignment and reconstruction of 2.7 km (\$366,000)

Eltham Shire

Heidelberg – Kinglake Road:
reconstruction of 0.6 km between the Hurstbridge Hall and Bambara Road (\$441,500)

Euroa Shire

Euroa – Mansfield Road:
reconstruction, realignment and sealing of 4 km (\$145,000)

Euroa – Strathbogie Road:

reconstruction, realignment and sealing of 1.6 km (\$430,000)

Heidelberg City

Heidelberg – Eltham Road:
reconstruction and duplication of 0.9 km between Borlase Street and Robert Court, Rosanna (\$920,000)

Heytesbury Shire

Cobden – Scotts Creek Road:
reconstruction and realignment of 1.1 km, and intersection improvements (\$160,000)

Keilor City

Keilor - Laverton Road:
duplication of 0.9 km between Main Road West and Gillespie Road,
St Albans (\$500,000)

Knox City

Ferntree Gully Road:
duplication of 1.1 km between Burwood Highway and Scoresby Road,
Fern Tree Gully (\$1.3 million)

Stud Road:

duplication of 0.5 km between Dandenong Creek and Police Road,
Rowville (\$726,000)

Wantirna - Sassafras Road:

widening of 1 km between Colchester Road and Liverpool Road,
Boronia (\$325,000)

Minhamite Shire

Hamilton - Port Fairy Road:
reconstruction of 3.6 km (\$350,000)

Penshurst - Warrnambool Road:

reconstruction of 2 km, and an intersection treatment (\$120,000)

Otway Shire

Charleys Creek Road:
realignment and reconstruction of 1.7 km (\$311,000)

Oxley Shire

Glenrowan - Milawa Road:
reconstruction and sealing of 1.2 km (\$109,000)

Portland City

Bridgewater Road (Oxley Street):
reconstruction of 0.4 km (\$130,000)

Ringwood City

Ringwood - Warrandyte Road:
widening of culvert at Mullum Mullum Creek, Ringwood (\$751,000)

Romsey Shire

Gisborne - Kilmore Road:
reconstruction of 2 km at Riddells Creek (\$142,000)

Tallangatta Shire

Tallangatta - Corryong Road:
reconstruction, realignment and sealing of 2 km (\$220,000)

Talgarno Road:

reconstruction, realignment and sealing of 1.2 km (\$119,000)

Yabba Road:

reconstruction, realignment and sealing of 1.6 km (\$83,000)

Tungamah Shire

Katamatite - Shepparton Road:
reconstruction and sealing of 2.6 km (\$230,000)

Wangaratta Shire

Wahgunyah - Wangaratta Road:
reconstruction and sealing of 4.5 km (\$144,000)

Warrnambool Shire

Warrnambool - Mortlake Road:
reconstruction of 1.6 km and culvert widening (\$270,000)

Werribee Shire

Bacchus Marsh - Werribee Road:
widening of 1.5 km between Hobbs Road and Cobbledicks Ford
Road (\$154,000)

Yea Shire

King Parrot Creek Road:
reconstruction and realignment of 1.1 km (\$200,000)

Unclassified Roads**Ballaarat City**

Drummond Street South:
reconstruction of 0.2 km between Eyre Street and Urquhart Street,
Ballarat (\$140,000)

Brunswick City

Albert Street:
reconstruction of 0.3 km between Fallon Street and the rail crossing,
Brunswick (\$290,000)

Coburg City

Munro Street:
reconstruction of 0.4 km between Vincent Street and Jameson
Street, Coburg (\$270,000)

Deakin Shire

Winter Road:
reconstruction and sealing between Irving Road and Fraser Road,
west of Girgarre (\$226,000)

Diamond Valley Shire

Bannons Lane:
reconstruction of 0.8 km between Yan Yean Road and Eismans
Road, Yarrambat (\$330,000)

Broadgully Road:

reconstruction of 0.9 km between Ryan Street and Gipson Street,
Diamond Creek (\$325,000)

Doncaster and Templestowe City

Foote Street:
duplication of 0.2 km between Elsa Street and Ruffey Creek,
Templestowe Lower (\$142,000)

Footscray City

Ring Road:
construction of 0.3 km between Leeds Street and Droop Street,
Footscray (375,000)

Hampden Shire

Foxhow Road:
reconstruction of 2.2 km (\$130,000)

Hawthorn City

Burwood Road:
reconstruction of 0.8 km between Glenferrie Road and Auburn Road, Glenferrie (\$720,000)

Kerang Shire

Gorton Drive:
construction and sealing of 4.9 km at Kangaroo Lake (\$330,000)

Kew City

Glenferrie Road:
reconstruction of 0.7 km between Barkers Road and Cotham Road, Kew (\$560,000)

Knox City

Wantirna Road:
duplication of 0.3 km between Wantirna - Sassafras Road and Clarence Road, Wantirna (\$380,000)

Cathies Lane:

reconstruction of 0.9 km south from Burwood Highway, Wantirna South (\$355,000)

Malvern City

Waverley Road:
reconstruction of 0.5 km between Warrigal Road and Batesford Road, Holmesglen (\$460,000)

Nunawading City

Blackburn Road:
reconstruction of 0.4 km between The Avenue and Heath Street, Blackburn (\$494,000)

Oakleigh City

Valley Street:
reconstruction of 0.5 km between Jason Street and Vivian Court, Oakleigh South (\$350,000)

Portland City

Coleraine - Nareen - Mooree Road:
realignment of 2.9 km and major culvert construction (\$400,000)

Rodney Shire

Brewer Road:
construction and sealing between Springvale Road and Kyabram - Cooma Road (\$250,000)

Springvale City

Windsor Avenue:
reconstruction of 0.6 km between Springvale Road and Westall Road, Springvale (\$260,900)

Tallangatta Shire

Tallangatta - Bethanga Road:
reconstruction, realignment and sealing of 1.5 km (\$133,000)

Waverley City

Huntingdale Road:
strengthening of 0.6 km between Ferntree Gully Road and the Mulgrave Freeway, Oakleigh East (\$416,000)

Whittlesea Shire

Edgars Road:
duplication of 0.7 km between Spring Street and Lincoln Drive, Thomastown (\$440,000)

Box 11 – Major contracts

Details of the types and numbers of contracts which were carried out under the RCA's direct supervision during 1985/86 and for which formal tenders were called are shown in the following table:

Type	No.	Total
Road Construction		
Over \$1 million	13	25,545,708
\$250,000 to \$1 million	27	14,097,906
Under \$250,000	16	2,214,147
Bridge and Culvert Construction		
Over \$1 million	7	14,942,489
\$250,000 to \$1 million	10	5,715,718
Under \$250,000	16	2,185,835
Road Construction Materials (excluding bituminous)	126	26,179,521
Bridge Components (including fabricated steel)	21	5,016,110
Bituminous treatment and supply of materials (excluding asphalt)	40	22,573,841
Asphalt	60	13,084,034
Kerb and Channel Construction	14	805,035
Fence and Guardrail Construction and supply of materials	1	34,404
Sub-soil drainage and supply of materials	11	1,729,118
Building Construction and supply of materials	9	500,864
Plant and Equipment Purchases	33	4,679,608
Traffic Signal Maintenance	2	91,477
Consultant Contracts	22	668,944
Miscellaneous Services	33	2,613,210
Miscellaneous Stores	9	14,030,192
Total	470	156,708,161

During the year the RCA submitted "bids" for a number of contract works on National Highways and some ABRD and ALTP works which are subject to the tendering process. The RCA "bid" was successful on 25 occasions. The value of the work undertaken in 1985/86 at contract rates amounted to \$8,570,991 and the work was carried out at an actual cost of \$8,511,867.

The type of work undertaken by the RCA was varied including pavement works, sealing, intersection widening, manufacture of precast parapet units, duplication works.

Box 12 – Significant bridgeworks

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

Calder Highway (Gisborne Bypass)

Two span continuous box girder bridge 34 m long and 8.6 m between kerbs, on Kilmore Road over the highway. Estimated cost \$840,000.

Dual single span prestressed and reinforced concrete bridges over Station Road on the freeway 39.5 m long and 11.6 m between kerbs. Estimated cost \$78,0000.

Goulburn Valley Highway

Three span reinforced concrete and prestressed concrete beam bridge over King Parrot Creek 68.8 m long and 9.8 m between kerbs. Estimated cost \$52,0000.

Greensborough Project – Yando Street Underpass

A 88 m long pedestrian underpass. Estimated cost \$254,000.

Hume Freeway (Baddaginnie – Bowser section)

Three pairs of prestressed and reinforced concrete bridges with a total length of 1,110 m and 11 m between kerbs taking the freeway over Broken River, Broken River Anabranche and Holland Creek. Estimated cost \$7.3 million.

A two span reinforced concrete box girder bridge 90.3 m long and 9.3 m between kerbs on the Benalla – Tatong Road over the freeway. Estimated cost \$86,0000.

A two span reinforced concrete girder bridge 77.4 m long and 9.8 m between kerbs on the Kilfeera Road over the freeway. Estimated cost \$675,000.

A two span reinforced concrete box girder bridge 77.4 m long and 10.8 m between kerbs on the Hume highway over the freeway. Estimated cost \$745,000.

Murray Valley Highway

Four span U-slab bridge 43 m long and 9.8 m between kerbs over Cudgewa Creek. Estimated cost \$33,0000.

Princes Freeway (Warragul section)

Dual beam and slab bridges over the railway; east bridge is 128.3 m long and from 19 m to 15.6 m between kerbs and west bridge is 128.3 m long and 11.6 m between kerbs. Estimated cost \$2.5 million.

A slab bridge 68.2 m long and 17.2 m between kerbs on the Warragul – Korrumburra Road over the freeway. Estimated cost \$1.4 million.

Pyrenees Highway

Three span reinforced concrete U-slab bridge over Amphitheatre Creek 28.25 m long and 9.8 m between kerbs. Estimated cost \$278,000.

Warburton – Woods Point Road

Three span reinforced concrete U-slab bridge 30 m long and 8.6 m between kerbs over Starvation Creek. Estimated cost \$264,000.

Western Freeway (Melton section)

Two span box girder bridge 73.9 m long and 9 m between kerbs, on Coburns Road over the freeway (one of two to be completed). Estimated total cost \$1.5 million.

Three span prestressed concrete I-beam and reinforced concrete bridges over Toolern Creek 54.8 m long and 11.6 m between kerbs. Estimated cost \$944,700.

Two span continuous post-tensioned concrete box girder bridge at Ferris Road, Melton, 74 m long and 8.6 m between kerbs. Estimated cost \$635,000.

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

Alberton Shire

Carrajung – Woodside Road, bridge over Bruthern Creek:
Three span prestressed concrete I-beam bridge 49.4 m long and 8.6 m between kerbs. Estimated cost \$226,000.

Bairnsdale Shire

Bullumwaal Road, bridge over Prospect Creek:
A three span prestressed concrete I-beam bridge 45 m long and 7.4 m between kerbs. Estimated cost \$252,000.

Bairnsdale Shire

Lindenow – Glenaladale Road, bridge over Watts Creek:
Single span prestressed concrete I-beam bridge 25 m long and 8.6 m between kerbs. Estimated cost \$160,000.

Dundas Shire

Victoria Point Road, bridge and floodway structures over Wannon River:
Reinforced concrete bridge with slab deck, three span main bridge 36.5 m long, two two span structures 24.5 m long, all 8.6 m between kerbs. Estimated cost \$420,000

Glenelg Shire

Myaring – Pieracle Road, bridge over Glenelg River:
Three span reinforced concrete bridge with prestressed concrete beams, 53.9 m long and 8.6 m between kerbs. Estimated cost \$460,000.

Maffra Shire

Myrtlebank - Fulham Road, bridge over Flooding Creek:
Twin span concrete bridge 39 m long and 6.2 m between kerbs.
Estimated cost \$227,000.

Mornington Shire

Mornington - Dromana Road, bridge over Balcombe Creek
Three span reinforced concrete and prestressed concrete beam
bridge 32 m long and 8.6 m between kerbs. Estimated cost
\$377,000.

Orbost Shire

Ambyne Road, bridge over Deddick River:
Three span reinforced concrete and steel bridge 61 m long and
3.8 m between kerbs. Estimated cost \$220,000.

Ringwood City

Ringwood - Warrandyte Road, Mullum Mullum Creek
A culvert of precast reinforced concrete crown units and precast
reinforced concrete link slabs at an alignment of 120° to the road.
Estimated cost \$309,000.

Violet Town Shire

Violet Town - Murchison Road, bridge over Riggs Creek:
Three span U-slab bridge 33.5 m long and 9.8 m between kerbs.
Estimated cost \$254,000.

Warrnambool Shire

Framlingham Road, bridge over Hopkins River:
Three span reinforced concrete bridge with prestressed concrete
beam, 65.1 m long and 7.4 m between kerbs. Estimated cost
\$490,000.

Warrnambool Shire

Sampsons Ford Road, bridge over Mt Emu Creek: Three span
reinforced concrete bridge with prestressed concrete plank deck,
45.5 m long and 7.4 m between kerbs. Estimated cost \$250,000.

COMMUNITY SERVICES

Public Information

Property Enquiries

The Property Enquiries Group of the Road Construction Authority provides a service to members of the public who have or may be interested in acquiring an interest in land. The service indicates whether the RCA has any future interest in that land. In 1985/86, the Section dealt with an average of 12,904 enquiries per month, a total of 154,848 for the year. The majority of enquiries related to properties in the Metropolitan Division (63,556), the next highest was Dandenong Division (49,689), and the rural Divisions together totalled (41,603). The monthly enquiries are shown in Box 13.

Box 13 — Property enquiries received

	1985/86	1984/85
July	16,972	15,265
August	14,374	14,183
September	13,455	12,245
October	15,424	16,433
November	14,858	15,704
December	9,857	10,666
January	10,729	10,430
February	11,687	15,486
March	11,335	14,166
April	10,482	13,222
May	13,088	16,988
June	12,587	12,435
Total	154,848	167,223

Corporate Relations

The RCA pursues a policy of informing the public about its functions and works. To achieve this, its Corporate Relations Section prepares news releases, publications, audio visual productions and displays, and assists with media and general enquiries.

The **major promotional activities** for 1985/86 included an Anti-Vandalism and Littering Campaign intended to raise the public's awareness of the cost to the State of these two behavioural problems.

Media events included the acceptance by the Minister for Transport, Mr Tom Roper, of 65 new caravans for use by field personnel (9 July 1985); media tours of the Benalla Bypass (26 July 1985), the South Eastern—Mulgrave Arterial Road Link (5 February 1986), the Barwon River Bridge (14 February 1986), and the resurfacing of the Pykes Creek section of the Western Highway (27 March 1986); the commencement of work on the duplication of Doncaster-Mitcham Road at Donvale by the Minister for Transport (18 October 1985) and on the Princes Highway bypass of Morwell (12 December 1985); the removal of tolls on the West Gate Bridge (17 November 1985) and an award to the last toll-paying driver and the first toll-free driver of certificates and gifts (29 November 1985); and the installation of the first new reflective street signs (20 September 1985) and the first State Route Numbering sign on the South Gippsland Highway (13 December 1985).

During the year, 110 news releases were prepared on the RCA's activities, and an opening ceremony was held to mark the completion of the bypass of Warragul on the Princes Highway, on 12 December 1985.

A weekly Motoring Bulletin was published and distributed to the media to advise motorists of the location, type and duration of works that could affect traffic flow. Updates to the Motoring Bulletin were sent out by telex to advise of flood and snow conditions as required, and during the snow season, RCA snow reports from divisions were distributed to the Bureau of Meteorology and Victour. Numerous general and technical displays were prepared, including the 1985 Royal Melbourne Show display, featuring the landscaping of roads, the Professional Engineers Week display, featuring the history and development of road construction in Victoria (5–20 October 1985), the "Go Show" Motor, Leisure, Tourism Exhibition, featuring roads to tourist areas within easy reach of Melbourne by car (7–9 November 1985), the Australian Workers Union Centenary display prepared for the Ministry of Transport by the RCA (26 January 1986), and the 1986 CivEnEx (Civil Engineering Exhibition) display on roadmarking (4–6 March 1986).

Seventy eight publications and bulletins were produced during the year, including:

- *ROADS Victoria* (three editions)
- *Interchange* (six editions)
- Road Construction Authority Annual Report 1984/85 — Parliamentary version
- Road Construction Authority Annual Report 1984/85 — Corporate version
- Road Construction Authority Technical Activities Report 1983/84
- Brochures:
 - Hume Highway — Springhurst to Wodonga
 - Princes Highway — Bypass of Morwell
 - Princes Highway — Bypass of Warragul opening ceremony handout
 - Princes Highway — Tynong and Longwarry sections
 - Roadmarking today
 - Roadscapes
 - Summer driving
 - The importance of roads
 - Vandalism/Littering
 - Western Freeway — Bypass of Melton

In addition, 7 press advertisements were prepared on RCA activities of public importance, being

placed 50 times: 24 times in metropolitan daily newspapers, 22 times in regional newspapers and 4 times in rural daily newspapers. A complete list of RCA and National Association of Australian State Road Authorities publications held by the Corporate Relations Section for public dissemination is given in Box 14.

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 their functions and operations and 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.

Box 14 — Public sources of information

These publications were available as at 30 June 1986 from
Corporate Relations Section
Road Construction Authority
60 Denmark Street
Kew 3101

RCA Project Leaflets

Bypass of Greensborough Commercial Centre
Calder Freeway, Keilor Section
Calder Highway, Bypass of Gisborne
Hume Highway, Baddaginnie to Bowser (*revised*)
Hume Highway, Springhurst to Wodonga
Mornington Peninsula Freeway Extension, Dromana to Frankston
Princes Highway, Bypass of Morwell
Princes Highway, Tynong and Longwarry Sections
Route 1, Warragul Bypass
South Eastern-Mulgrave Arterial Road Link
South Gippsland Highway, Cranbourne to Bass Highway Junction
Western Freeway, Bypass of Melton (*revised*)

RCA General Publications

70 Years of growth, 1913-1983
Bridges
Early days of the CRB, The
Film catalogue
Great Ocean Road: A brief history
Guide to the reduction of traffic noise, A
Heavy duty flexible pavements
Hume challenge, The
Motoring bulletin, (*Weekly*)
Noise barriers
Roadmarking today

Roadmoves (*game*)

Roads

ROADS Victoria (and *CRB News* back issues), (*quarterly*)

Roadscapes (*revised*)

Snow driving

Spotto (*game*)

Summer driving

Urban arterial roads

Vandalism/littering

NAASRA Pamphlets

50 Years of NAASRA
Accelerated Loading Facility (ALF) and road pavement research, The
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, 1986
Review of Road Vehicle Limits (*summary and recommendation*)
Road bridges
Road signs and markings
Roads and computers
Roads and energy
Roads and national development
Roads and neighbourhood planning
Roads and public utilities (*revised*)
Roads and vehicle limits
Roads for recreation and tourism
Roads, bicycles and bikeways
Toll roads and bridges

The RCA has a full-time Freedom of Information Officer servicing the needs of Freedom of Information enquiries. The RCA provides facilities at Head Office and Divisional Offices for use by applicants wishing to peruse documents.

During the year, the RCA conformed to the requirements of the Freedom of Information Act and:

- provided documentary evidence when requested
- compiled and published annual statements containing information about its operations, functions, rules and practices, and information held by it in documentary form.

Details of FOI requests for 1985/86 are given in Box 15.

Box 15 — Statistics of FOI requests in 1985/86

Details	1985/86	1984/85
Requests for documents	116	109
Requests for amendment of personal records	2	2
Requests granted in full	82	75
Requests granted in part	18	14
Requests refused	4	13
Requests transferred	13	14
Requests being processed	2	2
Internal reviews	3	3
Appeals to the County Court*	-	3
Appeals to Administrative Appeals Tribunal (withdrawn)	1	-
Requests withdrawn	7	2

* Appellate jurisdiction of County Court transferred to Administrative Appeals Tribunal in 1984/85.

Emergency Services

The RCA provides a free emergency telephone service to assist drivers whose vehicles have been immobilised on the following major metropolitan traffic routes:

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

The emergency service is available twenty-four hours daily, and is aimed to assist drivers whose vehicles have minor mechanical problems, and to monitor potentially hazardous road problems. A free 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 amount to enable them to drive clear of the freeway.

A point of concern to the RCA is the incidence of hoax calls, which represent more than 4% of emergency calls; that is, 1 call in 25 results in a call out for no purpose. Not only are these calls frustrating and resource consuming, they reduce the service level to other motorists.

The emergency services communications centre is located in the RCA's Head Office at Kew, and is equipped with telex, facsimile, PABX and radio facilities. Members of the public are able to obtain up-to-date information on road conditions outside normal office hours, especially during times of flood or bushfire.

The emergency services officers received a total of 33,232 calls during 1985/86, and details of the calls are listed in Box 16.

Box 16 — Emergency telephone usage during 1985/86

Fault	Total	% of all calls	% of breakdown calls on freeway
Petrol	5,696	17.14	18.62
Tyres	2,484	7.47	8.12
Radiator	3,136	9.44	10.25
Mechanical	10,757	32.37	35.15
Hoax	1,359	4.10	4.44
Hazard	652	1.96	2.13
Accident	775	2.33	2.53
Tows	1,466	4.41	4.79
Other	4,275	12.86	13.97
Subtotal	30,600	92.08	100.00

Calls other than freeway

Hazard	733	2.21
Traffic Lights	280	0.84
Other	1619	4.87
Total	33,232	100.00

Calls by Freeway

Calder	1,698	5.54
Eastern	7,044	23.02
Kings Bridge/Queens Way	238	0.78
Mornington Peninsula /Frankston	2,723	8.90
Mulgrave/South Gippsland	7,050	23.04
South Eastern	2,457	8.03
Tullamarine	7,301	23.86
West Gate	2,089	6.83
Total	30,600	100.00

Snow Clearing

The RCA was involved in snow clearing of a number of roads to snow resorts and other highland areas during the 1985 winter to provide 24 hour access where possible. These roads were the Alpine Tourists' Road to Mt Hotham, the Mt Buffalo Tourists' Road, the Mt Buller Tourists' Road, the Bogong High Plains Tourists' Road and the Omeo Highway.

Snowfall conditions at the resorts were generally light compared to the three previous seasons, very little snow falling in June. However,

there were heavy falls in August and September.

As in previous seasons, night snowclearing was carried out on the Alpine Road on Friday and Saturday nights. The RCA also assisted the Alpine Resorts Commission at Mt Hotham, Falls Creek and Mt Buller with the clearing of carparks as a charge against the Commission, while the clearing of the Mt Buffalo carparks was carried out by the RCA's snowclearing team.

The snowclearing gangs consisted of a Supervisor and three Plant Operators working on rosters and stationed at Mt Buffalo, Mt Buller, and Falls Creek, with an extra operator assigned to Mt Buller two days per week to cover the increased work from high traffic volumes there. The Mt Hotham gang consisted of two Supervisors, two Assistant Supervisors and seven Plant Operators working on rosters in three gangs; one for each approach to Mt Hotham and one for night clearing on Friday and Saturday nights.

The plant assigned to snowclearing, the number of snow days and the costs, excluding the clearing of carparks for Committees of Management, are shown in Box 17.

Box 17 — Snow clearing statistics**Plant used**

Six wheel drive John Deere Grader Snowploughs:	6
Rolba R1500 Snowblowers:	3
Rolba R400 Snowblowers:	2
M.A.N. Truck Snowploughs:	2
Toyota four wheel drive Landcruisers:	5
Toyota four wheel drive Station Wagon:	1
Hired F.E.L. with Schmidt Snow Cutter	1

Snowfall details and costs:

Road	Resort	No. of Snow days	Cost 1985 Season
Alpine Road	Mt Hotham	5	544,492
Mt Buffalo Road	Mt Buffalo	25	112,280
Mt Buller Road	Mt Buller	36	156,530
Bogong High Plains Road	Falls Creek	20	141,397
Omeo Highway	Mt Wills area	-	7,961
Lake Mountain Road	Lake Mountain	19	10,700
Mt Donna Buang Road	Mt Donna Buang	17	7,835

Wayside Stops and Facilities

Facilities were upgraded during the year at four locations:

Anderson — Viewing area on the Phillip Island Tourists' Road. A parking area for 8–10 cars has been constructed on the Tourists' Road to allow motorists to gain an excellent view of Phillip Island and the mud flats of Westernport Bay to the north. It is designed for short stops rather than picnicking or barbecues.

Bourne Creek, Kilcunda — An upgraded rest area on the Bass Highway. The stop is used by highway travellers, fishermen and surfers, and new work includes formal parking areas and access track, new timber tables with bench seats, and an improved walkway to the beach.

Western Highway, Deep Lead — An improved wayside stop 10 km west of Stawell. The stop is located at the edge of a water reserve abounding in native birdlife. Work was completed in conjunction with the Department of Conservation, Forests and Lands under a C.E.P. program, and involved the creation of natural walk areas and planting of the rare pink flowering yellow box on the nearby road reserve. The stop is serviced with a wood burning barbeque.

Woori Yallock Creek, Woori Yallock — An upgraded wayside stop on the Warburton Highway. The work includes an improved access road with parking bays and new tables with bench seats. The main users are day travellers and local freshwater fishermen.

RCA PEOPLE

Special achievements of personnel

David Brown, an apprentice at the RCA's Ballarat Workshop, was awarded first prize (VACC—Award Level 2), and the Trucks in Action Award in the Motor Mechanics Heavy Stream for 1986, at the Batman Automotive College of Technical and Further Education. David was also awarded Student of the Year Award Silver Medallion of the College.

Matthew Hall, an apprentice at the RCA's Glen Waverley Depot, was awarded the Paton's Brake Replacement Award in the Motor Mechanics Heavy Stream for 1986, at the Batman Automotive College of Technical and Further Education.

Chris Hummer, an apprentice at the RCA's Glen Waverley Depot, was awarded second prize (VACC—Award Level 2) in the Motor Mechanics Heavy Stream for 1986, at the Batman Automotive College of Technical and Further Education.

Dean Humphries, an apprentice at the RCA's Benalla Division, was awarded the Vickers Systems Award in the Motor Mechanics Heavy Stream for 1986, at the Batman Automotive College of Technical and Further Education.

David Leonard, an apprentice at the RCA's Glen Waverley Depot, was awarded the second year prize in Automotive Electrical at the Royal Melbourne Institute of Technology.

Chris Tippet, an apprentice at the RCA's Horsham Division, was awarded first prize (VACC—Award Level 3), and the SAAB-SCANIA Award in the Motor Mechanics Heavy Stream for 1986, at the Batman Automotive College of Technical and Further Education.

Anthony Wregg, an apprentice at the RCA's Glen Waverley Depot, was awarded the Level 3—second prize in Fitting and Machining at the Box Hill Technical School.

The RCA congratulates these apprentices on their achievements.

Staffing

Box 18 shows the RCA's personnel levels as at 30 June 1985 and 30 June 1986.

Box 18 — RCA personnel levels

As at:	30 June 1985	30 June 1986
Engineers	518	520
Administrative staff	619	629
Technical staff	556	564
Scientists	23	25
Surveyors	43	43
Other Technological staff (qualified)	35	43
Printing and other General Division staff	32	33
Sandwich (Engineering) Students	5	8
Youth Employment Guarantee Scheme	-	16
Depot staff and employees	823	763
Field staff and employees	2151	2212
Total	4805	4856

The number of employees and officers by category as reported to the Australian Bureau of Statistics—Employment and Earnings Survey are listed in Box 19.

Box 19 — Categories of RCA employees

	Males	Females	Total employees
Full Time	4,365	429	4,794
Part Time	32	49	81
TOTAL	4397	478	4875*

* Includes 14 personnel on secondment and 5 on extended leave.

During the year, the RCA 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 RCA was also able to provide 200 school students with work experience under the Work Experience Act 1975, in clerical, technical and field positions.

Under the State government Youth Guarantee Program, the RCA currently has 29 young people employed as either Clerical Assistants, Drafting

Assistants, Field Assistants (Survey), Technical Assistants or Field Employees. More than half of the participants are employed in rural Divisional or Project Offices. The principal aims of the program are to provide young people with training and work experience and a guarantee of permanent employment subject to satisfactory completion of the work/study program. Accordingly, the RCA has a responsibility to place successful participants in permanent positions as early as possible.

Apprenticeships

Fifteen new apprentices were employed during the year in the trades listed in Box 20. Of the 69 apprentices employed by the RCA in 1984/85, 14 have gained their certificates.

Box 20 — Apprentices employed by the RCA

New apprentices:	
Motor mechanics	10
Electrical mechanic	1
Structural steel fabrication	1
Cooking	1
Carpentry	1
Gardening	1
Total number of apprentices in training as at 30 June 1986:	
Motor mechanics	43
Fitting and turning	2
Structural steel fabrication	4
Instrument making	1
Electrical mechanics	3
Automotive electrics	1
Radio tradesman (Electronics)	1
Carpentry	3
Carpentry and joinery	1
Painting	2
Gardening	2
Landscape gardening	4
Printing machining	1
Cooking	1
TOTAL	69

Personnel services, safety and welfare

The Occupational Welfare Program which commenced in 1985 was heavily used throughout the year. The service has proved beneficial for both management and employees. The range of problems and the number of people assisted by the RCA Occupational Welfare Counsellor during the year is given in Box 21.

Box 21 — Personnel assisted by Occupational Welfare Counselling

Problem	No. assisted
Injury/Health	198
Stress	111
Marita	190
RSI/Rehabilitation	102
Other	506

Over the year there was an increase in the number of reported Repetitive Strain Injuries (RSI), but there was also a significant decrease in the severity of the cases. This reflects increased attention to ergonomic factors, the publication of information on RSI, the encouragement of early reporting and the active rehabilitation of injured personnel.

A micro computer system is being installed to assist with both the administration of all work injuries and the identification of risk processes and risk areas so that preventative action can be taken to reduce the number of accidents.

Human Resource Development

The Human Resource Development Sub Group administered a comprehensive program of training and development activities covering all categories of personnel. Training programs held numbered 70 corporate and 52 divisional programs, and approximately 300 officers attended external courses and seminars. Courses held covered induction, professional and technical job needs, supervisory and management training, job skills and personal

skills. Computer training is largely undertaken externally, except for introductory courses, particularly the use of personal computers.

Career Development Programs continued for engineers, drafting officers, and potential road construction overseers, while a similar scheme for computer professionals is being introduced.

Approximately 200 officers availed themselves of the Study Leave Scheme, which provides some paid time off to pursue courses of study relevant to RCA positions.

The Human Resource Development Sub Group also arranged training attachments for personnel from overseas countries under Australia's aid program, and provided work experience for tertiary students, school students and others.

Industrial Relations

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

The Conciliation and Arbitration Commission ratified a new Appendix to the AWU Construction and Maintenance Award, which covers the Victorian public sector, including the RCA. This appendix (Appendix 17) effectively constitutes a new Award, updating and clarifying the Award and orienting conditions to the needs of public sector organisations.

A Victorian Public Sector Technological Change Agreement was negotiated with the Victorian Trades Hall Council by the Department of Labour. It defines procedures for consultation with unions about significant technological change, and basic principles for agreements covering the impact on personnel. The RCA already has consultative procedures in place which are consistent with the Public Sector Agreement.

A Major Road Construction Projects Agreement with construction industry unions was finalised and implemented. The Agreement is a generalised site agreement prescribing certain conditions which must apply on projects defined as Major Road Construction Projects (on which site allowances have been awarded by the

Conciliation and Arbitration Commission). There are ten projects covered by these Site Agreements.

The extension of site allowances to RCA staff working on major road construction projects was negotiated in conjunction with the Department of Labour and the Ministry of Transport.

At the West Gate Freeway Project, conditions governing shiftwork for supervisory and inspectorial staff were negotiated under the auspices of the Conciliation and Arbitration Commission and in conjunction with the Department of Labour and the Ministry of Transport. A Section 28 Agreement was lodged in the Commission. The hours of work for staff at this Project are very unusual given some of the construction activities involved in the operations and special quality control and inspection entries.

The RCA has also negotiated an Occupational Health and Safety Agreement with the Victorian Trades Hall Council. Implementation of the terms of the Agreement was well underway as at 30 June.

Details of Federal and State Awards of major significance to the RCA are given in Box 22.

Box 22 — Major Industrial Awards and Agreements within the RCA

Australian Workers' Union (Construction and Maintenance Award)
 Building Construction Employees' and Builders' Labourers Award
 Canteen Workers' Award
 Metal Industry (Victorian Government Departments and Instrumentalities) Award
 National Building Trades Construction Award
 Professional Engineers (RCA Agreement)
 Professional Engineers (RCA, Victoria) Senior Engineers' Award
 Road Construction Authority Salaried Staff Award
 Senior Executive Service
 Storemen and Packers' and Sorters' Award
 Transport Workers' (State Government Departments and Instrumentalities) Award

Equal Employment Opportunities

The RCA is an Equal Opportunity Employer and in line with government initiatives has developed an Equal Opportunity Employment Policy. During 1985, a Consultative Committee has been established to deal with EEO issues. A Personnel

Research Program has been conducted with the aim of eliciting and clarifying staff concerns about EEO. The results of the Research Program are currently being analysed, and will provide reliable data on which recommendations to management will be developed and will form the basis of an Affirmative Action Plan to assist in the achievement of EEO objectives.

Occupational Health and Safety

The construction and maintenance of roads and bridges and associated activities are potentially hazardous occupations. The safety and well being of both its personnel and the travelling public is a prime consideration in RCA operations.

During the year, the preparation and signing of an Occupational Health and Safety Agreement was concluded by the RCA with the Victorian Trades Hall Council and the involved staff associations and employee unions. The election of health and safety representatives, and the establishment of workplace health and safety committees and a safety policy committee are proceeding in accordance with the provisions of the Agreement and of the Occupational Health and Safety Act 1985.

Health and safety representatives have an immediate concern with the members of the work groups they represent and their workplace conditions, while health and safety committees are concerned with longer term health and safety matters and policy issues. The Authority Health and Safety Policy Committee will provide for regular corporate level consultation between management and employee representatives across the RCA.

Placarding of workplaces containing dangerous substances has been carried out in accordance with statutory regulations which came into effect on 1 October 1985. More than 30 materials classified in those regulations as dangerous substances are commonly used by the RCA and the appropriate HAZCHEM warning notices have been erected where the substances are located in quantities exceeding the specified minimum levels.

An accident/incident reporting system has been introduced under which a proforma report

is to be submitted by the work supervisor for certain accidents involving personal injury and damage to plant, vehicles and property, including all personal injury accidents resulting in lost time, eye injuries and back injuries, and for near-miss incidents related to work practices. The object of this system is to enable precise details of the circumstances of the accident or incident to be established and the contributing factors and corrective action needed to prevent a recurrence to be identified. Review of near-miss incidents is considered to be of no less importance than accidents in identifying potentially unsafe work conditions and practices and taking corrective action.

Overseas Travel — RCA Officers

Mr M F Cullinan travelled to the U.S.A., Denmark and England between 15 April and 5 May 1986 to examine road information systems, road network performance studies and measures, and the translation of policies and strategies into road programs.

Mr R R Patterson travelled to Japan, Britain, The Netherlands and West Germany between 30 May and 25 June 1986 to examine current practices and trends in urban road development and in the implementation of urban regional road programs.

Mr R A Pearson attended an international symposium on heavy vehicle weights and dimensions in British Columbia, Canada and examined some aspects of the movement of heavy vehicles in the San Francisco, U.S.A. area between 3 and 24 June 1986.

Mr David Jellie made a private trip during which he visited bridgeworks sites in England, France and Czechoslovakia. He inspected works involving pre-cast and cast-in-place segmental cantilever construction similar to the West Gate Freeway construction, and presented a report upon his return.

Box 23 — Retirements

The following are personnel who retired during the year with substantial service:

Name	Position	Location	Years service
Chapple, D R	OIC Registry	Administration	43
Russell, T H	Chairman and Managing Director		43
Dearnley, W C	Direct Works Engineer	Geelong	40
Moody, K G E	GM — Bridges	Bridge	40
Mau, F	Asst Principal Surveyor	Road Design	39
Alden, R G	Foreman	Plant	38
Lodge, F G	Divisional Engineer	Warrnambool	38
Smout, D J	Senior Trade Claims Officer	Finance	38
Anderson, P N	Supt. Drafting Officer	Road Design	37
Hughes, B W	Asst. Overseer	Horsham	36
Kendall, W J	Engineer Municipal Works	Dandenong	36
Lubczenko, R	Leading Hand	Geelong	36
Blain, R C	Admin. Officer	Geelong	35
Cassie, J S	Plant Operator	Warrnambool	35
Moon, L	Admin. Officer	Administration	34
Williamson, W G	Overseer	Plant	34
Brackett, M M	Overseer	Metropolitan	33
Kierce, M J	Truck Driver	Ballarat	33
Spooner, N F	Overseer	Bendigo	33
Jenner, J I	Overseer	Bairnsdale	32
Clark, B R	Patrolman	Metropolitan	31
Commons, L W	Traffic Controller	Bairnsdale	31
Turner, C J	Foreman	Bendigo	31
Van Veldhuisen, A	Welder	Horsham	31
Alford, C A	Senior Gardener	Geelong	29
King, B M	Clerk of Works	Bridge	29
Lagodziewicz, P	Plant Operator	Dandenong	29
Palasz, Z	Fitter	Plant	29
Sharkie, D J	Regulations Enforcement Officer	Benalla	29
Symons, J R	Truck Driver	Bendigo	29
Boyce, T J	Overseer	Benalla	28
Campbell, R G	Wall Builder	Dandenong	27
Clarke, N V	Engineer Asst.	Bridge	27
Nicol, G R	Truck Driver	Warrnambool	27
Perrett, A F	Patrolman	Geelong	27
Serpell, K R	Claims Officer	Finance	27
Waldron, H L	Clerk of Works	Bridge	27
Mason, G C	Patrolman	Ballarat	26
Power, C J (dec)	Overseer	Ballarat	26
Przastek, Z	Senior Drafting Officer	Geelong	26
Beckwith, H L	Clerk of Works	West Gate Freeway	25

Forsyth, J M	Senior Typist	Finance	25
Mokos, S	Senior Design Engineer	Bridge	25
Paszkiwicz, M (dec)	Workshop Supervisor	Bridge	25
Turrie, F J	Patrolman	Warrnambool	25
Brauer, D F (dec)	Welder	Horsham	24
Glumac, R	Clerk of Works	Dandenong	24
Shaw, B S (dec)	Storeman	Warrnambool	24
Smith, R C	Clerk of Works	Traralgon	24
Wickham, T M	Maintenance Worker		
	Roadside	Bendigo	24
Civelli, E	Overseer	Metropolitan	23
Colquhoun, D J	Plant Operator	Dandenong	23
Courteny, A J	Plant Operator	Ballarat	23
Mariani, Q	Patrol Asst.	Metropolitan	23
Wangman, F W	Welder	Plant	23
Babos, A	Experimental Officer	Materials	22
Cooper, P R	Building Construction		
	Worker	Benalla	22
Nicholls, R E	Traffic Controller	Horsham	22
Petrie, A	Truck Driver	Dandenong	22
Rusbridge, T K	Plant Serviceman	Bendigo	22
Stamper, L W	Patrolman	Traralgon	22
Smith, N S	Truck Driver	Benalla	21
Bryan, A R	Traffic Officer	Bairnsdale	20
Evans, M G	Special Fitter	Plant	20

Box 24 — Pecuniary Interest Declarations

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

Officer	Position
Addis, B	General Manager – Bridges
Allen, R G	Asphalt Engineer
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
Chandler, B H	Divisional Engineer – Benalla
Cochrane, B R	Project Engineer – Baddaginnie – Bowser
Cullinan, M F	Group Manager – Information and Networks
Currie, D T	General Manager – Programs
Durant, D N	Project Engineer – Eastern
Ellis, H E J	Divisional Engineer – Metropolitan
Eriksson, S C	Road Planning Engineer
Foster, J G	Group Manager – Property

Gamble, R M	Manager – Survey and Mapping
Gardner, W J	Divisional Engineer – Traralgon
Glazebrook, T M	Divisional Engineer – Bendigo
Hodgson, S H	Divisional Engineer – Dandenong
Hunt, G R	Group Manager – Road Construction and Safety Practices
Jephcott, A N	Divisional Engineer – Bairnsdale
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
Marshallsea, G W	Regional Manager – Western
McCullough, P J	General Manager – Administration
Meggs, R C	Group Manager – Bridge Design
Mills, G F	Group Manager – Stores and Supplies
Moll, V R	Acting Principal Construction Engineer
Morison, R N	Manager – Road Design
Muller, R L	General Manager – Personnel and Employee Relations
Murray, W	Group Manager – Administrative Services
Oppy, E T	Divisional Engineer – Ballarat
Paterson, R R	Regional Manager – Metropolitan
Phillips, B L	Divisional Engineer – Warrnambool
Rennick, I E	Manager – Right of Way
Robinson, P	General Manager – Plant
Roscoe, P J	Group Manager – Legal Services
Roy, C W R	Divisional Engineer – Geelong
Russell, T H	Chairman and Managing Director
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
Valentine, R	Group Manager – Major Works
Waddell, J C	Divisional Engineer – Horsham
Wheat, N	Manager – Internal Audit
Williams, M L	Regional Manager – Eastern
Wilson, J E	Manager – Bridgeworks West Gate Freeway

GENERAL ACTIVITIES

Linemarking

During the year, the RCA spent \$6.638 million extending and maintaining roadmarkings throughout the State including STATCON markings and raised pavement markers. The materials used included 838,900 litres of paint, 21,900 m² of thermoplastic, 17,700 kg of epoxy, 401,700 kg of reflective glass beads and 125,488 raised pavement markers.

The length of linemarking painted by RCA machines was:

- State Highways and Freeways — 25,277 km or 72,310 km of equivalent standard stripe;
- Other declared roads — 13,392 km or 26,519 km of equivalent standard stripe;
- Unclassified roads — 4,792 km or 10,435 km of equivalent standard stripe.

The term "equivalent standard stripe" refers to a line 100mm wide, 3 m long with a 9 m gap.

The average unit cost of the work was \$48.00 per km of broken line and \$85.00 per km of solid line. The cost of extending and maintaining the system of raised pavement markers was \$595,000 and 140,871 markers were laid.

The RCA policy of extending the State highway and main road system of edgelines and reflective markers during the last three years has resulted in a tripling of edgelines (from approximately 1,000 km to 3,000 km) and reflective markers (from approximately 2,000 route km to 5,300 route km).

The RCA's machines also painted 204,400 m² of STATCON and other intersection markings on behalf of the Road Traffic Authority at a cost of \$8.00 per m² and a further 8,222 m² of "Degadur" long life markings at a cost of \$25.00 per m².

These costs are the same dollar rates which were used in the 1981/82 financial year and reflect the reduction in real costs of linemarking which have been achieved.

Linemarking and linemarking plant were the subject of the RCA exhibition at "CivEnEx", held at Werribee Park in March 1986. On display were a large push trolley machine, a medium size Howard Hauler and several smaller machines used for laying thermoplastic. The exhibits attracted much interest.

During the year, increased use was made of private linemarking contractors to cope with additional work delegated by the Road Traffic Authority. This included maintenance of markings at signalised intersections on unclassified roads and extension of the "Fairway" system on behalf of the Metropolitan Transit Authority. The cost of the "Fairway" system this year was \$19,000. Work on behalf of other State Government bodies now represents 39% of expenditure.

Painted longitudinal markings were converted to thermoplastic on 121.8 km of arterial roads in Melbourne at a cost of \$146,235.

State Route Numbering

The implementation of the RCA's Route Numbering System, reported in the 1984/85 Annual Report, is well underway, and is programmed for completion by June 1987 at an estimated total cost of \$420,000. The System provides for new route numbers on State highways, tourists' roads and certain main roads, in addition to the upgrading of existing route number signing on national highways and national routes.

Previously the only routes numbered were the national routes. Provision has been made for the inclusion of future routes as roads are upgraded and their traffic levels increase.

Work is presently underway or has recently been completed on the routes listed in Box 25.

Box 25 — State Route Numbering works underway or recently completed

	State Route Number
Bass Highway	181
Bellarine Highway	91
Goulburn Valley Highway (section 2)	168
Henty Highway	107
Maroondah Highway	34 and 153
Melba Highway	153
Midland Highway (sections 3 and 5)	149
South Gippsland Highway	180
Sunraysia Highway	121

Direction and Street Signing Projects

The **Melbourne and Metropolitan Direction Signing Project** continued, with improved direction signing being provided at over 300 major intersections in the Metropolitan area. The project is approximately 60% complete, and routes signed so far include all State highways and some important connecting routes such as Warrigal Road and Canterbury Road.

Following the success of direction signing in the Melbourne area, proposals are being prepared for **Provincial City Direction Signing** in conjunction with the municipal councils for the urban areas of Ballarat, Bendigo and Geelong. It is anticipated that the first signs under this scheme will be installed in the 1986/87 financial year.

The **Street Name Signing Project** was commenced in September 1985 and is due for completion by June 1987 at an estimated cost of \$1.3 million. It aims to improve the visibility of local street signs at approximately 8000 intersections throughout Melbourne. The project is being implemented in conjunction with municipal councils, who are able to choose the colours of the signs to suit local practice. The project was approximately 60% completed at 30 June 1986.

Planning Studies and Activities

The Planning function of the RCA covers several facets, most of which are grouped in the Investigation and Planning Sub Branch.

Planning for the effects of large or heavy vehicles is the responsibility of the Road Vehicle Limits Section. This Section develops policy and guidelines so that regulation and enforcement can be carried out by the Road Traffic Authority. An important aspect of this work is consultation at the national level to maintain uniformity between States.

Environmental matters are an integral part of the RCA's planning, design and construction activities. The Environmental Services Section is responsible for arranging the environmental

clearance for each year's works program and maintaining liaison with organisations having an interest in various aspects of the environment.

The Advance Planning Division is responsible for maintaining and enhancing a comprehensive computer database of road system information, primarily the physical characteristics and condition of the roads themselves, as well as some traffic and travel data. This information is a major input into the tasks of monitoring the performance of the road system against physical and traffic criteria and examining the implications and effectiveness (for the road system and its customers) of various future road funding scenarios beyond the normal fund allocation period. A further responsibility is the preparation of information to assist in the co-ordination of road funding decisions.

The Road Planning Division has two related primary tasks. The first is to conduct investigations of particular areas or corridors to determine road and traffic conditions and suggest ways to relieve deficiencies. The second task is to conduct detailed investigations of possible road projects which will contribute towards government transport goals and which will facilitate traffic movement.

Not all planning investigations are carried out in the Road Planning Division. Numerous investigations are carried out by regional divisions, and these tend to be studies where the issues are local and there are no strategic implications.

Road planning in the RCA is carried out within the strategic framework prepared by the Ministry of Transport. The Ministry is also actively involved in many of the road planning studies conducted by the RCA.

Major Planning Studies in which the RCA was involved during the 1985/86 financial year include:

Hume Freeway — Albury/Wodonga connection

This connection is being investigated by the RCA in close liaison with the Department of Main Roads, New South Wales, and in consultation with the Albury Wodonga Development Corporation, the municipal councils of Albury and Wodonga, and Federal and State government agencies.

A second Murray River Crossing would provide additional road capacity across the Murray River for the planned expansion of the Albury/Wodonga growth centre and to complete the future upgrading of the Hume Highway between Melbourne and Sydney.

Initial investigations for a second Murray River Crossing were commenced some years ago. The results of a hydraulic study carried out in 1983 by Consultants to establish the requirements for bridging across the Murray River and its flood plain are being used in the current study. Three alternative routes, together with a possible Murray Valley Highway connection, have been identified for detailed evaluation and comparison, so that a final location for a second Murray River Crossing can be fixed to link the existing Wodonga Bypass to the proposed Albury Relief Route at Bridge Street, Albury.

The need for a Murray Valley Highway connection will depend primarily on the traffic demand generated from the future Baranduda/Wodonga East areas and the ability of the existing arterial roads in Wodonga to handle the travel demands across the Murray River without such a connection.

To encourage public participation in the investigation, Bulletin No. 1 was published in November 1985 to inform the public of progress and seek comment from the relevant government agencies and the public.

Work has commenced on the preparation of an Environmental Effects Statement (EES) recommending a favoured route for public consideration and formal assessment of environmental effects.

Western Bypass Investigation

This study to examine the form and precise location of a new road connection between the southern terminal of Tullamarine Freeway and Footscray Road commenced in late 1984. The study is being carried out by a Consultative Committee convened by the Ministry of Transport and comprising representatives of the Ministry, Melbourne City Council, the RCA and other agencies. The detailed investigations are being carried out by an RCA Study Team. The Consultative Committee has met approximately twenty times to date.

A Community Consultation Team comprising a Ministry representative, social planners and Study Team members has been established to ensure that the business and residential communities in the study area are properly informed of the study progress and issues, and that the views and concerns of all sections of the community are obtained and considered by the study. The Team has discussed the study with community groups, commercial enterprises and individuals, as well as carrying out a survey of employment in potentially affected businesses. Five Information Bulletins have also been prepared and widely distributed in the study area.

An initial public display of five possible concepts for the new road link was held during mid-1985 at several locations in the study area. A feature of the display was a model of the general route location corridor. The model and additional information in the form of a booklet greatly assisted the understanding of the study. Approximately five hundred people attended the display.

A series of working papers providing background technical information on particular aspects was also published at the time of the display and subsequently placed in local libraries, municipal offices and with agencies involved with the study. It is expected that further technical working papers will be published with the release of the Environmental Effects Statement (EES). Several specialist investigations of interest have also been carried out as part of the study.

Tunnel Studies

A two phase study has been carried out by a specialist consultant. Phase one involved the assessment of the engineering practicality of various tunnel proposals and indicated that cut and cover tunnels were the appropriate construction method given the poor foundation conditions in the area. The phase two investigation presented cost estimates and identified construction methods, operational and environmental performance factors associated with short cut and cover tunnels in the Debneys Park area.

Noise/Acoustic Studies

Noise measurements have been carried out both adjacent to the proposed new link and at other locations within the study area. Detailed measurements were carried out at varying floor levels in the high rise residential tower at Debneys Park closest to the proposed new link.

An acoustics Consultant was engaged to investigate possible noise insulation treatments which could be applied to the high rise flats at Debneys Park as an alternative to a fully enclosed noise shelter on elevated sections of a new link in this area. A range of possible treatments was identified.

Landscape/Visual Effects

Perspective photo montages have been prepared by the Study Team to illustrate the general appearance of an elevated concept from typical viewing points. Melbourne City Council engaged a Consultant to make an assessment of the potential for development of Moonee Ponds Creek for open space/recreational purposes.

Costs

Preliminary estimates for concepts currently under consideration for a Western Bypass range from \$150 million to \$185 million.

Next Steps

It is currently expected that the EES detailing the investigation and indicating a preferred scheme will be released in conjunction with another public display later in 1986. Submissions received will be forwarded to the Ministry of Planning and Environment, and to the Ministry of Transport, and will be reviewed by the Consultative Committee to determine the need for any changes.

The assessment of the Minister for Planning and Environment together with the final recommendations of the Consultative Committee will be taken into account by the Minister for Transport prior to a final decision being made. Should a desirable scheme be determined, a request will be made to protect a suitable reservation in the Melbourne Metropolitan Planning Scheme.

Eastern Corridor — Doncaster to Ringwood

In its early stages the Metropolitan Roads Access Study (METRAS) identified traffic congestion, together with the associated environmental and safety effects both on arterial and local roads, as a major issue in the Eastern Corridor.

One possible traffic management option to relieve these problems was seen to be the development of an arterial road along the Eastern Road Reservation. This road could extend from the Eastern Freeway Terminal at Doncaster Road to the Maroondah Highway at Mt Dandenong Road, Ringwood. This option was supported at the Joint Mayoral Committee of the corridor municipalities: Camberwell, Doncaster and Templestowe, Box Hill, Nunawading and Ringwood.

In recognition of the severity of the corridor's traffic problems, the former Minister of Transport announced in January 1985 that the Government had decided to set aside not less than \$30 million over 10 years to meet these road problems. The Minister also initiated a study to specify the worst trouble spots, and to identify discrete projects and actions, and stages of larger projects, that would help ease traffic flow and alleviate the adverse side-effects of congestion.

The study was carried out by an RCA Study Team for a Technical Group comprising representatives of the corridor municipalities, the Ministry of Transport, the RTA and the RCA. Over the duration of the study, February to September 1985, the Technical Group met eight times, monitoring progress and providing direction for the investigations.

Corridor traffic problems were identified by the municipalities, by direct observation, and from aerial photographs. As the deficiencies were widespread and not suitable for treatment as a whole, three separate problem areas were defined.

- Doncaster/North Box Hill: congestion on Doncaster Road between Tram Road and Wetherby Road, and east-west traffic infiltration in North Box Hill;
- Nunawading/Mitcham: congestion on Maroondah Highway between Springvale Road and Mitcham Road, and on Mitcham Road north of the highway;
- Ringwood: congestion and interference to commercial activity on the Maroondah Highway through Ringwood.

While traffic volume, truck origin and destination, and accident data were being

collected and analysed, possible treatments for the abovementioned traffic problems were being examined at three levels:

- (i) efficiency improvements to the existing arterial roads;
- (ii) major improvements to the existing arterial roads, and
- (iii) network additions (sections of new arterial road).

Working Papers were prepared on the problem areas and possible treatments, and on corridor traffic volumes and operating conditions. The Technical Group considered that any plan to address the corridor's road needs should include stage development of the Eastern Arterial Road. The Technical Group Report, recommending a range of Efficiency Improvements, Major Improvements, and Network Additions, was submitted to the Minister for Transport in October 1985. In January 1986, the Minister released the report, announcing that the RCA and RTA had been requested to expedite the implementation, in conjunction with the relevant municipalities, of the following works identified by the report:

- Efficiency Improvements, such as minor intersection treatments and traffic signal adjustments;
- Upgrading of sections of Bulleen Road, Tram Road, Wetherby Road and Mitcham Road; and
- Improvements to the Doncaster Road/Wetherby Road intersection.

The recommendation concerning network additions has been the subject of further discussions between officers of the Ministry of Transport and municipal representatives, and are being considered for inclusion in the ten year program of works being developed as part of METRAS.

Jolimont and Southbank Development proposals

Development Plans for both Jolimont and Southbank were exhibited for public comment in early 1986. The RCA was active in providing analysis and advice on road network and traffic changes associated with these major Land Use and Development Strategy Studies. The studies were conducted by interdepartmental task forces and involved close liaison with officers of various State transport agencies and the Ministries of Transport, and Planning and Environment.

Calder Highway — Diggers Rest to Gisborne

Investigations into the future development of the Calder Highway between Diggers Rest and Gisborne were completed in early 1986. This work included a review of initial proposals in the light of submissions received from affected property owners, concerned Shire councils and various government agencies. A summary of the review, together with an outline of the Adopted Proposal for the duplication of the highway with provision for long term development to freeway standards, was released in May 1986.

Reservoir Rail Level Crossing

Options for improvements to Reservoir Rail Level Crossing and associated intersections were released in a Discussion Paper in October 1985. The improvement schemes would reduce the current high traffic congestion levels, unsatisfactory accident record and traffic/pedestrian conflict. The investigation concluded that in the shorter term improvements to traffic movement and safety could be made by low cost at-grade intersection improvements. Provision of grade separation by lowering the rail lines could follow later.

Princes Highway West — Dennington to Illowa

A summary of investigations into the future development of this section of the Princes Highway was released to affected property owners, Council and various government agencies in October 1985. This section of the highway has low geometric standards and a higher than average accident rate, and the pavement will require major rehabilitation in a few years time if it is to be retained for State highway traffic. The proposed realignment, which makes use of a portion of the closed Dennington to Port Fairy railway line would improve overtaking opportunities and increase safety by reducing the frustration of drivers and the conflict between through traffic and access to abutting land.

METRAS (Metropolitan Road Access Study)

This major planning study conducted by the Ministry of Transport was released for community comment in May 1986, and RCA staff have been seconded to the study since its inception. In addition, specific tasks for the Study were performed within the RCA including project assessment and report preparation, and submission of comments on several draft study papers.

The final METRAS Report to the Minister has been circulated to local government, the community, government agencies, and other interested groups to allow comment to be made. This will enable the recommendations to be reviewed before a decision is taken by the State government. The report contains forty specific recommendations, most of which relate to the work of the RCA.

Pascoe Vale Road Relief Study (PVRRS)

Planning on this study was concluded during the year, after an RCA Study Team was involved in the preparation of the PVRRS Environment Effects Statement.

In September 1985, the Minister for Transport announced his support for the Pascoe Vale Road Relief Study recommendation that a 7.8 km section of the R5 outer ring route be constructed between Sharps Road, Tullamarine and Mahoneys Road, Fawkner.

Further design work is currently being carried out by the RCA to a stage where the necessary action can be taken to seek the required Planning Scheme amendment.

Road Design and Traffic Engineering

The Road Design and Traffic Engineering section provides state-wide services and advises on a wide range of specialist function to other sections of the RCA.

The Head Offices resources employed to meet these needs of the RCA were: 105 professional staff, 180 technical officers and 20 Administrative officers. In addition,

approximately 70 members from the Survey and Mapping division were seconded to project sites and regional divisions throughout the State. The Head Office resources are supported by up to 15 professional staff and 110 technical officers located in the regional divisions of the RCA. These resources are closely related and depend on each other in the overall design process.

Other Organisations

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 cooperative effort, a uniform approach to the development and improvement of the national road system can be achieved. Over the years, this cooperation has enabled the Association to coordinate 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 Federal Department of Transport.

The following NAASRA meetings were held during the year and were attended by: Mr T H Russell, Chairman and Managing Director (until 18 April 1986)

- 75th (Annual) Meeting, Karartha, Western Australia, 4 and 5 November 1985 — Mr Russell retired as NAASRA Chairman after serving for a period of twelve months.
- Special Meeting, Sydney, 7 April 1986.

Mr R T Underwood, Chairman and Managing Director (from 21 April 1986)

- 76th (Intermediate) Meeting, Melbourne, 6 May 1986.

Items considered by NAASRA during the year included:

- Proposed Australian Land Transport Program funding and administrative arrangements,
- Tendering and Contracts,
- Full Scale Pavement Testing using the Accelerated Loading Facility (ALF),
- Future road studies, especially for post-ABRD after 1988,
- State road legislation,
- Vehicle surveys,
- Review of Road Vehicle Limits Study,
- Transportation Noise,
- XVIII World Road Congress — Belgium 1987,
- Publications — technical and general information.

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 Board of Directors includes the heads of six State Road Authorities, the Northern Territory Department of Transport, 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 of 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 Road Grants Amendment Act 1982. The objective of ARRB is to coordinate, 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 database contribution, Australian reference point, etc).

The forward program for three and one 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 (until 18 April 1986), attended the 51st Meeting in Perth, Western Australia on 7 November 1985. Mr R T Underwood, Chairman and Managing Director of the RCA (after 21 April 1986), attended the 52nd Meeting at the Australian Road Research Centre, Vermont on 7 May 1986.

Mr Russell served as Deputy Chairman of ARRB during the year until his retirement in April, and at the May meeting of the ARRB, Mr Underwood was elected to this position for a twelve month period.

A number of RCA officers served as members of ARRB technical or specialist committees during the year.

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, was held in Adelaide in August 1986.

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. It is comprised of the

Federal, State and Territory Transport and Roads Ministers, and acts as an advisory body to promote the better coordination 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 such matters 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 Advisers' Group.

The following Road Advisers' Group meetings were held during the year:

- 24th Meeting, Sydney, October 1985, attended by Mr T H Russell, Chairman and Managing Director (until 18 April 1985);
- 25th Meeting, Melbourne, May 1986, attended by Mr R T Underwood, Chairman and Managing Director from 21 April 1986.

The 42nd Conference of Municipal Engineers

The 42nd 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 3 March 1986 and at the Camberwell Civic Centre on Tuesday 4 March 1986. The theme of the Conference was "State of the Art — Now and Beyond". The program included a seminar on the Tuesday afternoon to which municipal councillors were also invited.

Over 260 local government, RCA and other authority engineers attended the conference technical sessions, while an additional 220 councillors and representatives from other authorities attended the seminar sessions. The opening address at the technical sessions was delivered by Dr P Vulcan, Chief General Manager, Road Safety, Regulation and Vehicle Engineering, Road Traffic Authority, who spoke on "Road Safety — State of the Art".

The Victorian Minister for Transport, the Honourable Tom Roper MP, was a guest at the conference luncheon on the Tuesday and opened the seminar sessions. The following papers were presented and discussed at the seminar:

"Management in Local Government for Elected Representatives and Staff" by Mr J Burns, Chief Executive Officer, Australasian Institute of Mining and Metallurgy, and Senior Partner, Learning Associates;

"New Directions in Planning" by Mr D Yencken, Secretary for Planning and Environment, Ministry for Planning and Environment.

"Municipal Restructuring Update" by Mr B O'Donnell, City Engineer, City of Richmond.

"Future Road Development Strategies for Victoria" by Mr R T Underwood, Chief General Manager, Planning and Design, RCA.

Other Papers presented at the Conference covered: Concrete pavements, preparation of a consultant's brief, developments in pavement and pavement surfacing, results of the NAASRA Review of Road Vehicle Limits (RoRVL), integration of survey and road design, road finance, construction of bridges from reclaimed materials, rural garbage services, and cement stabilisation as a tool for footpath and culvert endwall construction.

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, were greatly appreciated.

Land Acquisition — Property Management

The estimated total value of property holdings of the RCA as at 30 June 1986 is \$263.779 million and covers the categories of holdings of (i) Offices, depots and workshops, employee housing, quarries etc., and (ii) Properties purchased for roadworks. Properties in the first category are essential to the operation of the RCA. The total number of properties held by the RCA for future roadwork purposes includes 800 houses, 120 shops, 50 commercial properties, 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 land and properties which are not lettable, and

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

During the year, the RCA paid compensation and associated costs totalling \$30.243 million for land required for the construction of new roads or the widening or deviation of existing roads.

When 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 \$30.243 million expended on compensation and associated costs during the year, \$8.43 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 residential and commercial properties and areas of vacant land during the year was \$3.375 million.

The RCA has pursued an active policy of disposal of surplus properties, and during the year properties to the value of \$14.418 million were sold. Property sales included 47 residential and commercial properties, 121 separate areas of unimproved land, and the improvements on 19 properties.

Box 26 shows the number of land purchase transactions completed and the amount of compensation and associated costs paid by the RCA for the period 1981/82 to 1985/86.

Box 27 shows the expenditure incurred during the year on land purchase in relation to the RCA's road classification and the Commonwealth road categories.

Box 26 — Land purchase transactions and compensation paid

	1981/82	1982/83	1983/84	1984/85	1985/86
Number of land purchase cases settled	489	440	405	518	499
Compensation and associated costs paid by the RCA	\$20.88m	\$17.54m	\$16.63m	\$27.04m	\$30.24m
Land purchase expenditure on unclassified roads under council supervision	\$0.69m	\$1.06m	\$0.56m	\$0.54m	\$0.53m

Box 27 — Land purchase by Commonwealth Road Category

RCA road classification	Commonwealth road category			Total \$000
	National Roads \$000	Arterial Roads \$000	Local Roads \$000	
Freeways	4,218	6,192		10 410
State Highways	383	14,960		15,343
Tourists' Roads		40	41	81
Forest Roads		9	5	14
Main Roads		2,977	187	3,164
Unclassified Roads		844	387	1,231
Total	4,601	25,022	620	30 243

Research and Development

Accelerated Loading Facility Testing

To provide information on the performance and life of various types of pavements and new materials, an Accelerated Loading Facility (ALF) was developed, designed and built by the Department of Main Roads, NSW, for the National Association of Australian State Road Authorities. The ALF simulates many years of traffic usage in a short time: one million cycles of loading takes about 100 days.

In 1985/86 ALF was used to test a surface-sealed unbound base pavement on the Hume Freeway, Benalla bypass. The results of this trial confirmed that granular pavements can withstand high traffic loadings for many years provided that they can be kept waterproof. The results of the ALF testing will be compared with decades of future monitoring of the Benalla pavement under real traffic conditions, and the effects of long-term environmental attack, which cannot be simulated by the ALF.

CULWAY/AXWAY automatic vehicle weighing

The design of bridges and roads depends on the vehicle loads they are estimated to carry during their service life. Until recently, information about these loads was based on limited data obtained from static vehicle weighing, but recently the RCA acquired CULWAY/AXWAY weigh-in-motion systems to provide automatic logging of vehicle masses.

The CULWAY system uses an instrumented reinforced concrete culvert under the road and relates its flexural response to the load on an axle as it passes over the culvert. AXWAY is similar, except that in this case a bridge is instrumented.

Not only do these systems provide information on axle loads, but they also count and classify vehicles. The RCA currently has one AXWAY and four CULWAY systems in service on rural highways. Data from these units will be used for bridge and road design, and although they can detect overloaded vehicles, are not used for the enforcement of legal load limits.

Legislation affecting the RCA

Legislation affecting the RCA and passed during the 1985/86 year is:

Accident Compensation Act 1985

This Act sets up the Accident Compensation Commission and the Accident Compensation Tribunal, two bodies which are to oversee and manage compensation payable to all employees injured as result of their work. It establishes the rate of compensation payable to injured workers and the dependents of deceased workers. The Act also sets out the procedure for making and processing claims for compensation and establishes the basis for liability to pay compensation under the Act.

The Act also provides for the establishment of the Victorian Accident Rehabilitation Council, a body which is to oversee the use of rehabilitation for injured workers to assist them to remain within the work force.

Occupational Health and Safety Act

The main thrust of this Act is to set out the duties of employers towards their employees to provide and maintain, as far as practicable, a safe and healthy working environment, with safe and healthy work places and work systems. The employer also has an obligation to ensure, so far as practical, the health and safety of employees in the use, handling, storage and transport of plant and substances.

The Act also provides for the dissemination of adequate information, instruction, training and supervision to enable employees to work safely and without risk to their health.

Through the use of health and safety representative committees, employees and employers now have duties and responsibilities to ensure that safe working practices are maintained within the work place.

Dangerous Goods Act 1985

This Act sets out a number of provisions which standardise the signing for dangerous goods and classify them for the purposes of identification. It also requires a person or body at whose

premises dangerous goods are kept to apply for a licence and to notify the Director General of the Department of Employment and Industrial Affairs of the precise identity and quantities of dangerous goods currently held at the premises. This information is also to be supplied to the fire authority responsible for the locality.

Transport (Amendment) Act 1985

This amendment to the Transport Act allows the Governor in Council to appoint as Chairman of an Authority any person, whether a member of that Authority or not, such appointee automatically becoming a member of that Authority. The Act also legitimises all joint ventures entered into by an Authority whether inside or outside of the State.

An amendment to the Transport (West Gate Bridge) Regulations 1984 removed the requirement for a toll to be paid for travel on the West Gate Bridge.

Transport (Proceedings and Appropriations) (Amendment) Regulations 1986

These regulations revoke the Road Construction Authority's power to prosecute offenders for failing to comply with the traffic regulations. The ability for the RCA to prosecute offenders for parking violations remains.

Enforcement of Regulations

Two cases of parachutists jumping from the West Gate Bridge were brought by the RCA before the Port Melbourne Magistrate's Court on 29 May 1986. The first incident occurred on 27 October 1985 when a number of parachutists jumped from the Bridge. This mass jump received substantial media coverage at the time.

The second incident occurred on 18 March 1986 when a lone parachutist jumped from the Bridge.

Both defendants were fined the maximum penalty of \$100 on each offence, plus \$18 costs. In handing down his decision in one case, the Magistrate commented that the maximum fines he was able to impose were totally inadequate, bearing in mind the irresponsible nature of the action associated with the offences, that is, parachuting from the Bridge.

In May 1985, a man cut down a large tree on the road reserve of the Sunraysia Highway near St Arnaud. As written permission had not been obtained from the RCA, the matter was brought before the St Arnaud Magistrate's Court under the Transport (Timber on Declared Roads) Regulations 1984, and a fine of \$500 was imposed.

FINANCE

Activities

During 1985/86 further progress was made improving the Road Construction Authority's financial accounting systems. A system for the automatic calculation and processing of claims by municipal councils against allocations was developed and successfully implemented. This system has achieved considerable administrative savings and provided improved and more timely information flows.

In addition, a computerised stores recording system was implemented at the Road Construction Authority's Central Store at Glen Waverley and an accounts payable package has been purchased and installed at Head Office. Following evaluation, it is anticipated that the package will be installed in divisional and project offices. Work also continued on the specification of requirements for improved payroll/personnel and plant systems as part of the Information Systems Strategy Plan.

The revised organisation structure developed in 1984/85 has been effectively implemented in 1985/86 and work continued on the development of appropriate asset and property registers.

FUNDING 1985/86

The Road Construction Authority received funds during 1985/86 from both State and Federal sources. Details of funding and the expenditure of those funds (in cash terms) are shown in the pie charts below.

Funds from State Sources

State funds are received primarily by an appropriation from the Current Account, to a lesser extent from revenues collected directly by the Road Construction Authority, and by an appropriation from the Works and Services Account which in effect represents borrowings by the Road Construction Authority. Although fees from motor car registrations, drivers' licences, fuel franchise, etc. are paid into Consolidated Revenue, approximately equivalent revenues

have been made available for roads by appropriation from the Current Account. Accordingly, because of the fall in oil prices and the consequent reduction in fuel franchise fee revenues, an amount of \$8.25 million of the Road Construction Authority's Current Account appropriation could not be drawn down in 1985/86.

Under the provisions of the Australian Bicentennial Road Development Trust Fund Act 1982, States are required to maintain their expenditure on roads from State sources in real terms in order to qualify for their full entitlement of Australian Bicentennial Road Development funds. Despite the reduction of \$8.25 million in fuel franchise revenues, it is anticipated that Victoria will have increased its progressive surplus over the requirement from approximately \$31 million at the end of 1984/85 to approximately \$50 million at the end of 1985/86.

Funds from Federal Sources

The Federal government provided road funds totalling \$253.9 million to Victoria under the provisions of the Australian Bicentennial Road Development Trust Fund Act 1982 and the Australian Land Transport (Financial Assistance) Act 1985. In addition, a small amount of funds provided under the Roads Grants Act 1981 were available for expenditure in 1985/86.

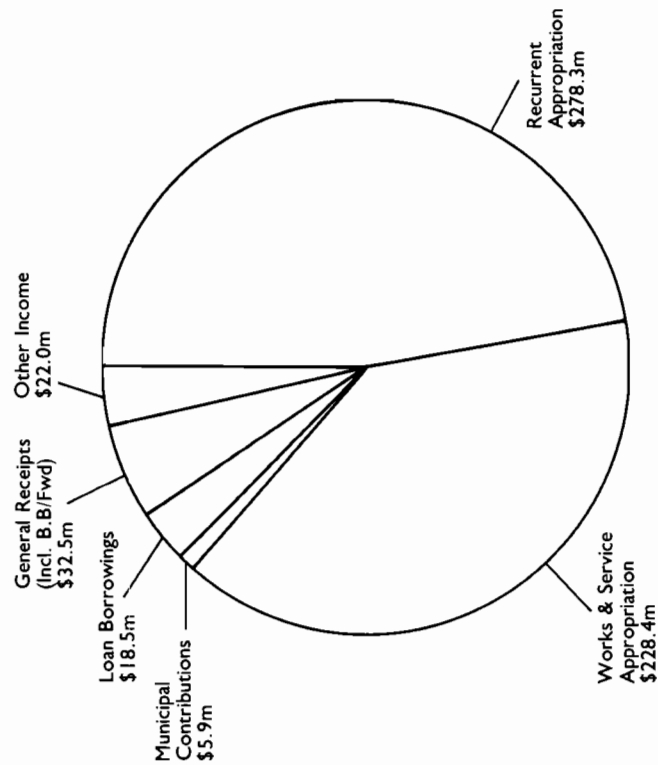
The Road Construction Authority receives its share of Federal road funds by an appropriation from the Works and Services Account. Federal road funds are also provided to the Road Traffic Authority for works under the Traffic Facilities Program and an amount of \$8.8 million was made available to the Metropolitan Transit Authority for works on Urban Public Transport projects which are designed to relieve traffic pressures on urban arterial roads.

Victoria Transport Borrowing Agency/VICFIN

During 1985/86 the Victoria Transport Borrowing Agency raised approximately \$83.58 million of loan moneys on behalf of the Road Construction

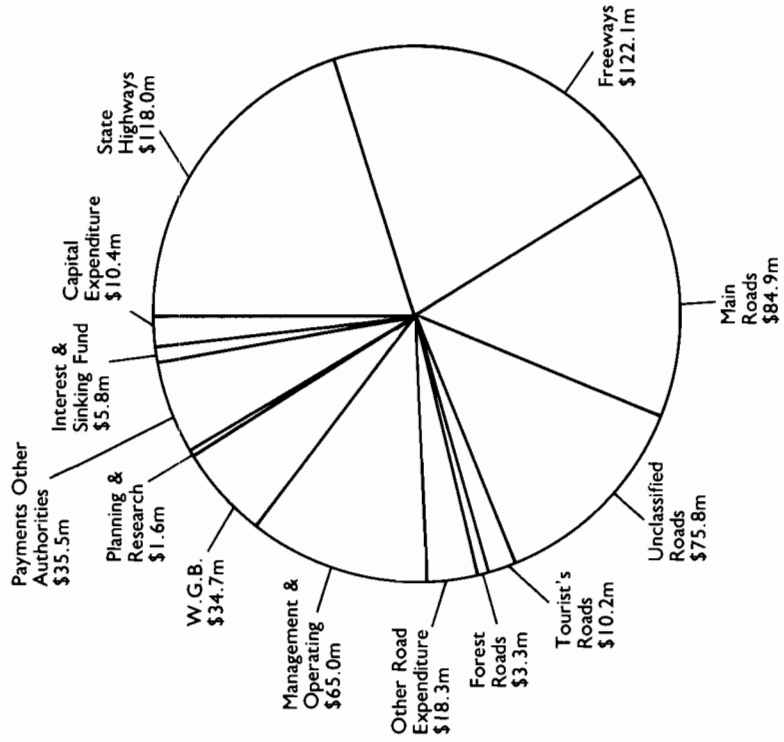
RCA Revenue 1985/86

Total revenue \$585.6
(on a cash accounting basis)



RCA Expenditure 1985/86

Total expenditure \$585.6
(on a cash accounting basis)



Authority by way of the issue of inscribed stock. The loan funds were used to repay maturing inscribed stock and to finance West Gate Bridge operations and road and bridge works. The Victoria Transport Borrowing Agency also handled the rollover of promissory notes totalling approximately \$13.4 million for the Road Construction Authority's purposes.

As from 1986, VICFIN (Victorian Public Authorities Finance Agency) effectively took over the activities formerly undertaken by the Victoria Transport Borrowing Agency and assisted the Road Construction Authority by raising \$3.67 million.

Program Budgeting

The Road Construction Authority receives the bulk of its funds by way of appropriation using a system of Program Budgeting which facilitates the allocation of resources and the review of the results of government programs.

Parliamentary appropriations of funds are made for identifiable programs rather than for the general operations of individual departments and authorities. Programs are service-oriented rather than function-oriented and generally represent discrete areas of operations. The government has defined its policy for each program. Programs have been established with a hierarchical

structure which includes sub-program, component and activity levels. The programs for which the Road Construction Authority is responsible are those for National Roads, Metropolitan Roads, Rural and Provincial City Roads and Corporate Services.

Program Budgeting provides for measurement of the results of each program and of the performance of the departments and authorities responsible for implementing programs. Objectives and quantitative targets reflecting government policy have been determined for each program and the actual results are monitored and form the basis for future policy.

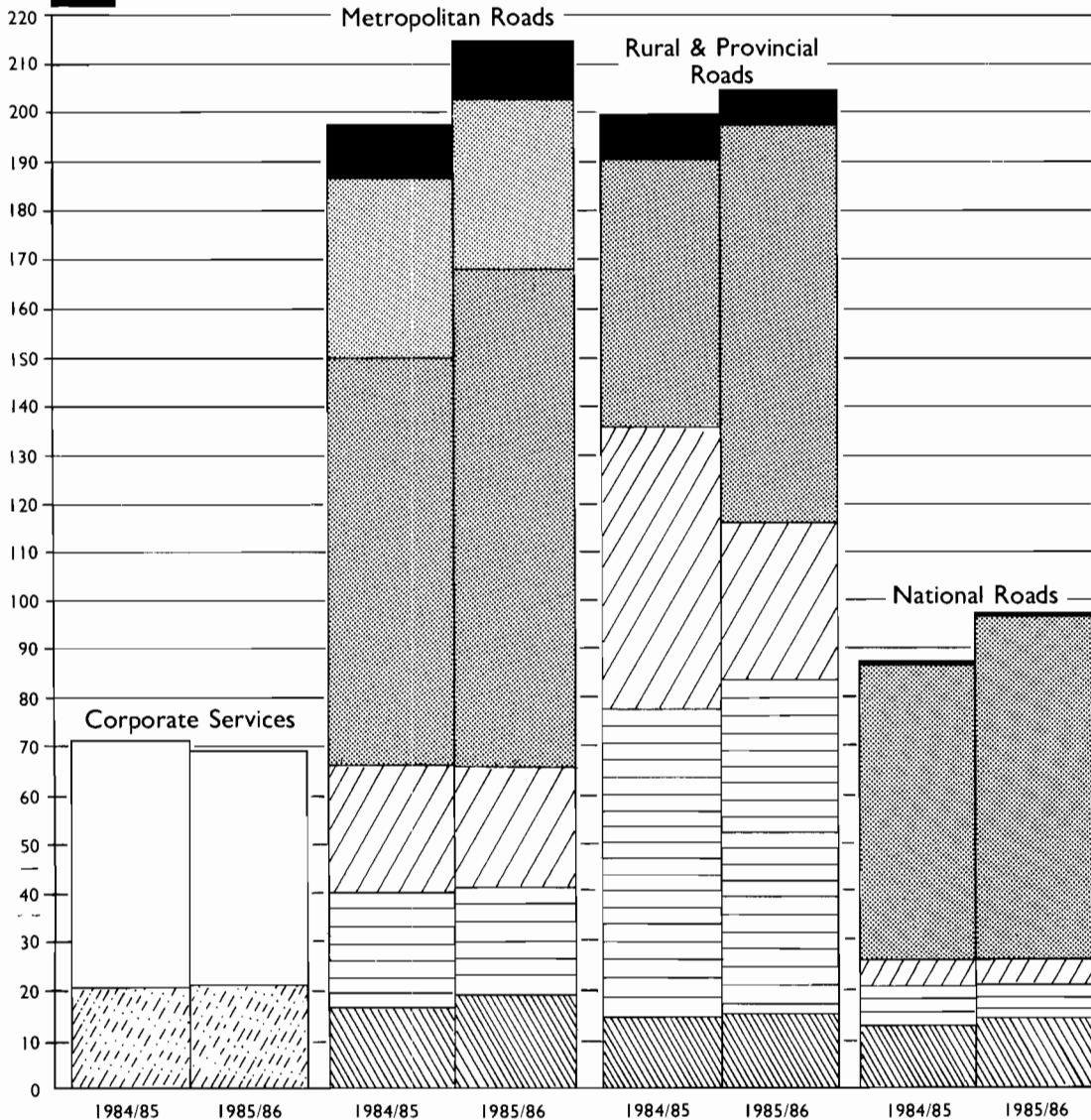
During 1985/86 the Road Construction Authority reviewed its Program Budgeting structure, adding a further program (and relevant sub-programs) for finance charges and revising components and activities in each sub-program to more appropriately reflect the costs of each element of the total roads program. This structure will not however be implemented until 1986/87.

The bar charts below show expenditure by the Road Construction Authority in the current and previous financial years for each of the four programs for which the Road Construction Authority is responsible.

Expenditure 1984/85 and 1985/86 in a Program Budgeting Format (on a cash accounting basis)

- RCA Contribution Towards RTA Cost of Administration
- General Administration Expenses – RCA
- Design and Construction Services – RCA
- Operation and Periodic Maintenance
- Rehabilitation
- Improvements and Additions
- West Gate Bridge Fin. and Op.
- Agency Works

This graph shows the expenditure by the RCA in the financial years for each of the four programs for which the RCA is responsible.



Road Price Index

As part of its normal costing procedures, the Road Construction Authority carries out regular surveys of the prices of 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" (CDW&S) Index. This composite index provides a weighted representation of current overall prices for road construction and maintenance works.

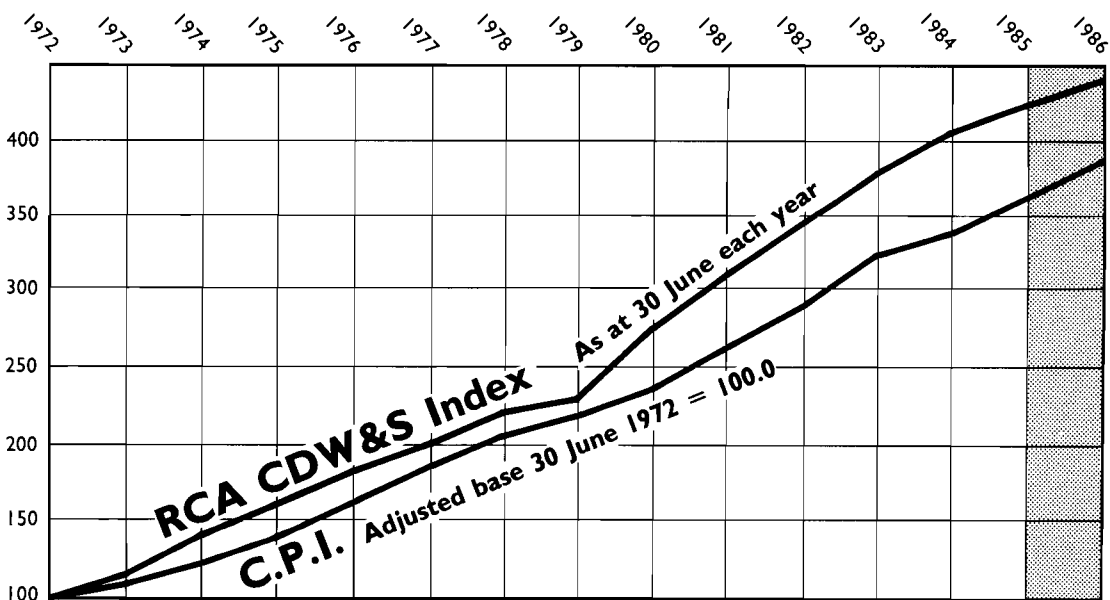
From 1972, the Road Construction Authority's Composite Direct Works and Salaries Index has increased at a significantly higher rate than the Consumer Price Index, due mainly to the effects of large increases in the prices of bituminous materials and fuels. This trend has reversed in the last two years as a result of substantially reduced petroleum prices.

Municipal Allocations

During the 1985/86 financial year the Road Construction Authority allocated \$132.2 million to Victoria's 210 municipal councils and French Island for the maintenance, construction, reconstruction and improvement of main and unclassified roads. 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 construction and maintenance.

The allocations were made with the government's goals and objectives in mind:

- an emphasis on supporting freight, commerce and tourism to assist in achieving the principal objective of the Economic Strategy, "To maximise the trend rate of growth of income and employment in Victoria over the medium to long term;
- improved road safety;
- public transport priority;



Road Price Index

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

- specific government development initiatives;
- protection and enhancement of the environment.

In addition to the normal municipal allocations for main and unclassified roads, special allocations totalling \$47.77 million were made by the Road Construction Authority in 1985/86:

- (a) \$43.117 million from the Australian Bicentennial Road Development Fund for projects approved by the Federal Minister for Transport;
- (b) \$2.157 million for works which were required to assist in the implementation of or provide relief from the impact of government policies;
- (c) \$0.405 million for the construction and improvement of road access to tourist resorts or areas of a tourist nature;
- (d) \$0.395 million for works on roads in or giving access to National Parks;
- (e) \$1.646 million under the Natural Disaster Relief Scheme. These funds were provided by the State government for emergency and restoration works on roads damaged by various floods and bushfires; 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 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 Department of Conservation, Forests and Lands.

**Road Construction Authority
Statement of Income and Expenditure
for Year Ended 30 June 1986**

1984/85 \$000's	ITEMS	NOTES	1985/86 \$000's
	INCOME		
250,112	Recurrent Annual Appropriations		278,276
236,000	Works and Services Appropriations		228,415
20,276	Operating Contributions	2.1	20,303
23,562	Other Income	2.2	22,137
529,950	Total Income		549,131
	ROAD EXPENDITURE		
76,843	Main Roads	3.1	78,593
98,335	State Highways	3.2	130,218
92,541	Freeways	3.3	115,949
8,841	Tourists' Roads	3.4	10,168
3,169	Forest Roads	3.5	3,338
70,611	Unclassified Roads	3.6	74,368
19,998	Works performed for other Authorities	3.7	20,192
7,802	Other	3.8	1,791
378,140	Total Road Expenditure		434,617
98,115	MANAGEMENT AND OPERATING EXPENDITURE	4.1	114,247
476,255	Total Expenditure (excluding Special Payments, Finance Expenses and Abnormal and Extraordinary Items).		548,864
53,695	Operating Surplus (before Special Payments, Finance Expenses and Abnormal and Extraordinary Items).		267
43,414	Less Special Payments	4.2	52,136
10,281	Deficit (before Finance Expenses and Abnormal and Extraordinary Items).		(51,869)
35,642	Less Finance Expenses	4.3	40,823
(25,361)	Deficit (before Abnormal and Extraordinary Items).		(92,692)
-	Less Abnormal Item	4.4	1,167
(25,361)	Deficit (before Extraordinary Item).		(93,859)
-	Less Extraordinary Item	4.5	187,047
(25,361)	Deficit for the Year		(280,906)
(151,852)	Add Accumulated Deficit Brought Forward	8.2	(141,496)
(177,213)	Total Accumulated Deficit as at 30 June 1986		(422,402)

**Road Construction Authority
Balance Sheet as at 30 June 1986**

1984/85 \$000's	ITEMS	NOTES	1985/86 \$000's
	ASSETS		
	Current Assets		
35,390	Cash at Bank and Deposits	5.1	28,633
472	Security Deposits	5.2	473
10,098	Debtors and Prepayments	5.3	7,615
21,569	Inventories	5.4	30,947
102	Repayable Advances — Municipalities	5.5	106
516	Property Loans	5.6	561
68,147	Total Current Assets		68,335
	Non-Current Assets		
1,326	Repayable Advances — Municipalities	5.5	1,219
978	Property Loans	5.6	303
43,657	Land and Buildings in Service	6.1	44,347
156,314	Land and Buildings Acquired for Roadworks	6.2	214,715
-	Leaseholds	6.3	224
187,890	West Gate Bridge	6.4	-
33,174	Plant, Motor Vehicles and Equipment	6.5	35,753
1,498	Leased Equipment	6.6	903
424,837	Total Non-Current Assets		297,464
492,984	Total Assets		365,799
	LIABILITIES		
	Current Liabilities		
28,357	Overdraft	7.1	28,081
24,534	Creditors and Other Accruals	7.2	39,794
6,777	Liabilities — Property	7.3	10,812
13,214	Provision for Employee Benefits	7.4	14,504
461	Leased Equipment Liability	7.5	579
113	Provision for Quarry Restoration	7.6	69
65,428	Borrowings	7.7	70,419
138,884	Total Current Liabilities		164,258
	Non-Current Liabilities		
613	Liabilities — Property	7.3	575
243,553	Provision for Employee Benefits	7.4	270,847
1,082	Leased Equipment Liability	7.5	495
-	Provision for Quarry Restoration	7.6	314
286,065	Borrowings	7.7	318,769
531,313	Total Non-Current Liabilities		591,000
	CAPITAL AND RESERVES		
-	Revaluation Reserve	8.1	32,943
(177,213)	Accumulated Deficit	8.2	(422,402)
(177,213)	Total Capital and Reserves		(389,459)
492,984	Total Liabilities, Capital and Reserves		365,799

Road Construction Authority
Statement of Sources and Applications of Funds

1984/85			1985/86	
\$000's	\$000's		\$000's	\$000's
SOURCES OF FUNDS				
Funds From Operations ' 1				
579,893		Inflows of funds from operations	-	
557,056	22,837	Less outflows of funds from operations	-	-
Reduction in Assets				
Current Assets				
		Cash at Bank and Deposits	6,757	
1,684		Debtors and Prepayments	2,483	
243	1,927	Property Loans	-	9,240
Non-Current Assets				
		Property Loans	675	
791		Repayable Advances — Municipalities	106	
103		Leased Equipment	25	
-		Land and Buildings Acquired for Roadworks	1,619	
43	937	Long Term Investment	-	2,425
Proceeds from Sale of Non-Current Assets				
		West Gate Bridge Items	23	
1,516		Plant, Motor Vehicles and Equipment	731	
-		Land and Buildings in Service	55	
11,161	12,677	Land and Buildings Acquired for Roadworks	13,899	14,708
Increase in Liabilities				
Current Liabilities				
		Leased Equipment Liability	117	
15		Borrowings	4,991	
56,348		Liabilities — Property	4,034	
6,777		Creditors and Other Accruals	15,261	
-		Provision for Quarry Restoration	-	24,403
113	63,253			
Non-Current Liabilities				
		Provision for Quarry Restoration	314	
-		Borrowings	32,704	
613	613	Liabilities — Property	-	33,018
	102,244	Total Sources of Funds		83,794

1984/85			1985/86	
\$000's	\$000's		\$000's	\$000's
APPLICATIONS OF FUNDS				
Deficit from Operations ¹				
-		Outflows of Funds from Operations	835,398	
-	-	Less Inflows of Funds from Operations	793,334	42,064
Increase in Assets				
Current Assets				
22,810		Cash at Bank and Deposits	-	
6		Security Deposits	1	
-		Property — Loans	45	
16,057		Inventories	9,378	
5	38,878	Repayable Advances — Municipalities	4	9,428
Non-Current Assets				
-		Leaseholds	224	
8,262		Plant, Motor Vehicles and Equipment	9,002	
2,136		Land and Buildings in Service	2,332	
19,713		Land and Buildings Acquired for Roadworks	-	
55		West Gate Bridge	-	
496	30,662	Leased Equipment	-	11,558
Reduction in Liabilities				
Current Liabilities				
-		Overdraft	276	
-		Provision for Quarry Restoration	44	
638	638	Creditors and Other Accruals	-	320
Non-Current Liabilities				
-		Liabilities — Property	38	
-		Leased Equipment Liability	587	
14,169	14,169	Borrowings	-	625
	17,897	Employee Benefits Paid		19,799
	102,244	Total Applications of Funds		83,794

1. Reconciliation of funds from operations with operating deficit as follows:

1984/85			1985/86	
\$000's	\$000's		\$000's	\$000's
	22,837	Funds/Deficit From Operations		(42,064)
Add:				
1,131		Profit on Sale of Properties	5,078	
614	1,745	Profit on Sale of Plant, Motor Vehicles and Equipment	283	5,361
	24,582			(36,703)
Less:				
8,254		Depreciation	8,196	
454		Amortisation	570	
41,235		Employee Benefits	48,384	
-		Loss on Sale of Properties in Service	6	
-	49,943	West Gate Bridge Expensed	187,047	244,203
	(25,361)	Operating Deficit		(280,906)

Notes to and forming part of the financial statements of the Road Construction Authority for the financial year ended 30 June 1986

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. Statement of Accounting Policies

1.1 General

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.

1.2 Roads and Bridges

- (a) Expenditure on the maintenance and construction of roads and bridges, except for property acquisition, is charged as expenditure in the year in which it is incurred.
- (b) Expenditure on the acquisition of properties required for roadworks is expensed at the time physical possession of the properties takes place for the purpose of commencing construction of the roadway. The value of properties so expensed during 1985/86 was \$12.355 million.

1.3 West Gate Bridge

As from 1 December 1985 tolls for the use of the West Gate Bridge were abolished. Because the Bridge had been a revenue producing asset in previous years, the capital cost of the Bridge had been included as an asset in the financial statements and depreciated accordingly. Following the removal of tolls the Bridge ceased to be a revenue producing asset and consequently the written down value of the Bridge has been expensed to achieve consistency with Road Construction Authority policy relating to expenditure on roads and bridges throughout the State.

A separate statement showing the operating results of the Bridge to 30 November 1985 is shown as an addendum to these financial statements. West Gate Bridge assets, liabilities, income and operating costs for the full year have been included in the Financial Statements of the Road Construction Authority and are not separately identified.

1.4 Properties Acquired for Roadworks

(a) Property Commitments

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 has not been achieved as at 30 June 1986, the Road Construction Authority has expensed such properties in the 1985/86 Financial Statements. Estimated liabilities in such circumstances have been based on valuations and include costs of acquisition.

(b) Properties Not Incorporated into Roadworks

Properties have been included in the Balance Sheet as at 30 June 1986 values. For properties with an estimated value in excess of \$20,000, valuations were obtained from independent valuers. For properties with an estimated value of less than \$20,000, valuations were undertaken by experienced Road Construction Authority staff.

It is anticipated that valuations of properties will be reviewed regularly. In the intervening period historical cost information will be utilised to update property records.

(c) Residual Land - Isolated Fragments

The Road Construction Authority holds many small and isolated fragments of land representing residual property adjoining road reservations following the completion of roadworks.

The fragments, although not part of the road reservation, have no apparent market value and have therefore not been included as assets in the Property Registers of the Road Construction Authority.

If, at some future date, an adjoining property owner should desire to purchase any such fragment of land, the property will be brought to account at that time.

(d) Asset Register Development - Properties

Following changes to Accounting Policies to bring Land Acquisition for Roadworks to account in the Balance Sheet prior to incorporation into roadworks, and the considerable difficulties that have been encountered to create the appropriate Asset Registers, the Authority has undertaken a program to totally review its many thousands of parcels of land to bring the status of the registers up to an appropriate level.

Whilst considerable progress has been achieved in this review during 1985/86 the Authority, due to time and resources constraints and the complexity of the task of compiling the registers, has not been able to verify that all properties acquired for roadworks have been included in the registers, that all properties incorporated into roadworks have been expensed and that the assessed value is reasonable.

Work is continuing on the compilation of the registers and to develop a computer based Property Acquisition and Management System which is due for completion in the 1986/87 financial year.

1.5 Inventories

- (a) Inventories of stores and precast materials held in Depots have been valued at standard prices which approximates average cost.
- (b) Stockpiles of construction and maintenance materials "on site" with a value in excess of \$1,000 have been taken into account at cost. Stockpiled materials with a value in excess of \$20,000 were accounted for in previous years. The change in policy regarding the value level at which such items are brought to account has resulted in the addition to the value of stockpiled materials of \$4.275 million in the current financial year.

1.6 Depreciation

- (a) With the exception of land, depreciation is provided on all fixed assets used in day to day operations so as to write off these assets over their useful lives. Plant is depreciated using the straight line method. All other assets are depreciated using the diminishing balance method. A full years depreciation is charged against the value of all assets except for current year

additions, improvements and disposals where depreciation is charged for half the year only. In previous years a full 12 months depreciation has been charged against current year additions and removals for the improvements component of "Land and Buildings in Service". To be consistent with the treatment of depreciation on other assets and to more accurately reflect the current years depreciation cost of new additions and removals, the policy of charging 6 months depreciation on such items was implemented for the 1985/86 financial year. The monetary effect of this policy change for the current year is a reduction in depreciation expense on these items of \$0.063 million.

- (b) Depreciation is not charged on improvements on land acquired for road purposes due to the assumed short term nature of the assets in that they have been purchased with the intention of being incorporated in road works.

1.7 Doubtful Debts

The provision for doubtful debts is based on an examination and assessment of each individual debtor.

1.8 Provision for Employee Benefits

The Road Construction Authority's expected liability for employee entitlements accruing from annual leave, long service leave and superannuation are reflected, by way of provision, in the accompanying statements.

(a) Superannuation

Road Construction Authority employees, depending on classification, may contribute to either the State Superannuation Scheme, the State Employees Retirement Benefits (SERB) Scheme or the Melbourne and Metropolitan Board of Works (MMBW) Superannuation Scheme.

In so far as the SERB and MMBW Schemes are concerned the Road Construction Authority meets its liabilities under each scheme by making progressive payments to each Fund. The payments are based on a multiple of employees' contributions and actual contributions paid in 1985/86 were \$2.122 million toward the SERB Scheme and \$0.117 million toward the MMBW Scheme. For the State Superannuation Scheme, the Road Construction Authority only contributes to the cost of retirement benefits on the retirement of the contributor. The Road Construction Authority however maintains a provision for the estimated employer portion of future superannuation benefits payable which is in accordance with an assessment carried out by the Government Statist and Actuary. The contribution to the State Superannuation Scheme by the Road Construction Authority in 1985/86 was \$5.908 million and, in addition, the Provision for Superannuation payments in the future increased by \$23.2 million to \$254.2 million. The amount estimated to be payable in the next 12 months is shown as a current liability.

(b) Long Service Leave

Prior to 1985/86, the provision for long service leave was calculated with reference only to those employees with a legal entitlement to payment, i.e.:

- (i) those employees aged less than 60 years at balance date with a continuous length of recognised service of 10 years or more; and
- (ii) those employees aged 60 years or more at balance date with a continuous length of recognised service of 4 years or more.

To more accurately reflect the likely actual costs to the Road Construction Authority of such benefits, the Road Construction Authority has adopted a policy from 1985/86 onwards of making provision for such benefits for:

- (i) those employees aged less than 60 years at balance date with a continuous length of recognised service of 5 years or more; and
- (ii) those employees aged 60 years or more at balance date with a continuous length of recognised service of 4 years or more.

The financial effect of this change in policy has been an increase in the Provision for Long Service Leave of \$3.524 million. The deficit is therefore affected by the same amount. The amount estimated to be payable in the next 12 months is shown as a current liability.

(c) Annual Leave

Annual Leave represents the accrued holiday entitlements of each employee at 30 June 1986 based on current wage and salary rates.

(d) Retiring Gratuity

The Road Construction Authority has a retiring gratuity scheme whereby every employee who retires and who has completed at least 5 years of service and who does not contribute to a Superannuation Scheme and who is at least 60 years of age is entitled to receive a retiring gratuity payment.

The provision is determined by calculating the liability for each such employee with a minimum of 5 years service.

1.9 Disposal of Surplus Properties and Loan Raising

In accordance with Section 66(4) of the Transport Act 1983 net proceeds from the disposal of property surplus to requirements and loan raisings for road and bridge works are paid into the Consolidated Fund.

1.10 Interest on Borrowings

Interest on Borrowings is written off in the year in which it is incurred in order to be consistent with Road Construction Authority policy of charging expenditure on the maintenance and construction of roads and bridges as expenditure in the year in which it is incurred.

1.11 Public Borrowings

(a) Indexed Loan

Where public borrowings are subject to indexation agreements, the outstanding capital value of the loan is adjusted progressively throughout the term of the transaction in accordance with either a schedule agreed with the lender or movements in an agreed index, whichever is relevant. The amount of the indexation adjustment is treated as a finance expense within the year.

(b) Discounted Loans

Where any securities are issued at a price below face value, such variation is treated as a deferred interest charge and is amortised over the life of the security and classified as a finance expense.

1.12 Leasing

Leasing agreements which are of a financial nature are capitalised in line with current accounting practice. Leased assets are amortised over their remaining useful life.

1.13 Comparative Information

Comparative information for 1984/85 varies in content from that shown in the 1984/85 Financial Statements due to minor format changes in the Financial Statements and accompanying notes for 1985/86. Format changes were introduced following discussion with the Ministry of Transport for the purpose of providing Financial Statements in a uniform format as far as practicable for Authorities within the transport portfolio.

2. Income**2.1 Operating Contributions**

This item represents contributions from Federal and State Government bodies for work on projects and programs of a special nature to be carried out on their behalf by the Road Construction Authority and its Agents. Expenditure on such works during 1985/86 is described under Note 3.7.

	1986	1985
	\$000's	\$000's
Total Operating Contributions	20,303	20,276

2.2. Other Income

This comprises the following:

	1986	1985
	\$000's	\$000's
Rental Income	3,375 *	4,149
Municipal Contributions	5,785	4,894
Interest	1,922	1,563
Property Enquiry Fees	764	837
Gain on Disposal/Transfer of Assets	5,355	1,746
Toll Revenue	4,210	10,003
Other	726	370
Total Other Income	22,137	23,562

NOTE

* The decrease in revenues received from rental reflects the impact of properties sold by the Road Construction Authority during the 1984/85 and 1985/86 financial years.

3. Road Expenditure

This comprises the following:

	1986	1985
	\$000's	\$000's
3.1 Main Roads		
- Construction and Reconstruction	49,786	49,064
- Maintenance	28,807	27,779
	78,593	76,843
3.2 State Highways		
- Construction and Reconstruction	94,223	64,535
- Maintenance	35,995	33,800
	130,218	98,335
3.3 Freeways		
- Construction and Reconstruction	108,240	83,543
- Maintenance	7,709	8,998
	115,949	92,541
3.4 Tourists' Roads		
- Construction and Reconstruction	6,149	4,619
- Maintenance	4,019	4,222
	10,168	8,841

3.5 Forest Roads

- Construction and Reconstruction	1,357	1,347
- Maintenance	1,981	1,822
	3,338	3,169

3.6 Unclassified Roads*

- Construction and Reconstruction	59,843	57,590
- Maintenance	14,525	13,021
	74,368	70,611

Programmed Road Expenditure	412,634	350,340
------------------------------------	----------------	----------------

NOTE

* This includes amounts paid/payable to the Metropolitan Transit Authority for reconstruction of roadway associated with the reconstruction and relaying of tram tracks.

3.7 Works Performed for Other Authorities

This comprises the following:

	1986	1985
	\$000's	\$000's
Ministry for Planning and Environment		
- Community Employment Program	88	115
Road Traffic Authority -		
Traffic Facilities Program	13,655	15,905
Local Government Department		
Municipalities Forest Roads		
Improvement Works	47	47
Department of Management and Budget		
- Natural Disaster Relief	1,161	769
- Wage Pause Program	-	21
Ministry of Transport - Special Projects Fund (Metropolitan Street Name Signing Program)	477	-
Other Federal and State Government Departments and Bodies	4,764	3,141
Total Works Performed for Other Authorities	20,192	19,998

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:

	1986	1985
	\$000's	\$000's
Main Roads		
- Construction and Reconstruction	8,511	6,040
- Maintenance	1,599	43
State Highways		
- Construction and Reconstruction	3,775	6,758
- Maintenance	373	3,092
Freeways		
- Construction and Reconstruction	237	292
- Maintenance	3	23
Tourists' Roads		
- Construction and Reconstruction	294	340
- Maintenance	5	8
Forest Roads		
- Construction and Reconstruction	11	-

Unclassified Roads		
- Construction and Reconstruction	3,655	3,074
- Maintenance	1,729	328
	20,192	19,998

3.8 Other

This comprises the following:

	1986 \$000's	1985 \$000's
Murray River Bridges and Punts	131	799
Traffic Line Marking	3,539	3,135
Over/Under Absorption on Operations	(1,879)	3,868
Total Other Expenditure	1,791	7,802

4. Management and Operating Expenditure

4.1 This item comprises expenditure on the following:

	1986 \$000's	1985 \$000's
Planning and Research	1,040 *	5,936
Management and Operating		
Salaries and Associated Costs (including Superannuation Provision)	90,622 †	70,538
Administrative Overheads	10,800 *	5,699
Technical Services Overheads	3,517	5,691
Property Maintenance	1,686	1,363
Depreciation		
- Buildings in Service	1,633	1,666
- Equipment and Furniture	1,847	1,820
- West Gate Bridge (see Note 4.5 - 5 Months Only)	820	1,967
- West Gate Bridge Maintenance Plant	22	22
Amortisation -		
Computer Equipment (leased)	570	454
Bad and Doubtful Debts	255	12
Early Retirement Payments (excluding interest)	164	227
Other	1,519	4,421
	114,495	99,816
Amounts charged to other programs	(248)	(1,701)
Total Management and Operating Expenditure	114,247	98,115

N.B. Gains or losses on the Transfer/Disposal of Assets have been included in Other Income (refer to Note 2.2).

NOTES

* Administrative Overheads have been adversely effected by a reduction in Planning and Research expenditure due to changes in the funding of Planning and Research projects. In previous years Planning and Research projects have borne an appropriate share of Administrative Overheads. This has been reflected in the level of Administrative Expenditure quoted in previous financial statements. Data processing costs have also increased significantly.

† The increase in Salaries and associated costs is as a result of substantial increase in Provision for Superannuation and the increase in other employee benefits (refer Note 7.4).

4.2 Special Payments

This comprises the following:

	1986 \$000's	1985 \$000's
Road Traffic Authority ¹	21,200	20,000
Ministry of Transport ²	426	417
Consolidated Fund ³	13,709	13,923
Metropolitan Transit Authority ⁴	1	9
Consolidated Fund - Natural Disaster Relief ⁵	100	65
Consolidated Fund - Loan Raisings and ⁶		
Financial Accommodation	16,700	9,000
Total Special Payments	52,136	43,414

NOTES

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 properties - paid into the Consolidated Fund 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 of proceeds from Capital Works loan raising and financial accommodation into Consolidated Fund in accordance with Section 66(4)(a) and (c) of the Transport Act 1983.

4.3 Finance Expenses

This comprises the following items of Interest, Premium and Discount Expense:

	1986 \$000's	1985 \$000's
Overdraft	12	-
Leased Equipment	229	264
Promissory Notes	2,123	1,632
Short Term Loans	-	11
Inscribed Stock		
- West Gate Bridge	33,272	29,700
- Roads and Bridges	3,010	1,913
Loans from Department of Management and Budget	2,177	2,122
Total Finance Expenses	40,823	35,642

4.4 Abnormal Items

This item represents redundancy payments and other costs associated with the cessation of the West Gate Bridge as a Revenue Generating Asset and the removal of Toll Collection Facilities. The amount of \$1.167 million is over and above normal day to day operating costs.

4.5 Extraordinary Items

On 30 November 1985 the West Gate Bridge ceased operations as a revenue generating facility. To accord with Accounting

Standards and practices and for the purpose of consistency the written down value of the West Gate Bridge has now been expensed. This treatment is consistent with the treatment of other road and bridge expenditure throughout the State. \$187.047 million represents the depreciated value of the Bridge Asset now expensed. Appropriate operating Statements for the West Gate Bridge to and as at 30 November 1985 are included as an addendum to these notes.

5. Assets

5.1 Cash at Bank and Deposits

	1986 \$000's	1985 \$000's
Cash at Bank and on Hand	362	537
Short Term Deposit		
- Victorian Development Fund	28,271	34,771
Investments	-	82
Total Cash	28,633	35,390

5.2 Security Deposits

	1986 \$000's	1985 \$000's
This item represents Security Deposit Account Balances held by the Department of Management and Budget.	473	472

5.3 Debtors and Prepayments

This comprises the following:

	1986 \$000's	1985 \$000's
Debtors		
Government Departments and Statutory Authorities	1,514	3,122
Municipalities	1,184	2,404
Contractors and Individuals	892	370
Sale of Road Construction Authority Properties	1,051	220
Tenants	215	317
Sub Total	4,856	6,433
Less Estimated Doubtful Debts	299 *	63
Sub Total	4,557	6,370
Prepayments		
Prepaid Interest	-	463
Employee Entitlements	215	215
Insurance	-	89
Works	2,840	2,908
Operating Advance	3	53
Total Debtors and Prepayments	7,615	10,098

* NOTE

A works contractor in liquidation is a debtor to the Road Construction Authority to the value of \$0.209 million for unperformed contract works and unpaid employee entitlements. It is considered most unlikely that any of this debt will be recovered. This debt is the main factor in the substantial increase in Estimated Doubtful Debts. (Refer also to Bad and Doubtful Debts under Note 4.1.)

5.4 Inventories

This comprises the following items:

	1986 \$000's	1985 \$000's
Stores and Precast Materials held in depots	6,577	7,587
Construction/Maintenance Materials held "on site"*	23,905	13,566
Stationery	465	416
Total Inventories	30,947	21,569

* NOTE

West Gate Elevated Freeway (Policy Note 1.5(b) Refers) As at 30 June 1986, approximately 250 precast concrete segments had been produced but not yet erected as part of the West Gate Freeway Project. An amount of approximately \$0.75 million has been paid to the contractor for the production of the segments and this has been expensed in 1985/86.

No value has been attributed to the segments as stockpiled materials in view of the fact that the segments are matchcast specifically in accordance with the design of the West Gate Freeway and consequently cannot be used elsewhere.

5.5 Repayable Advances - Municipalities

This item represent the value of principal outstanding as at 30 June for loans made to a number of municipalities for specified permanent works to be carried out during the period 1950 to 1965. These loans are repayable over periods up to 35 years in equal annual instalments as defined in Clause 8, Schedule 5, of the Transport Act 1983.

	1986 \$000's	1985 \$000's
Current	106	102
Non-Current	1,219	1,326
Total Repayable Advances - Municipalities	1,325	1,428

5.6 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.

	1986 \$000's	1985 \$000's
Current	561	516
Non-Current	303	978
Total Property Loans	864	1,494

6.1 Land and Buildings in Service

This item refers to those assets which are in service (e.g. Offices and Laboratories, Divisional Residential Properties, Storage Sites, Depots and Patrol Garages).

	1986 \$000's	1985 \$000's
Land and Improvements at Cost	5,348	3,017
Land and Improvements at Valuation	42,443	42,456
Total Value - Land and Improvements	47,791	45,473
Less Accumulated Depreciation on Improvements	3,444	1,816
	44,347	43,657

6.2 Land and Buildings Acquired for Road Works

At 30 June 1986 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 land-locked awaiting plans of consolidation and restoration of access before being sold.

	1986	1985
	\$000's	\$000's
Value as at 30 June		
(at Valuation)	214,715	156,314

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

6.3 Leaseholds

In the course of acquiring properties for future roadworks the Road Construction Authority purchased a leasehold asset during 1985/86 secured until the year 2000. The capitalised lease value will be amortised over the lease period commencing 1986/87. The Property will be let at the earliest opportunity providing income to offset amortisation charges until such times as it is required for commencement of roadworks.

6.4 West Gate Bridge

	1986	1985
	\$000's	\$000's
Represents -		
West Gate Bridge at cost	-	196,745
Less Accumulated Depreciation	-	8,855
Written down value as at 30 June	-	187,890

Refer Note 4.5.

6.5 Plant, Motor Vehicles and Equipment

	1986	1985
	\$000's	\$000's
Represents -		
Plant, Motor Vehicles and Equipment		
- At Cost	53,076	45,830
- At Valuation	10,014	10,246
Total Value - Plant, Motor Vehicles and Equipment	63,090	56,076
Less Accumulated Depreciation	27,337	22,902
Written down value as at 30 June	35,753	33,174

6.6 Leased Equipment

Represents the unamortised capitalised value of leased computer equipment.

	1986	1985
	\$000's	\$000's
Leased Equipment	1,984	2,009
Less Accumulated Amortisation	1,081	511
Written down value as at 30 June	903	1,498

Lease periods were renegotiated during 1985/86 resulting in a lesser time spread of commitments. The commitments associated with the above leases are as follows:

	1986	1985
	\$000's	\$000's
• commitment due within 1 year	702	671
• commitment due within 2 years	539	710
• commitment due within 3 years	-	545
• commitment due within 4 years	-	39
Minimum Lease Payments	1,241	1,965
Deduct: future finance charges	167	422
Lease Liability as at 30 June	1,074	1,543

Current lease liability excluding finance charges \$0.579 million
Non-current lease liability excluding finance charges \$0.495 million
Finance expenses related to 1985/86 lease liability amounted to \$0.229 million.

7.1 Overdraft

As at 30 June 1986 the bank statement did not show the bank account to be overdrawn. The difference is due to unrepresented cheques, cash on hand and uncredited deposits.

	1986	1985
	\$000's	\$000's
Cash Book Overdraft	28,081	28,357

7.2 Creditors and Other Accruals

This item consists of:

	1986	1985
	\$000's	\$000's
Creditors	30,185	17,791
Inscribed Stock Accrued Interest	8,465	6,192
Prepaid Rents	37	35
Prepaid Tolls ¹	343	454
Advance Payments Held ²	764	62
	39,794	24,534

NOTES

- The prepaid tolls amount represents the value of vouchers purchased for travel over the West Gate Bridge but not presented at 30 June for travel or refund. The Road Construction Authority has adopted the policy that balances remaining will be brought to account as revenue over 6 years commencing in financial year 1986/87 subject to refunds made during that period.
- The "Advance Payments Held" amount represents advance payments received from other Government Departments and Statutory Bodies for works to be carried out on their behalf in the ensuing financial year.

7.3 Liabilities - Property

This amount represents the estimated value of properties required for road purposes (and includes the 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. (Refer Note 1.4(a).)

	1986 \$000's	1985 \$000's
Current	10,812	6,777
Non-Current	575	613
Total Property Liabilities as at 30 June	11,387	7,390

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

7.4 Provisions for Employee Benefits

These comprise the following:

	1986 \$000's	1985 \$000's
Superannuation - Current	5,900	5,052
- Non-Current	248,300	225,948
Annual Leave and Leave Loading		
- Current	6,026	5,935
Long Service Leave		
- Current	2,518	2,227
- Non-Current	21,595	17,605
Retiring Gratuities		
- Current	60	-
- Non-Current	952	-
Total Provisions for Employee Benefits as at 30 June	285,351	256,767

In summary these provisions are:

	1986 \$000's	1985 \$000's
Current		
Provision for Superannuation	5,900	5,052
Annual Leave and Leave Loading	6,026	5,935
Long Service Leave	2,518	2,227
Retiring Gratuities	60	-
Total Current Provisions for Employee Benefits	14,504	13,214
Non-Current		
Provision for Superannuation	248,300	225,948
Long Service Leave	21,595	17,605
Retiring Gratuities	952	-
Total Non-Current Provisions for Employee Benefits	270,847	243,553

7.5 Leased Equipment Liability

	1986 \$000's	1985 \$000's
Current	579	461
Non-Current	495	1,082
	1,074	1,543

7.6 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 Quarries and Pits operated by the Road Construction Authority following completion of quarrying operations.

	1986 \$000's	1985 \$000's
Current	69	113
Non-Current	314	-
Total Provision for Quarry Restoration works as at 30 June	383	113

7.7 Borrowings

Pursuant to Section 76(3) of the Transport Act 1983, the repayment of advances and financial accommodation and the due repayment of any interest or other related charges is guaranteed by the Government of Victoria.

Borrowings comprises the following items:

(i) Inscribed Stock -

The Road Construction Authority undertakes a substantial borrowing program each year for capital works and to service the funding of construction of the West Gate Bridge. Since 1983/84 these loans have been raised by the Victoria Transport Borrowing Agency and on-passed to the Road Construction Authority.

	1986 \$000's	1986 \$000's	1985 \$000's	1985 \$000's
Current Liability	28,400		52,049	
Less				
Deferred Borrowing Cost	1,028	27,372	714	51,335
Non-Current Liability	299,995		238,422	
Less				
Deferred Borrowing Cost	4,708	295,287	2,199	236,223
Total Inscribed Stock Liability		322,659		287,558

(ii) VICFIN Loans -

Toward the end of 1985/86 the Victoria Transport Borrowing Authority's loan raising activities were undertaken by VICFIN (Victorian Public Authorities Finance Agency). The following amount was lent by VICFIN to the Road Construction Authority in 1985/86 and has been classified as a non-current liability.

	1986 \$000's	1985 \$000's
Total VICFIN Loans	3,670	-

(iii) Promissory Notes -

	1986 \$000's	1985 \$000's
Current Liability		
Promissory Notes - Face Value	13,400	13,400
Less Deferred Borrowing Cost	383	335
Total Promissory Note Liability	13,017	13,065

(iv) Loan Liability - Department of Management and Budget - represents amounts owing to the Department of Management and Budget in respect of loans provided for permanent works.

	1986 \$000's	1985 \$000's
Current	1,030	1,028
Non-Current	19,812	20,842
Total Loan Liability - Department of Management and Budget	20,842	21,870

- (v) Advances – Department of Management and Budget – This item represents advances made by the Department of Management and Budget to assist in the financing of the West Gate Bridge deficit. This amount is subject to repayment at 1 months notice.

	1986	1985
	\$000's	\$000's
Current	29,000	-
Non-Current	-	29,000
Total Advance Liability	29,000	29,000
Summary of Borrowings		
	1986	1985
	\$000's	\$000's
Current		
Inscribed Stock Loans	27,372	51,335
Promissory Notes	13,017	13,065
Loan Liability – Department of Management and Budget Advances – Department of Management and Budget	1,030	1,028
Total Current Borrowings	70,419	65,428
Non-Current		
Inscribed Stock Loans	295,287	236,223
VICFIN Loans	3,670	-
Loan Liability – Department of Management and Budget Advances – Department of Management and Budget	19,812	20,842
	-	29,000
Total Non-Current Borrowings	318,769	286,065

8.1 Revaluation Reserve

During 1985/86 all properties acquired for roadworks which were purchased prior to 1 July 1985 were revalued. Properties with an estimated value in excess of \$20,000 were valued by external valuers. Properties with an estimated value of \$20,000 or less were valued by experienced Road Construction Authority Property Section staff.

	1986	1985
	\$000's	\$000's
Total Revaluation Reserves	32,943	-

8.2 Accumulated Deficit

Represents accumulated deficit as at 30 June 1986 of the Road Construction Authority, after providing for the adjustments as noted, plus deficit for the year – viz.:

	1986	1985
	\$000's	\$000's
Accumulated deficit at the end of the previous financial year	177,213	300,182
Adjustments		
Melbourne and Metropolitan Board of Works Loan Adjustment	-	(55)
Adjustment to Land and Building assets. (Capitalisation of Properties Acquired for Roadworks and properties incorporated into roadworks)	(35,897)	(146,478)

Adjustment to Plant Capital value brought forward.	-	(187)
Adjustment to Plant Capital Accumulated Depreciation brought forward.	-	152
Adjustment to Equipment Asset value for items previously included in the Balance Sheet, revalued or amended.	232	(1,762)
Adjustment to Property Assets in Service Register following examination of registers	(52)	-
Adjusted accumulated deficit as at 30 June	141,496	151,852
Deficit for year	280,906 *	25,361
Accumulated Deficit as at 30 June	422,402 *	177,213

* NOTE

The increasing deficit as indicated above is a product of the preparation of the Financial Statements on an accrual or commercial basis and the criteria under which the Government appropriates funds to the Road Construction Authority each year. Cash appropriations are not made available for non cash items such as depreciation, creditors and other accrual provisions. On this basis it may be expected that the accumulated deficit will continue to increase from year to year.

The major non cash expenses or non funded items which contributed to the 1985/86 deficit are:

	\$000's
Increase in Provision for Superannuation	23,200
Increase in Provision for Other Employee Benefits	5,384
Increase in Creditors and other Accruals	15,260
Depreciation and Amortisation Expense	4,892
West Gate Bridge Expensed	187,047

8.3 Commitments**8.3.1 Forward Contracts**

The outstanding commitment on capital expenditure contracts as at 30 June is:

	1986	1985
	\$000's	\$000's
Road, Bridge and Ancillary Works	75,856	67,452
Land Acquisition – formal possession not taken as at 30 June (refer Notes 1.4(a) and 7.3)	16,134	30,495
Total value of Forward Contracts as at 30 June	91,990	97,947

8.3.2 Operating Leases

As required under paragraphs 58 and 59 of AAS17 the following information is provided.

- (i) The amount of rental expense under operating leases included in the determination of the 1985/86 deficit amounted to \$1.075 million.
- (ii) For non-cancellable leases with a lease term in excess of one year, lease commitments aggregated as at balance date are as follows:

	1986	1985
	\$000's	\$000's
- not later than one year	1,036	855
- later than one year and not later than two years	883	764
- later than two years and not later than five years	1,659	1,570
- later than five years	5,454	5,487
	9,032	8,676

9.0 Other Matters**(i) Contingent Claims – Legal**

The Road Construction Authority has examined current legal records to provide an estimate of possible material payments resulting from various legal actions. The estimate of such contingent liabilities as at 30 June 1986 was \$1.762 million.

- (ii) 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 1986 and are not aware of any circumstances that would render any particulars included in the statements misleading or inaccurate.

I F X Stoney
Chairman & Managing Director
Road Construction Authority
29 September 1986

D G Thompson
Acting General Manager – Finance
Road Construction Authority
29 September 1986

Auditor-General's Report

1 MACARTHUR STREET
MELBOURNE, VIC. 3002

The accompanying financial statements comprising Balance Sheet, Statement of Income and Expenditure, Statement of Sources and Applications of Funds and notes to and forming part of the financial statements of the Road Construction Authority have been audited as required by the Transport Act 1983 and in accordance with Australian Auditing Standards.

The item 'Land and Buildings Acquired for Roadworks' shown in the Balance Sheet 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 1.4(d) the Authority has been unable to verify that all properties acquired for but not incorporated into roadworks at 30 June 1986 have been included in the property register, that properties incorporated into roadworks have been removed from the property register and that the assessed values of properties recorded in the property register are reasonable. It was not practicable for audit to verify the accuracy and completeness of the property register, therefore I am unable to form an opinion on the following items:

- Land and Buildings Acquired for Roadworks \$214.715 million, included in the Balance Sheet.
- Revaluation Reserve \$32.943 million, included in the Balance Sheet.
- Properties Incorporated into Roadworks \$12.355 million, referred to in note 1.2(b) and included in the Statement of Income and Expenditure under the item Road Expenditure.
- Adjustment to Land and Building Assets \$35.897 million, shown in note 8.2 as an adjustment to the Accumulated Deficit brought forward at 30 June 1985.

In my opinion, subject to the effects, if any, on the financial statements of the matters referred to above, the financial statements present fairly the financial position of the Road Construction Authority as at 30 June 1986 and the results of its operations for the year ended on that date in accordance with Australian Accounting Standards.

R G Humphry
Auditor-General
Melbourne
30 September 1986

ADDENDUM to Road Construction Authority Financial Statements

**Road Construction Authority
West Gate Bridge Operations
Period 1 July 1985 — 30 November 1985**

	\$000's
Income	
Toll Revenue	4,311
Interest	5
Recurrent Annual Appropriation	10,200
Total Income	14,516
Management and Operating Expenditure	3,056
Operating Surplus Before Finance Expenses and Abnormal Item	11,460
Finance Expenses	15,281
Deficit before Abnormal Item	(3,821)
Abnormal Item	
Represents costs incurred up to and including 30 November 1985 as a result of the abolition of tolls which took effect from this date. ¹	649
Deficit for Period	(4,470)

**Road Construction Authority
West Gate Bridge Operations
Statement of Assets and Liabilities as at 30 November 1985**

	\$000's	\$000's	\$000's
ASSETS			
Current Assets			
Cash		47	
Funds Held by the Road Construction Authority ²		11,798	
Debtors	22		
Less Provision for Doubtful Debts	11	11	
Inventories		75	
Prepayments ³		1,158	13,089
Fixed Assets			
Buildings in Service	885		
Less Accumulated Depreciation	68	817	
West Gate Bridge	196,756		
Less Accumulated Depreciation	9,675	187,081	
Plant and Motor Vehicles	282		
Less Accumulated Depreciation	94	188	
Equipment	2,158		
Less Accumulated Depreciation	1,555	603	188,689
Total Assets			201,778

	\$000's	\$000's	\$000's
LIABILITIES			
Current Liabilities			
Bank Overdraft		19	
Provision for Superannuation		52	
Temporary Financial Accommodation	13,400		
Less Deferred Charges	19	13,381	
Creditors & Other Accruals		319	
Prepaid Tolls		352	
Provision for Employee Benefits ⁴		198	
Loans — Inscribed Stock Principal	27,283		
Less Deferred Charges	405	26,878	
Interest on Inscribed Stock		9,314	50,513
Non-Current Liabilities ⁶			
Provision for Employee Benefits ⁴		148	
Advances — Department of Management and Budget		29,000	
Loans — Inscribed Stock Principal ⁵	255,747		
Less Deferred Charges	2,314	253,433	282,581
Total Liabilities			333,094
Capital Reserves			
Accumulated Deficit Brought Forward		(126,846)	
Add Current Deficit		(4,470)	(131,316)
Total Liabilities and Equity			201,778

Notes to West Gate Bridge Statements

	\$000's
1. Abnormal Item	
This item is represented by costs incurred up to 30 November 1985 as follows:	
Separation Payments	602
Temporary Officers	7
Administration and Negotiation of Separation Payments	17
Additional Security Costs	23
Total Abnormal Item	649

2. Funds Held By RCA

This item represents West Gate Bridge funds held by the Road Construction Authority as at 30 November 1985 pending the payment by West Gate Bridge of Inscribed Stock Interest and other charges as they would fall due during the ensuing period.

3. Prepayments

Prepaid Insurance Premium	18
Prepaid Inscribed Stock Interest	1,140
Total Prepayments	1,158

4. Provision for Employee Benefits

Annual Leave and Leave Loading - Current	107
Long Service Leave — Current	91
Current Provision for Employee Benefits	198
Long Service Leave — Non-Current	148
Total Provision for Employee Benefits	346

5. Loans — Inscribed Stock Principal

Non-Current	
Inscribed Stock Principal	249,097
Inscribed Stock Principal — Indexed	6,650
Total Loans — Inscribed Stock Principal	255,747

6. Non-Current Liabilities

Non-Current Liabilities have been classified as those amounts payable after 30 June 1986.