1976

VICTORIA

COUNTRY ROADS BOARD

SIXTY-THIRD ANNUAL REPORT

FOR YEAR ENDED 30th JUNE, 1976

PRESENTED TO BOTH HOUSES OF PARLIAMENT
PURSUANT TO ACT No. 6229

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Country Roads Board

Victoria

Sixty-third Annual Report
for year ended 30th June, 1976

Presented to both Houses of Parliament
pursuant to Act No. 6229

R. E. V. Donaldson
Chairman

T. H. Russell
Deputy Chairman

W. S. Brake
Member

Principal Officers
as at 30th June, 1976

Dr. K. G. E. Moody
Engineer in Chief

N. L. Allanson
Secretary

R. G. Cooper
Chief Accountant

N. S. Guerin
Deputy Engineer in Chief

C. C. Liddell
Deputy Secretary

R. J. C. Bulman
Deputy Chief Accountant

Divisional Engineers and Regional Divisional Offices

A. N. Jephcott
Bairnsdale

E. T. Oppy
Ballarat

R. R. Patterson
Benalla

T. M. Glazebrook
Bendigo

S. H. Hodgson
Dandenong

G. W. Marshallsea
Geelong

J. W. Heid
Horsham

L. M. Jones
Metropolitan

A. Jacka
Traralgon

F. G. Lodge
Warrnambool

Cover:
The newly constructed Hume Freeway,
Wallan to Broadford Section.

60 Denmark Street
Kew 3101

3rd November 1976

The Honorable J. A. Rafferty MP
Minister of Transport
570 Bourke Street
Melbourne 3000

Sir
In accordance with the requirements of Section 128 of the Country Roads Board Act 1958 No. 6229, the Board has the honour to submit to you for presentation to Parliament the report of its proceedings for the year ended 30th June, 1976.

The Board thanks you, Sir, for your support and interest in its activities and wishes to place on record its appreciation of the continued co-operation and assistance of other State Ministers, Government departments, State instrumentalities and municipal councils.

The Board also pays tribute to the continued loyal co-operation and work done by its staff and employees throughout the year.

We have the honour to be,
Sir,
Your obedient servants

R. E. V. Donaldson
AASA (Senior), AIMA, FCIT, JP
Chairman

T. H. Russell
M.Eng.Sc., BCE, Dip.CE, CE, FIE Aust.
Deputy Chairman

W. S. Brake
BCE, CE, MIE Aust.
Member

N. L. Allanson
AASA (Senior), JP
Secretary

The Princes Freeway, Orbost. The Board's biggest State-financed rural project under construction during 1975-76, the $9 million Special Project will provide a freeway by-pass of Orbost and relief to persistent flood problems.

Contents


It costs $4,000/kilometre to patch and reseal this . . .
. . . to achieve this
. . . if this is not done now . . .
. . . the pavement will fail . . .
. . . and costs $30,000/kilometre to reconstruct later.

Review

Crisis in road finance and road conditions

Continued steep increases in road construction and maintenance costs without matching increases in revenue caused a crisis point to be reached in road finance and road conditions during the year.

In terms of 1971/72 values, every dollar made available to the Board for road expenditure in 1975/76 was worth only approximately 58 cents. In financial year 1976/77 the 1971/72 value is expected to be approximately 51 cents.

The table below compares the actual funds received by the Board since and including financial year 1971/72 and their conversion to 1971/72 values. Road funds expended by the Melbourne & Metropolitan Board of Works prior to the transfer of its roading responsibilities to the Board on 1st July, 1974 have been included in the table for the purposes of realistic comparison.

		Funds received from				Total funds received		
		C'wealth sources		State sources				
Year	Multiplier to convert to 71/72 values	Actual dollars	Amount in 1971/72 values	Actual dollars	Amount in 1971/72 values	Actual dollars	Amount in 1971/72 values	Accum. deficiency in 1971/72 values
		$000's	$000's	$000's	$000's	$000's	$000's	$000's
1971/72	1.0	49,820	49,820	63,823	63,823	113,643	113,643	–
1972/73	.91	57,240	52,088	66,367	60,394	123,607	112,482	1,161
1973/74	.79	66,119	52,234	69,717	55,076	135,836	107,310	7,494
1974/75	.64	78,977	50,545	78,451	50,209	157,428	100,754	20,383
1975/76	.58	91,342	52,978	92,153	53,449	183,495	106,427	27,599

The above table indicates that, in terms of 1971/72 values for each of the years shown, the accumulated deficiency in the funds available for roadworks for the period 1971/72 to 1975/76 is approximately $27m. In 1975/76 values, the accumulated deficiency is approximately $47m. As a result, road conditions are deteriorating. In some cases essential maintenance is not being carried out and scores of much needed improvements and new projects have had to be deferred.

Four major effects of these financial shortages are already evident to the travelling public, namely

—a lower standard of road surface and road condition over the State resulting from a lower incidence of reconstruction of worn out sections,

—extended travel times especially in urban areas as a result of the enforced postponement of much needed widening of existing arterial roads and the building of additional traffic arteries causing increased congestion on the roads,

—higher vehicle operating costs, and

—increasing use of residential streets because of the lack of capacity of arterial roads.

In the Melbourne urban area the growth rate of traffic during the year on particular roads ranged from between 4% and 10%. Travel time surveys indicated that 25% of the roads carrying 35% of the peak hour traffic had average travel speeds of less than 25 km/h (15 mph). Such low speeds were found not only on substantial lengths of inner city radial routes, but also on many sections of suburban circumferential routes such as Bell Street, Warrigal Road and Springvale Road.

In order to ease the severity of the present crisis and to ensure that Victoria would be in a position to take full advantage of the total funds available for road expenditure from the Commonwealth, the Board recommended during the year that the Government approve a 50% increase in motor car and trailer registration fees as from 1st July 1976 and that such increases be made available directly to the Board without diversion to other funds or authorities.

Matching Commonwealth Grants for roads

The Commonwealth Roads Grants Act fixes for each year a 'quota' of expenditure to be made on roads by each State from its own resources. The achievement of the quota over the three year period ending 30th June 1977 is necessary for each State to qualify in full for the total amounts of the Commonwealth grants to be made under the National Roads Act, the Roads Grants Act and the Transport (Planning and Research) Act. Failure to expend an amount at least equal to the overall quota would require a State to pay to the Commonwealth the amount of any shortfall against the quota or such lesser sum as the Commonwealth Treasurer determines.

At 30th June 1976 the three year quota for Victoria is $297.9 million. Unless there are further sums made available to the Board from State sources during financial year 1976/77, a shortfall against the quota of approximately $13 million is likely to eventuate.

An increase in motor registration fees of approximately 15% as from 1st July 1976 would have been necessary to meet the State's shortfall in quota expenditure.

Road needs of the community

Population densities in the metropolitan area have changed significantly over the past 15 years. In the inner areas the population has either decreased or remained static whereas a large increase in population has occurred in the developing areas to the east and south-east. During this 15 year period the population in the Melbourne Statistical Division has increased from 1.98 million people to 2.66 million people.

The need for roads in both metropolitan and rural areas is directly related to the size and location of the population as well as the associated business, commercial, industrial and social activity.

The fact that there is one motor vehicle for every 2.5 persons in Victoria is an illustration of how the community generally is dependent upon motor vehicles.

Metropolitan Melbourne: Urgent road needs

Even though problems such as accidents, exhaust emissions and the effect on the environment are recognized, their existence is not likely to diminish the dependency on the motor car or reduce the road needs of the community. Neither are the problems insurmountable. Efforts are being made by vehicle manufacturers to make safer vehicles with less air and noise pollution and road designers are endeavouring to ensure that roads serve the community with optimum efficiency and safety and without detriment to the natural environment.

In the Board's view the immediate road needs of the community are:

1. *in rural areas, the replacement of deficient bridges and the reversal of the deterioration of roads by a programme of works that will enable progressive improvement of the road system.*
   There are approximately 8,000 bridges and major culverts on rural roads in the State. Of these approximately 1,200 are on declared State highways, tourists' roads and forest roads under the direct control of the Board. Nearly half of the remaining 6,800 structures on main roads and unclassified roads under the care and management of municipal councils are deficient in structural adequacy, road geometry or hydraulic capacity to such an extent that they need to be urgently replaced. Such a programme would require the expenditure of approximately $150 million in financial year 1975/76. Only $2.5 million could be devoted to this task by the Board.
   The length of sealed roads in rural areas is 54,732 kilometres. A modest annual maintenance resealing and reconstruction programme would cost $42 million. Only $6.9 million was expended on this work in 1975/76. The lack of adequate maintenance programmes causes accelerated deterioration of road surfaces and costly remedial measures. Resealing costs approximately $4,000 per kilometre and extends the life of a reasonably sound pavement by approximately seven years. If adequate resealing is not carried out when required the cost of reconstruction in a few years time would cost approximately $20,000 per kilometre for an unclassified road, approximately $30,000 per kilometre for a main road and $60,000 per kilometre for a State highway;

2. *the provision of an adequate arterial road system in the Melbourne metropolitan area.*
   The present Melbourne metropolitan arterial road system is already heavily overtaxed as indicated by the travel times referred to earlier. Severe congestion is occurring and has forced vehicles on to residential streets. In many outer metropolitan areas weekend traffic on arterial roads exceeds weekday traffic.

Some examples of major projects which should be commenced to provide urgently needed improvements to the urban arterial road system are:

- **A** The extension of the Eastern Freeway to Doncaster Road, North Balwyn.
- **B** The construction of Freeway F9 as an extension of the Lower Yarra Freeway from West Gate Bridge to Kingsway, South Melbourne.
- **C** The widening of the Nepean Highway from Elsternwick to Moorabbin.
- **D** The widening of Bridge Road, Richmond between Church Street and Hoddle Street.
- **E** The widening of Bell Street in Preston.
- **F** The widening of North Road between Ormond and Huntingdale.
- **G** The construction of the Calder Freeway, Keilor Section to bypass the township of Keilor.
- **H** The widening of the Princes Highway East between Caulfield and Malvern.
- **I** The construction of a section of Freeway F5 near Greensborough.
- **J** The construction of the Scoresby Freeway between Ringwood and Dandenong.
- **K** The extension of the Mornington Peninsula Freeway northerly from Dromana and from Eel Race Road to Springvale Road, Chelsea.
- **L** The widening of the Western Highway between the Princes Highway West at Footscray and Ashley St., Braybrook.

In addition to the above major projects many other traffic engineering improvements such as channelised intersections, turning lanes, bus bays and minor widenings need to be carried out to improve the carrying capacity of existing roads;

3. *adequate provision for buses.*
The community relies heavily on bus transport as a means of travelling to and from work in the morning and evening peak periods. In the metropolitan area of Melbourne Government Buses alone carry 22 million passengers, a large proportion of whom travel twice daily between their home and work centre or between home and the railway station. The provision of adequate road capacity to cater for buses is an increasingly important factor in assisting the mobility of the community.

The Board also needs to have the financial resources to purchase now, land required for the community's road needs in the foreseeable future. These needs are evident in new growth areas where development should ideally occur in the knowledge of and in conformity with the community's future road requirements.

Motor registration fees

Motor registration fee revenue provided the Board with approximately 44% of its total funds available for expenditure on roads in 1975/76. The level of registration fees is therefore a significant factor in the funds available to satisfy the community's road needs. Although motor registration fees were increased by 35% in February 1975, cost increases alone since then support a further increase. The following table indicates that registration fees and drivers' licence fees represent only approximately 3.3% of the cost of operating a Holden Kingswood Sedan and that this percentage has dropped from 3.5% in 1974.

Element of cost	1974	1976
Motor registration fee and drivers' licence fee	3.5%	3.3%
Third Party Insurance and Comprehensive Insurance	13.9%	15.9%
Maintenance (parts and labour)	14.9%	18.2%
Fuel	24.5%	18.4%
Interest and depreciation	43.2%	44.2%
Totals	100%	100%

A 50% increase in motor registration fees would mean an increased cost to the average car owner of less than 50 cents per week.

On a State by State comparison the following table indicates the recent patterns of movement in registration fees since 1967 for a Holden Kingswood Sedan type vehicle with 32 power units and 25 weight units.

Date	NSW	Vic	Qld	SA	WA	Tas
December 1967	$26	$31	$37	$30	$29	$33
December 1968	$26	$34	$37	$30	$29	$33
December 1969	$26	$34	$37	$30	$29	$33
December 1970	$26	$34	$37	$30	$29	$33
December 1971	$26	$34	$37	$35	$29	$33
December 1972	$39	$34	$37	$35	$29	$33
December 1973	$39	$34	$37	$35	$29	$33
December 1974	$43	$34	$37	$44	$47	$35
December 1975	$43	$46	$51	$44	$47	$52
March 1976	$43	$46	$51	$59	$62	$52

The table indicates that Victorian registration fees were the second highest in Australia up to 1970 but since that date have fallen to second lowest with a margin considerably below the highest.

Accidents and safety

The Board shares the concern of the community about the accident frequency on roads. Apart from the tragic loss of life and the human suffering which are caused by road accidents, the economic cost is estimated on an Australia-wide basis to be between $500 million and $1000 million per annum or about 2% of the gross national product. Fortunately, the number of persons killed and injured in road accidents in Victoria is not rising as fast as motor vehicle registrations are increasing. Accurate significant statistics such as types of vehicles involved in accidents, the nature of accidents, locations, weather conditions, road conditions and times are all essential for the proper diagnosis of the factors influencing road accidents.

In urban areas dual carriageway roads with no direct access from adjoining properties or side roads which are the essential characteristics of freeways have accident rates between one-third and one-sixth of those for conventional arterial roads.

Providing safe conditions for traffic is one of the Board's prime responsibilities. Some of the accident counter measures employed by the Board are:

—the provision of a properly planned hierarchy of roads to meet the functional requirements of the community;
—the efficient design and construction of roads to ensure maximum visibility, a minimum of curvature, a smooth alignment consistent with the topography of the area, adequate lane widths and adequate shoulder widths;
—the provision of channelised intersections;
—the provision of wide medians to separate opposing flows of traffic and to alleviate headlight glare;
—the provision of traffic control devices such as traffic control signals, separate right hand and left hand turn lanes;
—the provision of adequate street lighting;
—the reduction of roadside hazards;
—adequate provision for pedestrians including the construction of overpasses or underpasses across arterial roads at strategic locations;
—the identification of accident locations with a supporting road condition analysis as a guide to the implementation of corrective measures.

Intersection improvements provide safer roads. Top, Lower Heidelberg Road and Banksia Street, Heidelberg; Below, Maroondah Highway and Elgar Road, Box Hill.

Official opening of Hume Freeway, Wallan-Broadford section.

Report on roads in Australia, 1975

In December 1975 the Commonwealth Bureau of Roads released its report entitled 'Report on Roads in Australia, 1975'. The purpose of the report was to assist the Commonwealth Government, particularly in its consideration of financial assistance to the States for roads in the period 1976/77-1980/81.

The recommendations made in the report included suggested increases in the Commonwealth grants to the States for roads in 1976/77, being the last year covered by the current legislation and also the levels of grants to the States for roads in the period 1977/78 to 1979/80. The report also suggested that when introducing the legislation for the period 1977/78 to 1979/80 the Commonwealth Government should indicate the probable level of grants for 1980/81 as contained in the report.

The Bureau's report was the result of a comprehensive and detailed evaluation of the road needs throughout the State and provided sound justification for public investment in roads.

The Board agrées with many of the recommendations contained in the report, but there are some aspects with which the Board does not agree, namely:

—the report shows too strong a desire for the Commonwealth to be involved in matters which are clearly the responsibility of the States, eg. in project planning, and in the allocation of available financial resources to roads most in need of improvement. This is especially so when the recommended Commonwealth contributions are less than one-third of the estimated cost of the proposed total road programme in Victoria for the five years 1976/77 to 1980/81;

—Victoria is the only State where the recommended State Government contribution to roads exceeds the recommended Commonwealth grants over the five year period;

—the recommended adherence to nine road grant categories inhibits the preparation of balanced road programmes and imposes unnecessary administrative burdens;

—the planning of individual projects other than National Highways should be a State responsibility free of Commonwealth legislative constraints. The recommended requirements for programme submissions and approvals are cumbersome and unnecessary, particularly in the categories of urban local roads and rural local roads which are far removed from national policy interests;

—for administrative convenience all Commonwealth grants for roads should be included in one Act, not three as at present and as proposed;

—there is no recommendation which would permit portion of the proposed grants for urban arterial, urban local and rural arterial roads to be expended on maintenance.

—the recommended provisions for expenditure on rural roads are most inadequate in view of the high traffic volumes which these roads carry in Victoria.

Existing Commonwealth road legislation expires on 30th June, 1977, and so far draft legislation for the ensuing three years has not been made available to the States. There will therefore be less than twelve months' notice of the grants to be made under Commonwealth statute for the years 1977/78, 1978/79 and 1979/80. The Board believes that such a short period is most inadequate for planning the State's continuing works programmes and suggests that a six year financial expectation overlapping in three year periods would be more realistic and effective in financial planning.

Hume Freeway, Wallan-Broadford section

The $35 million Wallan to Broadford section of the Hume Freeway was officially opened on 3rd May, 1976, by the Premier of Victoria, the Hon R J Hamer, ED, MP.

This work was the biggest single construction project carried out by the Board since its inception in 1913, and is the longest section of freeway opened at the one time in Victoria. The new freeway route between Wallan and Broadford crosses the Great Dividing Range 120 metres lower than the old highway route at Pretty Sally and by-passes the towns of Wallan, Kilmore and Broadford.

The project involved the construction of 34 km of four-lane freeway from south of Wallan to north of Broadford, with associated structures and access roads, as part of the Board's long term construction programme to improve the Hume Highway to freeway standard between Melbourne and Wodonga.

Western Freeway, Myrniong section

The 5.9 km section of the Western Freeway at Myrniong was opened by the then Minister of Transport, the Hon E R Meagher, CBE, ED, on 3rd October, 1975.

At a cost of $3.28 million, the Myrniong project involved the construction of dual carriageways by-passing the township of Myrniong to the south and interchanges with the existing Western Highway at each end of the project. Bridge structures at these interchanges were constructed to carry Western Highway traffic over the freeway.

The location of the freeway was through undulating areas largely devoid of natural timber. The designed curves of the freeway blended with the natural features of the countryside without interference to distant vistas or horizon lines. With the completion of this section of the Western Freeway, more than 80 km of the 100 km between Melbourne and Ballarat have been reconstructed with dual carriageways.

Emergency services

The Board introduced a 24 hour emergency telephone service on metropolitan freeways during the year. The emergency telephones are connected to a switchboard located in the Board's Head Office at Kew. The freeways concerned are the Tullamarine Freeway (16 telephones), South Eastern Freeway (12 telephones), and the Lower Yarra Freeway (14 telephones). Six telephones on King's Street Bridge and approaches and three telephones on Queens Way at St. Kilda junction are also connected to the switchboard.

The telephonist receiving the emergency telephone call has two-way radio link with the road patrolmen so that road conditions can be restored to normal as quickly as possible. Contracts have also been entered into by the Board with local towing organizations to enable drivers in difficulties to move their vehicles from the freeway. The service is free to the motorist.

Approximately 500 calls each month have been received since the service began. About 25 per cent of the calls received have been from motorists who have run out of petrol.

Arrangements are being made for connection to the H.O. switchboard of the emergency telephones to be installed on the Mulgrave Freeway and the Eastern Freeway.

Top. One of the two major projects completed during 1975-76, the Western Freeway, Myrniong Section.

Below. An average 500 calls for assistance per month are received through the Board's free emergency service.

Finance

After deducting the cost of collecting revenue received under the Motor Car Act, the total funds available to the Board during the year, including the allocation from the Roads (Special Projects) Fund, was $188,450,522. The funds were derived from:

State sources	$95,660,904
Commonwealth sources	92,132,390
Balance brought forward from year 1974/75	657,228
	$188,450,522

Receipts

The Board's receipts were obtained from the following main sources:

State sources:

—Motor registration fees:
Fees payable on the registration and re-registration of motor vehicles and trailers less the costs of collecting the fees (excluding metropolitan omnibus registration fees and the specified proportion of registration fees paid to the Roads (Special Projects) Fund).

—Registration number plate fees:
Fees payable for the provision and/or replacement of number plates less the costs of providing the plates and collecting the fees.

—Examiners' licence fees:
Fees payable by persons licensed to conduct motor car roadworthiness examinations, less cost of collection of the fees.

—Authorized log book fees:
Fees payable for the purchase of log books less the cost of providing the books and collecting the fees.

—Learner driver permit fees:
Seven-eighths of the permit fee and the permit extension fee payable by applicants for and/or holders of learner driver permits less seven-eighths of the cost of collection of the fees (one-eighth less one-eighth cost of collection is paid to the Drivers' Licence Suspense Account).

—Motor car drivers' licence fees and tractor drivers' licence fees:
One-eighth of the fees payable for the issue of drivers' licences less one-eighth of the cost of collecting the fees (one-half, less one-half cost of collection, is paid to the Consolidated Fund; one-quarter, less one-quarter cost of collection, is paid to the Municipalities Assistance Fund; one-eighth, less one-eighth cost of collection, is paid to the Drivers' Licence Suspense Account).

—Motor driving instructors' appointment and testing fees:
Fees payable by candidates for motor driving instructors' licences, less cost of collection of the fees.

—Motor driving instructors' licence fees:
One-quarter of the fees payable for the issue of motor driving instructors' licences less one-quarter of the costs of collection of the fees (one-half, less one-half cost of collection, is paid to the Consolidated Fund; one-quarter, less one-quarter cost of collection, is paid to the Municipalities Assistance Fund).

—Unregistered vehicle permit fee:
A fee for the issue of a permit to use an unregistered motor car or trailer on a highway for a period of not more than 7 days, less the costs of collection of the fee.

—Proprietorship notification fee:
A fee payable with notification by a proprietor of a motor car or trailer of repossession of the item under a hire purchase agreement, bill of sale or like instrument, less the costs of collection of the fee.

—Fines imposed under the provisions of the Country Roads Act.

—All moneys received under Part II of the Commercial Goods Vehicles Act (tonne kilometre tax).

—Municipal payments on account of main road works.

—Special moneys appropriated by Parliament.

—Loan money.

—Allocation from Roads (Special Projects) Fund.

—Drivers' licence testing fees:
Seven-eighths of $4 of the fee payable for the test of proficiency of candidates for motor car drivers' licences less seven-eighths of the cost of conducting the test and collecting the fee (one-eighth of $4 less one-eighth cost of collection is paid to the Drivers' Licence Suspense Account) and the amount of each fee above $4 is paid to the Consolidated Fund.

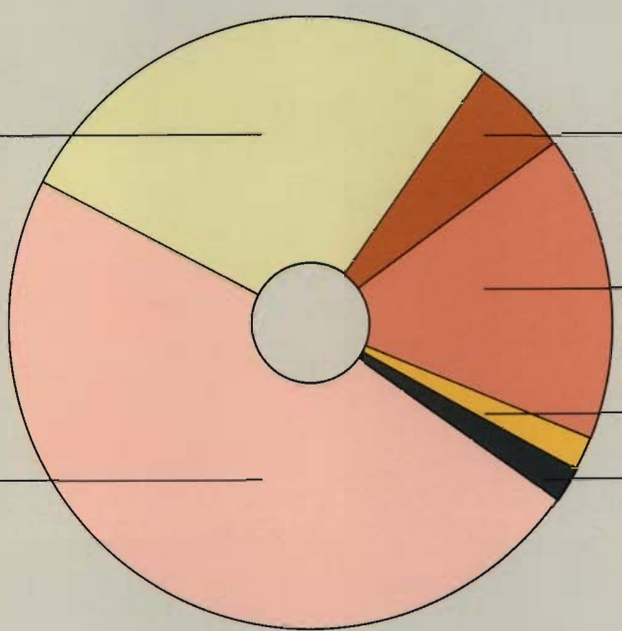
Commonwealth sources:

—Receipts under the National Roads Act 1974, Roads Grants Act 1974, and Transport (Planning and Research) Act 1974.

—Commonwealth grant for general employment purposes.

—Grant towards Traffic Engineering and Road Safety Improvements.

Receipts 1975-76



Registration fees, drivers' licence fees, etc.
27.07% $50,827,000

Ton mile tax
5.39% $10,132,000

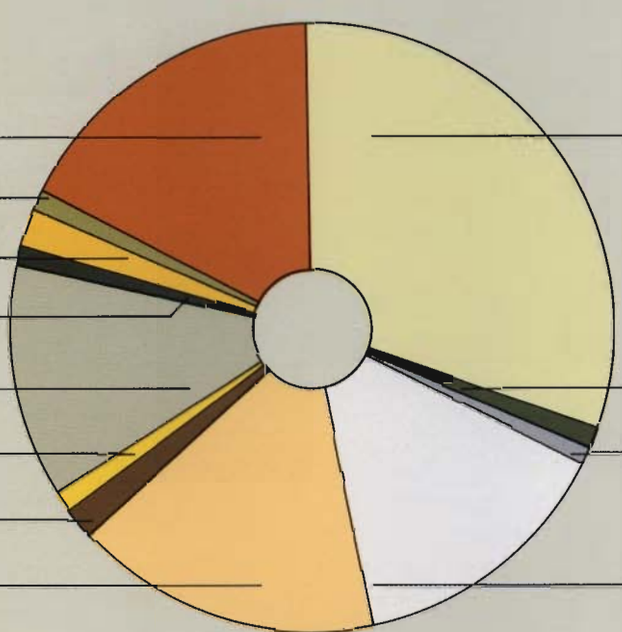
Allocation from Roads Fund (Special Projects)
16.08% $30,192,000

Municipal repayments
1.19% $2,233,000

Other
1.21% $2,277,000

Commonwealth Grants
49.06% $92,132,000

Expenditure 1975-76



State highways
17.18% $30,972,000

Other
1.02% $1,839,000

Planning and research
2.03% $3,663,000

Capital
0.86% $1,547,000

Management and operating
12.72% $22,932,000

Statutory payments
1.03% $1,862,000

Interest and sinking fund
1.55% $2,793,000

Unclassified roads
16.54% $29,821,000

Freeways
30.5% $54,983,000

Tourists' roads
0.97% $1,754,000

Forest roads
0.74% $1,342,000

Main roads
14.86% $26,780,000

The following table shows the funds available to the Board for the construction and maintenance of roads in 1975/76 compared with 1974/75.

Item	1974/75		1975/76	
	$	$	$	$
Receipts from State sources				
Fees under the Motor Car Act less cost of collection	41,984,641		50,826,830	
Less: Payment to:				
—Interest and sinking fund	2,688,496		2,792,880	
—Traffic authority fund	375,375		419,846	
—Tourist fund	750,749		839,693	
—Transport regulation fund	621,528		602,256	
—M.M.B.W. (liability transferred under Act 8573)		37,548,493	371,447	45,800,708
Commercial Goods Vehicle Act		10,037,593		10,132,146
Municipalities contributions		2,047,269		2,232,860
Loan funds		300,000		325,000
Special grant from State treasury		772,371		427,000
General receipts		1,247,398		1,524,877
Allocation from Roads (Special Projects) Fund		30,428,673		30,192,191
		82,381,797		90,634,782
Balance brought forward at 1st July		831,610		657,228
		83,213,407		91,292,010
Receipts under Commonwealth grants				
Regional employment development scheme		133,583		701,864
Traffic engineering and road safety		172,217		129,616
General employment purposes		3,000,000		1,500,000
		3,305,800		2,331,480
Receipts under National Roads Act 1974				
National highways		18,920,000		23,200,000
Receipts under Road Grants Act 1974				
Urban arterial roads		35,890,000		42,590,000
Urban local roads		1,670,000		3,200,000
Rural arterial roads		4,150,000		5,660,000
Rural local roads		13,160,000		11,750,000
Minor traffic engineering and road safety improvements		640,000		1,610,000
		55,510,000		64,810,000
Receipts under Transport (Planning & Research) Act 1974		1,241,000		1,790,910
Total funds available for expenditure by the Country Roads Board		162,190,207		183,424,400
Less:				
Expenditure on planning and research	2,204,749		3,662,713	
Capital expenditure (plant, workshops, offices, etc.)	2,589,526		1,547,473	
Salaries, operating a/cs and other admin. expenditure	21,431,592	26,225,867	22,931,701	28,141,887
Funds available for construction and maintenance of roads and bridges		135,964,340		155,282,513

Expenditure

Expenditure in the form of cash payments during the financial year amounted to $180,288,216 leaving balances of $8,162,306 to be carried forward into financial year 1976/77.

The following table shows expenditure incurred by the Board, including that from the Roads (Special Projects) Fund, in the years 1974/75 and 1975/76.

Item	1974/75	1975/76
	$	$
Construction and maintenance of roads and bridges	135,307,111	147,120,207
Capital expenditure (plant, workshops, offices, etc.)	2,589,527	1,547,473
Planning and research	2,204,749	3,662,713
Salaries, operating accounts and other administrative expenditure	21,431,592	22,931,701
Statutory payments to Traffic Authority Fund, Transport Regulation Fund and Tourist Fund	1,747,652	2,233,242
Interest and Sinking Fund payments	2,688,496	2,792,880
Total	165,969,127	180,288,216

Sharing the costs of roadworks

The Country Roads Act provides that no more than one-half of the amount expended from loan funds and one-third of the amount expended from the Country Roads Board Fund on main roads during the preceding financial year shall be apportioned between the various municipalities benefited thereby. The Act also provides that the amount apportioned to a council in respect of expenditure charged to the Country Roads Board Fund may be reduced where the cost of maintenance is excessive due either to motor traffic not of local origin or to timber traffic. The revenue, valuation, and rating of the municipality and its financial obligations for loan expenditure on permanent works are taken into account in deciding the level of contribution by a council.

In September 1975 expenditure on main roads in financial year 1974/75 was apportioned in accordance with the Country Roads Act, resulting in the following distribution of expenditure other than Loan Fund expenditure:

Expenditure from Country Roads Board Fund	$13,886,756
Expenditure from Commonwealth funds	5,368,715
Expenditure from proceeds of ton/mile tax (Commercial Goods Vehicles Act)	4,294,743
	$23,550,214

Amount of Country Roads Board Fund expenditure apportioned to councils	$2,208,090

Within the limit of funds available, the Board made allocations to municipal councils for works on unclassified roads. The expenditure incurred from the allocations made by the Board in financial year 1975/76 compared with 1974/75 was as follows:

	1974/75		1975/76	
	CRB	Council contribution	CRB	Council contribution
	$	$	$	$
Patrol maintenance	2,200,195	937,103	2,195,180	974,530
Construction, reconstruction and other maintenance	18,928,299	4,642,896	22,035,733	5,475,677
Total	21,128,494	5,579,999	24,230,913	6,450,207

Municipal councils were not required to contribute towards the cost of works involving an expenditure during the year of $89,051,000 on State highways, freeways, tourists' roads and forest roads (including expenditure from the Roads (Special Projects) Fund).

Roads are the vital link to Victoria's many tourist attractions. Background, Mt. Buffalo in Autumn; Inserts: Top, the southern coast; Below top, snow clearing in winter; Below, new Rest Area on the South Australian-Victorian border.

The declared road system

The total length of roads declared or proclaimed in Victoria under the Country Roads Act was 23,893 km as at 30th June, 1976.

'000s kms	0 2 4 6 8 10 12 14 16 18 20 22 24
State Highways	7,108
Freeways	220
Tourists' Roads	825
Forest Roads	1,060
Main Roads	14,680
Total length of declared road system	23,893

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 Board bears the full cost of both construction and maintenance works required to meet the needs of through traffic. The total length of State highways was 7,108 km.

The total expenditure of $30,972,000 on Victoria's 32 State highways during the year included an amount of $2,181,000 made available from the Roads (Special Projects) Fund. Appendix 1 includes a list of State highways declared by the Board, and details of the more significant works completed during the year on State highways are given in Appendix 2.

The Hume Highway/Freeway and the Western Highway/Freeway have been declared by the Commonwealth Minister for Transport as national highways under the provisions of the Commonwealth National Roads Act. These declarations permitted funds made available under the Commonwealth National Roads Act to be spent on the Hume Highway/Freeway and the Western Highway/Freeway. During the year $15,052,000 from Commonwealth sources and $4,699,000 from State sources was spent on these two State highways/freeways.

Freeways

A freeway is a road 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 carriageway by means of carefully designed ramps.

The Board bears the total cost of all work on freeways.

The total expenditure of $54,983,000 on freeways during the year included an amount of $20,224,000 made available from the Roads (Special Projects) Fund.

The table in Appendix 1 lists the freeways constructed by the Board and opened to traffic. The significant works completed during the year are shown in Appendix 2.

Tourists' roads

Tourists' roads proclaimed under the provisions of the Country Roads Act provide access to places of special interest to tourists, both in summer and winter. The Board bears the full cost of works required to cater for the needs of through traffic. In general the works are carried out under the direct supervision of the Board's staff.

Details of the more significant works carried out on tourists' roads during the year are listed in Appendix 3.

The table in Appendix 1 lists the tourists' roads proclaimed under the provisions of the Country Roads Act.

Forest roads

Forest roads proclaimed under the provisions of the Country Roads Act are situated within or adjacent to any State forest or in areas which are considered by the Board to be timbered, mountainous or undeveloped. The Board bears the full cost of works required to cater for the needs of through traffic, with approximately half the work carried out on these roads being undertaken by municipal councils on behalf of the Board.

Appendix 3 lists the more important works completed during the year. The table in Appendix 1 lists the forest roads proclaimed under the provisions of the Country Roads Act.

Main roads

Main roads are roads linking centres of population with other centres or with areas of industry, commerce, or settlement. Generally main roads are constructed and maintained by municipal councils to the satisfaction of, and with financial assistance from the Board. In some cases, at the request of the council and with the approval of the Minister, works are carried out under the direct supervision of the Board's staff.

A summary of the more important works on main roads completed during the year is given in Appendix 4.

Unclassified roads

Roads which are not included in the Board's declared and proclaimed road system are referred to as unclassified roads. These roads are the responsibility of municipal councils, but each year the Board provides financial assistance towards the cost of construction and maintenance works, generally in accordance with priorities allotted by municipal councils.

Municipal contributions 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 municipality concerned.

A list of the more significant works on unclassified roads carried out during the year with financial assistance from the Board appears in Appendix 5.

Planning for the future in the metropolitan area

Major road improvements

The Board made further progress during the year in the development of a plan outlining major road improvements needed to improve conditions for motorists in the metropolitan area of Melbourne.

Three major projects have emerged as having the highest priority for immediate construction, viz.:

—the easterly extension of the Lower Yarra Freeway;
—the widening of the Nepean Highway between Cochrane Street, Elsternwick, and South Road, Moorabbin;
—the extension of the Eastern Freeway from Bulleen Road to Doncaster Road, North Balwyn.

A brief description of these projects and the reasons for their high priorities are as follows:

Easterly extension of Lower Yarra Freeway (Freeway F9)

The easterly extension of the F9 Freeway from Graham St. together with the completion of the West Gate bridge and the Johnson Street bridge will provide improved connections to the western suburbs, by-passing the city centre to the south. The route of the freeway extension generally follows the existing Melbourne Metropolitan Planning Scheme main road reservation, passing through industrial areas to the west of the Port Melbourne railway, and predominantly commercial sites nearer Kingsway.

The disruptive effects to property along the freeway route have been minimized by the planning scheme reservation, and the prevalence of Crown licences and Crown leases.

For people in the western suburbs, the new route will mean greatly increased ease of access to the community facilities south of the city, including the National Gallery, Botanic Gardens, the Domain, and the Sidney Myer Music Bowl. The link will attract through traffic and therefore draw traffic away from residential streets in the western suburbs and South Melbourne and Port Melbourne.

Eight traffic lanes at ground level will be provided from Graham Street to Johnson Street. From Johnson Street the freeway will be elevated to east of Kingsway, with a basic six lane configuration. Beyond Kingsway there will be an arterial road connection along Grant Street to St Kilda Road. Interchanges will be provided at Graham Street, Port Melbourne, and at Johnson Street and Kingsway in South Melbourne. Connection to Sturt Street and Power Street will provide access to Alexandra Avenue.

Environmental study: Freeway F9

A land use and environmental study was commenced with the following objectives:

—to consolidate local traffic management proposals prepared by councils and designed to protect areas susceptible to future traffic intrusion, so that area-wide effects can be evaluated;
—to formulate suggested guidelines for the future development along the F9 corridor; and
—to assess the impact of the F9 route.

The parties involved in the study include:

—The Country Roads Board
—South Melbourne Council
—Port Melbourne Council
—The Emerald Hill Liaison Committee
—The Housing Commission of Victoria
—The Melbourne and Metropolitan Board of Works
—The Town and Country Planning Board
—The Ministry of Transport
—The Ministry of Conservation
—The Environment Protection Authority
—The Centre for Environmental Studies, Melbourne University

During February and March, 1976, the Board carried out an extensive traffic survey in the St Kilda, South Melbourne, Port Melbourne and Melbourne areas. The results of this survey will assist in the detailed design of the freeway and provide background information for the environmental study.

Nepean Highway

The section of the Nepean Highway between Cochrane Street, Elsternwick, and South Road, Moorabbin, is a bottleneck on this major access road through the southern suburbs. The construction of dual carriageways on this section will substantially assist motorists and also benefit nearby residents by reducing traffic volumes on other roads in the vicinity.

At present about 27,300 vehicles use the Elsternwick-Moorabbin section of the highway between 7 am. and 7 pm. each weekday. During the same period the parallel section of Beach Road carries in excess of 15,500 vehicles.

The project will provide dual carriageways each containing four lanes for traffic in each direction plus a service road, where needed along the eastern side.

Eastern Freeway–extension from Bulleen Road to Doncaster Road

The extension of the Eastern Freeway from Bulleen Road to Doncaster Road, a distance of approximately 2.7 km, will further improve access to the expanding eastern suburbs. In addition, it will remove traffic from local residential streets.

The route generally follows the road reservation along the Koonung Creek valley in the Melbourne Metropolitan Planning Scheme. Dual carriageways each with two traffic lanes are proposed for construction.

Present indications are that because of financial constraints it will not be possible to construct the extension of the Lower Yarra Freeway, the widening of the Nepean Highway, and the extension of the Eastern Freeway at the same time and it will be necessary to programme construction of these three projects to suit the finance available.

Part of the section of Nepean Highway to be widened, looking north towards the city.

Other major projects for which planning will be continued are:

Mulgrave Freeway–extension from Forster Road to Warrigal Road
Extension of the Mulgrave Freeway from Forster Road to Warrigal Road will substantially improve the freeway's effectiveness. The existing Mulgrave Freeway easterly from Springvale Road provides a by-pass function of Dandenong for traffic destined for the Latrobe Valley and Gippsland. The Princes Highway East through the Latrobe Valley is one of the most heavily trafficked rural highways in the State, and a substantial portion of this traffic is generated in the metropolitan area.
Completed works and extensions of the freeway from Springvale Road to Forster Road, Mount Waverley, will cost in the vicinity of $40 million.
Studies are being undertaken on the need for a road connection from the Mulgrave Freeway at Warrigal Road to the South Eastern Freeway at Tooronga.

Dandenong Road, Malvern (Princes Highway East)
Dandenong Road between Glenferrie Road and Burke Road is the last remaining single carriageway section between the St Kilda Junction and Dandenong. In 1975 a traffic survey recorded 26,000 vehicles per day passing through this bottleneck section of the Highway.
The work planned by the Board to provide dual carriageways will improve traffic flow along Dandenong Road, and improve the various intersections along the length.

Bridge Road, Richmond
The Board has developed three alternative widening schemes to remove the bottleneck in Bridge Road, between Punt Road and Church Street.
The plans were forwarded to the Richmond City Council which has indicated its preference for the scheme favoured by the Board, being to provide a similar width of road to Bridge Road east of Church Street. A final scheme has not yet been recommended to the Government.

Greensborough Freeway
The Greensborough Freeway, north from Watsonia, will provide a by-pass of the Greensborough shopping complex for through traffic and provide access to the developing residential areas around Diamond Creek.
Works currently under way will lower the railway under Watsonia Road and Grimshaw Street, and eliminate three railway level crossings.

Hume Freeway (Craigieburn to Eastern Freeway)
Traffic destined for the Hume Highway from the metropolitan area, especially the eastern suburbs, is creating environmental and traffic problems in the inner and northern suburbs. The solution to the problem is neither simple nor cheap, and the sociological town planning, environmental, economic and engineering issues will need to be resolved in conjunction with all parties affected.

Calder Freeway (Keilor Section)
A freeway by-pass of Keilor township will remove traffic from the Keilor commercial centre and assist residents, shoppers and through traffic. The by-pass will join the Niddrie Section of the Calder Freeway and serve the developing areas of Melton and Sunbury and traffic destined for Bendigo.

Western Highway–Braybrook
The construction of dual carriageways is needed on the Western Highway between the Princes Highway West and Ashley Street to provide adequately for the average 20,000 vehicles during daylight hours.
The Western Highway is the main western outlet from the metropolitan area.

Road planning studies

The road planning function of the Board is an essential and highly sophisticated operation, involving all of the many diverse skills required to reach a compatible balance between the community's desire for mobility and its various other needs. The staff of the Board's Environmental Studies Section brings together the sociological, economic, town planning and engineering expertise in evaluating and formulating future road proposals. Specially trained officers in the Board's service, together with specialised equipment, are also able to provide technological advice on pollution, noise, landscaping and general environmental matters.
Four significant road planning studies in which the Board was involved were carried out during the year, and are described below.

Eastern Corridor study–Bulleen to Ringwood
In January 1976, the Government approved the recommendations of the Eastern Corridor Study drawn up by a Management Group of representatives of the Country Roads Board, Melbourne and Metropolitan Board of Works, Ministry of Conservation, Ministry of Planning and the Ministry of Transport.
The Management Group, with the assistance of consultants, carried out a comprehensive study of the eastern corridor transport needs, covering a wide range of options and transport possibilities to cater for present and future needs.
Some of the recommendations were:
—the extension of the Eastern Freeway to Doncaster Road as a four lane arterial road. This would reduce traffic on Thompsons Road and Manningham Road and lessen the infiltration of traffic through neighbouring residential areas;
—the co-ordination of traffic signals on the Maroondah Highway through the Ringwood area to improve traffic flow;
—the construction of a road along the Bushy Creek drain in the Melbourne Metropolitan Planning Scheme secondary road reservation to connect Springfield Road and Belmore Road, Box Hill;
—the reservation of land for the future extension of Reynolds Road from Templestowe to the Maroondah Highway via Wonga Road and Plymouth Road, Croydon North;
—the railway level crossing eliminations programme should continue along the Ringwood railway line to improve north-south traffic movements.

The Management Group also concluded that:
—investigations have shown that a six lane freeway from the Eastern Freeway, at Doncaster Road, to the proposed

Scoresby Freeway, at Maroondah Highway, Ringwood, plus a six lane arterial road by-pass of Ringwood, is warranted, as part of a long term solution. The route would best be located generally within the existing Planning Scheme Reservation, along the Koonung and Mullum Mullum Creeks;

—arterial road discontinuities exist between Mont Albert Road and Barkers Road at Burke Road and between Blackburn Road and Surrey Road at Blackburn. They are not major urban projects and while they are not specifically recommended, the study did recommend that their priorities should be reviewed.

Western Highway Corridor – Melbourne suburbs

Various freeway and arterial road options in Melbourne's western suburbs were the subject of traffic studies during the year. The studies are being carried out by the Board's Road Planning Division and the Joint Road Planning Group, comprising officers of the Ministry of Transport, Melbourne and Metropolitan Board of Works and the Country Roads Board.

The two major options for linking the Western Freeway into the suburban road network are a northern route near St. Albans and a southern route to the south of Ardeer. No choice has yet been made between the two alternatives, as the strategic implications are still being assessed.

Eastern Freeway – Western approaches

The study into the effects and impact of the Eastern Freeway on the cities of Collingwood, Fitzroy and Melbourne was completed by the consultant firm Llewelyn-Davies Kinhill Pty. Ltd., under the direction of a Steering Committee composed of representatives from the three municipal councils concerned, the Ministry of Transport and the Board.

The consultant used extensive data supplied by the Board and the councils, and in addition collected other data relating to social characteristics, air pollution, traffic noise levels and business and economic activity, to enable an assessment of the environmental, social and transport effects of the Eastern Freeway in the study area.

The study involved assessing the effects from the date of opening the Eastern Freeway in 1977 up to the mid 1980s of:

—four alternative developments for the western end of the freeway, viz.: a T Junction of 4, 6 or 8 lanes along Alexandra Parade;

—a possible new arterial road connection from the freeway to the Park Street-Brunswick Road corridor, in the medium term (up to 1985);

—a possible Hume Freeway F2 connection to the Eastern Freeway, in the long term (beyond 1985).

The consultant was required to make recommendations on measures to minimize adverse effects and to ameliorate any unavoidable adverse effects. In addition, during the progress of the study, the consultant was instructed to carry out an assessment of the conditions which would have prevailed if the freeway had not been built. Following consideration of the consultant's report by all interested organizations and the public, the Steering Committee will make its recommendations.

Outer Ring Corridor

A study was commenced into the strategic significance of a new transport route around the main built-up area of Melbourne. The findings of the study, into what is known as the Outer Ring Road, should be known late in the 1976 calendar year.

The consulting firm of P. G. Pak Poy and Associates Pty. Ltd. and a number of sub-consultants have been retained for this study. The consultants are being supervised by the Road Planning Liaison Committee consisting of representatives of the Board, the Ministry of Transport and the Melbourne and Metropolitan Board of Works. The comments of other transport authorities are also being obtained.

In the Melbourne Metropolitan Planning Scheme a main road reservation has existed for a number of years, connecting the Princes Highway at Brooklyn with Greensborough Road at Diamond Creek via a circular route passing through Sunshine, Broadmeadows and Thomastown. A similar reservation exists connecting the Maroondah Highway west of Ringwood, southwards through Scoresby and Springvale to Frankston.

These planning scheme reservations make provision for a circular route around the built-up area of Melbourne, except for a section between Diamond Creek and Ringwood. A preliminary examination of the desirability of connecting these reservations indicates that a route crossing the Yarra Valley and through an area of environmental significance would be necessary.

The first step has been to study the strategic implications of the construction of an outer ring transportation facility on the future growth of Melbourne. The study has therefore been expanded to examine the strategic effects of constructing alternative types of transport facilities such as a freeway, an arterial road and/or public transport facilities in the outer ring corridor.

Bridge Road, the Board has developed three widening proposals, which are under consideration.

The Eastern Freeway, Collingwood to Bulleen Section, under construction.

Road construction and maintenance

Mulgrave Freeway under construction, west of Blackburn Road.

Construction of freeways and dual carriageway roads

Again the Board's construction programme was severely hampered because of limited finance. Notwithstanding this the Board was able to complete the construction of 46 km of additional dual carriageways on freeways and State highways during the year. This increased the total length of dual carriageways on freeways, State highways and main roads to 649 km.

In addition to the Hume Freeway (Wallan to Broadford Section) and the Western Freeway (Myrniong Section) referred to in the Review section of this Annual Report, the more important dual carriageway projects completed or in progress during the year were:

Urban

Eastern Freeway

The construction of the Eastern Freeway between Hoddle Street, Collingwood, and Bulleen Road, Bulleen, a distance of nine kilometres, continued during the year. This section of the freeway will be generally of eight lane capacity, with a ten lane capacity between the Merri Creek and the Chandler Highway interchange. The central reservation is designed to cater for a fixed rail public transport system to serve the East Doncaster area. The Yarra Bend Park and Clifton Hill Railway overpasses were opened to traffic during the year and work on the remaining bridge structures and the freeway carriageways progressed satisfactorily. The freeway is expected to be opened to traffic late in 1977. The total cost for this first section of the Eastern Freeway is estimated to exceed $80 million.

South Gippsland Freeway

Construction works continued on the southerly extension of the South Gippsland Freeway from the Princes Highway East to the South Gippsland Highway at Hampton Park. The first stage of this 3.7 kilometre section of freeway, connecting to the existing Mulgrave Freeway, is expected to be opened to traffic late in 1976.

Mulgrave Freeway

Work progressed on the construction of 3.5 kilometres of the Mulgrave Freeway between Springvale Road, Mulgrave, and Forster Road, Mount Waverley. This section of freeway is expected to be opened to traffic early in 1977. The Stanley Avenue overpass of the freeway at East Oakleigh was opened to traffic in December, 1975. Construction proceeded on the freeway carriageways and bridge structures at Ferntree Gully Road, Blackburn Road and Forster Road.

Tullamarine Freeway

Work associated with the upgrading to freeway standard of Lancefield Road adjacent to the Essendon Airport commenced. A pedestrian overpass at Vaughan Street was completed in late June, 1976, and temporary traffic signals were installed on Lancefield Road near Parer Street. A pedestrian overpass at Bristol Street was almost completed. Work on the upgrading of Lancefield Road, estimated to cost $6 million, will progress as funds become available.

Mulgrave Freeway bridge over Ferntree Gully Road.

Mahoneys Road, Campbellfield to Thomastown.

Hume Freeway, Violet Town to Baddaginnie.

Greensborough Freeway
Work progressed on a $4.5 million road-rail project to abolish three railway level crossings in Watsonia. Road over rail overpasses at Watsonia Road and Grimshaw Street were commenced as part of the overall works associated with the freeway.

Princes Freeway (Geelong Road)
Work progressed on the widening of the Princes Freeway to three lanes in each direction from the Lower Yarra Freeway to the Maltby By-pass Road near Werribee, a distance of 12 kilometres. The project is estimated to cost $4.1 million. The first section from the Lower Yarra Freeway to Point Cook Road was completed late in 1975.
The Princes Highway West is also being widened to three lanes in each direction between McDonalds Road and the Old Geelong Road, Brooklyn. This work is scheduled for completion in October 1976, and is estimated to cost $550,000.

Nepean Highway, Mentone
Work was completed in September, 1975, on the widening of the Nepean Highway to three lanes in each direction between Centre Dandenong Road, Cheltenham, and Lower Dandenong Road, Mentone. The widening of this section of the highway cost $1.3 million.

Mahoneys Road
The construction of three lane, dual carriageways in Mahoneys Road between the Hume Highway, Campbellfield, and High Street, Thomastown, continued. The sections from the Hume Highway to Phillip Street, Reservoir, and from High Street to the Central Creek were opened to traffic. Work on the remaining section between Phillip Street and the Central Creek is expected to be completed early in 1977. The total cost of the project is estimated to be $3.5 million.

Johnson Street Bridge, South Melbourne
Work progressed on the Johnson Street Bridge over the Yarra River to link the proposed F9 freeway with Footscray Road. Satisfactory progress was achieved with the construction of the bridge cylinder foundations 46 metres deep and the construction of the necessary approach roads. The project is expected to be completed late in 1978.

Mornington Peninsula Freeway
Construction continued on a section of the Mornington Peninsula Freeway between Springvale Road, Keysborough, and the Frankston Freeway at Seaford. The new freeway, running parallel to Wells Road, will improve access to the bayside suburbs and the holiday resorts on the Mornington Peninsula. The Board expects to open a section of the new work from Frankston Freeway to Eel Race Road during October, 1976, by constructing a temporary connection to Wells Road.
A 1975 traffic survey recorded 20,000 vehicles travelling along Wells Road and Nepean Highway during daylight hours. The new freeway will cater for a large number of these vehicles.

Johnson Street Bridge, South Melbourne.

Rural

Hume Freeway, Violet Town–Baddaginnie
Work began on the construction of a section of the Hume Freeway between Violet Town and Baddaginnie. A second carriageway is being constructed adjacent to the existing highway over a distance of 10 kilometres. The formation of earthwork progressed satisfactorily and the project is scheduled for completion in mid 1977 at an estimated cost of $3.8 million at 1976 prices.

Hume Highway, Wodonga
Work on widening the Lincoln Causeway between Wodonga and the State border at the Murray River was substantially completed during the year. The project included the widening of four bridges and the connecting causeways to provide two lanes for traffic in each direction. The estimated cost of the project is $1.6 million.

Western Freeway, Ballan
Construction commenced on a nine kilometre section of freeway by-passing the township of Ballan. This freeway will provide two lanes for traffic in each direction and will connect the Pykes Creek and Gordon sections of the Western Freeway. Earthworks and bridge construction progressed satisfactorily and the work is scheduled for completion in 1978 at an estimated cost of $8 million at 1976 prices.

Princes Highway East
Work was completed on the Princes Highway East through the township of Beaconsfield to provide two lanes for traffic in each direction. The provision of dual carriageways will continue between Beaconsfield and Officer. Further to the east work progressed on the provision of dual carriageways between Morwell and Traralgon. This work involves the construction of a second carriageway for a distance of 9.3 kilometres, the reconstruction of 5.5 kilometres of the existing carriageway and the construction of a second bridge across Waterhole Creek.
The project is expected to be completed in mid 1977 at a cost of $2.25 million at 1976 prices.

Princes Freeway, Drouin to Warragul Section
Preliminary works began on the construction of the Princes Freeway, by-passing the townships of Drouin and Warragul, a distance of 15 kilometres. Dual carriageways will be provided on a two kilometre section of the existing Princes Highway to form part of a freeway interchange two kilometres east of Drouin.
The project is scheduled for completion in 1982 at an estimated cost of $31 million at 1976 prices.

Bellarine Highway
Duplication of the Bellarine Highway between Christies Road and Bawtree Road, near Leopold, was completed during the year. The project covered 1.7 km and cost $245,000.

Contracts

Contracts under the Board's supervision

The value of new contracts awarded during the year reflected the reduced funds available for construction work. The price adjustment clauses introduced by the Board in financial year 1974/75 has met the objective of reducing tendering risks which were inherent in fixed price contracts being performed during the present inflationary climate.

Details of the types and numbers of contracts entered into during the year showing their respective values together with a comparison with those awarded in 1974/75 are shown in the following table.

Contracts under councils' supervision

During the year the Board approved the acceptance by municipal councils of 156 tenders for a total amount of $7,525,247 for road and bridge works for which the Board allocated funds in whole or in part. In financial year 1974/75, 198 tenders were approved for a total amount of $8,305,962. The Board also approved the use of 63 municipal contracts for the supply of materials for works partly financed from funds provided by the Board compared with 77 last year.

	1975/76		1974/75	
Type of contract	No. of contracts	Value $	No. of contracts	Value $
Road construction–				
1. Over $1M	–		–	
2. $100,000 to $1M	3	590,390	2	1,313,472
3. Under $100,000	–		1	33,000
Supply of road-making materials	134	4,825,667	88	2,931,605
Bituminous treatment and supply of materials	62	10,024,524	45	4,009,145
Bridge construction–				
1. Over $1M	–		3	16,503,382
2. $100,000 to $1M	7	2,715,629	7	1,317,133
3. Under $100,000	5	325,689	19	1,127,179
Components and Fabricated Steel	22	1,169,859	20	1,124,517
Construction Equipment	16	665,055	16	1,011,737
Divisional Facilities	2	65,724	7	287,535
Stores	13	1,600,676	12	2,096,800
Miscellaneous Services	28	1,131,060	29	2,210,014
Total	292	$23,114,273	249	$33,965,519

Sprayed bituminous surfacing.

Bituminous surfacing

Bituminous surfacing is an important part of road construction and maintenance work. It confers the following benefits to the road user:

—Provides a dust free, skid resistant, non-glare surface over a long period.

—Reduces the tractive effort required by a vehicle travelling on the road.

—Provides and maintains good road-riding qualities.

Bituminous surfacing work is broadly classified into two main types:

—*The sprayed type* of bituminous surfacing is normally provided by spraying a bituminous binder from a mobile sprayer and immediately covering it with a layer of uniformly spread aggregate which is compacted by rolling.

—*The plantmix type* of bituminous surfacing is normally provided by spreading a layer of material with a mechanical paver. The most commonly used type of plantmix is 'asphalt' which consists of a mixture of aggregate and bitumen. Asphalt is produced at a fixed plant and is mixed, spread and compacted while hot.

Plantmix.

The total length of bituminous surfacing, including both sprayed work and plantmix work, completed during the year amounted to 4371 km at an approximate cost of $19,700,000. The Board's 17 mobile bituminous surfacing units, together with plant owned by municipal councils and contractors, completed 4201 km of sprayed work at a cost of approximately $13,560,000.
Contractors operating from fixed asphalt plants completed 170 km of plant mix work on densely trafficked roads at a cost of approximately $6,144,000 using 302,000 tonnes of asphalt.
The lengths of the various types of work completed during the year were:
125 km of sealing widened pavements,
39 km of initial sealing on dual carriageways,
597 km of restoration of sealed coats on reconstruction sections,
516 km of final sealing on initial treatments,
2383 km of maintenance retreatments,
265 km sealed on behalf of other State and municipal authorities, and
446 km of extensions to the bituminous sealed road system of the State including 66 km of roads declared or proclaimed under the Country Roads Act.

The following quantities of materials were used by the Board or by contractors during the year on bituminous surfacing works:

Material	Quantity
Bitumen for sprayed work	29,000 tonnes
Bitumen for asphalt	16,000 tonnes
Aggregate for sprayed work	249,800 cubic metres
Aggregate for asphalt	210,000 cubic metres
Other bituminous materials for sprayed work and maintenance	11,000 tonnes

The total length of sealed roads in the Board's declared or proclaimed road network is 21,779 km or 92% of the total length of declared or proclaimed roads.

Linemarking

The flexibility of the Board's linemarking operations was significantly increased during the year by the production of a new linemarking machine especially designed to meet the requirements of the METCON pavement markings.
The new machine was completely developed and built at the Board's central workshop at Syndal to provide the high degree of manoeuvrability required. The linemarker can repaint up to 200 approaches to intersections in a single eight-hour shift, using a specially developed paint which includes reflective glass beads. The cost of repainting an approach to an intersection has been reduced from $15 to less than $7.
The length of linemarking maintained during the year by the Board's linemarking machines was as follows:

State highways and freeways	7419 km
Other CRB declared and proclaimed roads	5309 km
Unclassified roads	1515 km

The total expenditure incurred on linemarking was $758,923, of which $105,252 was spent maintaining the markings

associated with METCON. This expenditure reflected an increase in the unit cost of approximately 25% due to the increased costs of labour and materials. The unit costs were:

	1975/76	1974/75
Cost per km of standard stripe of 3 m-9 m gap	$22.30	$16.08
Cost per km of solid stripe of 75 mm	$39.50	$31.17
Cost per sq. metre of other pavement markings	$4.25	$4.00

Raised reflective markers

Raised reflective markers were laid on the Hume Highway, Princes Highway West and Calder Highway during the year. A total 29,241 markers were laid at a cost of $66,380 during the first year of a two-year programme. The markers, designed for freeway use, have substantially improved night driving visibility on the highways.

Land purchase

One of the pre-requisites to the construction of new roads and widening existing road reserves is the purchase of the necessary land. During the year the Board paid compensation and costs amounting to $16,022,000 to 661 owners of land. Under the provisions of the Country Roads Act the Board is required to make full compensation for the value of land taken or used and for all damages sustained. The main principle adopted by the Board in the assessment of compensation is to ensure as far as possible that the owner is placed in the same financial position after the purchase of land as prior to the purchase.

In order to prevent hardship accruing to owners of property affected by future road works, it is necessary for the Board in some cases to purchase properties well ahead of the time they are required for road construction purposes. These properties are then rented or leased until road construction is imminent.

The table below shows the expenditure incurred in land compensation during 1975/76.

	Commonwealth road category						
CRB road classification	National highways	Urban arterial roads	Urban local roads	Rural arterial roads	Rural local roads	Export roads	Totals
	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Freeways	382	9,556	–	697	–	–	10,635
State highways	99	735	–	613	–	–	1,447
Tourists' roads	–	3	–	13	2	–	18
Forest roads	–	–	–	–	5	–	5
Main roads	–	1,194	–	239	70	–	1,503
Unclassified roads	–	627	107	–	158	1,522	2,414
Totals	481	12,115	107	1,562	235	1,522	16,022

The table below shows the number of land purchase transactions completed and the amount of compensation paid over the last five years.

	1971/72	1972/73	1973/74	1974/75	1975/76
Number of land purchase cases settled	977	865	864	923	661
Compensation and associated costs paid by the Board	$5.14m	$10.07m	$11.71m	$19.34m	$16.02m
Reimbursement to councils for the purchase of land for unclassified roads	$0.33m	$0.46m	$0.88m	$0.53m	$0.73m

The Board engages independent qualified valuers to assist in the assessment of compensation. The valuers are required to furnish a current market valuation of land, buildings and other improvements required for road purposes, and also where only part of a property is purchased, the amount of any compensation which should be paid for the reduction in value of the balance of the property due to the Board's works. In order to assist owners to submit claims for compensation, the Board permits owners to obtain a valuation from a valuer of their own choice at the Board's cost.

Other types of expenses incurred by the owner which are taken into account by the Board in assessing the amount of compensation to be paid include legal costs for the discharge of mortgages; legal costs incurred in the actual transfer to the Board of the land concerned and production of the relevant titles; removal costs; costs involved in the transfer of a telephone; other necessary incidental expenses relating to the owners' reinstatement in another home.

Of the $16.02 million expended during the year, $6.55 million was spent in purchasing properties from owners who demonstrated that they were incurring hardship due to the Board's future road proposals. The Board received $1,275,378 from 645 rented residential or commercial properties and 209 separate areas of vacant land. During the year, 23 separate areas of surplus land were sold for $467,905, 17 residential properties surplus to requirements were sold for $508,690 and 39 houses were sold for removal for $90,390.

Bridges

Construction of new bridges

The limited funds available during the year greatly reduced the Board's capacity to commence the construction of new bridges under the direct supervision of the Board's staff and to provide finance for bridgeworks under municipal supervision. Seventy-eight new bridges estimated to cost $11,700,000 were commenced compared with 103 in 1974/75 estimated to cost $13,635,000 and 143 in 1973/74 estimated to cost $14,750,000.

The following table gives a comparison between the number and estimated cost of bridge projects begun in 1975/76 and those for the preceding financial year:

Description	1974/75		1975/76	
	No.	Est. cost	No.	Est. cost
New bridges under the supervision of the Board's staff	40	$11,500,000	37	$9,970,000
New bridges under municipal supervision with financial assistance from the Board	63	$2,135,000	41	$1,695,000
Total bridges commenced	103	$13,635,000	78	$11,665,000

Plans were completed for a further 13 bridges estimated to cost $4.9 million but the construction of many of these will need to be deferred owing to lack of funds.

Major bridges completed in rural areas

Some of the major bridges completed in rural areas during the year under the direct supervision of the Board's staff included:

—Hume Highway–Wodonga-Albury Section (Lincoln Causeway): The four existing bridges on the Lincoln Causeway were widened to provide dual carriageways.

—Princes Freeway–Gunns Gully Interchange–City of Moe: A three span prestressed concrete beam and reinforced concrete bridge 81 m long by 9.1 m between kerbs.

—Great Ocean Road–Sherbrook River Bridge–Shire of Heytesbury: A four span precast high strength U-slab and reinforced concrete bridge 44 m long and 8.5 m between kerbs over the Sherbrook River near Port Campbell.

—Pyrenees Highway–Patterson's Bridge at Forest Creek–City of Castlemaine: Part reconstruction and widening of Patterson's Bridge in Castlemaine to 27 m long by 8.5 m between kerbs plus two 1.8 m footways using precast reinforced concrete beams and reinforced concrete.

—Princes Highway East–Cann River Bridge–Shire of Orbost: A six span prestressed concrete beam and reinforced concrete bridge 121 m long by 9.8 m between kerbs over the Cann River at Cann River.

—Pyrenees Highway–Bet Bet Creek–Shire of Talbot and Clunes: A three span prestressed concrete beam and reinforced concrete bridge 46 m long by 8.5 m between kerbs over the Bet Bet Creek at Bung Bong.

Some of the larger bridges completed during the year under municipal supervision with financial assistance from the Board were:

—Rowe's Bridge–St. Arnaud Creek–Carapooee-Gower East Road, Shire of Kara Kara: A single span precast reinforced concrete slab bridge 10.6 m long and 6.2 m between kerbs.

—McCallum's Bridge–Sutherland's Creek–Anderson's Road, Shire of Corio: A three span precast reinforced concrete slab bridge 32.4 m long and 8.7 m between kerbs.

—Broken River–Ackerly Avenue–City of Benalla: A four span precast reinforced concrete slab bridge 37 m long and 8.5 m between kerbs.

—Latrobe River–Walhalla Road–Shire of Narracan: A five span prestressed concrete beam and reinforced concrete bridge 92 m long and 9.75 m between kerbs.

—Dwyers Creek–Victoria Valley Road–Shire of Dundas: A two span precast reinforced concrete slab bridge 21.9 m long and 9.4 m between kerbs.

Metropolitan bridges and overpasses

Amongst the larger bridges in the metropolitan area completed during the year under the direct supervision of the Board's staff were:

—Pascoe Vale Road–City of Broadmeadows: A two span prestressed concrete beam and reinforced concrete bridge 60 m long and 18.9 m between kerbs plus one 1.8 m footway over the railway line at Jacana, together with an adjacent pedestrian subway.

—Mahoneys Road–Merri Creek–Cities of Broadmeadows and Preston: A three span prestressed concrete beam and reinforced concrete bridge 52.2 m long and 11 m between kerbs plus two 1.2 m wide kerbs.

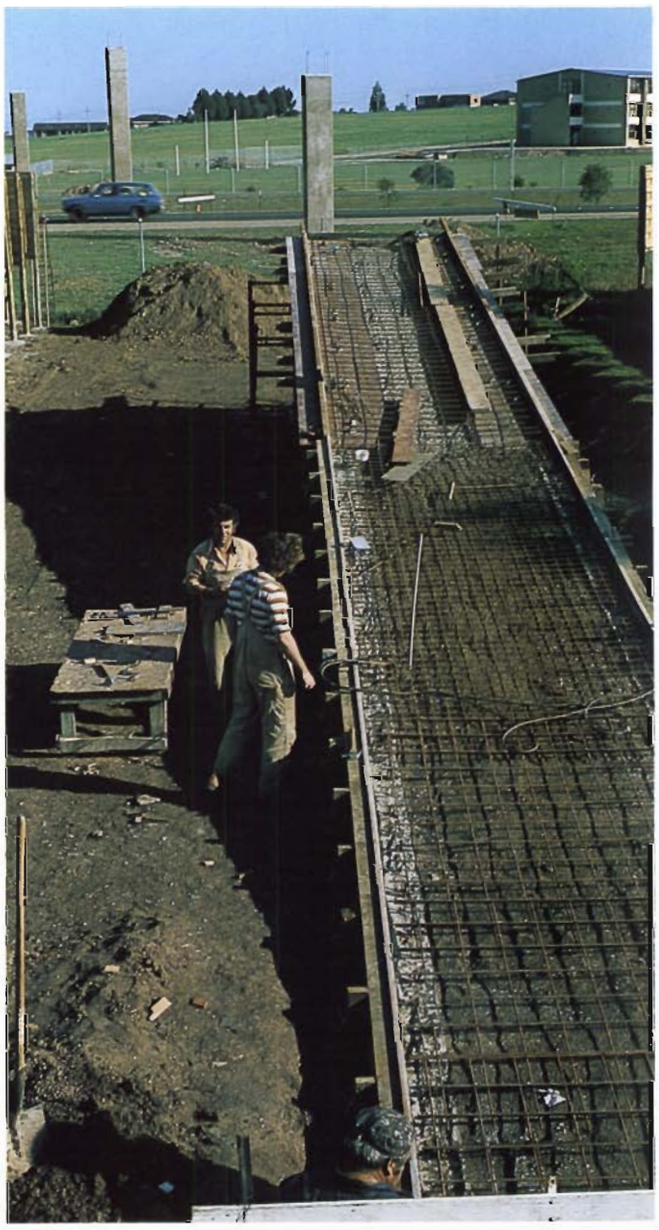
—McIntyre Road-Rail Overpass–North Sunshine–City of Sunshine: A four span steel girder and reinforced concrete railway overpass 62 m long and 17.1 m between roadway kerbs plus one 1.8 m footway.

—Hyde Street–Stony Creek–City of Williamstown: A three span precast reinforced concrete slab bridge 34 m long and 14.64 m between kerbs plus two footways 2.7 m and 2.1 m wide.

—Stanley Avenue–Mulgrave Freeway–City of Waverley: A two span prestressed concrete box girder overpass structure 79 m long and 8.5 m between kerbs plus two 1.8 m footways.

New bridge over Bet Bet Creek, Pyrenees Highway.

Pedestrian overpass under construction, Mulgrave Freeway.



Grade separated pedestrian crossings

The Board is involved in the construction of grade separated pedestrian crossings as outlined below:

1. the construction of pedestrian overpasses over freeways or other important arterial roads to improve pedestrian access to areas on either side of the road;
2. the replacement of at-grade school crossings on heavily trafficked roads with pedestrian overpasses or underpasses under the scheme introduced by the Victorian Government in 1965. The scheme provides for:

—applications for subsidies to be submitted to the Board by municipal councils;

—priorities to be decided by the Board and the Road Safety and Traffic Authority in conjunction, taking into account traffic volume, average speed, number and age range of children crossing, and the type of road;

—the total costs of approved crossings to be shared equally between the State Government (Treasury), the Transport Fund and the municipal council;

3. assistance to municipal councils on request in the preparation of plans and specifications and supervision of construction in cases where the Council pays the whole cost of construction.

The following crossings were constructed by the Board during the year:

Restoration of pedestrian access:

—Vaughan Street-Lancefield Road–City of Keilor: A three span prestressed and reinforced concrete beam overpass 60.3 m long by 1.8 m wide.

—Bristol Street-Lancefield Road–City of Keilor: A two span prestressed and reinforced concrete beam overpass 83.8 m long and 1.8 m between handrails.

—Jacana Rail Overpass–Pascoe Vale Road–City of Broadmeadows: A reinforced concrete subway through the approach bank to the railway overpass 24.6 m long and 3.1 m internal width.

Grade-separated crossings to serve schools

Eighteen structures have now been constructed under the Victorian Government's scheme which calls for the financing of the grade separations on the basis of ⅓ Government, ⅓ Board and ⅓ Council. Overpasses completed during the year under the scheme were:

—Dandenong Road at Hornby Street–Cities of Prahran and St. Kilda: A three span prestressed and reinforced concrete beam overpass 59 m long by 1.8 m between handrails.

—Princes Highway East at Gordon Avenue–City of Oakleigh: A three span prestressed concrete beam and reinforced concrete overpass 68.6 m long and 1.9 m clear width between handrails.

Completed pedestrian overpass, Princes Highway East at Gordon Avenue, Oakleigh.

Other projects and activities

Construction started on a major level crossing elimination project at Camp Road, Broadmeadows.

Elimination of railway level crossings

In 1954 the State Government established the Level Crossings Fund with a view to providing finance to assist with the elimination of dangerous railway level crossings. Contributions were made by the Board and the Victorian Railways towards the cost of projects. Since then 62 road overpasses, or underpasses, at a cost of more than $36 million have been constructed to eliminate dangerous railway level crossings.

Since 1st July 1974 the full cost of this work has been charged to the Transport Fund.

Between 1970 and 1974, 419 motor vehicle accidents occurred at railway level crossings in Victoria and as a consequence 114 persons were killed and 536 persons injured. These figures compiled by the Australian Bureau of Statistics–Victorian Office, show that of the 419 accidents, 175 occurred at railway level crossings without a train being involved. The remaining 244 involved trains and 146 of these occurred at unguarded level crossings.

The following projects were completed by the Board during the year:

—a road-over-rail overpass on the Princes Highway at Colac. More than 5,000 vehicles and 14 trains used the old level crossing daily.

—a road-over-rail overpass to carry Melbourne Road over the Newport/Sunshine railway at Spotswood. More than 11,000 vehicles and 40 trains used the old level crossing daily.

Work was commenced on the following projects during the year:

—a road-over-rail overpass in Camp Road, Broadmeadows. The project also includes improvements to the Camp Road/Pascoe Vale Road intersection. The project is estimated to cost $3.7 million at 1976 prices and the overpass is expected to be opened to traffic in late 1977. Associated roadworks at Pascoe Vale Road intersection are expected to be completed in late 1978.

—as part of the Greensborough Freeway project two new road-over-rail overpasses estimated to cost $4.5 million will result in the elimination of three railway level crossings on the Hurstbridge railway line at Watsonia. The overpasses are scheduled for completion early in 1978.

In addition the Board carried out design work on the following projects during the year:

—a road-over-rail overpass to carry Latrobe Terrace over the Melbourne/Geelong railway line in Geelong. The project is estimated to cost $6.2 million at 1976 prices but no firm construction programme has been scheduled.

—a road-over-rail overpass at Weerite, 185 kilometres to the west of Melbourne to carry the Princes Highway over the Warrnambool/Port Fairy railway line. This project is estimated to cost $630,000 at 1976 prices, and work is expected to commence late in 1976. The project is expected to be completed in early 1978.

National Parks roads

Once again the State Government provided loan funds amounting to $100,000 repayable by the Board for expenditure on roads and associated purposes in or near National Parks.

Allocations were made by the Board after consultation with the National Parks Service for maintenance and other works in or near:

—Brisbane Ranges National Park in Bannockburn Shire
—Bulga National Park in Alberton Shire
—Cape Schanck National Park in Flinders Shire
—Captain James Cook National Park in Orbost Shire
—Ferntree Gully National Park in Sherbrooke Shire
—Fraser National Park in Alexandra Shire
—Glenaladale National Park in Bairnsdale Shire
—Hattah Lakes National Park in Mildura Shire
—Kinglake National Park in Eltham and Whittlesea Shires
—Lind National Park in Orbost Shire
—Little Desert National Park in Dimboola Shire
—Lower Glenelg National Park in Portland Shire
—Mount Buffalo National Park in Bright Shire
—Mount Eccles National Park in Minhamite Shire
—Mount Richmond National Park in Portland Shire
—Organ Pipes National Park in Keilor City and Bulla Shire
—Port Campbell National Park in Heytesbury Shire
—Tarra Valley National Park in Alberton Shire
—The Lakes National Park in Rosedale Shire
—Wilsons Promontory National Park in South Gippsland Shire
—Wyperfeld National Park in Karkarooc Shire

The works consisted of construction and sealing of access roads to and roads within National Parks, parking areas and the maintenance of roads and parking areas already constructed. The works were carried out either by the Board or the local municipal council concerned.

The Government has made loan funds totalling $1,297,000 available for these purposes since 1st July 1963.

Roads of tourist interest

The State Government increased its usual allocation of $200,000 to an amount of $225,000 for expenditure on roads of a tourist nature other than roads proclaimed as tourists' roads under the provisions of the Country Roads Act. The loan funds are repayable by the Board.

Allocations for particular projects were again made by the Board after consultation with the Ministry of Tourism. The total amount made available by the Government since 1960 is $3,219,000. Applications for financial assistance from these funds far exceed the amount available for expenditure.

Completed level crossing elimination project, Princes Highway West, Colac.

Control of heavy traffic, an important function of the CRB.

The Board is required to make an annual payment into the Tourist Fund amounting to two per cent of the amount credited to the Country Roads Board Fund in the previous year from receipts under the Motor Car Act. An amount of $839,693 was paid during the year. The Tourist Fund is administered by the Ministry of Tourism.

Municipalities Forest Roads Improvement Fund

The Municipalities Forest Roads Improvement Fund was established in the State Treasury in 1955 for the purpose of assisting municipal councils in the improvement and protection of roads adjacent to State Forest areas to facilitate the extraction of forest produce. An amount of $125,000 was authorized to be contributed to the Fund by the State Government during the year increasing the actual contributions to $735,000 since the inception of the Fund.
Once again the Board's Divisional Engineers combined with the appropriate Forests Commission Officers to determine the priorities of eligible works. Allocations for particular works were made by the Board with the agreement of the Forests Commission.
The limited funds available from the Fund only enable grants to be made for the most urgent works. Unsatisfied applications for funds totalled approximately $400,000.

Control of heavy traffic

To provide safer conditions for road users and to protect road surfaces, it is necessary for the Government to impose statutory limits on the weight, width, height and length of vehicles and their loads. The Board is the authority responsible for issuing permits for the movement of vehicles and loads exceeding the legal weight, height, length and width on:

—roads declared or proclaimed under the provisions of the Country Roads Act; and

—a journey which includes unclassified roads in two or more greater metropolitan municipalities as defined in the Motor Car Act.

The number and types of permits issued during the year compared with those issued during financial year 1974/75 are shown below:

	1974/75	1975/76
Single trip permits issued	26,760	22,959
Annual permits issued	3,833	4,040
Total number of permits issued	30,593	26,999

The decrease in the total number of permits issued results mainly from a reduction in the applications to transport structural items for the building industry.
The number of offence reports submitted was 9,556, an increase of 1,356 (16.5%) as compared to last year.
Of the above reports, 8,846 or 92.6% were successfully prosecuted. Total fines and costs resulting from the above cases amounted to $785,807 which was paid into Consolidated Revenue.

Thirty-second conference of municipal engineers

The thirty-second conference of municipal engineers was held in the Board's theatrette on 23rd and 25th March 1976. The conference concluded with technical tours of the Mulgrave and South Gippsland Freeways and the Port Melbourne area on 26th March. The Chairman of the Board, Mr R. E. V. Donaldson, was the Conference Chairman. Approximately 260 attended, including the municipal engineers of most Victorian municipalities, municipal engineers from Tasmania, civil engineers from State Government Departments and State Instrumentalities and senior CRB engineers.
The morning sessions consisted of the presentation of papers and panel discussion. The first topic was 'Commonwealth Roads Legislation', the speakers and panel members being: Mr M. J. Pawsey, City Engineer, Berwick, Mr R. J. Nuttall, Shire Engineer, Avoca, Mr N. S. Guerin, the Board's Deputy Engineer in Chief, and Mr R. G. Cooper, the Board's Chief Accountant.
The second topic was 'Some Environmental Aspects of Road Design–Landscaping and Roadside Development'. The Chairman of the panel was Dr R. G. Downes–Director of Conservation, Ministry of Conservation. The other speakers and panel members were: Professor K. J. Polakowski, University of Michigan, Dr J. H. Willis, formerly Assistant Government Botanist, Mr A. Mitchell, Chairman, Soil Conservation Authority, Mr E. V. C. Adamson, Natural Resources League, and Mr G. P. Edwards, Senior Land Management Officer, Department of Crown Lands and Survey.
Other papers and addresses covered a wide range of engineering and technical interests. Mr S. C. Derwent, University of New South Wales, spoke on selected aspects of communication, Mr W. A. Adams, City Engineer, South Melbourne, on 'Traffic Problems in the Inner Metropolitan Area', Mr M. J. Pawsey, City Engineer, Berwick, on 'Pavement and Line Marking–Use of Thermoplastic Material' and Mr C. A. Ackehurst, Special Project Engineer, City of Waverley (formerly City Engineer, Bendigo), on 'Old Gold Mining Town, Conversion to a Provincial City'.
Contributions by CRB engineers included the measurement and control of traffic noise; the NAASRA Economics of Road Vehicle Limits Study, Outdoor Advertising Regulations and new mechanical plant.
The Board expresses its thanks and appreciation to the Local Government Engineers' Association of Victoria for its assistance in planning the Conference, to the contributors of papers and speakers at the Conference, and to the West Gate Bridge Authority and Melbourne Harbor Trust who made their facilities available for the technical tour.

Municipal engineers inspect the Johnson Street Bridge project during their annual conference.

Visits to municipalities

Each year the Board Members make official visits to a number of municipalities throughout the State. This has been the practice since 1913 when the first Board toured the State to decide which roads should be main roads. Most municipalities in Victoria are visited at approximately six yearly intervals. These visits include a tour of the municipality's roads, in company with Councillors and council officers, and discussions on local road problems. These visits provide the Board Members with important information about road conditions and developments.
During the year the Board made official visits to 36 municipalities: the Shires of Alexandra, Arapiles, Broadford, Bulla, Daylesford and Glenlyon, Goulburn, Hampden, Healesville, Kaniva, Kilmore, Lowan, Melton, Minhamite, Mortlake, Newstead, Oxley, Seymour, Tullaroop, Upper Yarra, Walpeup, Winchelsea, Woorayl and Yackandandah; the Borough of Koroit; the Town of Camperdown; and the Cities of Altona, Brighton, Castlemaine, Caulfield, Footscray, Geelong, Geelong West, Horsham, Maryborough, Malvern and Newtown.
The Board also met representatives of councils in the Dandenong Division at a meeting in the Nunawading Town Hall to discuss road finance.
The Board places on record its appreciation of the assistance given by all Councillors and municipal officers during these visits.

Deputations

The Board is always prepared to discuss matters of common interest with representatives of councils or other official bodies. These discussions provide a useful channel of communication between the Board and local administration.
During the year the Board received 29 deputations of which 20 were from municipal councils and the remainder from municipal associations and commercial interests. The principal subjects raised were the general inadequacy of road grants to meet the State's road needs, the allocation of road funds to municipal councils by the Board, land acquisition, contracts and freeway planning.

National Association of Australian State Road Authorities

The National Association of Australian State Road Authorities (NAASRA) is an organisation consisting of the Heads of the road authorities of the six States and the Commonwealth Department of Construction which is the road constructing authority for the territories administered by the Commonwealth Government. The aims of NAASRA may be briefly stated as providing uniformity of practice in road and bridge design construction and operation, improved road construction methods and the production and updating of technical manuals to establish standard practices throughout Australia.

The Association also collects and disseminates statistical information relating to traffic, the types and standards of roads, and road finance. The information collected is used in the formulation of national road policies. Meetings of the Authority are normally held at six monthly intervals.
During the year meetings of NAASRA were held as follows:
—54th (Annual Meeting)–Hobart 17-18/11/75 attended by Mr R. E. V. Donaldson, Chairman
—Special Meeting–Canberra 21/1/76 attended by Mr R. E. V. Donaldson, Chairman
—Special Meeting–Melbourne 7/4/76 attended by Mr R. E. V. Donaldson, Chairman, Mr T. H. Russell, Deputy Chairman, and Mr W. S. Brake, Board Member
—55th (Intermediate Meeting)–Melbourne attended by Chairman, Deputy Chairman and Member.

There are a number of specialist committees within NAASRA. Eight of these assist the Principal Technical Committee, which plans and organises the technical work of the Association. The Board's representative on the P.T.C. is Dr K. G. E. Moody, Engineer in Chief.
The financial and administrative functions of the State Road Authorities are covered by the Secretarial and Accounts Committee, the Board's representatives on this Committee being Mr N. L. Allanson, Secretary and Mr R. G. Cooper, Chief Accountant. Additional specialist committees are formed for specific tasks. For example, a NAASRA Sub-Committee is carrying out a feasibility study on the establishment of a data bank system for the storage and processing of data provided by State Road Authorities. Other committees cover a wide field of study, including legal matters, training, transportation planning, programme budgeting, roadside development, pavement testing, national and inter-regional routes and the preparation of technical and general information.
The joint work of the State Road Authorities through these Committees ensures co-ordination of effort, uniformity of approach and a pooling of experience in road and bridge planning, design, construction and maintenance. A National study is being undertaken with the objective of producing guidelines suitable for use by State Road Authorities for establishing appropriate maintenance standards; costing of maintenance work and overall management of maintenance operations.

Economics of road vehicle limits study

During the year NAASRA continued and completed its Study of the Economics of Road Vehicle Limits. The objective of the Study was to provide a means of determining the most appropriate legal limits for road vehicles which could be applied nationally or in particular regions. The Study considered all the consequences of varying such limits, so that an optimum balance can be achieved between the advantages to the community from changes in the limits and the full cost to the community of providing for these changes. The main factors considered were: vehicle operating costs; road and bridge construction and maintenance costs; limits on finance for roads; enforcement; uniformity of limits; road safety; special needs of transport users; the effect caused by noise, exhaust emissions and vibration on the environment; effects on other transport modes; and community demand for transport.
Mr T. H. Russell, the Board's Deputy Chairman, was Convener of the Steering Committee for the Study which was carried out by a study team drawn from the State Road

Authorities and ARRB. The study team leader was Mr A. T. Fry, a senior engineer on the Board's staff. The study team consisted of personnel experienced in transport planning, structures, economics and systems analysis. Although the bulk of the data was obtained from State Road Authorities, the views and assistance of individuals and organisations in the transport field was obtained.

Australian Road Research Board

The Australian Road Research Board was established in 1960. The Board of Directors includes the Heads of the State Road Authorities, the Secretary of the Commonwealth Department of Construction, the Secretary of the Commonwealth Department of Transport, and the Executive Director of ARRB. The Chairmanship of ARRB rotates annually amongst the Directors. Mr R. E. V. Donaldson was Chairman of ARRB from 14th May, 1975, to 19th May, 1976.

The members of the Australian Road Research Board meet twice a year to consider management and policy matters and to review the progress of research projects. Meetings attended by Mr R. E. V. Donaldson were held in Hobart on 19th and 20th November, 1975, and in Melbourne on 19th and 20th May, 1975. Several of the Board's engineers are members of ARRB technical or specialist committees.

Up to 10% of the ARRB's annual expenditure is borne by the Commonwealth Department of Construction and the remainder is shared by the six State Road Authorities on the percentage basis adopted by the Commonwealth Government in making grants to the States under the Commonwealth Roads Grants Act 1974. The major objective of the Board is to co-ordinate, encourage and arrange continuing research into problems associated with roads and traffic in Australia.

There was co-operation between the CRB and ARRB during the year in several areas of practical road research, for example:

—CRB staff laid test sections of ARRB experimental bituminous mixes on the Princes Highway.
—Compaction measurements were taken on sections of the ARRB/CRB experimental sections on the Burwood Highway.
—ARRB compaction equipment was used by CRB staff to prepare experiments for nuclear density measurements.
—Tests were carried out on the Eastern Freeway and the Hume Freeway, with the co-operation of the CRB, in the determination of as-constructed-roughness on bituminous-concrete and other finished surfaces.
—In a Quality Control project (Dimensional Tolerances in Construction) lift thickness measurements were taken on the Western, Hume, South Gippsland and Mulgrave Freeways.
—ARRB Instrumentation Section is developing electronic equipment for road surveys and for white line marking for the CRB.
—CRB freeway construction projects were used by ARRB in the development of a new testing device for measuring construction quality.
—Investigation of calibration procedures for pendulum friction tester and on procedures for polished stone value testing.
—ARRB conducted vibration measurements from pile driving for the CRB, on the Mulgrave Freeway and supplied equipment for measurements at Johnson Street Bridge site.
—Evaluation of foam bitumen stabilised crushed rock was made, using deflection and in-situ stress-strain measuring instruments.

Grants are made to Universities for specific projects where particular facilities and specially skilled research staff are available.

With the growing pressures on resources, both financial and physical, the Australian Road Research Board will have an increasingly important role to play in developing low cost road construction techniques and in making the optimum use of scarce roadmaking materials. For this reason the Australian Road Research Board is now placing greater emphasis on documentation of its findings and thus the information gained is more readily available to practising engineers both within and outside the State Road Authorities.

To further assist the Australian Road Research Board in this wider sphere, the National Association of Australian State Road Authorities has recommended to the Commonwealth Government that ARRB become a member of International Road Research Documentation (IRRD).

Co-operation with Army Reserve (CMF) – 25 years involvement

The CRB has co-operated with the Australian Army in sponsoring Reserve units of the Royal Australian Engineers for 25 years. The units are the Headquarters 22 Construction Regiment and 107 Plant Squadron (Heavy).

The Commanding Officer of the Regiment is Lt. Col. G. R. Hunt ED, who is the Board's Project Engineer for the Hume Freeway (Wallan-Broadford) project. Thirteen members of the Board's staff are officers of the unit.

The highlight of the 1975 year was the annual camp at Puckapunyal in October, where the unit celebrated its 25th anniversary. About 120 personnel of the Board attended the camp. In addition to the training of recruits, the principal training activities were demolitions, water supply, infantry minor tactics and range shooting.

Personnel

The Board's personnel numbers as at 30th June, 1976, were as follows:

Technological staff (professional)	634
Technical staff	530
Administrative staff	755
Supervisory staff – Field	170
– Depot	75
Clerks of works	98
Construction and maintenance personnel	1,986
Workshop and depot personnel	597
	4,845

Staffing

Staff positions which became vacant during the year as a result of resignations and retirements were not filled unless the need for a replacement could be clearly justified.

No cadetships were offered at the end of the 1975 academic year and no graduates were recruited. The recent changes to the Superannuation Act are expected to encourage more officers to retire at the age of sixty.

In line with the State Public Service and the Commonwealth Public Service the Board decided that as from 1st January, 1976, the Higher School Certificate or equivalent would be the minimum requirement for new officers appointed to Administrative Officer positions.
Proposals were being developed towards the end of the financial year for the introduction of Flexible Working Hours. A committee including representatives of each of the Staff Associations conducted a feasibility study and formulated preliminary proposals.

Apprenticeships
During the year the Board engaged twenty-one new apprentices in the trades of motor mechanics (14), automotive electrics (1), structural steel fabrication (1), carpentry (2), gardening (1), electrical mechanics (1) and painting and decorating (1). The new gardening apprentice is being trained at the Eastern Freeway where a considerable amount of landscaping and roadside development work is being undertaken.
Sixteen of the new apprentices represented the Board's normal intake and five were engaged with financial assistance from the Commonwealth Government.
The total number of apprentices in training at 30th June, 1976 was:

Motor mechanics	45
Structural steel fabrication	4
Carpentry and joinery	8
Painting and decorating	2
Cooking	2
Electrical mechanics	3
Automotive electrics	2
Gardening	1
	67

Industrial relations
The Board's wages and salaries costs in 1975/76 increased by 8% over the previous year. This compares with an increase of 34% in 1974/75 when the full impact of the 1974 wage explosion was experienced. The introduction of Wage Indexation principles in April 1975 was welcomed by the Board as a means of slowing down the rate of wage increases.
With wage increases generally restricted to quarterly adjustments, the activities of Staff Associations and Unions were more concerned with improving various allowances and conditions.
During the year the Board was involved in several arbitration cases including a new National Building Trades Construction Award and a new classification structure and increased salaries for Cost Clerks.

Training
More than two hundred members of the staff took advantage of the Board's study leave scheme during the year to further their educational qualifications thereby improving their promotional prospects and gaining special skills and knowledge important to the Board's work.
The Board's extensive in-service training programme provided courses based on the needs of the various work areas. Training courses covered such subjects as traffic engineering, road and freeway design, project management, computer methods, management skills, supervision, letter writing, responsibilities of patrolmen and overseers, materials, quality control and legislation.
Relevant external training courses, lectures, conferences and symposia were attended by selected staff, thus ensuring that the Board's staff is aware of latest trends and information in their fields of work. Particular officers attended the Australian Administrative Staff College, the Summer School of Business Administration at the University of Melbourne, the Traffic Planning and Control Course and the Government Administrative Staff Course at the University of New South Wales.

During the year the following personnel retired after substantial service with the Board:

			Years of service
Mitchell, R.	Overseer	Benalla Division	44
Baade, R. E.	Engineering assistant	Bairnsdale Division	40
Whiteley, C. J.	Leading hand carpenter	Ballarat Division	39
Avery, T.	Patrolman	Geelong Division	37
Emonson, L. P.	Foreman	Mechanical Sub-Branch	35
Kline, J. K.	Plant inspector	Mechanical Sub-Branch	35
Gall, M. R.	Overseer	Major Projects Division	34
Penna, F. C.	Leading hand fitter	Bendigo Division	33
Ramus, E. C.	Stock control clerk	Central Stores	33
Baldwin, A. F.	Patrolman	Traralgon Division	32
Christopher, L. R.	Divisional accountant	Bendigo Division	29
Clarke, D. C.	Fitter	Mechanical Sub-Branch	28
Crosthwaite, C. A. M.	Traffic officer	Geelong Division	28
Freeman, C. H.	Painter	Mechanical Sub-Branch	28
Murphy, L. T.	Welder	Mechanical Sub-Branch	28
Strachan, P.	Patrolman	Traralgon Division	28
Williams, F. E.	Administration officer (personnel)	Personnel Section	28
Bilney, C. G.	Foreman	Geelong Division	27
Joseph, J. L.	Patrolman	Ballarat Division	27
Kilpatrick, T. J.	Patrolman	Benalla Division	27
McLachlan, R.	Superintendent of works	Geelong Division	27
MacKenzie, J. R.	Purchasing officer	Central Stores	26
Conley, P. J.	Leading hand fitter	Geelong Division	25
Gooch, G. J.	Administrative officer	Metropolitan Division	25
Hunter, T. D.	Traffic controller	Ballarat Division	25
Morris, H. E.	Administrative officer	Central Stores	25
*Dyer, R. R.	Contracts & acquisition claims officer	Claims Section	24
James, L. J.	Patrolman	Traralgon Division	24
Mellington, L. W.	Storeman	Ballarat Division	24
*Walker, A. T.	Patrolman	Warrnambool Division	24
Bailey, M. L.	Administrative officer	Major Projects Division	23
Balfour, F. G.	Foreman	Ballarat Division	23
Hyder, T. W.	Overseer	Benalla Division	23
Lavery, L.	Overseer	Ballarat Division	23
Nicholson, S. S.	Assistant purchasing officer	Central Stores	23
Carnegie, R. G.	Employment officer	Personnel Section	22
*Abley, W. E.	Traffic controller	Benalla Division	21
Barnett, E.	Load checker	Ballarat Division	21
Crocker, A.	Truck driver	Ballarat Division	21
Fogarty, M. J.	Cost clerk	Metropolitan Division	21
Hoerauf, H. F.	Senior draftsman	Mechanical Sub-Branch	21
Coverdale, H. S.	Truck driver	Warrnambool Division	20
De Jong, P. J.	Administrative officer	Bridge Sub-Branch	20
Foley, D. J.	Truck driver	Warrnambool Division	20
Martin, L. J.	Construction & maintenance worker	Bendigo Division	20
Matzner, E.	Senior design engineer	Bridge Sub-Branch	20

*Deceased

Appendix 1

Lengths of State Highways, Freeways, Forest roads and Tourists' roads

As at 30th June, 1976

State Highways

Name	Route	Length (kilometres)
Bass	Lang Lang-Inverloch	60.6
Bellarine	Geelong-Queenscliff	31.6
Bonang	Orbost-NSW border near Delegate	113.1
Borung	Dimboola-Charlton	123.3
Burwood	Burwood-Ferntree Gully	20.4
Calder	Melbourne-Mildura	560.1
Cann Valley	Cann River-NSW border	44.9
Glenelg	Ballarat-SA border near Mt Gambier	232.2
Goulburn Valley	Eildon-Strathmerton	225.4
Hamilton	Geelong-Hamilton	231.0
Henty	Portland-Lascelles	346.1
Hume	Melbourne-NSW border near Albury	246.6
Kiewa Valley	Bandiana-Mt Beauty	78.7
Loddon Valley	Bendigo-Kerang	123.7
Maroondah	Melbourne-Mansfield	184.6
McIvor	Heathcote-Bendigo	44.2
Midland	Geelong-Ballarat-Bendigo-Shepparton-Benalla-Mansfield	416.0
	Morwell-Port Welshpool	78.9
Murray Valley	Corryong-Hattah	738.5
Nepean	Melbourne-Portsea	88.8
Northern	Kilmore-Echuca	142.5
Omeo	Bairnsdale-Tallangatta	282.2
Ouyen	Ouyen-SA border near Pinnaroo	130.7
Ovens	Wangaratta-Bright	76.2
Princes (East)	Melbourne-NSW border near Genoa	485.7
Princes (West)	Melbourne-SA border near Mt Gambier	391.7
Pyrenees	Elphinstone-Ararat	147.5
South Gippsland	Dandenong-Yarram-Sale	254.4
Sturt	Mildura-SA border near Renmark	113.6
Sunraysia	Ballarat-Calder Highway	340.0
Warburton	Lilydale-Warburton	34.6
Western	Melbourne-Serviceton	376.4
Wimmera	Apsley-St Arnaud	222.2

Freeways

Name	Section	Length (kilometres)
Calder	Keilor	2.8
	Elphinstone	2.7
Frankston	Catron Street to Beach Street	4.6
Hume	Craigieburn to Kalkallo	8.3
	Beveridge	3.2
	Wallan-Broadford	34.8
	Broadford to Tallarook	15.5
	Chiltern	21.3
Lower Yarra	Bertie Street to Graham Street	0.3
	Williamstown Road to Princes F'way	5.1
Midland	Yinnar	9.6
Mornington Peninsula	Dromana to Rosebud	8.4
Princes	Mulgrave	12.4
	Moe to Haunted Hills	16.2
	Laverton	12.8
	Lara	24.4
	Maltby	10.2
	Dartmoor	3.0
South Eastern	Anderson Street to Tooronga Road	6.8
South Gippsland	Whitelaw	3.8
	Princes Freeway to Princes Highway	1.4
Tullamarine	Flemington Bridge to Melbourne Airport	19.6
Western	Deer Park to Melton	13.3
	Bacchus Marsh	8.7
	Pentland Hills	11.0
	Pykes Creek	5.7
	Gordon	10.8

Forest roads

Name	Municipalities	Length (kilometres)
Bairnsdale-Dargo	Avon and Bairnsdale Shires	20.8
Bealiba-Moliagul	Bet Bet Shire	9.0
Beech Forest-Mt. Sabine	Otway Shire	12.6
Benambra-Corryong	Omeo, Tallangatta and Upper Murray Shires	76.5
Benambra-Limestone	Omeo Shire	14.3
Bendoc-Orbost	Orbost Shire	20.9
Brookville	Omeo Shire	15.8
Bruthen-Buchan	Tambo Shire	36.5
Buchan-Ensay	Tambo Shire	19.8
Bullumwaal-Tabberabbera	Bairnsdale Shire	30.3
Carrajung-Woodside	Alberton Shire	17.7
Dargo	Avon Shire	74.8
Dean Marsh-Lorne	Winchelsea Shire	24 0
Drummond-Vaughan	Daylesford and Glenlyon and Newstead Shires	20.9
Epsom-Fosterville	Huntly Shire	21.2
Forrest-Apollo Bay	Otway Shire	22.4
Greendale-Trentham	Ballan and Kyneton Shires	23.8
Heyfield-Jamieson	Mansfield and Maffra Shires	145.5
Inglewood-Rheola	Korong Shire	17.3
Kimbolton	Strathfieldsaye Shire	13.5
Lavers Hill-Cobden	Heytesbury and Otway Shires	46.7
Meredith-Steiglitz-Maude	Bannockburn Shire	20.7
Murrungower	Orbost Shire	21.3
Portland-Nelson	Portland Shire	38.6
Red Knob	Tambo Shire	6.7
Tatong-Tolmie	Benalla Shire	36.3
Walhalla	Narracan, Mansfield and Upper Yarra Shires	110.7
Warburton-Woods Point	Healesville, Upper Yarra and Mansfield Shires	103.4
Warrowitue	McIvor Shire	16.5

Appendix 2

State Highways and Freeways

Significant works completed during financial year 1975/76

Tourists' roads

Name	Municipalities	Length (kilometres)
Acheron Way	Healesville and Upper Yarra Shires	35.4
Alpine	Bright and Omeo Shires	83.0
Arthur's 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	207.2
Mallacoota	Orbost Shire	22.5
Mount Abrupt	Ararat and Mount Rouse Shires	24.8
Mount Buffalo	Bright Shire	39.0
Mount Buller	Mansfield Shire	25.5
Mount Dandenong	Sherbrooke and Lillydale Shires	21.8
Mount Victory	Arapiles, Stawell and Wimmera Shires	30.7
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

Bass Highway
—Bass Shire
Construction of a new alignment west of Bass township including a bridge over the Bass River and approaches.
Replacement of a timber bridge at Bourne Creek and approaches.
Replacement of a timber bridge over Bridge Creek.

Bellarine Highway
—Bellarine Shire
Construction of a dual carriageway between Christies Road and Bawtree Road, near Leopold.

Calder Freeway
—Keilor City
Construction of the Southern Service Road from Tunnecliffe Avenue to Curly Hill.

Calder Highway
—Bendigo City
Reconstruction including curve improvement between Violet Street and Forest Street.

—Mildura Shire
Construction of an additional carriageway through Irymple for a length of 0.5 km, including the realignment of a railway level crossing and the channelization of intersections.

—Walpeup Shire
Reconstruction and sealing of 2.3 km north of Ouyen.

Frankston Freeway
—Frankston City
Roadworks associated with the Seaford Road interchange.
Construction of the Klauer Street overpass of the freeway.

Glenelg Highway
—Glenelg Shire
Reconstruction and realignment of 4.0 km west of Casterton to provide a sealed pavement of 7.4 m wide.

Goulburn Valley Highway
—Numurkah Shire
Reconstruction of 1.2 km north from Saxton Street, Numurkah.

—Shepparton City
Widening to provide turning lanes at Wanganui Road, north of Shepparton.

Hamilton Highway
—Bannockburn Shire
Reconstruction and widening of 2.7 km west of Inverleigh.

—Hampden Shire
Reconstruction of 3.1 km to provide a sealed pavement 7.4 m wide.

Henty Highway
—Wimmera Shire
Reconstruction and sealing of 2.2 km at Dooen.

Hume Freeway
—Broadford Shire and Kilmore Shire
Construction of 34 km of dual carriageways each 3.7 m wide, with associated structures from south of Wallan to north of Broadford.

Hume Highway
—Euroa Shire
Reconstruction of 2.3 km north of Euroa to provide a sealed pavement 7.4 m wide.

—Wangaratta City
Reconstruction of 2.4 km of dual carriageway between One Mile Creek and Ford Street.

—Wodonga City
Construction of a dual carriageway along 2.5 km of Lincoln Causeway including the duplication of 4 bridges between Wodonga and Albury providing 2 by 7.4 m wide carriageways.

Kiewa Valley Highway
—Yackandandah Shire
Realignment of 0.4 km including the installation of 1.2 m armco pipes at Deep Creek, north of Tawonga.

Loddon Valley Highway
—Gordon Shire
Reconstruction and drainage improvement of 4 km south of Durham Ox.

Maroondah Highway
—Box Hill and Nunawading Cities
Reconstruction of Middleborough Road intersection.

Midland Highway
—Bannockburn Shire
Reconstruction and widening of 1 km near Meredith.
Construction of a dual carriageway in Church Street, Geelong.

—Morwell Shire
Deviation of 20.11 km from south of Yinnar to the Princes Highway, east of Morwell.

—Waranga Shire
Reconstruction of existing pavement east of Stanhope from 83.6 to 85.3 km.

Mornington Peninsula Freeway
—Flinders Shire
Construction of Kangerong Avenue overpass and approaches.

Murray Valley Highway
—Rutherglen Shire
Widening and resheeting 1.3 km west of Rutherglen to provide a sealed pavement of 7.4 m wide.

Nepean Highway
—Frankston City
Construction of a duplicate bridge over Kananook Creek including intersection treatment at Gould Street and Overton Road.

—Flinders Shire
Widening from Elizabeth Avenue to Weeroona Street, Rye.

—Moorabbin and Mordialloc Cities
Widening to six lanes from Centre Dandenong Road to Lower Dandenong Road.

Northern Highway
—McIvor Shire
Reconstruction and resheeting between Tooborac and Heathcote.

—Huntly Shire
Reconstruction of existing pavement for 1.5 km between Elmore and Rochester from 167 km to 168.5 km.

Omeo Highway
—Bairnsdale Shire
Reconstruction of 1.1 km to provide a sealed pavement of 7.4 m wide and widening the Cherry Tree Creek culvert at Sarsfield.

—Omeo Shire
Construction of 0.7 km of approaches for a new bridge over the Haunted Stream to provide a sealed pavement 7.4 m wide.

—Tallangatta Shire
Construction of 2.5 km between Tallangatta East and Noorongong to provide a sealed pavement of 7.4 m wide.

Princes Freeway East
—Moe City
Construction of the interchange at Gunns Gully, east of Moe.

—Morwell Shire
Construction of the interchange at Hernes Oak, west of Morwell.

Princes Freeway West
—Altona City and Werribee Shire
Widening to six lanes from Lower Yarra Freeway to Kororoit Creek Road.

—Werribee Shire
Provision of 6 lanes between the Lower Yarra Freeway and the Maltby Bypass Road.
Construction of the Little River interchange.

Princes Highway East
—Bairnsdale Town
Construction of a dual carriageway for a length of 0.7 km.

—Dandenong City
Construction of pedestrian bridge over Dandenong Creek.

—Orbost Shire
Construction of a new bridge 121 m long and 9.8 m wide over the Cann River together with the necessary approaches and stream protection works.

—Pakenham Shire
Construction of duplicate carriageways through Beaconsfield from Cardinia Creek to west of Pink Hill.
Construction of a duplicate bridge over Cardinia Creek.

—Tambo Shire
Reconstruction of 2.1 km near Johnsonville to provide a sealed pavement 7.4 m wide.

Princes Highway West
—Hampden Shire
Reconstruction of 2.2 km east of Terang to provide a sealed pavement 7.4 m wide.

Appendix 3

Tourists' roads and Forest roads

Significant works completed during
financial year 1975/76

Pyrenees Highway
—Avoca Shire, Talbot and Clunes Shire and Tullaroop Shire
Construction of a 3 span reinforced concrete bridge 46.02 m long and 8.53 m wide between kerbs over the Bet Bet Creek, Bung Bong.

—Castlemaine City
Reconstruction of Pattersons Bridge over Forest Creek.

South Gippsland Highway
—Cranbourne Shire
Deviation at Hampton Park between Hallam Main Drain and south of Cairns Road.

Sturt Highway
—Mildura City
Widening 8.0 km to provide a sealed pavement 6.2 m wide and resealing west of Lake Cullulleraine.

Sunraysia Highway
—Birchip Shire
Resheeting, widening and sealing 3.9 km north-west of Birchip.

—Donald Shire
Reconstruction of 1.9 km of a flood damaged section, south of Donald.

Tullamarine Freeway
—Keilor City
Essendon Airport Interchange.
Construction of the Vaughan Street pedestrian overpass.
Essendon Airport Interchange.
Construction of the main outfall drain from Lancefield Road.

Western Freeway
—Bacchus Marsh Shire and Ballan Shire
Construction of 5.9 km of dual carriageway 3.7 m wide with associated structures bypassing the township of Myrniong to the south.

Western Highway
—Ararat Shire
Widening and resheeting 1.4 km at Langi Ghiron to provide a sealed pavement 7.3 m wide.
Widening and resheeting 1.2 km east of Dobie to provide a sealed pavement 7.3 m wide.

—Ararat Shire and Ripon Shire
Widening and resheeting 1.6 km at Middle Creek to provide a sealed pavement 7.3 m wide.

—Dimboola Shire
Reconstruction of 1.5 km from Dimboola Hospital to Rainbow Road Junction.

—Kaniva Shire
Regrading, resheeting and sealing 1.5 km, east of Merwyn Swamp.

—Lowan Shire
Widening and resheeting 2.8 km west of Nhill.

Forest Roads
—Bruthen-Buchan
Reconstruction and sealing of 2.6 km including a new deviation and a culvert at Harris Creek.

Tourists' roads
—Great Ocean Road
Construction of a new bridge over Sherbrooke River 43.5 m long and 8.5 m wide between kerbs together with the necessary approaches.

Appendix 4

Main roads

Significant works completed during
financial year 1975/76

—Bellarine Shire
Geelong-Portarlington Road–Duplication of 0.6 km.

—Broadmeadows City
Pascoe Vale Road–Construction of a road over rail overpass at Jacana.

—Cranbourne Shire
Baxter-Tooradin Road–Reconstruction of existing pavement 5.0-6.2 km.

—Croydon City
Mt Dandenong Road–Intersection treatment at Dorset Road.

—Dandenong City
Cheltenham Road–Duplication of 0.6-1.2 km.

—Doncaster and Templestowe City
Doncaster Road–Duplication from Elizabeth Street to Pine Way.

—Dundas Shire
MacArthur-Penshurst Road–Reconstruction and sealing of 3.3 km north-east of MacArthur to provide a sealed pavement 6.2 m wide.

—Eltham Shire
Eltham-Yarra Glen Road–Reconstruction of 1.7-2.3 km.

—Flinders Shire
Mornington-Dromana Road–Reconstruction of 1.1-1.5 km.

—Footscray City
Napier Street–Duplication from Moreland Street to Hyde Street.

—Hampden Shire
Parlington Road–Reconstruction and sealing of 5.0 km, north-west of Camperdown to provide a sealed pavement 7.4 m wide.

Appendix 5

Unclassified roads

Significant works completed during financial year 1975/76

—Hastings Shire
Mornington-Tyabb Road–Reconstruction of 5.8-7.7 km.

—Knox City
Wellington Road–Reconstruction from Stud Road-Summit Road.
Wellington Road–Construction of new bridge over Dandenong Creek.

—Korong Shire
Bendigo-St Arnaud Road–Reconstruction from 7.2 km to 11.4 km to provide a sealed pavement 7.3 m wide.

—Lillydale Shire
Olinda-Monbulk Road–Reconstruction of 1.6-3.2 km.

—Mansfield Shire
Mansfield Main Road–Construction at approaches and a 2 span reinforced concrete bridge, 3.17 km east of Mansfield.
Mansfield-Whitfield Road–Reconstruction and realignment of 1.6 km from Tolmie to shire boundary.

—Morwell Shire
Morwell-Thorpdale Road–Reconstruction of 0.3 km from Hazelwood Road to Jane Street with channelized intersection treatment at Hazelwood Road.

—Myrtleford Shire
Happy Valley Road–Reconstruction and realignment of 2.1 km.

—Oakleigh City
Warrigal Road/North Road intersection.
Flaring of the intersection and improved channelization.

—Otway Shire
Beech Forest-Lavers Hill Road–Reconstruction and realignment of 2.0 km.

—Pakenham Shire
Nar Nar Goon-Longwarry Road–Reconstruction of 7.4-10.6 km.

—Portland Shire
Dartmoor-Hamilton Road–Reconstruction and sealing of 3.4 km, north-east of Dartmoor to provide a sealed pavement 6.8 m wide.

—Sherbrooke Shire
Belgrave-Hallam Road–Construction of 1.9-3.5 km.

—South Gippsland Shire
Falls Road–Construction of a 2 cell 5.4 m corrugated multi plate culvert at Fish Creek.

—Springvale City
Springvale Road–Duplication of 6.4-10.8 km.

—Upper Yarra Shire
Healesville-Koo-wee-rup Road–Reconstruction of 5.1-6.5 km.

—Yackandandah Shire
Dederang Road–Reconstruction and initial sealing of 4.2 km.

—Bairnsdale Shire
Wy-Yung-Calulu Road–Construction of a new 3-span concrete bridge over Boggy Creek.

—Benalla City
Ackerly Avenue–Construction of a reinforced concrete bridge and approaches at Broken River.

—Berwick City
Heatherton Road–Reconstruction east from Power Road.

—Buln Buln Shire
Longmores Road–Reconstruction and realignment of 0.7 km between Yarra Junction-Noojee Road and Main Neerim Road, Noyook.

—Corio Shire
Steiglitz Road–Construction of a 3-span bridge 27.8 m long and 7.3 m wide between kerbs over Sutherlands Creek.
Andersons Road–Construction of a reinforced concrete bridge 31.8 m long to provide a sealed pavement 8.8 m wide.

—Cranbourne Shire
Finsbury Road–Reconstruction from South Gippsland Highway to Cross Road.

—Croydon City
Eastfield Road–Reconstruction from the Pass to Pleasant Road.

—Dandenong City
Kirkham Road–Reconstruction easterly from Chandler Road.

—East Loddon Shire
Pyramid-Yarraberb Road–Reconstruction of existing pavement to provide a sealed pavement 6.8 m wide.

—Eltham Shire
Cottlesbridge-Strathaven Road–Construction of bridge over Diamond Creek.

—Flinders Shire
Eastbourne Road–Construction from Rosebud-Flinders Road to Elonera Avenue.

—Footscray City
Francis Street Underpass–Reconstruction and widening from Ballarat Street to Buninyong Street.

—Frankston City
Boundary Road–Construction from Robinsons Road to Willow Road.

—Keilor City
Matthews Avenue–Reconstruction from Dromana Avenue to Mascoma Street.

—Knox City
Underwood Road/Hastings Avenue–Construction of a deviation at Boronia shopping centre.

—Korumburra Shire
Timms Road–Construction of 1.8 km and 3.5 m single cell corrugated multi plate culvert at Little Pheasant Creek, Toowong North.

—Minhamite Shire
Condah-MacArthur Road–Reconstruction and widening of 3.3 km, east of Condah to provide a sealed pavement 6.8 m wide.

—Mortlake Shire
Woolongoom Road–Construction of a 3-span bridge 32.4 m long to provide a sealed pavement 6.3 m wide over Hopkins River, north-west of Ellerslie.

—Morwell Shire
Mountain Hut Road–Reconstruction and realignment of 4.7 km, south-west of Yinnar-Driffield Road.

—Oakleigh City
Blackburn Road–Duplication from Princes Highway East to Duerdin Street.

—Omeo Shire
Swifts Creek East–Construction of a 3-span concrete bridge 61 m long over Tambo River.

—Oxley Shire
Milawa-Glenrowan Road–Construction of a 3-span reinforced concrete bridge over King River.

—Pakenham Shire
Tynong-Bayles Road–Construction of a new bridge over the Bunyip River at Cora Lynn.

—Pyalong Shire
Pyalong-Seymour Road–Reconstruction and realignment to provide a sealed pavement 6.8 m wide.

—Shepparton City
Archer Street–Reconstruction and sealing between Westmoreland Crescent and Channel Road.

—Tallangatta Shire
Kurrajong Road–Resheeting of 3.8 km.

—Tambo Shire
Snowy River–Installation of a culvert and the construction of the necessary approaches at Red Soil Creek.

—Warragul Shire
Endeavour Street–Construction of a 4 cell reinforced concrete box culvert at Hazel Creek.

—Warrnambool Shire
Wallaston Road–Reconstruction and realignment of 3.5 km to provide a sealed pavement 6.1m wide.

—Williamstown City
Melbourne Road–Elimination of a level crossing at Spotswood.

Appendix 6

Special projects

Project No.	Description of project	Progress of work
24	Eastern Freeway–Construction of a multi-lane freeway from Alexandra Parade, Collingwood to Thompsons Road, Camberwell.	Work continued over the entire length of 9 km during the year.
25	Johnson Street Bridge over the Yarra west of Spencer Street Bridge.	Work continued on the bridge and the associated roadworks are well advanced.
33	Princes Highway East–Construction of a new bridge over the Snowy River at Orbost and realignment of approaches.	Bridgeworks are well advanced and roadworks are continuing.
40	Princes Freeway–Construction of a second carriageway between Moe and Hernes Oak.	Both the Hernes Oak and the Gunns Gully interchange were completed during the year.
41	Princes Freeway/Princes Highway–Construction of dual carriageways between Morwell and Traralgon.	Duplication is complete to the outskirts of Morwell. Work within Morwell will proceed to complete the whole project.
42	Bass Highway–Improvements from Lang Lang to Dalyston. Including interchange with South Gippsland Highway.	All works are now complete, including the bridges over Bourne Creek and Bridge Creek at Dalyston.
43	Princes Freeway, Bypass of Drouin and Warragul.	Preliminary construction work commenced on the Princes Highway interchange with the freeway between Drouin and Warragul.
44	Tullamarine Freeway–Construction of diamond interchange with Essendon Airport and conversion of Lancefield Road to Freeway.	Construction of two pedestrian overpasses at Vaughan Street and Bristol Street associated with the project.
46	Omeo Highway–Omeo to Mitta Mitta.	Reconstruction of a 1.15 km section between Omeo and Lightning Ridge is well advanced.
47	Calder Highway–Harcourt to Bendigo.	Reconstruction of the Calder Highway and Midland Highway intersection and realignment of the Calder Highway through Harcourt was completed through the year.
49	Goulburn Valley Highway–Trawool. Construction of a new bridge and realignment of approaches.	Construction of the bridge is well advanced and preliminary work on the approaches has been done.

Appendix 7

Motor Registrations

Registrations under the Motor Car Act during the year 1975/76 totalled 2,116,874, an increase of 5.5% over the total for the previous year.

Vehicle	Financial year 1974/75		Financial year 1975/76		Increase
Private					
New	138,210		130,205		
Secondhand:					
Re-registered	44,048		52,535		
Renewed	1,289,832	1,472,090	1,365,540	1,548,280	76,190
Commercial and hire					
New	17,706		17,461		
Secondhand:					
Re-registered	4,653		5,432		
Renewed	127,079	149,438	130,578	153,471	4,033
Primary producers' trucks and tractors					
New	3,969		3,223		
Secondhand:					
Re-registered	2,912		2,735		
Renewed	80,736	87,617†	82,190	88,148*	531
Licences under the Motor Omnibus Act		826		848	22
Trailers		251,630		279,897	28,267
Motor cycles		44,753		46,230	1,477
Totals		2,006,354		2,116,874	110,520

†Includes 45,228 no-fee tractors
*Includes 45,258 no-fee tractors

Appendix 8

Statement of receipts and payments

for year ended 30th June 1976 (Adjusted to nearest dollar)

Country Roads Board

		Country Roads Board Fund	Loan Funds
Receipts			
Balances as at 1st July 1975		616,605	
Motor Car Act 1958 (No. 6325)			
Motor Car Registration Fees	56,605,989		
Drivers Licence Fees	1,442,700		
Drivers Licence Testing Fees	437,199		
Trailer Registration Fees	1,602,267		
Learner Drivers Permit Fees	192,155		
Examiners Licence Fees	7,832		
Sale of Log Books	12,375		
Motor Driving Instructors Licence– Appointment and Testing Fees	1,770		
Motor Driving Instructors Licence Fees	3,640		
	60,305,927		
Less: Cost of Collection	9,479,097	50,826,830	
Municipalities Contributions			
Permanent Works–Main Roads	100,969		
Maintenance Works–Main Roads	2,131,891	2,232,860	
Fees–Commercial Goods Vehicles Act No. 6222– Road Maintenance A/c		10,132,146	
Public Works and Services Act No. 8779		427,000	
Fines–Country Roads Act No. 6229		2,996	
General Receipts		1,521,881	
State Loan Funds–Act No. 6229 Allocation–Roads (Special Projects) Fund			325,000
Commonwealth Grants			
National Roads Act 1974			
Roads Grants Act 1974			
Transport (Planning & Research) Act 1974			
Traffic & Road Safety Improvement			
Commonwealth Employment Scheme 1975			
Regional Employment Development Scheme			
		$65,760,318	325,000
Payments			
Road Expenditure			
Main Roads	–Construction and Reconstruction	9,296,406	
	Maintenance	4,999,663	
	Road Maintenance A/c–Act No. 6222	5,147,059	
State Highways	–Construction and Reconstruction	2,639,792	325,000
	Maintenance	5,907,367	
	Road Maintenance A/c–Act No. 6222	4,393,015	
Freeways	–Construction and Reconstruction	3,169,966	
	Maintenance	863,872	
	Road Maintenance A/c–Act No. 6222	592,072	
Tourists' Roads	–Construction and Reconstruction	206,039	
	Maintenance	1,235,317	
Forest Roads	–Construction and Reconstruction	474,342	
	Maintenance	750,564	
Unclassified Roads	–Construction and Reconstruction	7,641,061	
	Maintenance	572,021	
Contribution to Melbourne & Metropolitan Tramways Board–Tram Tracks Reconstruction		200,000	
Metropolitan Bridges		1,935	
State Intersection Control (STATCON) Programme		107,440	
Murray River Bridges and Punts		227,653	
Traffic Line Marking		816,201	
Statutory Payments			
Interest and Sinking Fund	2,792,880		
Traffic Authority Fund	419,846		
Tourist Fund	839,693		
Transport Regulation Fund	602,256	4,654,675	
Planning & Research		1,846,180	
Residual Liability for Loan Funds–Metropolitan Bridges, Highways and Foreshores Act No. 8573		371,447	
Capital Expenditure			
Plant Replacement and Additions	1,234,046		
Buildings, Workshops, etc.	313,427	1,547,473	
Management and Operating Expenditure		4,922,887	
		$62,584,447	325,000
Balances available to the Board as at 30th June 1976		$3,175,871	

Auditor-General's Certificate

The accounts of the Country Roads Board for the year ended 30th June 1976 have been audited. In my opinion, the above Statement of Receipts and Payments fairly presents in summary form the transactions during that period.

B. Hamilton, Auditor-General, 27th October 1976

Roads (Special Projects) Fund	National Roads Act 1974	Roads Grants Act 1974	Transport (P&R) Act 1974 Sections 7 & 8	C'wealth Traff. & Rd. Safety Improve. Trust A/c	C'wealth Employ. Scheme 1975	Regional Employ. Dev. Scheme		Total
		15,000	25,623					657,228
							50,826,830	
							2,232,860	
							10,132,146	
							427,000	
							2,996	
							1,521,881	
							325,000	
30,192,191							30,192,191	95,660,904
	23,200,000						23,200,000	
		64,810,000					64,810,000	
			1,790,910				1,790,910	
				129,616			129,616	
					1,500,000		1,500,000	
						701,864	701,864	92,132,390
30,192,191	23,200,000	64,825,000	1,816,533	129,616	1,500,000	701,864		188,450,522
1,021,476		6,257,117		21,371		36,869	16,633,239	
							4,999,663	
							5,147,059	26,779,961
2,181,152	2,722,187	9,709,675		100,390	1,050,473	141,937	18,870,606	
	1,089,917				341,311	369,440	7,708,035	
							4,393,015	30,971,656
20,223,729	10,871,145	18,861,872				77,400	53,204,112	
	310,398					12,288	1,186,558	
							592,072	54,982,742
		292,400		406	13,109	6,305	518,259	
							1,235,317	1,753,576
				190			474,532	
					95,107	21,700	867,371	1,341,903
1,470,351	3,883,809	11,995,413		7,259		22,323	25,020,216	
		4,015,159				13,602	4,600,782	
							200,000	29,820,998
								1,935
316,142								423,582
								227,653
								816,201
								147,120,207
								4,654,675
			1,816,533					3,662,713
								371,447
								1,547,473
4,979,341	4,322,544	8,706,929						22,931,701
30,192,191	23,200,000	59,838,565	1,816,533	129,616	1,500,000	701,864		180,288,216
		4,986,435						8,162,306

R. G. Cooper, Chief Accountant, 21st October 1976

Appendix 9

Loan Liability

as at 30th June 1976

Country Roads Board

	Main roads etc.	Developmental roads	Total
	$	$	$
Permanent works			
Main roads	16,730,322.16		16,730,322.16
State highways	18,629,304.20		18,629,304.20
Freeways	3,000,000.00		3,000,000.00
Tourists' roads	227,316.44		227,316.44
Forest roads	2,167.89		2,167.89
Developmental roads		12,851,515.09	12,851,515.09
Discount and expenses	745,738.03	584,137.03	1,329,875.06
Total amount borrowed	39,334,848.72	13,435,652.12	52,770,500.84
Less redemption of loans			
Redemption funds	170,438.11	1,292,772.73	1,463,210.84
Main roads sinking fund	571,376.76		571,376.76
Developmental roads sinking fund		110,166.02	110,166.02
State loans repayment fund	3,479,591.38		3,479,591.38
National debt sinking fund	8,332,035.71	7,868,212.35	16,200,248.06
Consolidated fund	30,309.19		30,309.19
	12,583,751.15	9,271,151.10	21,854,902.25
Loan Liability at 30th June 1976	26,751,097.57	4,164,501.02	30,915.598.59

Appendix 10

Works executed on behalf of Commonwealth and State Government authorities

for the year ended 30th June 1976 (Adjusted to nearest dollar)

Departments	Description of works		Expenditure
Commonwealth			
Department of Housing and Construction Department of Construction	Access roads to various Commonwealth establishments		12,438
Victoria			
Housing Commission	Overpass at Riggall Street, Broadmeadows City	36,984	
Lands and Survey Department	Reconstruction of Dunmoor Road, Glenelg Shire	483	
Melbourne and Metropolitan Board of Works	Roadworks in connection with Cardinia Reservoir, maintenance of Marysville-Woods Point Road	14,800	
Ministry of Tourism	Additional snow clearing on the Alpine Road to Mt Hotham	24,126	
Ministry of Transport	Grade separated level crossing projects, etc., charged to the Transport Fund	1,803,965	
	Grade separated pedestrian crossings charged to State Treasury, Municipalities and Transport Fund	319,833	
Premier's Department	Roadworks in connection with Wonderland and Sundial Roads, Stawell Shire	300	
Rural Finance and Settlement Commission	Roadworks in Commission land settlement areas throughout the State	22,051	2,222,542
State Treasury	Kings Bridge–sundry expenditure less proceeds of rental of properties acquired in connection with construction of Kings Bridge	15,457 Cr.	
State Treasury	Improvements to various roads adjacent to State Forests to facilitate the extraction of timber and charged to Municipalities Forest Roads Improvement Fund	53,878	
State Treasury	Restoration works on roads and bridges damaged by floods	6,430,460	6,468,881
			$8,703,861