CRB news

January 1979

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60 Denmark Street, Kew, Victoria 3101.

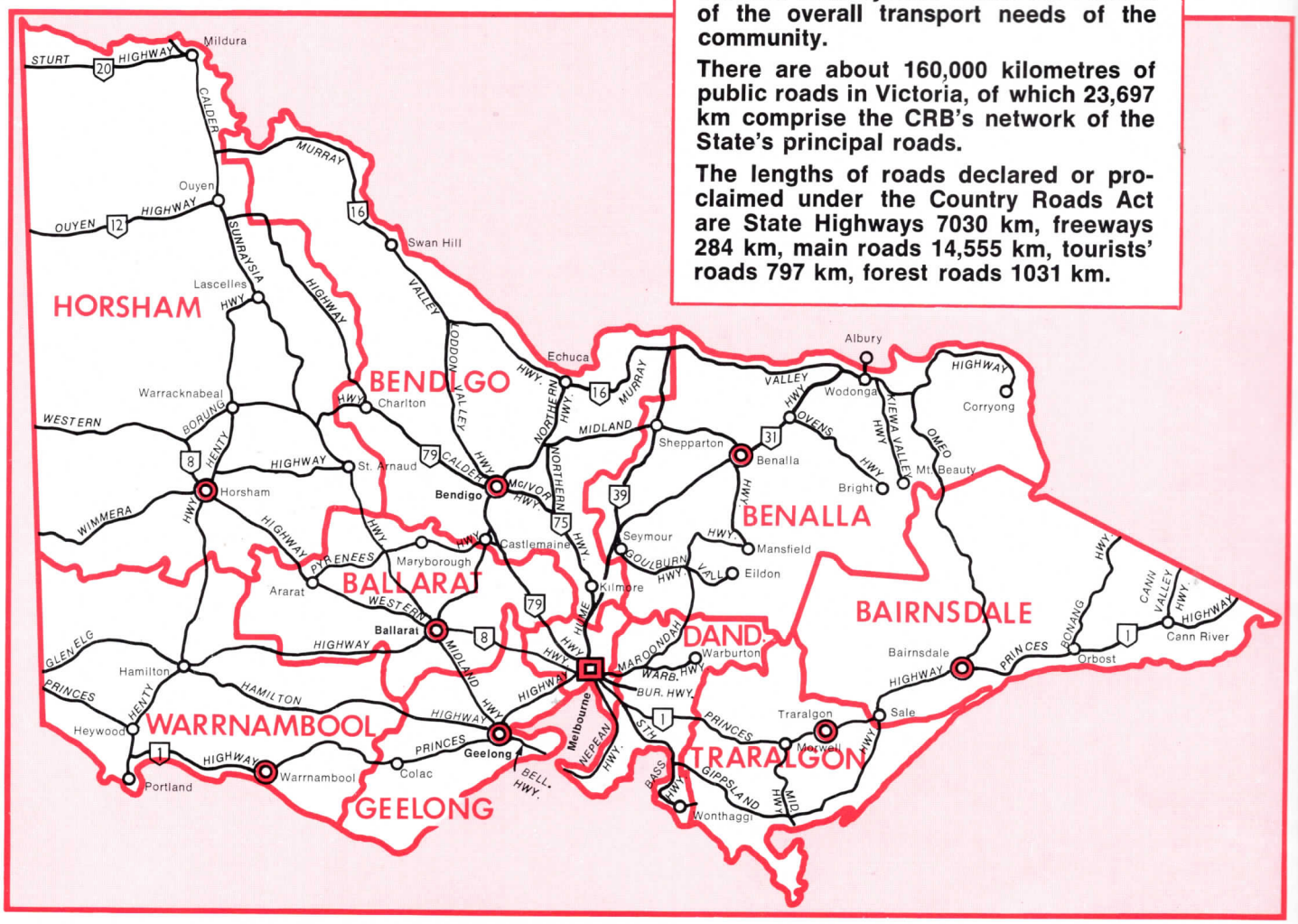
The Road Patrol: All in a day's work...

special feature P. 9-11

The CRB is the State Road Authority of Victoria. The CRB's aim is to create an efficient road system within the context of the overall transport needs of the community.

There are about 160,000 kilometres of public roads in Victoria, of which 23,697 km comprise the CRB's network of the State's principal roads.

The lengths of roads declared or proclaimed under the Country Roads Act are State Highways 7030 km, freeways 284 km, main roads 14,555 km, tourists' roads 797 km, forest roads 1031 km.



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Contents

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N L Allanson
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G K Cox
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N S Guerin
Deputy Engineer in Chief

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Deputy Secretary

R J C Bulman
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BILL FOR ROADSIDE VANDALISM APPROACHES $½ MILLION

• See poster — Back Cover.

Victoria's road vandalism bill is approaching $½ million each year, according to the findings of a CRB survey into the problem.

The survey carried out by CRB regional divisional engineers throughout the State showed that direct costs to the CRB were about $250,000, and the cost to local government was at least equal to that figure.

The main targets of vandals are signs, guideposts, trees and shrubs, and facilities at roadside rest areas. Emergency telephones are also a target on urban freeways.

Damage to signs is a widespread problem. Many signs are bullet ridden, defaced, torn from their posts, or stolen. Guideposts are knocked over or even chopped up for firewood.

Police prosecution of vandals, together with penalties imposed by the courts and publicity can have an important deterrent effect on the growth of vandalism.

Many cases of vandalism occur during holiday periods at popular tourist locations.

Continued co-operation between motorists, police, the media and the CRB is essential in reducing the wasteful costs of vandalism.

In March last year vandals wrecked five emergency telephones on the Eastern Freeway, temporarily putting the freeway's emergency system out of action. On the Mulgrave Freeway recently three emergency telephone handsets were stolen.

Facilities at rest areas are also hit by vandals. At the Tolmer rest area on the Western Highway the CRB was required to spend more than $1,000 repairing facilities damaged by vandals (see Page 8).

A recent major case of vandalism to signs occurred on the Maroondah Highway and the Goulburn Valley Highway between Mansfield and Molesworth, where vandals caused more than $3,000 damage.

Warning and direction signs, guideposts and hazard warnings are erected for the safety and benefit of motorists. Interference with these roadside fittings can seriously reduce the safe conditions provided for the travelling public.

Examples of vandalism committed on roadsides throughout the State are:

- All kilometre plates were stolen from the guideposts on the Great Ocean Road between Lorne and Apollo Bay.
- Guideposts deliberately knocked down.
- In December, 1976, a 40-year-old memorial plaque at the Mt Defiance lookout on the Great Ocean Road was stolen.
- Warning lanterns stolen.
- Fatigue Zone warning signs on the Western Highway were stolen only a few weeks after being erected.
- All glass and perspex parts of a CRB backhoe were smashed while parked at a Ballarat road project over a weekend.
- Traffic counters damaged.
- Toilets, seats and eating facilities at rest areas damaged.

Vandalism is Highway Robbery – P.8

NEW CRB CHAIRMAN

Mr T H Russell, MEngSc(Hons), BCE(Hons), DipCE, CE, FIEAust, is the new Chairman of the Country Roads Board.

He succeeded Mr R E V Donaldson, who retired on December 8 after seven years as Chairman.

Mr Russell was appointed Board Member in 1971 and then Deputy Chairman in 1975.

Mr Russell's appointment by the State Government in November was followed by the appointment of Board Member, Mr W S Brake as Deputy Chairman and Mr N L Allanson as Board Member. Mr Allanson was formerly Secretary of the CRB.

● *Mr T H Russell*

Mr Russell joined the Board in 1943 as a diplomate engineer from the Gordon Institute of Technology. His early service with the Board was mainly in the drafting, surveying and construction supervision field, including approximately one year in the Northern Territory on the construction of the North-South Road.

In 1946 Mr Russell was granted leave without pay to undertake his degree in civil engineering at the University of Melbourne which he completed in 1948. He immediately undertook further postgraduate studies leading to the award of the degree of Master of Engineering Science in 1949.

On his return to the Board in 1950, he worked in both Benalla and Traralgon Divisions and was subsequently appointed Assistant Divisional Engineer, Traralgon Division. From 1959 onwards he occupied various positions in Head Office including Assistant Engineer for Plans & Surveys, Assistant Bridge Engineer, Chief Bridge Engineer, Deputy Chief Engineer, culminating in his appointment as Chief Engineer in 1970.

Mr Russell attended the Advanced Course of the Australian Administrative Staff College in 1960, and accompanied the Hon Sir Murray Porter MLA, who was then Minister for Public Works, on an overseas mission in 1965.

Mr Russell is a Fellow of the Institution of Engineers Australia and was Chairman of the Structural Branch of Victoria Division in 1967, and is currently a member of the Engineering Faculty of the University of Melbourne.

Since 1973 Mr Russell has been closely associated with the National Association of State Road Authorities Economics of Road Vehicle Limits Study which has resulted in a great deal of progress towards the rationalization of mass and dimension limits for heavy vehicles throughout Australia.

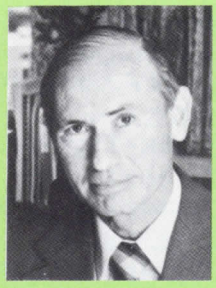
Mr Russell, 53, is married with two children and lives at North Balwyn. He is a former President and District Governor of the Association of Apex Clubs and is now an Honorary Life Member of that organisation. Mr Russell is a member and Past President of the Rotary Club of Hawthorn.

In the sporting field Mr Russell represented Victoria in interstate amateur football and Traralgon in Victorian Country Week Basketball. His current sporting interests are golf, jogging and vocal support for Geelong Football Club.

DEPUTY CHAIRMAN

● *Mr W S Brake*

BOARD MEMBER



● *Mr N L Allanson*

Mr. Donaldson retires . . .

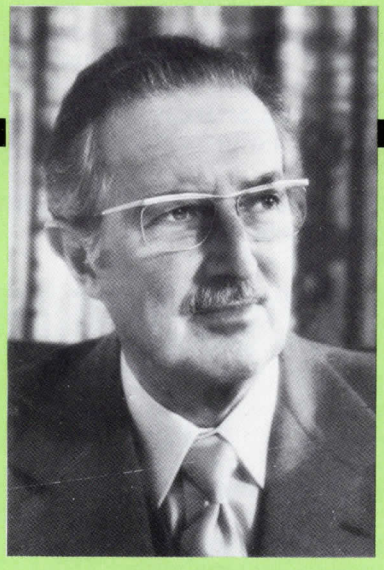
Mr R E V (Ted) Donaldson retired as Chairman of the Country Roads Board on 8th December, 1978.

Mr Donaldson's retirement ended 33 years' service with the CRB, the last seven as Chairman. He rose through the administrative ranks to the position of Secretary on 1st July, 1956, before being appointed Board Member in August, 1962, and then Deputy Chairman in July, 1963.

He has also served terms as Chairman of the Australian Road Research Board, and Chairman of the National Association of Australian State Road Authorities.

Mr Donaldson completed study tours of parts of North America, the United Kingdom and Europe in 1967 and attended the Permanent International Association of Road Congresses Conference in Mexico City in 1975 and the International Road Federation Conference in Japan in 1977.

Mr Donaldson attended the Advanced Course at the Australian Administrative Staff College in 1961.



● *Mr R E V Donaldson*

During the period of Mr Donaldson's Chairmanship, the CRB continued with the development of high standard roads in Victoria.

Mr Donaldson listed the progressive construction of divided highways and the opening of sections of freeways amongst the important achievements of the CRB during his period as Chairman. He was proud to welcome 213 officers and employees of the Melbourne and Metropolitan Board of Works to the CRB in 1974.

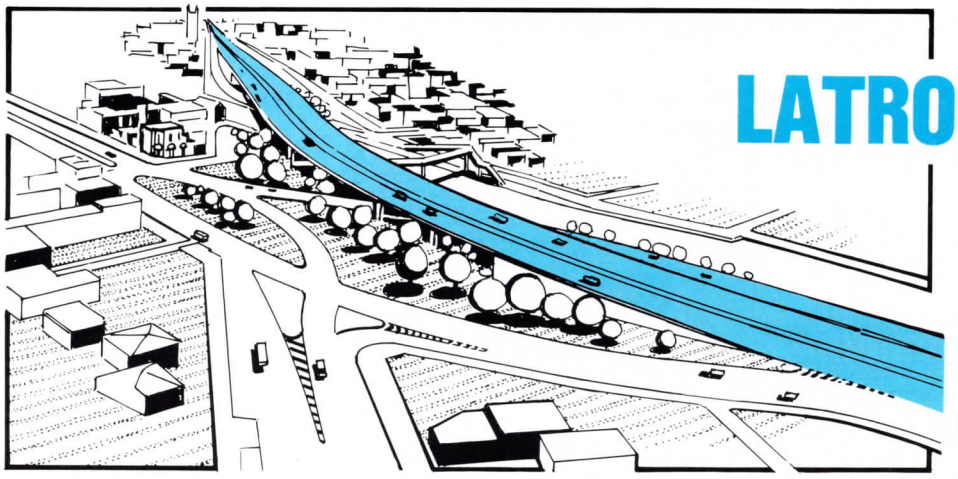
Mr Donaldson said the biggest management challenge that faced the CRB during his term as Chairman was the shrinking of the CRB's financial resources, coupled with increasing demands on the road system.

"In 1970-71, CRB expenditure on roads in Victoria totalled $109 million, representing $259 million in today's money values. Unfortunately, funds available to the CRB in 1978-79 are estimated to be only $236 million. This reduction in the real value of road funds has occurred during a period when the number of vehicles on our roads has risen by 30 per cent.

"This shortage of road funds presents a continuing challenge to the CRB," Mr Donaldson said. "By constant review of our management and technological methods the CRB endeavours to extract as much work value as possible from every dollar we receive. However, it is essential that the Commonwealth Government realises its financial responsibilities to the States and returns a large share if not all of the revenue received from fuel tax to the States for expenditure on roads."

Mr Donaldson listed as his future interests golf, fishing, gardening, sailing and travel.

LATROBE TERRACE



LATROBE TERRACE

PRINCES HIGHWAY WEST

Easing Geelong's traffic problems

The CRB has started work on a $10 million high capacity arterial road along Latrobe Terrace in Geelong.

The new arterial road will pass to the west of Geelong's Central Business District and is part of the recommendations of the Geelong Transportation Study.

The first stage of the Latrobe Terrace project involves road and pedestrian overpasses of the railway, and duplication of the road from the Princes Highway West to Fyans Street.

Later stages will include a new road bridge over the Barwon River and development of Settlement Road, Belmont, to arterial road standard.

The work will relieve traffic problems in Geelong's inner area.

Most of the traffic in the Geelong area is local in origin and destination. On weekdays only one per cent of total traffic is through traffic that neither stops nor starts in Geelong.

During holiday periods the problem is compounded for Geelong residents with holiday makers travelling to Victoria's popular south-west coast. Up to 30,000 vehicles per day travel from Melbourne to Geelong on summer weekends.

In the early 1970s a Transportation Study was carried out to determine future requirements for road transport in the Geelong urban area.

The initial study was conducted by Wilbur Smith and Associates and a later one by John Patterson Urban Systems with the assistance of the Councils, the CRB and the Geelong Regional Planning Authority. The John Patterson Study investigated the social, economic and environmental effects of the earlier recommendations of the Wilbur Smith Report.

The major recommendations of the John Patterson Study were:

1. The construction of an arterial road along Latrobe Terrace providing a highway bypass of the city centre.
2. A new road bridge over the Barwon River as an extension of Latrobe Terrace.
3. Development of Settlement Road, Belmont, to arterial road standard.
4. Provision for an outer freeway as a long term proposal from Corio Overpass, passing west of the present urban area to Princess Highway West at Waurn Ponds.

Project details

The first stage of the Latrobe Terrace project involves building an overpass of the railway from York Street to Hope Street with duplicate carriageways from Keera Street to Fyans Street, a total distance of 2.4 kilometres. The overpass of the railway involves building twin 15-span bridges each 269 metres long. The old pedestrian overpass of the railway will be replaced by a modern structure.

This work is expected to be completed by 1982 at an estimated cost of $10 million.

Future plans for Geelong

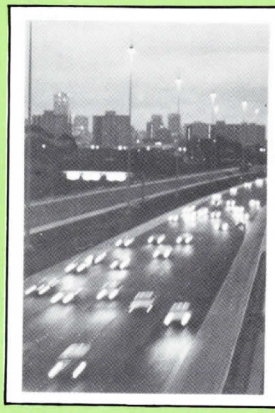
Geelong is a major industrial centre and the gateway to the coastal tourist resorts on Victoria's south-west coast. Over the past 20 years the CRB has upgraded the Geelong-Melbourne Road to freeway standard to cater for the heavy commuter, commercial and tourist traffic.

When the Latrobe Terrace project—including a new bridge over the Barwon River—is completed, through traffic will be able to bypass the central business area.

Settlement Road, Belmont, will also be upgraded to provide an alternative route around the busy Belmont Shopping Centre.

Longer term plans for an outer freeway bypass of Geelong are still at an early stage, but an amendment to the Planning Scheme defining the route has been exhibited.

Reinforced earth: New technique for Latrobe Terrace – P. 15



THE CRB ANNUAL REPORT IN BRIEF

Finance

The funds available for expenditure in 1977-78 totalled $224,745,844.

These funds were derived from:

- State sources $124,972,830
- Commonwealth sources $98,980,094
- Balance brought forward from 1976-77 $792,920

Expenditure amounted to $222,942,677 leaving a balance of $1,803,167 to be carried forward into 1978-79.

State Highways

A total of $42,252,747 was spent on construction, reconstruction and maintenance of State Highways during the year 1977-78.

Freeways

A total of $54,462,869 was spent on construction, reconstruction and maintenance of freeways.

Main Roads

$35,784,786 was expended from the Board's funds on construction, reconstruction and maintenance of main roads.

Tourists' Roads

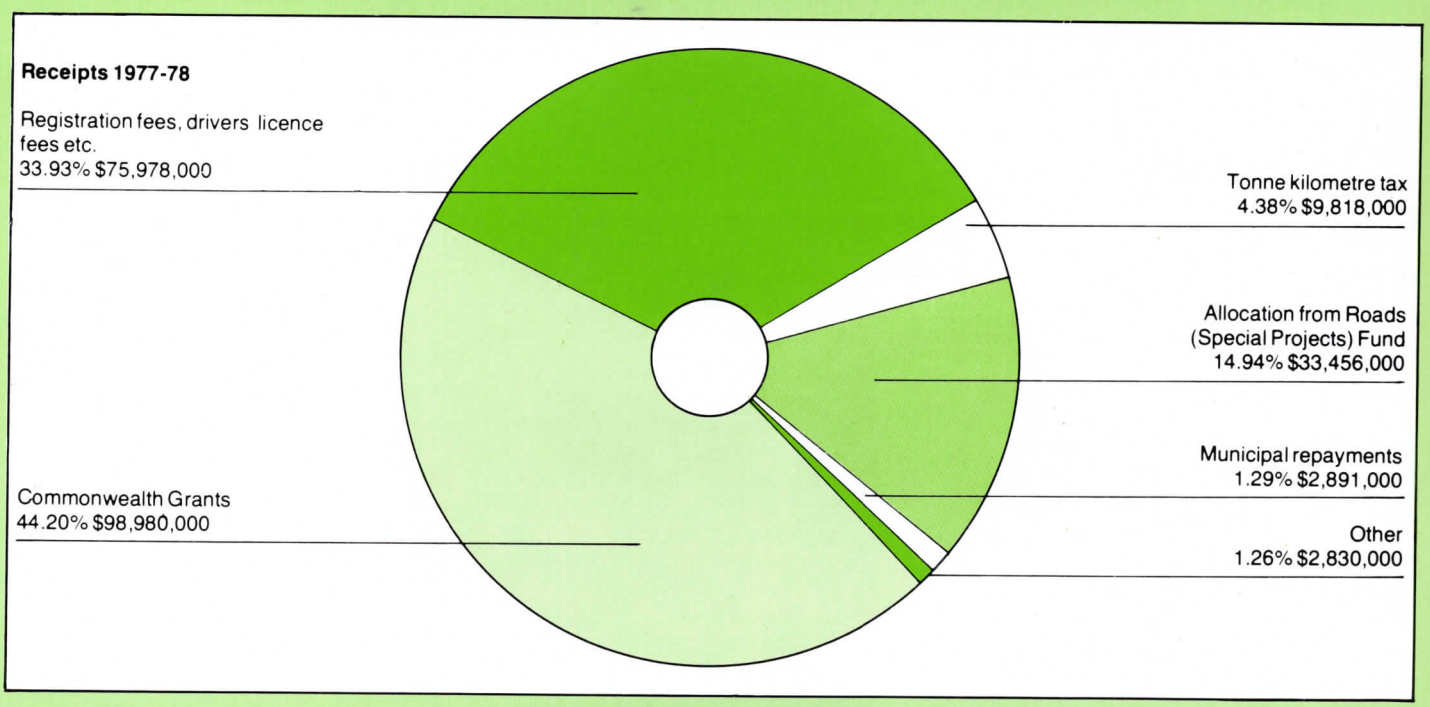
A total of $3,226,727 was spent on construction, reconstruction and maintenance of tourists' roads in 1977-78.

Forest Roads

Forest roads accounted for $1,616,859 for construction, reconstruction and maintenance.

Bituminous Surfacing

The CRB surfaced 5,088 kilometres of road during the financial year at a cost of $28.7 million.



10 km Hume Highway section opened

A further 10.4 km divided section of the Hume Highway south of Benalla was opened to traffic in November, 1978.

The new section, from Violet Town to Baddaginnie, was built at a cost of $4.5 million, and brings to a total of 90 km the length of divided road on the Hume, or 30 per cent of the total distance between Melbourne and Wodonga.

The new duplicate northbound carriageway has been in use for two-way traffic since late last year, while the original highway, which will be the ultimate southbound carriageway was upgraded to eliminate flood-prone areas.

Work is well advanced on the adjoining $6.9 million 6.1 kilometre freeway bypass of Violet Town, which is scheduled for completion in 1980.

Land Purchase

During the year the CRB paid compensation and associated costs totalling $22,525,000 for land acquired for new roads and improvements to existing roads.

Construction of New Bridges

The construction of 94 new bridges estimated to cost $12,545,000 commenced during 1977-78. Forty-two bridges were under the direct control of CRB staff and 52 bridges were under council supervision with financial assistance from the CRB.

Municipal Allocations

Victoria's 212 municipal councils have been allocated $79,625,000 for roadworks on main and unclassified roads for 1978-79, an increase of $2,239,000 on the allocation for 1977-78.

Personnel

The CRB employed a total of 5,025 people as at 30th June, 1978.

These included: Technological staff (professional)—615; technical staff—519; administrative staff—762; supervisory staff (field)—176; supervisory staff (depot)—77; clerks of works—83; construction and maintenance personnel—2,163; workshop and depot personnel—630.

Major Projects

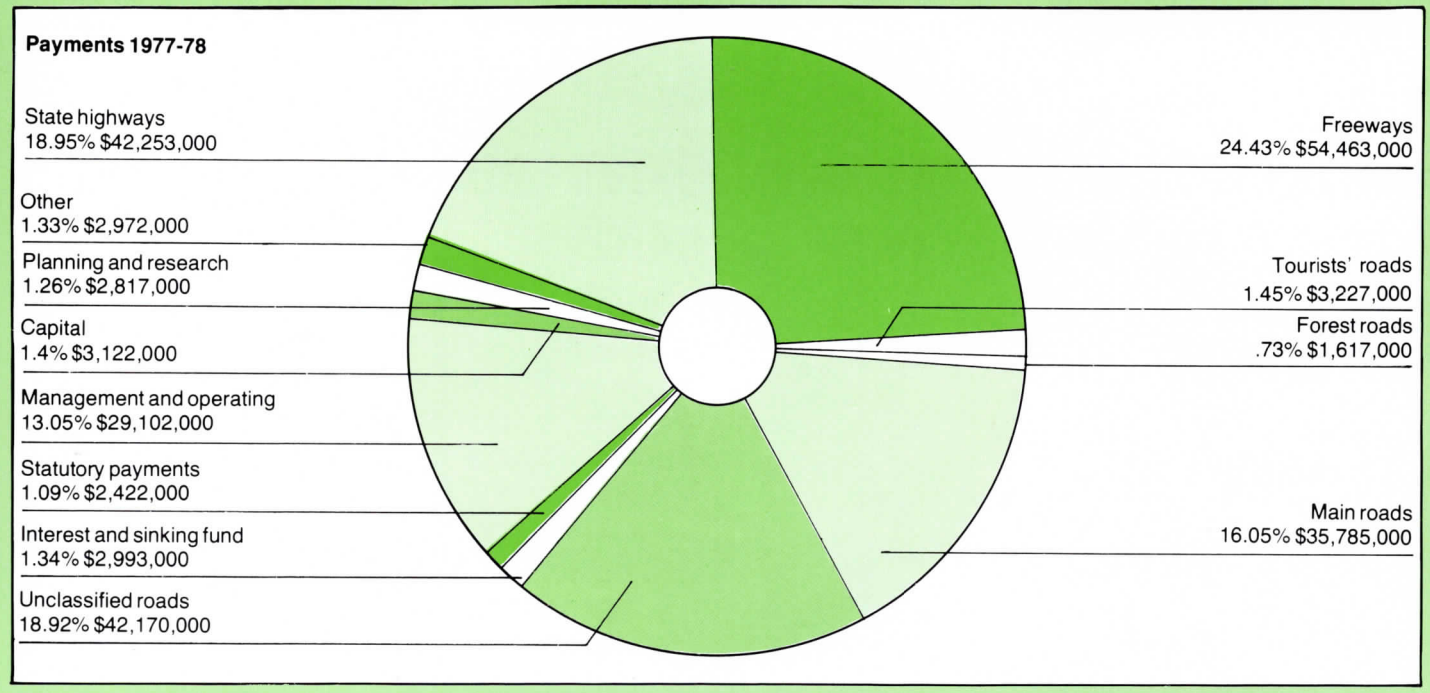
During the year the CRB continued work on 18 major projects, each costing at least $4 million.

These included the Mulgrave Freeway from Forster Road, Mount Waverley to Warrigal Road, Oakleigh; the West Gate Freeway (South Melbourne Section); completion of the Eastern Freeway from Collingwood to Bulleen; upgrading Lancefield Road adjacent to Essendon Airport to freeway standard; final work on the Johnson Street Bridge; work on several sections of the Hume Highway/Freeway north of Seymour; completion of the Western Freeway bypass of Ballan; and continued work on the Drouin Section of the Princes Freeway.

Road Planning Studies

Significant planning studies in which the CRB was involved during the year included:

- Outer ring corridor study, which examined the strategic significance of a new transport route around the main built-up area of Melbourne.
- Outer ring, Diamond Creek to Ringwood study, which is investigating the most appropriate future road system between Diamond Creek and Ringwood.
- A study to investigate the alternatives of either upgrading the existing Omeo Highway between Omeo and Mitta Mitta or constructing a major deviation of the highway which would cross the Great Dividing Range at a lower altitude.
- Gardiners Creek Valley study, which investigated the need to link the South Eastern and Mulgrave Freeways.



Funds for national highways, commerce roads

The Commonwealth Government has allocated $36.6 million to Victoria in 1978-79 for works on national highways and national commerce roads.

The CRB expects to spend an estimated $19 million on the Hume highway and $7.5 million on the Western highway from Commonwealth funds this financial year. These two State highways have been declared by the Commonwealth as national highways.

The funds will be expended on the program to provide a four-lane highway from Melbourne to Wodonga and from Melbourne to Ballarat.

Other works in the program include the major interchange at the entrance to Essendon Airport from Lancefield Road which is being upgraded to freeway standard, and residual works on the recently completed Johnson Street Bridge. Both these projects will be financed from the State's allocation for national commerce roads.

VANDALISM IS HIGHWAY ROBBERY

Among the targets of vandals on Victoria's roads are signs, litter bins and emergency telephones on urban freeways.

Each year the CRB spends thousands of dollars and manhours repairing and replacing them. Costs for replacement vary according to location and type of damage. Here are some examples of average costs, including labour, materials and transport.

WARNING SIGNS
$80 per sign
$15 per post

LITTER BINS
$150 per bin

EMERGENCY TELEPHONES
$300 per telephone

Vandals cause $1000 damage to border rest area

The CRB spent $1037 in the 1977-78 financial year to repair damage at the Tolmer rest area on the Western Highway at the Victoria-South Australia border.

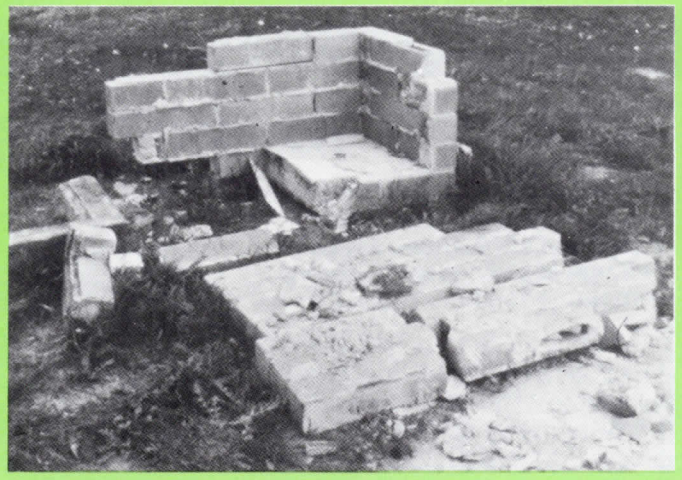
Vandals had damaged toilet facilities, lights and electric barbecues at the rest area.

THE REPAIRS WERE:

Replace shot-out lights and repair damage to electric BBQs	**$531**
Replace fittings either stolen or broken in toilet block	**$506**
	$1037

● *Tolmer rest area.*

After vandals hit. . .




ALL IN A DAY'S WORK...

A tribute to the CRB patrolmen

The patrolman on the Warburton Highway spotted a smashed guidepost lying beside the road.

Twenty metres further on was another smashed post . . . then another . . . and 47 more.

The patrolman said it was a common problem: Louts in a van smashed the posts during a night of vandalism.

Replacing these posts—which were erected for the safety of motorists—was just another part of the day's work for the CRB patrol gang.

These are the men who maintain the roads throughout the State in all weather conditions.

The patrolmen can be seen clearing the snow-covered roads of Mt Hotham; removing fallen trees from roads in the Great Divide; and carrying out repairs on the coastal roads.

There is even an "overseas" patrol: the men who annually cross Westernport Bay to French Island with a barge-load of equipment to maintain the island's roads.

- Above: Ray Trenfield
- Above right: Joe Gilliland
- Right: Roy Taylor

COVER PICTURE

Road patrolmen Alf Adams and Henry Kluytmans repair a pot-hole on the Mt Dandenong Tourist Road.

PAGE 9 PICTURES

In north-eastern Victoria, Laurie Neven (left) and Jim Edlington carry out road repairs. INSET: Patrolman Bill Nattrass and his road gang on the Princes Highway West near Winnap.

A typical patrol gang comprises the patrolman in charge, a truck or grader driver, one or two men. It is frequently necessary for one of the men to act as a "flagman" to control traffic through the works area.

Today they use modern equipment and enjoy good working conditions. However, 40 years ago patrol work involved pioneering spirit as well as hard work.

Retired patrolman Joe Gilliland, who joined the CRB in 1935 and spent 34 years on patrol, remembers the patrolman's lot in the 1930s.

"We could be told to head up the mountain for a fortnight's work and were just issued with a tent", he said.

"Often when we found a campsite, we would first have to shovel the snow clear to set up the tent.

"The patrol had a hired truck, but that was the only equipment. Everything had to be loaded or spread by hand shovel."

Roy Taylor, of Berwick, retired last year after 47 years with the CRB, including the last 32 years as a patrolman on the Princes Highway East.

Roy remembers the days when the men worked a 48 hour week—and when everything from digging to moving large drums of bitumen was carried out by hand.

Traffic on the Princes Highway between Melbourne and Warragul has increased greatly since the 1940s.

In the immediate post-war period, Roy recalls that the patrol sometimes had to clear grass and weeds that had grown through cracks in the middle of the highway.

"We would often have to kill the grass with kerosene before carrying out repairs to the road," he said.

In the late 1940s Roy worked with a patrol maintenance gang of about 30 men on the Princes Highway.

The big gangs were needed because a major rail strike had resulted in very heavy traffic using the highway.

"For several weeks the gangs worked 10-12 hours a day. A hole that was only a few inches wide one day would be six feet square the following day," he said.

"After a day's work patching up holes, we would see more holes on the way home. As the surface cracked, water would rise from beneath the surface."

In the 1930s and 1940s the patrol gangs regularly camped out for one or two weeks at a time when they were working on the roads in isolated areas.

After a day's work, the men would pitch the tents, set up a camp oven and boil a billy.

Over the years the tent camps were replaced by timber huts, but these have now declined to a few camps in mountainous regions.

One of the few patrolmen still using camp facilities all year round is Ron Clinch, the patrolman in charge of the Matlock patrol on the Warburton-Woods Point Road. He lives at the camp in the Great Dividing Range during the week, and returns home at weekends.

The camp is a small collection of huts in a sheltered setting off the road.

Ron likes camp life—its been part of his patrol beat for the past 21 years. In recent years the pace of camp life has quietened, as fewer men live-in at the camp, but Ron recalls livelier days about ten years ago when big dam construction gangs worked in the area.

Pruning trees and shrubs is part of the patrol work on the Hamilton Highway for Harry Walsh (left) and Jack Phillips.

Not far from this camp is a spot called Monty's Hut, where a patrol camp used to be located. It is situated in the Warburton area, and every patrolman knows where to find it—it was named after Monty Trenfield, a CRB patrolman for 33 years and a local identity.

The patrolmen of this area are probably best remembered for their tireless work in the Black Friday bushfires of January 1939.

All roads in the area were blocked by hundreds of fallen trees. The patrol gangs worked all weekend, helped by hundreds of volunteers.

Joe Gilliland worked with one of the fire-relief gangs. He said: "It would have taken the patrols many weeks to clear the roads without the help of the volunteers.

"Many of the roads were blocked by huge logs that would have needed tractors, yet the men rolled them off the road."

He said that it took all weekend for the Warburton-Woods Point Road to be cleared so that police could reach the spot where 14 people had died in the bushfire.

Today the work of the patrolmen is to carry out maintenance work on the roads controlled by the CRB.

The job covers routine work such as repairing the road, grading, cleaning blocked drains, clearing roadsides and cutting grass.

It also includes the unplanned . . . repairing signs and posts damaged by vandals, assisting broken down vehicles, clearing trees or telegraph posts that block the road.

Ray Trenfield, patrolman in charge of the Warburton patrol, said: "Monday morning is the worst time. We do an inspection drive along the Warburton Highway every Monday and don't know what to expect around the next corner.

"One day we found a big direction sign had been removed. It would have taken three men to lift it off the ground.

"Another time we found a row of guideposts had been flattened."

Ray Trenfield has been a CRB patrolman for 15 years, but his experience goes back to his schooldays when he used to join his father, Monty, on patrol on the Warburton-Woods Point Road.

Ray said roadside vandalism was increasing every year and this meant the patrol had to spend more of its time on the repair of vandalism instead of maintaining the roads.

Clearing litter from the roadsides has also become a bigger part of the CRB patrolman's job.

Along many stretches of highway are the ugly sights of paper, cans, bottles and food that have been strewn by thoughtless motorists.

And in the litter bins placed at rest areas and wayside stops along the highway, household rubbish fills the bins that have been placed there for the use of picnickers and travellers.

For the patrolman who have to clear the rubbish from the roadside, it can be sickening work. For the CRB, it means an extra $600,000 a year in litter collection costs.

Wayne Rhodes tends to a shrub in the reserve along the Mornington Peninsula Freeway at McCrae.

BELOW: Replacing a guidepost on the Warburton-Woods Point Road . . . . Trevor Plumb (left) and Herbert Urbas.

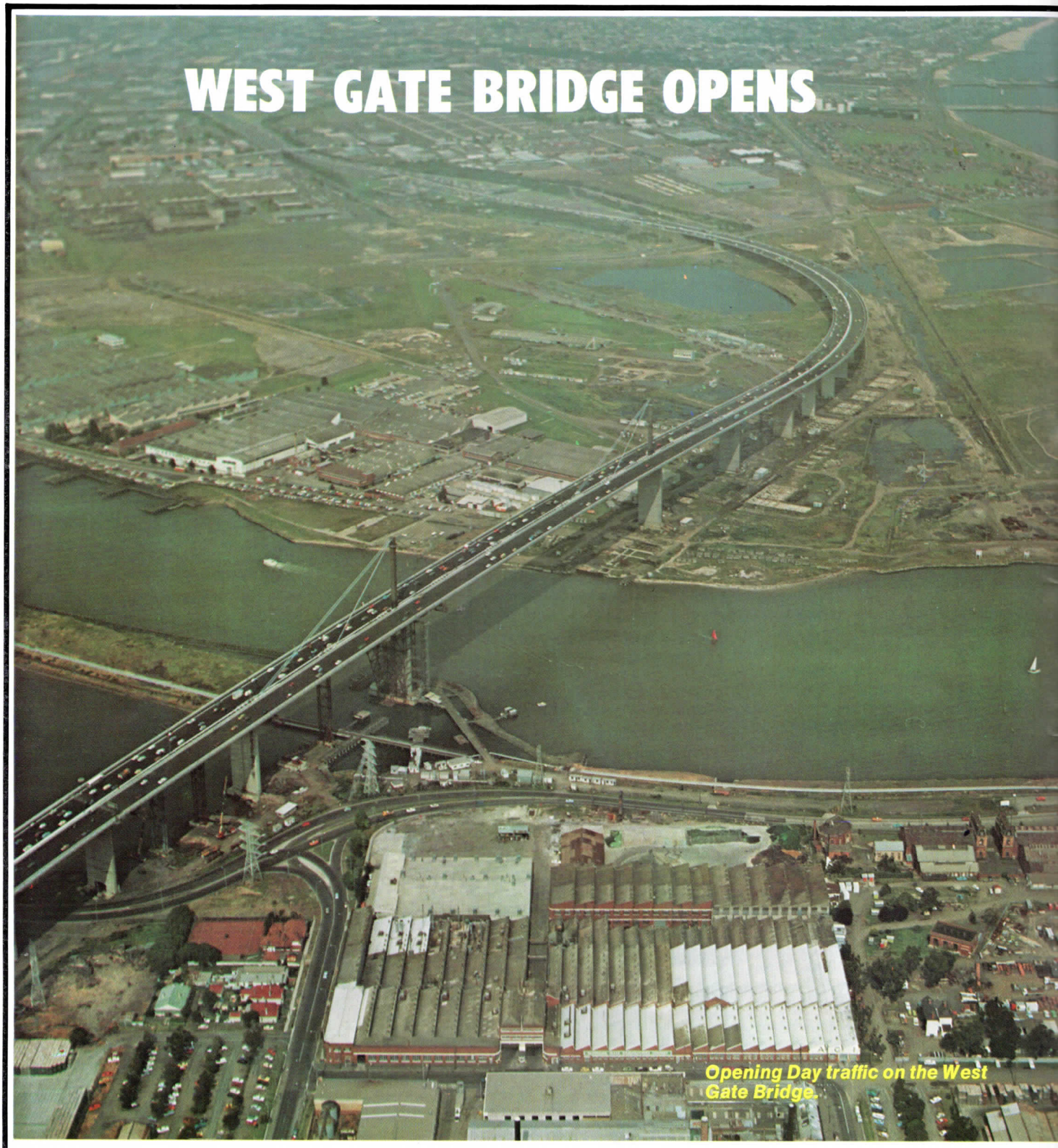
trolmen and road maintenance staff form an essential part of the CRB's nstruction and maintenance force of 2163 personnel.

ere are 239 patrolmen working with 524 men in patrol gangs oughout the State.

patrolman in charge of a gang is responsible for maintaining a specific gth of road. The main tasks of the gangs are to carry out routine road intenance work, clear roadsides, cut grass, collect litter and repair dside furniture.

1977-78 the CRB allocated $15.4 million for patrol maintenance on roads der its direct supervision and roads under council supervision throughout State. This amount included $10.6 million for State highways, 2 million for freeways and $1.4 million for Tourists' Roads.

WEST GATE BRIDGE OPENS...



Opening Day traffic on the West Gate Bridge.

The West Gate Bridge represented the largest and boldest engineering project undertaken to date in Victoria.

The Premier, the Hon R J Hamer MP, said this in declaring the bridge open on 15th November, 1978.

Mr Hamer said the 5.63 km bridge would have a "very marked influence" on Melbourne's communications, and stimulate the further development of the western regions of the State.

The opening of the bridge was significant for the CRB, which spent in excess of $20 million on the western approaches to the bridge and almost $12 million to date on the West Gate Freeway (South Melbourne Section), the Advisory Truck Route and other road improvements on the eastern side of the bridge.

One of the CRB's current top priority projects is the freeway eastern approach through Port Melbourne and South Melbourne linking the West Gate Bridge to Kings Way and St Kilda Road.

The West Gate Freeway (South Melbourne Section) is currently programmed for completion in 1983, at an estimated cost of $87 million at 1978 prices.

● ***With the co-operation of State Road authorities throughout Australia, the CRB has compiled the list published opposite of the ten longest bridges in Australia. A list of the ten longest bridges in Victoria is also shown.***

AUSTRALIA'S 10 LONGEST ROAD BRIDGES

1. *Houghton Highway, Bramble Bay (Qld.)	2716 m
2. Hornibrook Highway, Bramble Bay (Qld.)	2680 m
3. West Gate Bridge, Yarra River (Vic.)	2582 m
4. *West Gate Freeway, South Melbourne section in structure from west of Johnson St. to Kings Way (Vic.)	1850 m
5. Tasman Bridge, Derwent River, Hobart (Tas.)	1417 m
6. South Eastern Freeway, Yarra River and Gardiners Creek (Vic.)	1197 m
7. Sydney Harbour Bridge (N.S.W.)	1149 m
8. Murrumbidgee River Bridge, Gundagai (N.S.W.)	1141 m
9. Burdekin River Bridge, Home Hill (Qld.)	1103 m
10. Macarthur Bridge, Camden (N.S.W.)	1030 m

* Under construction

VICTORIA'S 10 LONGEST ROAD BRIDGES

1. West Gate Bridge, Yarra River	2582 m
2. *West Gate Freeway, South Melbourne Section, in structure from west of Johnson St. to Kings Way	1850 m
3. South Eastern Freeway, Yarra River and Gardiners Creek	1197 m
4. Kings Bridge, Kings Way, Yarra River	697 m
5. Phillip Island Bridge	640 m
6. Ashby's Gulch Bridge, Snowy River Floodway	598 m
7. South Eastern Freeway, Burnley Viaduct	506 m
8. Maroondah Highway, Bonnie Doon	384 m
9. Snowy River Bridge, Orbost	378 m
10. Murray Valley Highway, Goulburn River, McCoys Bridge	359 m

* Under construction

Camp Rd overpass opened to traffic

The Camp Road/Johnstone Street railway level crossing elimination project in Broadmeadows was fully opened to traffic during November, 1978.

At a cost of $4.8 million the railway line and Pascoe Vale Road have been bridged, eliminating cross traffic movement at the intersection.

The CRB began constructing the overpass in January, 1976. The important Camp Road/Pascoe Vale Road intersection was heavily congested and difficult to negotiate during peak periods. Movement through the intersection was complicated by a railway level crossing in Camp Road, east of Pascoe Vale Road.

Traffic volume through the intersection was 24,000 vehicles in a 12 hour period in April this year.

The construction work was planned to enable the project to be opened progressively in three stages. In December, 1977, the first stage of the overpass of both Pascoe Vale Road and the railway line was opened. In March, 1978, Pascoe Vale Road traffic was diverted onto a newly constructed roadway to allow reconstruction of the old road. Completion of the project entailed opening the remaining stages of the overpass and Pascoe Vale Road.

There has been 1.2 km of road duplicated in the vicinity of the intersection as part of the project. Pearcedale Parade and Dimboola Road have been duplicated to accommodate some turning movements at the intersection, as well as the duplication of Camp Road/Johnstone Street and Pascoe Vale Road.

Early in 1979, following the completion of the construction, Broadmeadows City Council will be responsible for the maintenance.

The Camp Road overpass project was built as part of the continuing program for the Abolition of Level Crossings. The program commenced in 1954 and since that time 64 level crossings have been grade separated.

Some of the major overpasses that have been built include: Heidelberg Road, Clifton Hill; Western Highway, Albion; Princes Highway West, Brooklyn; Hume Highway, Craigieburn; North Road, Huntingdale; Warrigal Road, Oakleigh; and Pascoe Vale Road, Strathmore.

Other level crossing elimination projects completed recently are at Weerite on the Princes Highway West and near Greensborough, where overpasses were constructed at Watsonia Road and Grimshaw Street and the level crossings closed at Nell Street and William Street.

Construction started in August this year on the elimination of the level crossing at Latrobe Terrace in Geelong (see feature article on Page 5).

On the Princes Highway West, there are two overpass projects due to start construction this financial year. They are at Warncoot near Colac and at Cudgee near Warrnambool.

In the metropolitan area, work will commence this financial year on a Level Crossing Elimination Project at Ashley Street, Tottenham.

Planning for major new routes and freeways involves many factors which require studies involving travel forecasts,benefit-cost analysis, environmental impacts, and financial planning.

This article, based on papers presented by CRB Chief Planning Engineer, Mr R T Underwood, to a CRB Divisional Engineers Conference in October, looks at some of the issues of transport planning.

Transport planning

The funds available for road works, especially major improvements, are limited and less than those required to overcome all the current deficiencies. In recent years, the real value of the funds available has been eroded by the effects of inflation.

There has been increasing emphasis on the development of shorter term proposals that require less extensive programs of major works more in line with likely revenue budgets and on the stage development of major proposals.

Long Term Planning

Planning for the longer term road needs cannot be disregarded, and reasonable provision must be made to preserve some longer term options for major road improvements. This applies particularly in the currently undeveloped outer urban areas where, unless options are now protected, future land use development may preclude the future implementation of major road improvements.

Also, by now defining future road requirements ahead of land use development, future land use development can occur with the knowledge of possible future transport improvements. This should result in future land uses that are compatible with future transport improvements.

The protection of land for future road needs can be a serious financial burden, so it is important to be selective in which future options are now protected.

Travel Forecasts

Forecasts of future vehicular travel are the basic foundation of the planning process. Although it is important that forecasts be accurate, a high order of accuracy is not always required.

Rather, it is necessary to know the likely range of future travel forecasts, and the probability of various values within the range. This is because the scale of the larger facilities, in particular, is relatively insensitive to the amount of future travel. For example, a four-lane rural freeway may well be justified to cater for a future traffic volume of 10,000 vehicles per day or less. However, the same facility could cater for up to 20,000 to 30,000 vehicles per day before it needed to be expanded.

Greater precision is required when smaller scale improvements are being considered, particularly when traffic management proposals are being examined in urban areas.

Assessment and Evaluation

Benefit-cost analyses are often used in the assessment and evaluation of road proposals. Such analyses take into account those benefits and costs that can be quantified in money terms. In general, the factors considered include benefits to road users (e.g., time, distance and accident savings) and costs (of construction and maintenance) to the financing authority.

Along with economic analysis, for many years various intangible benefits and costs have also been considered in project evaluation. In recent times, more emphasis has been placed on defining and describing these intangible factors, and more formal documentation of all the engineering, economic, sociological and environmental factors is now provided.

A good example of the more formal documentation is the Environment Effects Statement. The CRB has now prepared Environment Effects Statements, in accordance with Ministry for Conservation guidelines, for bypasses of Seymour-Avenel and Euroa on the Hume Freeway, and for the bypass of Keilor on the Calder Freeway. Statements are currently being prepared for the Bell Street-Banksia Street connection, and for the proposed overpass of the railway at Union Road, Surrey Hills.

For the large majority of planning investigations, Environment Effects Statements are not required. However, planning reports deal with all the relevant matters in appropriate detail. This is necessary for adequate investigation and to obtain environmental clearances from the Ministry for Conservation.

Community Participation

Community participation is an integral part of the road planning process.

Although there are benefits of community participation, there may also be significant costs or disadvantages such as an increase in the period of community uncertainty and concern, greater impact on planning uncertainty and an increase in costs and resources both for the planning agency and for the community.

Accordingly, it is essential that the degree of community participation be appropriate to the particular study. Large scale participatory studies should be commenced only after very careful consideration of all the relevant factors.

"Speaking of . . ." is a regular feature of CRB News, where reprinted or discussion articles are published on matters relating to roads and transport in general. They do not necessarily represent the views of the CRB but are published as a matter of interest and discussion.

NEW MACHINE TO IMPROVE ROAD BUILDING

The CRB is purchasing an automated road building machine to improve the construction of heavy duty roads in Victoria.

The CMI Autograde TS 500 machine will be imported from the USA early in 1979.

It will be used for shaping the road foundation and spreading the layers of pavement material to accurate finished levels.

The Autograde can operate over two lanes of road at a time. It has automatic controls and is self-propelled. The Autograde machine utilises electronic sensing devices operating along guide wires set down by surveyors ahead of the machine. This enables a high degree of accuracy to be offered in the finished work and also enables it to work on curves as well as straight sections of road.

The CRB believes the machine will provide high quality construction work with economy of operation.

The Autograde machine has been widely used throughout the world on major projects. At present the NSW Department of Main Roads is the only authority or contractor in Australia using Autograde machines.

Analysis has shown possible savings of up to $30,000 per kilometre in the cost of constructing pavement 400 mm thick on a single carriageway, when compared with the costs of current methods.

The CRB believes that with savings of this magnitude, the purchase cost of the machine should be recovered within two years. The cost of the machine and ancilliary equipment is $436,000.

Burke Rd Bridge across the Yarra

A new $1 million bridge for southbound Burke Road traffic crossing the Yarra River at Kew was completed in January, 1979.

The bridge provides two lanes for southbound traffic, plus a pedestrian footpath, and is similar to the existing northbound bridge which was opened in 1967.

The 24-hour, two-way daily traffic volume for Burke Road is about 27,000.

The new 11-span bridge replaces a lower level bridge which was constructed in 1926, but was subject to flooding. In 1934 the old bridge was submerged to a depth of 1.5 metres.

The problem of flooding has been removed as the new bridge is about 2.5 metres higher and 40 metres longer than the old lower level bridge.

During the demolition of the old bridge in late 1977, four original commemorative plaques from 1926 were salvaged.

Three of the brass alloy plaques were to recognise the contribution of the local councils —Camberwell, Heidelberg and Kew—with the fourth being a date plaque. The plaques have been restored, and together with a date plaque for the new bridge, will be mounted on a cairn on the north side of the river.

Reinforced earth: A new construction technique

A construction technique using reinforced earth will be used for the first time in Victoria on the Latrobe Terrace overpass approaches. The technique is a French innovation and in Australia has previously been used in NSW.

The construction procedure is simple and economical. Steel strips are laid horizontally throughout the selected granular fill for the bridge approaches as the fill is being placed. The steel strips are attached to concrete panels which form the external face of the wall and are built up as the fill gets higher.

The steel strips prevent movement in the fill material thus providing a stable earth mass as the bridge approach.

The advantages of using reinforced earth are significant. The job can be done more quickly, cheaply and easily. This technique can be used in construction areas where little space is available outside the construction site. It can be built on poor quality foundations and will tolerate significant differential movements. It can be built using mainly unskilled labour.

If a conventional retaining wall of reinforced concrete cantilever construction were used at Latrobe Terrace, piling would be necessary and the wall would cost approximately $1.9 million to build. A crib wall would cost about $1.6 million whereas the reinforced earth method is expected to cost $1.3 million.

Freeway emergency service

Motorists' calls to the Country Roads Board's emergency freeway service have topped 1,000 per month since the extension of the service to the Mulgave/South Gippsland Freeways.

Latest figures show that the new Mulgrave/South Gippsland Freeways service accounted for more than a quarter of all calls during September and October last year.

The service provides 40 emergency telephones, covering the two freeways from Forster Road, Mt. Waverley, to Sommerville Road, Hampton Park. The service commenced at the end of August.

A total of 267 calls, the largest from any of the major arterial routes covered by the service, were received from motorists on the Mulgrave/South Gippsland Freeways during the first month of operation, September.

Towards better roads

• ***TOWARDS BETTER ROADS details progress on improvements by the CRB to the major road network of the State.***

The cost estimates used are as at December, 1978, prices.

Major works currently under construction by the CRB are summarised below.

Bogong High Plains Road

Widening and extension of sealed pavement over a length of 1.6 km, 7 km north of Falls Creek is continuing.

Cost estimate—$200,000.

Completion expected—March, 1979.

Calder Freeway

• ***Keilor***

Earthworks are expected to begin on the first section of freeway between Erebus Street and Arundel Road in early 1979. The total freeway extends from Erebus Street to the Keilor-Melton Road, a distance of 5 km.

Cost estimate (total projects)—$16.6 million.

Completion expected—1983 subject to the availability of funds.

Camp Road

(See feature article Page 13.)

Cann Valley Highway

Reconstruction of 2.3 km of highway, north of Cann River, between Fiddlers Green Creek and Flat Rock Creek, including a new bridge across Fiddlers Green Creek.

Cost estimate—$500,000.

Completion expected—mid-1980.

Fisher Parade Bridge, Footscray

Work is continuing on the construction of a replacement bridge over the Maribyrnong River at Fisher Parade, Footscray, together with the necessary approach works.

Cost estimate—$1.2 million.

Completion expected—mid-1979.

Goulburn Valley Highway

Widening of 6.6 km of existing pavement 22 km south of Shepparton.

Cost estimate—$194,000.

Completion expected—March, 1979.

Hamilton Highway

Construction of 0.8 km of duplicated carriageway through Mortlake is under way.

Cost estimate—$300,000.

Completion expected—early 1979.

Henty Highway

Reconstruction of 6.5 km of the highway through and to the south of Branxholme is continuing.

Cost estimate—$620,000.

Completion expected—late 1979.

Hume Highway/ Freeway

Work is under way on four sections of freeway north of Seymour.

• ***Bypasses of Seymour and Avenel***

Work is continuing on a 20 km section of the 27 km project from the Goulburn Valley Highway, north of Seymour, to north of Avenel. This work includes the construction of twin freeway bridges over Hughes Creek at Avenel, and the North Eastern Railway Hume Highway, south of Mangalore.

Cost estimate (total project)—$39.9 million.

Completion expected—1983.

• ***Avenel to Tubbs Hill***

Duplication work on the 12 km section of the existing Hume Highway is continuing.

Cost estimate—$7.5 million.

Completion expected—late 1979.

• ***Euroa to Violet Town***

Clearing and drainage works are continuing for the duplication of 6 km of the highway.

Cost estimate—$4 million.

Completion expected—late 1980.

• ***Bypass of Violet Town***

Earthworks and drainage for the 6.1 km freeway project are nearing completion and pavement construction has begun.

Cost estimate—$6.9 million.

Completion expected—mid-1980.

Latrobe Terrace, Geelong

(See feature article Page 5.)

Melrose Drive, Airport West

Work is continuing on the construction of a duplicate bridge, to carry Melrose Drive over the Albion-Broadmeadows railway line.

Cost estimate—$850,000.

Completion expected—mid-1979.

Mornington Peninsula Freeway

Work is continuing on the 6.7 km section of this freeway from Eel Race Drain, Seaford, to Springvale Road, Keysborough, including the construction of the freeway bridges over the Patterson River and the Thompson Road interchange bridge.

Cost estimate—$13.9 million.

Completion expected—mid-1980.

Mulgrave Freeway

Work is continuing on the extension of the Mulgrave Freeway between Forster Road, Mount Waverley and Warrigal Road, Oakleigh, including the construction of the Huntingdale Road bridge, and the reconstruction and widening of the Warrigal-Waverley Road intersection.

Cost estimate—$13.8 million.

Completion expected:
to Huntingdale Road—late 1979.
to Warrigal Road—1981.

Murray Valley Highway

Construction is continuing on three bridges across the Kiewa

River flats at Killara, east of Wodonga, and 1 km of associated approach roads to the bridges.

The new bridges and approach roads replace three old timber bridges.

Cost estimate—$900,000.

Completion expected—April, 1979.

Nepean Highway

Work by the Victorian Railways at the Gardenvale railway bridge and the demolition of properties is continuing. Preliminary roadworks on the first 2.4 km section between Cochrane Street, Elsternwick and Hampton Street, Brighton, are expected to begin in early 1979.

The total widening project is 6 km long from Cochrane Street to South Road, Moorabbin.

Cost estimate (total project)—$38 million.

Completion expected—1984.

Omeo Highway

Reconstruction of the Mossiface Road intersection, replacement of Dirty Hollow Creek Bridge and the reconstruction of 1.9 km of highway is scheduled to be completed in late December, 1978.

Cost estimate—$410,000.

Princes Freeway

- ***Drouin Section***

Construction is underway on the freeway between Robin Hood and the railway interchange on the Princes Highway east of Drouin.

Cost estimate—$10 million.

Completion expected—1981.

- ***Moe Section***

Work is nearing completion on the construction of a second carriageway to provide an additional 3.4 km of divided roadway.

Cost estimate—$2 million.

Completion expected—early 1979.

Princes Highway (East)

- ***East of Mt Drummer***

Reconstruction of 4 km of highway between Rankins and the western approaches to the Wingan River is under way.

Cost estimate—$750,000.

Completion expected—1980.

- ***Morwell to Traralgon***

The 12 km duplication has been opened to traffic. The final pavement work is scheduled to be completed in late December, 1978.

Cost estimate—$4 million.

- ***Trafalgar***

Duplication of 0.8 km of the highway through Trafalgar is nearing completion.

Cost estimate—$800,000.

Completion expected—early 1979.

- ***Pakenham***

Duplication of 2.1 km of the highway through Pakenham including the widening of the bridge over Toomuc Creek is continuing.

Cost estimate—$2.8 milliion.

Completion expected—late 1979.

Tullamarine Freeway

Lancefield Road along the western boundary of Essendon Airport is being upgraded to freeway standard.

The project will provide an interchange to Essendon Airport and improve local street access to the freeway.

Cost estimate—$7.9 million.

Completion expected—mid-1980.

Western Freeway

- ***Wallace to Bungaree Section***

Preliminary work is underway on this 11.5 km length of the freeway bypassing the towns of Wallace and Bungaree.

Cost estimate—$14.5 million.

Completion expected—1982.

Western Highway

Reconstruction of 2.4 km of highway east of Kaniva is scheduled to be completed in December, 1978.

Cost estimate—$200,000.

Wimmera Highway

Work has begun on the reconstruction of 3 km of highway west of the Miga Lake turnoff.

Cost estimate—$200,000.

Completion expected—March, 1979.

West Gate Freeway, South Melbourne.

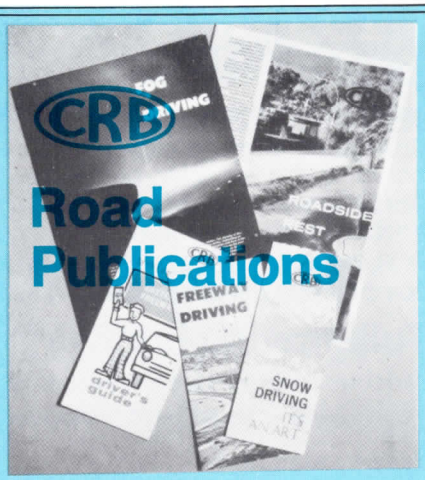
Work is continuing on the 3.6 km West Gate Freeway between Graham Street, Port Melbourne, and Kingsway, South Melbourne.

Alterations to the existing freeway between Graham Street and Rogers Street have been completed and were opened to traffic with the West Gate Bridge on 15th November, 1978.

Site clearance is well advanced and construction of 124 of the 416 foundation piles required for the 1.85 km elevated section of the freeway is scheduled to begin in March, 1979.

Cost estimate—$87 million.

Completion expected—late 1983.



The following publications can be obtained from the CRB by filling in the attached coupon and returning it to Public Relations Section, Country Roads Board, 60 Denmark Street, Kew, 3101.

CRB—GENERAL

- ☐ The Roadbuilders
- ☐ Driver's Guide to Victoria
- ☐ Snow Driving—It's an Art
- ☐ Colouring Book (for children)
- ☐ Science in Road Development
- ☐ Urban Freeways
- ☐ Back Issues, CRB News
- ☐ Truckies Guide to the Advisory Truck Route
- ☐ Pedestrian overpasses and underpasses

CRB—PROJECT BROCHURES

- ☐ Hume Freeway, Seymour-Euroa
- ☐ Eastern Freeway
- ☐ Widening of Nepean Highway (Revised)
- ☐ The Hume Challenge
- ☐ Orbost (Princes Freeway)
- ☐ Calder Freeway (Keilor Section)
- ☐ Converting Lancefield Road to Freeway
- ☐ Bypasses of Drouin and Warragul (Princes Freeway)
- ☐ Violet Town Bypass (Hume Freeway)

NAASRA

- ☐ Roads and Traffic Noise
- ☐ Roads and Pollution
- ☐ Roads and Public Utilities
- ☐ Roads and Pedestrian Safety
- ☐ Roads and Neighbourhood Planning.

Name .....

Organisation .....

Address .....

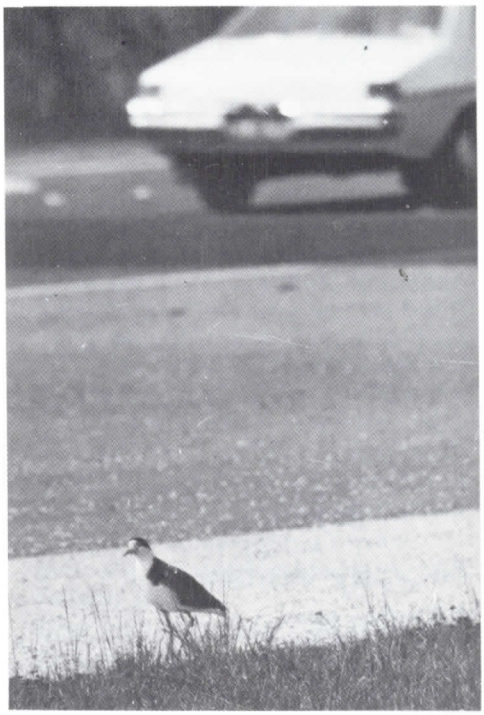
.....

..... ***Postcode*** .....

PLOVER COVER

Birds tend to be a bit fussy about where they nest, so when a motorist rang the CRB to advise that a brace of spurwinged plovers was nesting in the central median of the Eastern Freeway, CRB photographer Tom Scott was a little sceptical.

No nest was found, and only one plover, but our photographer fancies that the crafty bird pecking his way along the city bound carriageway was only trying to lead him astray . . .



CONTRACTS

- ***A summary of major contracts over $100,000 entered into by the CRB from 12th August, 1978, to 17th November, 1978.***

ROAD CONSTRUCTION

ROAD	DESCRIPTION	CONTRACTOR	AMOUNT
Hume Freeway (Wallan-Broadford)	Supply and place approximately 29,000 tonnes of asphalt.	Boral Resources (Vic.) P/L, Hawthorn	$810,798
Hume Freeway (Wallan-Broadford)	Supply and place approximately 30,500 tonnes of asphalt.	The Readymix Group Ltd, Burwood	$837,091
Western Freeway (Wallace-Bungaree)	Supply of Two Cell Corrugated Metal Pipe 4,500 mm diam. at Moorabool River West.	Armco (Australia) P/L, Clayton	$216,936
Western Freeway (Wallace-Bungaree)	Supply of materials, manufacture and delivery of 26 pre-stressed concrete inverted 'T' beams 109 ft. long for the Wallace Street and Ormond Road bridges over the Western Freeway.	BBR Precast P/L, Campbellfield	$163,510

OTHER CONTRACTS

Priming and/or primersealing of various roads in Dandenong Division for one year.	Emoleum (Australia) Ltd, North Melbourne	$400,000
Supply and delivery of crushed rock products in Geelong Division until 31st August, 1979.	Mountain View Quarries, Ringwood	$380,000
Priming and/or primersealing of various roads in Geelong Division for the period ending 1st October, 1979.	Boral Resources (Vic.) P/L, Hawthorn	$273,000
Supply and delivery of aggregate to various locations in Dandenong Division for one year.	Pakenham Blue Metal Holdings P/L, Pakenham	$190,000
Supply and delivery of 9,000 cubic metres loose of crushed river gravel to stockpile at Mt Beauty and 7,000 cubic metres loose of crushed river gravel to stockpile at Tawonga.	Tawonga Sand & Gravel and Beautymix Concrete, Tawonga	$122,400
Supply and delivery of aggregate to various locations in Dandenong Division for one year.	Boral Resources (Vic.) P/L, Hawthorn	$120,000
Supply and delivery of crushed rock products in Geelong Division until 31st August, 1979.	Geelong Quarries P/L, Fyansford	$118,000
Supply and delivery of an adhesion agent for bituminous surfacing for the year ending 30th June, 1979.	Hamilchem P/L, Springvale	$115,500
Supply and delivery to various locations in the Benalla Division of quantities of sealing aggregate for the period ending 31st August, 1979.	North Eastern Ready Mixed Concrete (Wangaratta) P/L, Wangaratta	$111,427

CRB staff attend School of Military Engineering

• *The School of Military Engineering at Liverpool, N.S.W.*

Members of 22 Construction Regiment attended the School of Military Engineering at Liverpool, N.S.W., in October for specialist training.

About 90 CRB personnel who are members of the regiment were flown to the regiment's 1978 annual camp at the school by RAAF Hercules transport aircraft.

The School of Military Engineering was established in September 1939. Its primary function is to train members of the Corps of Royal Australian Engineers in military engineering.

Among the facilities at the SME are modern barrack blocks, lecture rooms, office and amenities buildings, assembly hall, mess hall and kitchen.

The school also has a chapel, Corps museum and several memorials.

At the camp the men from the regiment received specialist training, mainly in equipment bridging, ferrying and watermanship.

Officers and senior NCOs also received advanced supplementary training.

Much of the assembly and operation of bridging equipment was carried out on the Georges River, which borders the natural treed setting of the SME.

22 Construction Regiment is a unit in the Royal Australian Engineers Supplementary Reserve of the Australian Army Reserve. The Regimental Headquarters and the 107 Plant Squadron (Heavy) are sponsored by the CRB.

CRB members include engineers, administrative staff, tradesmen and field personnel.

Fifteen members of the Board's staff are currently officers of 22 Construction Regiment.

The regiment's annual camps are usually held in Victoria, although camps were held at SME in 1964 and 1974.

The Commanding Officer of the Regiment, Lieutenant-Colonel Geoff Hunt (CRB Specifications & Contracts Engineer) said that valuable specialist training for the members of the regiment was provided at the School of Military Engineering, which is the home of all military engineers.

Earlier this year the CRB joined other State Government instrumentalities and employers in supporting the "Employer Policy Statement" of the State Committee for Support of the Reserve Forces.

The policy statement encourages enlistment in the Reserves.

• *Members of the regiment operate a light tactical raft on the Georges River.*

VANDALISM

HIGHWAY ROBBERY