1935.

VICTORIA.

COUNTRY ROADS BOARD.

TWENTY-SECOND ANNUAL REPORT

FOR YEAR ENDED 30TH JUNE, 1935.

PRESENTED TO BOTH HOUSES OF PARLIAMENT PURSUANT TO ACT No. 3662.

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COUNTRY ROADS BOARD.

TWENTY-SECOND ANNUAL REPORT.

Exhibition Building,
Carlton, N.3,
31st October, 1935.

The Honorable G. L. Goudie, M.L.C.,
Minister for Public Works,
Melbourne. C.1.

SIR,

In accordance with the requirements of Section 96 of the Country Roads Act (No. 3662), the Board has the honour to submit to you for presentation to Parliament the Report of its proceedings for the financial year ended 30th June, 1935, together with the report of the Chief Engineer on matters of technical interest.

FINANCE.

From the amount of £285,881 available at the beginning of the year from the loan authorization passed by Parliament—of which £100,000 was available for the reconstruction of outer metropolitan roads under Act 4188—the sum of £129,040 was expended during the year, £56,158 on developmental roads, £50,370 on country main roads, and £22,512 on outer metropolitan roads. Allowing for commitments entered into as at the 30th June last, the amount available at the 1st July, 1935, was £154,371.

The amount of motor registration fees paid into the Country Roads Board Fund for the twelve months under review was £1,305,326, representing an increase of £105,652 over the revenue from that source during the previous year.

Due to the necessity for repairing roads and bridges damaged by the disastrous floods of December and April last, unforeseen expenditure of £21,031 was incurred out of the Country Roads Board Fund which, with the ordinary expenditure on the maintenance of State highways and main roads, brought the total cost of maintenance restoration and repairs to £879,040, compared with £870,013 for the year 1933–34, an increase of £9,027.

Under the Federal-aid roads agreement a total sum of £400,230 was received, £398,792 being expended, of which £142,708 was spent on works of a developmental character, £65,372 on the construction of main roads, and the balance of £190,892 on the maintenance of roads previously constructed from Federal-aid funds, on repairing flood damage, in restoring and rebuilding bridges or assisting the Councils in the maintenance of main and developmental roads constructed from loan moneys.

With an amount of £141,943 available for the relief of unemployment valuable works which could not have been undertaken out of ordinary funds for many years were carried out.

The amount of £1,414 available from a special loan grant made in July, 1932, was expended on works of a developmental nature.

The total expenditure on unemployment relief works for the year, was £95,329, leaving unexpended at the 30th June the sum of £48,027.

STATE HIGHWAYS.

In accordance with the Board's policy a gradual and progressive improvement was effected to the State highways during last year, largely by the expenditure of funds provided out of revenue. The amount expended was £360,502, of which £328,296 was provided out of the Country Roads Board Fund, £17,748 from the Federal-aid road fund, £11,458 from unemployment relief grants, and £3,000 from the grant made by the Commonwealth Government for repairing damage caused by floods.

With increasing motor traffic, heavier stresses are being imposed on the roads, necessitating continual vigilance on the part of the Engineers to ensure that the highways are built up to a standard capable of carrying the increased traffic and adapted to suit the vehicles using them. This is being done on economic lines, and the highways of to-day, constructed on the low type system and strengthened from time to time as traffic demands, are giving excellent results. With the increasing and ever-changing traffic conditions of recent years, marked changes have been developed in the methods of construction and maintenance. In any comprehensive system of improving roads, the first step is the construction of the arterial and trunk roads, and in this work good progress has been made, the major part of the declared State highways and main roads having been adequately surfaced for present day requirements. With the development of traffic, however, many of these roads now require widening and strengthening from time to time, and by the process of stage construction which the Board has adopted, roads are being built to a standard capable of meeting the growing traffic demands. A much wider use of mathematical and scientific investigation of road and bridge design problems, and the development of new methods have resulted in costs of construction and maintenance being largely reduced.

The generally good condition of the State highways throughout the State has led many who frequently traverse them to assume that the bulk of the roads have been constructed, and that the highways are examples of the condition of the subsidiary or lateral roads. Actually the State highways, which form the backbone of the Victorian road system, constitute only a small proportion of the total road mileage of the State, namely, 2·25 per cent. The urgent necessity of providing roads leading from the State highways to main roads to serve settlement and giving improved means of transporting marketable produce is stressed by the Board in another part of this report.

The usual half-yearly traffic census was taken by the Board on the several highways during the months of August and February. This discloses that the volume of pneumatic-tired motor vehicles is increasing, particularly heavy commercial vehicle traffic. The last census shows that since 1932 when light motor trucks predominated, the position is now being gradually reversed owing to the marked increase in the number of heavy commercial vehicles.

During the year ended 30th June, 1934, the average number of motor trucks on State highways was 10,892 per day, of which 40·9 per cent. comprised heavy vehicles, but, during the year 1934–35, the average number of motor trucks using State highways increased to 12,663 per day, of which 48·37 per cent. were of the heavy type.

The number of solid-tired vehicles recorded in the census taken during the financial year 1933–34 was 378 per day, whilst during last financial year the average number decreased to 236 per day, representing a fall of 37·59 per cent. It was noted that motor vehicles fitted with solid tires are now mainly used in the vicinity of the metropolitan area and provincial cities.

The percentage of horse-drawn vehicles is slightly diminishing, a decrease of 2·95 per cent. being shown since the census was taken in 1934. The average number per day disclosed by the records taken during the year ended 30th June, 1935, was 4,042, as compared with 4,165 per day recorded during the previous year.

The striking changes which have taken place in the character of motor vehicles, particularly in regard to tire equipment, improved suspension and springing, body design, &c., have been favorable to the development of the lighter type of sealed road in the rural areas of the State. It has been found that roads of this class are capable of carrying up to 1,000 vehicles per day, and that the selection of various types of construction in accordance with the volume of traffic is fundamentally sound.

The work done during the year just closed comprise general maintenance under an organized system of patrol, the reconditioning and improving of existing surfaces, widening, strengthening, and superelevating curves where necessary.

The general policy has been to improve existing highways by applying durable surfaces widening old and narrow bridges, and increasing roadway widths where increased traffic warrants. The Board is strongly of opinion that with the growing traffic adequate widths are a vital necessity to ensure safe travelling.

Following on the experimental work carried out by the Board during 1933–34, a considerable amount of surface treatment was completed by the roadmix drag seal method during the year ended 30th June last. Lengths of State highways constructed some years ago and subsequently sealed with bitumen, although in a sound condition as far as foundations were concerned, had become rough and in urgent need of improvement. By the application of the roadmix drag seal method 240·2 miles were treated, and a remarkable improvement in the riding qualities of the pavement has been effected. The application of this process has been made possible, and has proved highly successful, by the utilization of equipment designed by the Board and built to its requirements. For a pavement 18 feet wide the cost is approximately £300 per mile.

On sections of several of the State highways, suitable gravel or fine crushed rock has been used in the surfacing of roads with a loose thickness of 2 inches to 3 inches consolidated by traffic, as the initial step in stage construction. With adequate and systematic maintenance, roads of this type are successfully carrying the traffic, whilst the maintenance costs have proved reasonable and economical. Increased mileages are being provided, and relief is being given to areas that previously had not experienced hard-surfaced roads.

Owing to the progress made in priming and sealing the highways, 332·5 miles of which were treated during the year, it was decided by the Board to institute more motor truck patrols to replace horse and dray patrols, with a view to effecting savings in the cost of maintenance, and making available funds for reconstructing additional sections. A number of men displaced by the introduction of the new system have been re-employed on road works in other localities. By establishing truck patrols an estimated saving of £245 per annum will be effected on the section of the Western Highway between Horsham and the Lowan Shire boundary. Over a period of little more than eighteen months the amount saved will cover the cost of the new truck which has been purchased.

On the Prince's Highway West, from Yambuk to the South Australian border, maintenance works are being carried out by six patrolmen with horses and drays, assisted by a power grader on portion of the section. By purchasing a new motor truck and establishing a truck patrol with headquarters at Heywood, it is estimated that an annual saving of £500 in maintenance will be made, which represents an amount greater than the purchase price of the truck.

Again, in the Bendigo district where maintenance works were being carried out by patrolmen under the supervision of the Board on the Calder, Northern and Murray Valley Highways, and on the Castlemaine–Maryborough and the Loddon Valley Roads, the estimated annual saving by the new method is £1,319, with a possibility of being increased to £3,261 per annum when the organization has been completed.

In order to carry the Board's proposals into effect seven " Ford " V-8 motor trucks have been purchased by the Board at an approximate cost of £3,841.

The problem of reducing maintenance costs is one which is ever concerning road authorities, and in this work the Board has developed methods which have proved most economical. The maintenance of gravel roads, which costs approximately £35 per mile by methods in common use, has been reduced to approximately £20 per mile by using pneumatic-tired power graders in place of horse-drawn drags or small graders. These power graders carry out the work more expeditiously and treat much longer lengths of roadway with less labour. The proper costing of maintenance methods has also indicated avenues of savings which had not before been appreciated by municipal councils, and considerable re-organization of maintenance gangs has eventuated, resulting in increased efficiency. By the adoption of these methods, the saving on State highways alone is estimated at £9,600 per annum, and these figures will be increased when additional plant can be made available.

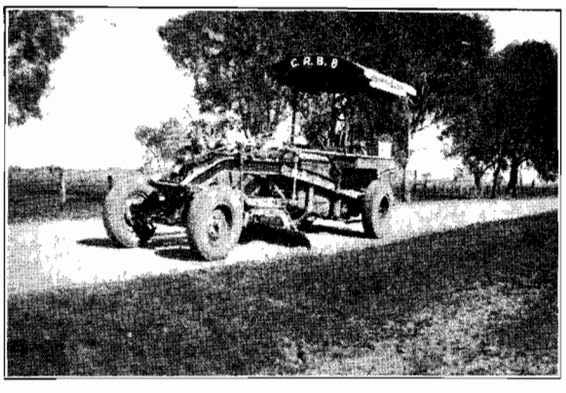


Plate No. 1.—Showing power-grader at work on the Murray Valley Highway.

Another instance may be cited of the savings made possible by modern methods. On the Murray Valley Highway and the Loddon Valley Road, within the Shire of Kerang, 48 miles of roadway were surfaced in 1933–44, at a cost of £32,000, or £666 per mile. With the methods previously in use prior to the Board taking over the work, the cost would have been in the neighbourhood of £81,000, or £1,687 per mile, so that a total saving of £49,500 is indicated. In spite of adverse criticism of the methods adopted, they have proved to be an outstanding success, as not only have construction costs been considerably reduced, but better riding qualities have been built into the roads, and they are cheaper to maintain.

These results have been obtained by careful design after detailed laboratory tests and thorough investigation as to the suitability of local materials.

Prior to 1925 many of the townships and villages on the routes of State highways were isolated during the winter months, owing to the bad condition of the highways, but since the highways have been improved and made serviceable for all year traffic, noticeable developments have taken place within the townships, and the villages have assumed a degree of importance. The larger towns have, in addition, grown in importance by reason of increased trade and the number of new residences erected within their boundaries.

A number of requests have been made to the Board by municipal councils for the declaration of additional roads as State highways, with a view to relieving the councils of all responsibility in maintaining these roads, which comprise long stretches traversing several municipalities and carrying through traffic. Whilst many of the proposals submitted are considered legitimate, and well worthy of consideration, the Board is unable to consider the requests, as the funds available are only sufficient to cope with the maintenance of the existing State highways and main roads.

In the maintenance of State highways the work in general consisted of the upkeep by patrolmen. Where resheeting or other improvements were carried out the object was, in addition to providing a better surface, to secure an ultimate reduction in maintenance costs.

With a view to introducing greater safety into highways, the practice was continued of marking the centre of the pavement with a white line on the sharper horizontal curves and over vertical curves where the visibility is bad.

Owing to the large number of hurricane lamps of the ordinary type used by the Board for lighting road works in progress being stolen during the night, a special type of lamp which is easily identifiable was introduced by the Board, and these are being used on works under its control. As a result of this innovation several recent thefts have been detected, and following police court proceedings, fines have been inflicted.

On the western section of the Prince's Highway 2·15 miles were widened and re-constructed during the year, between Garvoc and Panmure, and the alignment of the road is being improved to eliminate the many sharp curves.

Between Heywood and Portland 4·56 miles of gravel pavement immediately south of Heywood were sealed, and an additional length of 3·73 miles widened and re-surfaced with buckshot gravel preparatory to sealing next financial year.

On the same highway nineteen old timber culverts were replaced by concrete pipes between Heywood and Mumbannar. Near Dartmoor 8·41 miles of limestone crushed rock, and 2·87 miles of buckshot gravel were sealed, thus completing the sealing of the pavement between Winnap and the South Australian border, over a distance of 22·07 miles.

Near the towns of Colac, Camperdown, and Warrnambool, where the sides of the pavement are largely used by steel-tired traffic, it was necessary to lightly surface the shoulders of the roadway, and 22·38 miles were treated with crushed rock or scoria.

On the Melbourne–Geelong section of the Prince's Highway West, a length of 5½ miles west of the Little River was widened and re-sheeted with fine crushed rock and sealed.

On the eastern section of the Prince's Highway, from Oakleigh to the New South Wales border, patrol maintenance and minor works were carried out during the year, resulting in a considerable improvement to the road surface.

The section of the Prince's Highway between Sale and the New South Wales border, covering a distance of 195·73 miles, was systematically maintained by top-dressing, dragging and grading, improving the cross-sections on badly shaped curves by superelevating, repairing culverts and bridges, and erecting guard posts.

In addition, considerable improvements were effected by re-surfacing with a roadmix seal between Stratford and Delvine, improving the curve in the township of Lucknow, widening 2,000 feet of the highway between the Cabbage Tree and Club Terrace, re-aligning 62 chains approaching the Thurra River, and surfacing the Mt. Drummer section of the highway for a distance of 2·6 miles.

A contract was also let for strengthening a crooked and dangerous section of 4,000 feet on the eastern side of Mt. Drummer, beyond Governor's Bend. At Mt. Raymond, Euchre Creek, and Mt. Drummer, where the highway traverses rather broken country, the roadway was widened from 12 feet to 22 feet and 24 feet, the alignment was improved, curves superelevated, and gravelling carried out. In addition, an old single span bridge over the Euchre Creek was replaced by a new structure. Funds for this work were provided from unemployment relief grants.

The Bonang Highway, which extends from the northern boundary of the Orbost township to the New South Wales border, over a distance of 72·6 miles, was maintained by patrolmen, and a length of 7·2 miles was gravelled and metalled between the Little Bill and Bonang Rivers. From Spring Creek to the border, the highway was re-aligned, re-graded, and gravelled for a distance of 1·5 mile.

Maintenance by patrolmen was carried out on the Omeo Highway, including top-dressing, dragging, draining, scrub cutting, and painting and repairing of bridges and culverts.

In the Bendigo district, the work done largely consisted of sealing lengths of the highways, where macadam with a safe depth of pavement existed, and roadmaking materials were costly, re-constructing sections where the existing pavement was rough and uneven, and replacing a number of old bridges.

On the Murray Valley Highway, from Echuca to Swan Hill, light construction work was done during the previous two years with the object of providing an all-weather road over the full length. An experimental length of sealing on two inches of consolidated depth of crushed rock gave such excellent results, that further sealing, without increasing the depth of the pavement, was deemed to be economical and sound. It was found necessary to improve the alignment on parts of this section prior to sealing.

On the section of the Murray Valley Highway easterly from Echuca, a timber bridge over the Kiewa River Flats with 2,000 feet of macadam was completed.

One mile of the highway at Bullioh, east of Tallangatta, was formed, widened and gravelled by an unemployment relief gang under the direct supervision of the Board.

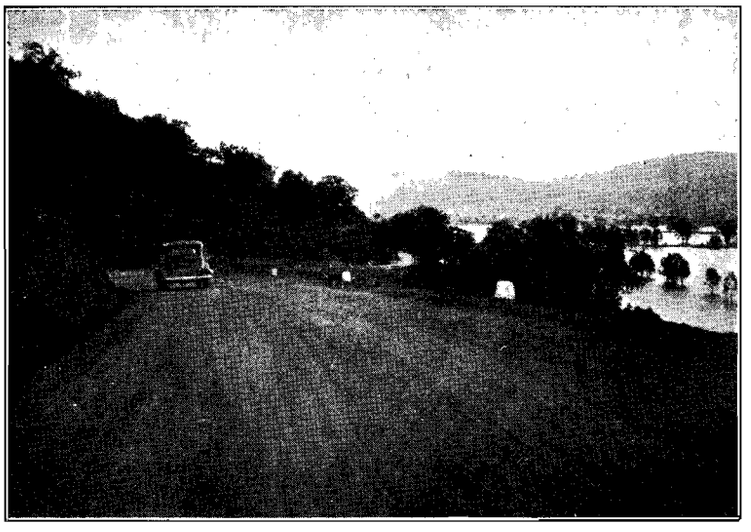


Plate No. 2.—Murray Valley Highway. Deviation at Hume Weir.

Between its junction with the Hume Highway at Barnawartha and McCoy's bridge, effective improvements were carried out on the Murray Valley Highway under a programme of re-construction, sanding, and continuous maintenance.

Plate No. 3.—Showing section of the Murray Valley Highway maintained with power-grader.

11·66 miles of new formation, re-forming and sanding 13·62 miles, re-forming and gravelling 5·19 miles and forming and grading 1 mile, were completed on Section 2 between Wodonga and Echuca. In addition, 5·72 miles of rough pavement were treated with a roadmix seal.

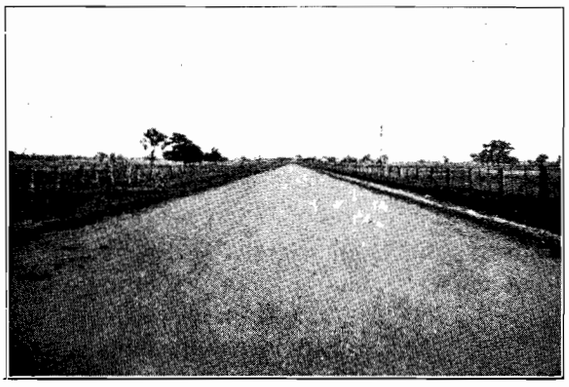


Plate No. 4.—Murray Valley Highway, showing re-sheeting east of Rutherglen.

That section of the Murray Valley Highway within the Shire of Upper Murray was maintained in good condition under patrol maintenance, and two sections were formed, graded, and gravelled by contract.

Within the Shire of Wodonga—in addition to regular patrol maintenance—3·19 miles were sealed, and a roadmix seal was applied over a length of 2·6 miles.

Between Mildura and the South Australian border 40 miles of tracks and old formation on the Murray Valley Highway were formed and re-formed to give an improved surface and alignment.

Where bridge re-construction was carried out considerable improvement in alignment was obtained in the majority of cases, and dangerous curves were eliminated.

With the exception of a length of 7 miles between Boundary Bend and Lake Powell, which is difficult to negotiate in wet weather without chains, the highway is trafficable at all seasons.

On the Calder Highway, north of Wycheproof, sealing of the gravelled roadway was continued as far as Dumosa. The sheeting of lengths of unsurfaced marl and the re-shaping of rough sections were completed between Sea Lake and Red Cliffs, thus providing a reasonable surface for the increasing traffic. Considerable trouble was experienced on the section of the Calder Highway near Nandaly owing to sand drifts. Due to the absence of autumn rains it was necessary to continue the scooping of sand until as late as July last.

Between Castlemaine and Bendigo the work of widening, re-aligning, strengthening and re-sheeting the rough and narrow road was continued, and this work will be completed at an early date.

Extending from Fawkner to the Murray River the Hume Highway was continuously maintained by patrolmen. North of Campbellfield where rough sections of road previously existed two miles of roadmix sealing was carried out.

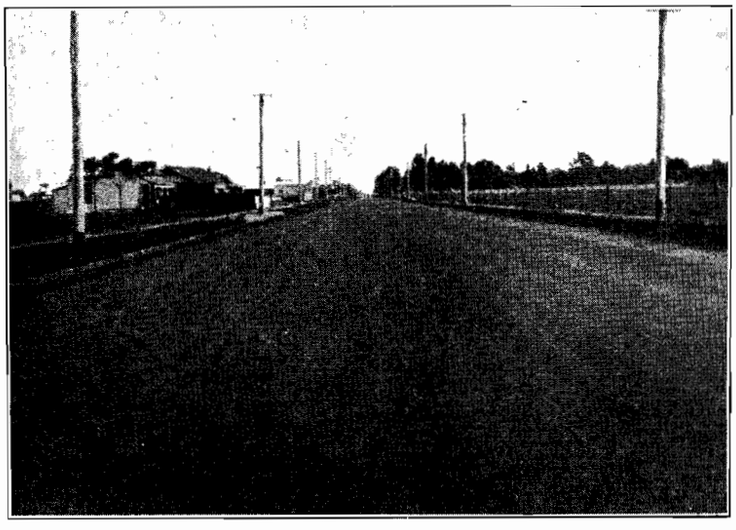


Plate No. 5.—Showing re-conditioned section of the Hume Highway north of Campbellfield.

Sections of the Hume Highway extending over a distance of 9·95 miles between Seymour and Avenel, and for a length of 5·28 miles from the Barnawartha subway to Wodonga, were treated with a roadmix seal. Improvements to the highway were also carried out by extensive premix patching, whilst from Seymour to the Murray River truck patrols attended to the maintenance.

Between Baddaginnie and Benalla a narrow bridge was widened by placing a concrete superstructure on the existing masonry abutments, and additional width was also given to two narrow concrete bridges between Springhurst and Chiltern.

At Barnawartha a new steel and timber superstructure was erected on the bridge over Frying Pan Creek.

The northern section of the Midland Highway, between Benalla and Shepparton, was systematically maintained by the patrolmen, and by priming and sealing three short sections a continuous sealed pavement has been provided.

From Benalla to the Maindample turn-off patrolmen operated over the whole section. At Lima South a new steel and timber bridge with approaches was erected on a new alignment to replace an old narrow timber structure.

The Western Highway has been carefully maintained throughout by patrol gangs, and re-sealing has been given special attention.

The sealing of the deviation at Armstrong near the overhead railway bridge and the re-construction and sealing of the rough metal west of Horsham have provided a continuous bitumen surfaced highway from Melbourne to Lochiel, a distance of 214 miles.

In addition, lengths between Gerang and Kiata have been linked up by sealing. It is hoped during the current year to seal a further 10 miles as far as the Lowan Shire boundary, which will give a continuous bitumen surfaced road from Melbourne to several miles beyond Nhill.

Between Clarendon and Buninyong, 4·52 miles of the Midland Highway were re-sheeted with gravel and sealed, and the section of 4·47 miles from Buninyong township to the Ballarat city boundary was similarly treated. With the completion of this work a continuous sealed pavement has been provided for a length of 36·98 miles from Ballarat to the north of Bannockburn, leaving only 8 miles of the highway to be completed.

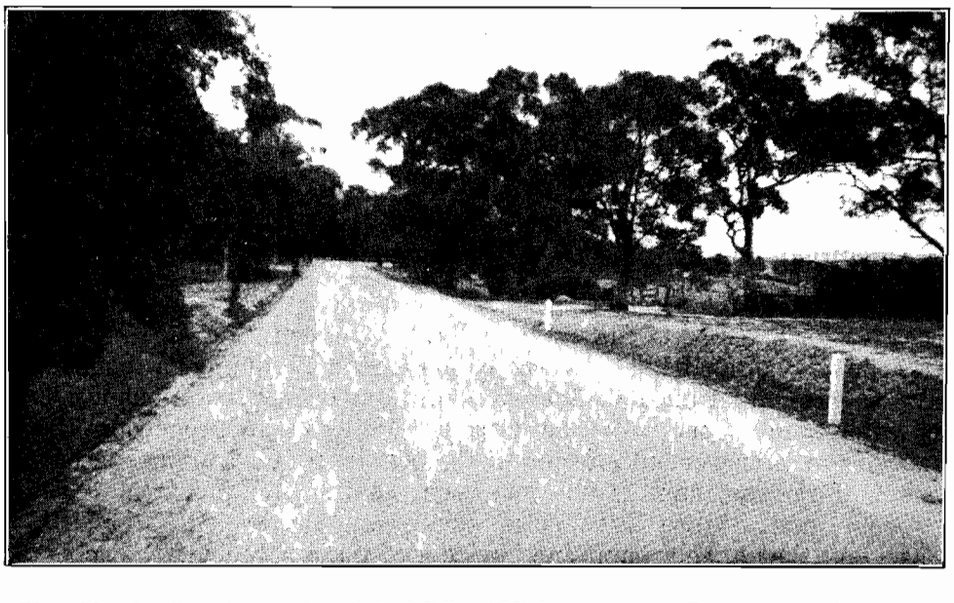


Plate No. 6.—Showing section of the Midland Highway between Buninyong and Ballarat.

The South Gippsland Highway was further improved by re-sheeting a length of 8.1 miles in extension of the work previously commenced between Cranbourne and Koo-wee-rup.

Plate No. 7.—Showing completed work on the South Gippsland Highway between Cranbourne and Tooradin.

MAIN ROADS.

The loan expenditure incurred in the construction of declared main roads during the last year, was £72,882, of which £50,370 represents the expenditure on country roads, and £22,512 on outer metropolitan roads. The amount was distributed amongst 43 municipalities, and 70 new works were carried out, particulars of which are included in Appendix E.

From Federal-aid road funds the sum of £65,372 was expended on main trunk roads, and £27,748 from funds provided under the National Recovery Loan Act No. 4097.

The balance of loan authorization for the construction of country main roads declared under the provisions of the Country Roads Act was £22,988 at the 30th June last.

Owing to the limited loan moneys available for country main roads, the expenditure was confined to works of the most urgent nature, such as the completion of works already commenced or linking up gravelled or metalled sections, and the extension of construction works for serving settlement.

In the construction of country roads the low-type method of construction was generally adopted, resulting in serviceable lengths being laid down with local gravel or crushed rock at low cost.

For the maintenance of 6,366 miles of declared main roads, an amount of £941,262 was estimated by municipal councils and the Board as necessary for the year, and £629,197 was allotted for that purpose from the Country Roads Board Fund, this sum being supplemented by an allotment of £119,485 from Federal-aid road funds.

Of the allotment made from the Board's fund, £551,406 was expended, and £103,597 from Federal funds, so that the expenditure on maintenance fell short of the allotted amount by £93,679.

The necessity for adequately maintaining roads has been referred to by the Board in its previous reports, and it is gratifying to be able to report that municipal councils generally are now more alive to the importance of adequate and systematic maintenance. A number of councils have, after discussions with the Board's District Engineers, and from their own experience, realized the improvement effected in the condition of roads in adjacent municipalities where the system of regular maintenance has been adopted, and have now awakened to the fact that organized methods are more economical than the spasmodic efforts practised by them in the past, and that a well maintained system of roads promotes the economic utilization of the roads. That it is uneconomical and wasteful to effect extensive repairs after the road has been allowed to deteriorate over a long period is being gradually recognized. The resultant

waste from these methods is well known to the Board to far exceed the amount necessary to keep the road in good order by regular and organized maintenance. It has been proved beyond doubt that expenditure on continuous maintenance is profitable on every type of road, and that neglect of maintenance is false economy.

During the past year 68·88 miles of new construction works, consisting of forming, gravelling, or metalling and construction of bridges, were added to those completed in previous years. The works were carried out by municipal councils, with the exception of ·21 miles constructed under the direct supervision of the Board.

Municipal councils carried out the maintenance of main roads, with the exception of those roads previously constructed or restored directly by the Board. Particulars are set out in Appendix E.

Many requests were made to the Board by municipal councils for the declaration of additional roads as main roads under the Country Roads Act, with a view to assisting councils in their maintenance. Owing to the fact that the funds at the disposal of the Board were only sufficient to maintain and progressively restore to proper condition the roads already declared, the Board was not in a position to accept any additional responsibilities.

Further assistance was, however, given to municipalities, under the provisions of Section 28 of the Country Roads Act, by reducing below one-third the councils' contributions towards the maintenance of such declared main roads on which it was proved to the Board that the cost of maintenance was excessive and that such cost was due to motor traffic not of local origin, or to timber traffic. The total amount by which municipal contributions were reduced during the year was £31,145.

Relief was also given to municipal councils, under Act No. 4140, by which municipalities were relieved of their liabilities in respect of permanent works on main roads, State highways, and developmental roads to a total amount of £99,990. With the savings made possible by this relief, the Board would urge upon municipalities the expediency of utilizing portion or the whole of the amount in giving attention to their side roads.

From funds provided under the Federal-aid roads agreement substantial assistance to the extent of £148,963 was also given to municipalities in the maintenance of main and developmental roads and roads previously constructed from Federal funds, resulting in the roads being considerably improved.

In the Mallee, due to the heat of last summer and prolonged windstorms, serious sand drifts occurred, and many miles of roads were blocked to traffic until the sand was removed.

As part of the plan for the gradual improvement of roads in the Bellarine peninsula, a further length of 2 miles of the Geelong–Portarlington Road was reconstructed between Drysdale and Portarlington, and with money provided from unemployment relief funds the Board was enabled to gravel a section of 5 miles of road between Queenscliff and St. Leonards.

In the township of Ocean Grove, new formation works for a length of 5,000 feet were completed during the year, and a total length of 2 miles of limestone surfacing was made available for traffic on the Barwon Heads–Torquay Road.

On the Airey's Inlet Road, widening and gravelling was commenced between Anglesea and Airey's Inlet, and a length of 1½ mile was completed.

On the Birregurra–Forrest Road within the Shire of Winchelsea, the formation of a deviation of the existing road constructed between Yaugher and Barwon Downs over a distance of 3¼ miles completes the formation of the road.

The formation of a new road from the Apollo Bay–Hordernvale Road at a point 12 miles from Apollo Bay to the Cape Otway lighthouse for a distance of 8 miles provides the first road connexion to the lighthouse.

The Loddon Valley Road extending from Bridgewater to Kerang was generally improved under patrol maintenance. North of Durham Ox, on the swamp cement and limestone section, a light application of crushed rock was spread to eliminate the slippery surface, and sealing was completed for a total distance of 8 miles.

On the Wyuna–Shepparton Road forming and sanding has provided an all weather road to the important town of Shepparton from the Riverina. With the increasing traffic this road

is destined to become an important thoroughfare in the near future, as it forms the connexion between the Murray Valley Highway and the section of the Midland Highway between Shepparton and Benalla.

In the Shire of Orbost, the Cann Valley Road, extending from its junction with the Prince's Highway northerly to the New South Wales border for a distance of 29 miles, was maintained under the direction of the Board's District Engineer.

Owing to damage caused by floods in January, 1934, the earth bank between two bridges crossing the Cann River was washed away, leaving a gap of 55 feet. This was spanned by extending the existing bridge.

The Genoa–Gipsy Point Road in the same shire was widened, superelevated, and partly re-aligned under the Board's direct supervision.

A three-span timber bridge was erected by day labour under the Board on the Wangrabelle Road to replace a bridge washed away by floods in January, 1934. The road was maintained by patrolmen for a length of 16 miles.

The feature of the year's work was the development of roads in the northern and north-western areas of the State, where extensive works serving agricultural and pastoral lands were carried out with funds provided from unemployment relief grants. Among these may be mentioned the Undera–Wyuna Road in the Shire of Rodney, the Durham Ox–Boort Road in the Shire of Gordon, and Goornong–Colbinabbin Road in the Shire of Waranga.

In the Arapiles Shire 4·3 miles of the Horsham–Natimuk–Edenhope Road was constructed in gravel or limestone.

Between Buloke and Litchfield on the St. Arnaud–Birchip Road in the Shire of Donald, 2·17 miles were surfaced with fine crushed rock.

On the Stawell–Warracknabeal Road in the Shire of Dunmunkle, the foundation course of sandstone was surfaced with gravel for a distance of 5·35 miles. The completion of this work has provided an excellent road between these two important towns.

The Shepparton–Numurkah–Cobram Road in the Numurkah Shire was further extended by forming and gravelling a length of 1·27 mile easterly from Katunga.

In the Shire of Romsey a section of the Lancefield–Tooborac Road, which was in bad condition, was relocated, formed, and gravelled near the shire boundary for a length of 1·48 mile.

The Cobram South Road in the Shire of Tungamah was formed and gravelled for a distance of 2·58 miles, and in the same shire 3·21 miles of the Katandra Road serving the Katandra Soldiers' Settlement were formed and gravelled.

Considerable improvement has been made in the condition of the Dimboola–Rainbow Road, the Stawell–Warracknabeal Road, the Ballarat–St. Arnaud–Birchip Road, and the Ballarat–Maryborough Road. On the Dimboola–Rainbow Road in particular, marked improvement has been effected after a long period of slow progress, the worst sections having now been constructed and bad turns given a better radius and superelevated.

St. Arnaud–Donald Road is now a bitumen surfaced road, 4 miles of reconstruction having been completed by the Donald Shire Council. North of Donald, sandstone construction has been extended nearly as far as Litchfield.

The Ballarat–Maryborough Road has been improved in the Borough of Clunes and the Shire of Talbot, but much remains to be done between Ascot and Clunes.

The road between Goroke and Natimuk is now reasonably passable in all weathers, although two very rough sections still require attention.

From Edenhope through Natimuk, Horsham, Rupanyup, Marnoo to St. Arnaud, the road has been further improved and bitumen surfacing extended.

The Creswick Shire Council is effecting many improvements to the Ballarat–Castlemaine Road.

The road connexion from Kaniva to Edenhope and Hamilton has been further improved, more particularly between Booroopki and Edenhope.

In the north-western areas sand drifts have given considerable trouble, more particularly south of Rainbow. Grants made available from unemployment relief funds will enable councils to deal with the roads affected.

The Ballarat–Creswick Road which in previous years had been blocked with flood waters two or three times a year has been dealt with by the construction of a bank and culvert, and the widening of the flooded section.

Details of other works carried out on declared main roads are given in Appendix "E."

DEVELOPMENTAL ROADS.

In previous reports of the Board, attention has been drawn to the urgent necessity of constructing roads to assist in the developing of rural areas of the State, particularly in those fertile districts not served by railways and far removed from the markets.

Owing to the curtailment of loan moneys, £56,158 only was expended from that source, or 3·62 per cent. of the total expenditure on all roads, but substantial aid was given to the municipalities in the construction of developmental roads by an expenditure of £142,708 provided under the Federal-aid roads agreement, and £55,461 from unemployment relief funds.

In constructing these roads, material help is being given to the settler in providing him with means of transporting his goods to the market and railway at all seasons of the year at cheaper rates. In addition encouragement is being given to him to remain on his holding and he is afforded facilities for reaching his nearest town, where he and the members of his family are given an opportunity of enjoying the social amenities associated with country life.

With 54 per cent. of the road system of the State entirely unsurfaced, and many settlers occupying land to which no road access has yet been provided, the problem of road provision is still a vital one, which can only be dealt with from time to time as funds become available. In this way the most pressing needs are being catered for and a gradual improvement is being effected, but with tne limited funds available the demands can only be met by stages over a period of years.

Whilst the sum of £6,371,863 has already been expended from loan moneys on the construction of developmental roads, and many miles of serviceable roads are added from year to year, there is still an insistent public demand for more roads, and while the necessity prevails and the economic justification exists, the work of road building must go on in order to ease the burden of those settlers not yet provided with road facilities and to keep pace with the development of motor traffic.

The work completed during the last year comprises the extension and linking up of existing roads and the construction of new roads. 115·87 miles of new works were added to the works on declared developmental roads completed or partially completed from loan moneys to the 30th June, 1934. The whole of these works were dealt with by shire councils. Details of expenditure are given in Appendix D.

From funds provided under the *Federal-aid Roads Act* 1931, an expenditure of £18,326 was incurred in maintaining the developmental roads previously constructed from the grant.

In restoring roads damaged by floods an amount of £31,398 was expended of which £15,699 was provided from a special grant from the Commonwealth Government to the State for the purpose, supplemented by a similar amount from the Federal-aid roads fund.

The progress made in land development in recent years, particularly in the southern and north-eastern portions of the State, is a pleasing feature resulting from the construction of roads in undeveloped areas. Land settlement is being extended adjacent to and in the vicinity of new roads, and settlers and farmers themselves freely testify to the value and benefit to them of the roads provided.

In the Whitlands district there are now eleven settlers with young families who all entered into occupation of land as soon as the road was constructed, and by their own efforts have already erected a school building capable of accommodating twenty pupils.

In the Tolmie district, the Tolmie Road, Tolmie–Whitfield Road, Toombullup Road, and the Tolmie East Road, which were previously constructed directly by the Board, have been continuously maintained under the Board's supervision by a truck patrol stationed at Tolmie. As in the Whitlands area considerable settlement has taken place on and in the vicinity of the central Tolmie Tablelands since road construction works have been completed.

On the Rose River Road a length of 2 miles of the existing road was widened and reconstructed between Cheshunt and Dondangadale, thereby greatly assisting the settlers in reaching the railhead at Whitfield. Continuous maintenance has been carried out along this road.

Plate No. 8.—Rose River Road near Dondangadale.

At the head of the Rose River an outlet is now being provided to enable settlers to transport their produce to Whitfield.

Approximately ¾ mile of the Whitlands–Myrrhee Road was cleared, formed, and graded in order to provide an outlet for the settlers between Whitlands and the Boggy Creek Road, and this work is being continued to absorb the funds available.

In the Otway Shire, clay sections of the Ferguson–Charley's Creek Road were surfaced with gravel or crushed rock and an all-weather road is now available between Ferguson and Colac over a distance of 24½ miles. The completion of this road is of particular importance to settlers in the Otway area lying to the west of Ferguson, as it provides direct access to the important town of Colac.

In the eastern portion of the State, the Ambyne Settlement Road was extended by 1,000 feet and the construction of a light suspension bridge over the river was put in hand. The completion of this work will provide an all-weather crossing, the lack of which has been hampering the settlers in this area for some time past.

The Buchan Ensay Road was considerably improved by forming and grading boggy clay sections, erecting culverts, and cutting scrub between the end of the existing side cutting and the Nowa Nowa–Buchan Road.

In the Shire of Tambo the construction of the Kalimna West Road, which was commenced last financial year, was completed, thereby providing the necessary transport facilities for settlers in the promising Nungurner district.

In continuation of the work commenced during the previous year 6,607 feet of grubbing, clearing, forming, and grading, including the provision of culverts, was undertaken on the Dellicknora Road in the Orbost Shire.

The Lake Tyers Road which forms the connexion between the Lake Tyers Aboriginal Station and the Prince's Highway was improved by filling in potholes, forming, and sanding. This work is being continued during the current financial year.

With funds provided from unemployment relief grants, 8 miles of the Errinundra Road from the Combienbar turnoff to the Ada River were improved by re-aligning two very sharp bends, filling ruts and holes, removing fallen timber, and repairing bridges and culverts, and 4,100 feet of grubbing, clearing, forming, grading, and provision of culverts was completed.

The Bendoc Road in the Shire of Orbost was constructed for a length of 4,380 feet from the bridge over the Bendoc River to the township of Bendoc, the cost of the work having been provided from unemployment relief funds.

Particulars of other works completed on declared developmental roads are shown in Appendix "F."

FEDERAL AID ROADS.

The programme of construction works was continued in conformity with the Board's policy of progressive construction and improvement year by year, and the effect of this progressive scheme is now reflected in the better highways throughout the State.

Constructional works, which were formerly provided for from loan moneys, have been considerably curtailed, owing to the reduction of moneys available from that source, but with the use of Federal-aid funds the Board has been able to carry through a large number of works of major importance, both to the municipalities and to the State.

In the development of the transportation facilities of the State, a stage has now been reached which makes the continuance of Federal-aid funds essential for the carrying on of the work of road construction, particularly in the building of developmental roads and roads to serve isolated farms.

The importance of the Federal grant cannot, therefore, be too strongly stressed, as without it the construction of new roads would cease, except in cases where unemployment relief funds are provided.

During the year, the sum of £400,230 was made available to the State under the agreement. Supplemented by an amount of £224 brought forward from the previous year, an expenditure of £398,972 was incurred, and commitments of a total amount of £51,035 to be carried forward to the financial year 1935–1936 were entered into.

In view of the importance of developmental roads to the settler, the major portion of the Federal grant was expended on roads of that character. The total expenditure was £142,708, inclusive of £27,699 on roads to isolated farms.

On State highways, £17,748 was expended, £9,343 of which was spent on the erection of new bridges, and the balance of £8,406 in re-aligning dangerous curves and reconstructing bad sections.

On the construction of main roads, £65,372 was expended. To assist municipalities in the maintenance of main and developmental roads previously constructed from Federal funds, £50,240 was allotted during last year, of which £45,366 was expended to the 30th June. £103,597 was also expended on the maintenance of declared main roads from a supplementary allotment from Federal funds.

The length of developmental roads constructed was 265·96 miles, and 100·7 miles of main roads were reconstructed and improved.

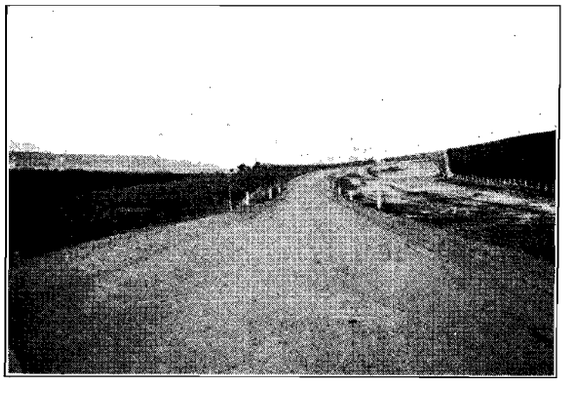


Plate No. 9.—Showing new section of Murray Valley Highway beyond Tallangatta.

UNEMPLOYMENT RELIEF WORKS.

Under Unemployment Relief Act No. 4097, a total amount of £130,158 was allotted during the year under review, and £2,000 from the Unemployment Relief Taxation Fund. Supplemented by an amount of £9,124 brought forward from the previous year (of which £3,900 was subsequently withdrawn), together with a contribution of £4,561 from the Country Roads Board Fund to cover the cost of materials, surveys, &c., the total amount available for expenditure to the 30th June, 1935, was £141,943.

Owing to the fact that the sum of £11,350 was not made available until the latter part of the year, it was possible to expend only a small portion of the sum before the 30th June. In addition, phenomenal rains in December and April last prevented a number of projects being proceeded with as speedily as desired, with the result that the total expenditure was £95,329, leaving an amount of £48,027 to be carried forward to next financial year.

Eighty-one municipalities participated in the expenditure, which was spread over 141 developmental roads, 23 main roads, and three State highways. One hundred and twenty-four projects were carried out by day labour and 50 by contract. The work provided rationed employment for 5,250 men representing various occupations, apart from the labour involved in producing the materials, and at the same time was the means of assisting settlers by giving them much needed road access. In addition, the whole of the work which was well adapted to day labour conditions was distributed over a large area of the State, and contributed in no small degree to relieving distress among a large section of workers. For every £1 expended from unemployment relief grants, it can be reliably estimated that 80 per cent. was expended on direct labour.

Plate No. 10.—Nayook–Powelltown Road near Nayook constructed with Unemployment Relief Funds.

From the above allotments £12,450 was allocated for the far eastern section of the Prince's Highway in the Orbost Shire in widening and re-aligning with a view to increasing the safety of the highway, and £3,000 for the construction of the Murray Valley Highway in the Shire of Towong.

For the construction of main roads £10,805 was allotted, £10,055 for works under the direct supervision of the Board, and £750 under shire councils.

The total allotment for the construction of roads of a developmental character was £80,903, of which £47,095 is being expended on works under the Board's direct supervision, and £33,808 under the direction of municipal councils; the expenditure during the year was £55,576.

Plate No. 11.—Beechworth–Chiltern Road, formed by Relief Labor.

By making available towards the close of the year the sum of £21,950 for the construction of roads to closer settlement estates, on condition that the settlers assisted in the cartage of materials and that satisfactory arrangements were made by the council for the maintenance of the roads, an opportunity has been given of providing roads to the settlers' blocks, thereby removing the disabilities under which many of them have been obliged to carry on for many years. In the past municipal councils have been unable to construct suitable roads to serve these settlers, as the amount of rates derived has been altogether disproportionate to the cost of road construction, particularly in cases where councils have not been able to collect rates since the depression began. The new roads will be of material advantage to the settlers and should be the means of cheapening transport costs to the butter factories and markets.

To the 30th June, £4,004 was expended from the grant. With the exception of roads in the Berwick Shire supervised by the Board, the whole of the work was carried out under the supervision of the shire councils.

Another valuable contribution towards better roads was the provision of £4,108 by the Employment Council for sand surfacing of roads used by fruit growers in the Shepparton district, and the improvement of existing roads by applying a coat of bitumen. Realizing that an essential to success in the industry is the delivery of soft fruits in good condition at the cannery, the growers themselves by co-operative effort defrayed the cost of cartage of materials to the roads. A total length of 10·76 miles of roads was dealt with. The growers intimated their intention of further assisting in a similar manner next financial year should additional funds be made available. Out of the sum provided, the total expenditure to the 30th June was £3,414.

For the construction of roads used for the cartage of forest produce, the sum of £25,000 was included in the allotment made. One hundred and forty-eight separate projects which are being carried out under the supervision of municipal councils are being provided for.

These works which the municipal councils have undertaken to maintain on completion are of a very useful nature, inasmuch as they facilitate the cartage of timber from State forests, and in many instances are of considerable benefit to settlers in transporting their produce from their farms situated in the vicinity of the forest areas.

ROADS TO ISOLATED FARMS.

A phase of improved road construction that has manifested itself during recent years is the feeder system of roads connecting with the State highways, main and developmental roads, and thus supplying suitable means of transport from the farm to the railway or market. The importance of these feeder roads is continually being emphasized by municipal councils and settlers, but with the limited funds available the Board can only deal with the most pressing needs year by year.

The real value of the main and developmental roads will be fully realized when these feeder roads have been completed. The benefits to the settlers and the social and educational advantages accruing from these farm to market roads, cannot be computed in terms of pounds, shillings, and pence. The aim is to provide rural communities with suitable roads which will enable them to reach their markets and to carry a reasonable load at all times of the year.

The subject is one which the Board has stressed in previous reports, as it is recognized that good roads giving access to land are a factor in enabling the farmer to obtain some reduction in his costs. Roads of this character have, in addition, a direct effect in retaining on the land settlers already there, and they are absolutely essential to the farmer to enable him to cheaply and rapidly transport his goods by the modern motor vehicle which has proved a convenient and flexible form of transportation. Not until every farmer has been provided with the means of transporting his produce at any season of the year can it be said that our road system is satisfactory.

With the construction and improvement of the major portion of the declared State highways and main roads well in hand, attention is being given to roads to isolated farms.

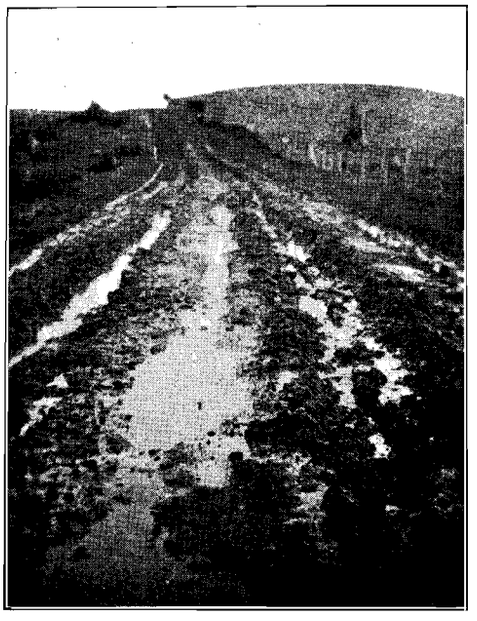


Plate No. 12.—Showing unmade road used by settlers near Jumbunna.

The insistent demands made on the Board for improving the road conditions under which many farmers are forced to live, justified the Board in providing last year a larger sum for expenditure on roads to isolated settlers than in any previous year.

By utilizing local materials, the building of roads of this nature is being done at exceptionally low cost, and the people of the district, who are being employed in their construction, are also being assisted, inasmuch as money is being circulated among them.

During the year under review, applications for the construction of 507 roads to serve isolated farms at a total cost of £86,750 were received by the Board, but the funds available would permit of the allotment from Federal funds of £23,686 only, for the most urgent cases.

The sum of £27,699 was expended on constructing roads to isolated farms. This amount was either supplemented by contributions from shire councils or from the settlers themselves, or the farmers whose properties were served by the roads gave material assistance in carrying out the formation work or carting and spreading the gravel. A considerable amount of additional work was thus put in hand and longer sections of road were laid down than would have been possible with the funds allotted.

Two hundred and eighty-seven roads, serving 501 farms, were added to the list of roads constructed or put in hand for the use of settlers isolated from the main system. Forty-three shires participated in the expenditure.

DAMAGE BY FLOODS.

In December and April last, exceptional floods caused widespread damage to roads and bridges in the north-eastern, northern, western and eastern districts of the State, necessitating repairs costing approximately £92,630 during the year.

The cost of the work was provided for from a grant of £87,256 made by the Commonwealth Government to the State, supplemented by a contribution £22,741 from the Country Roads Board Fund, £47,339 from the Federal-aid roads fund and £9,444 from municipal councils, so that the total amount made available was £166,780, which was allocated in the proportion of £6,000 to State highways, £98,259 to main and developmental roads, and £54,831 to roads under the control of municipal councils. The balance has since been absorbed.

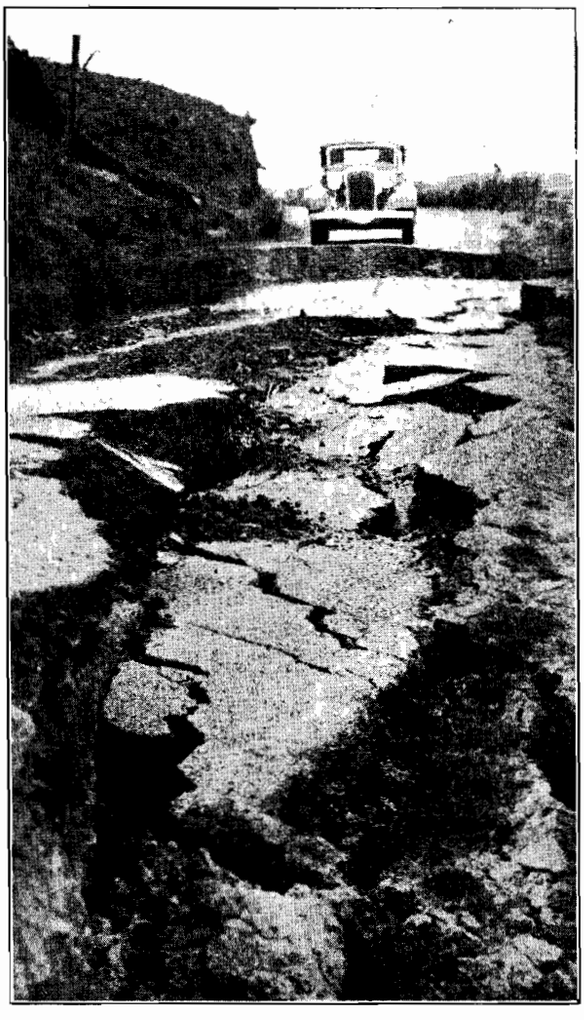


Plate No. 13.—Showing landslide on the Allambee–Childers Road caused by heavy rainfall.

In parts of Gippsland, where the greatest damage was caused, many roads constructed in the hill country subsided, consequent on the heavy and continuous rainfall, 12 inches in 24 hours, precipitating the surfaces of the roadways with thousands of tons of earth in the gullies below, and numerous landslides occurred, which blocked the roads at various points. Some idea of the havoc caused may be gained from the photographs shown in plates Nos. 13 and 14A.

The damage caused to roads under municipal control was, in many cases, so extensive that it was quite beyond the resources of several municipalities to meet the cost of repairs, but with the financial assistance rendered by the Commonwealth Government, together with contributions from the Board's Fund and from the municipalities, essential services were speedily restored and the work of restoration was at once put in hand. In the Shire of Upper Yarra some delay took place in completing the necessary repairs, on account of the extensive nature of the damage.

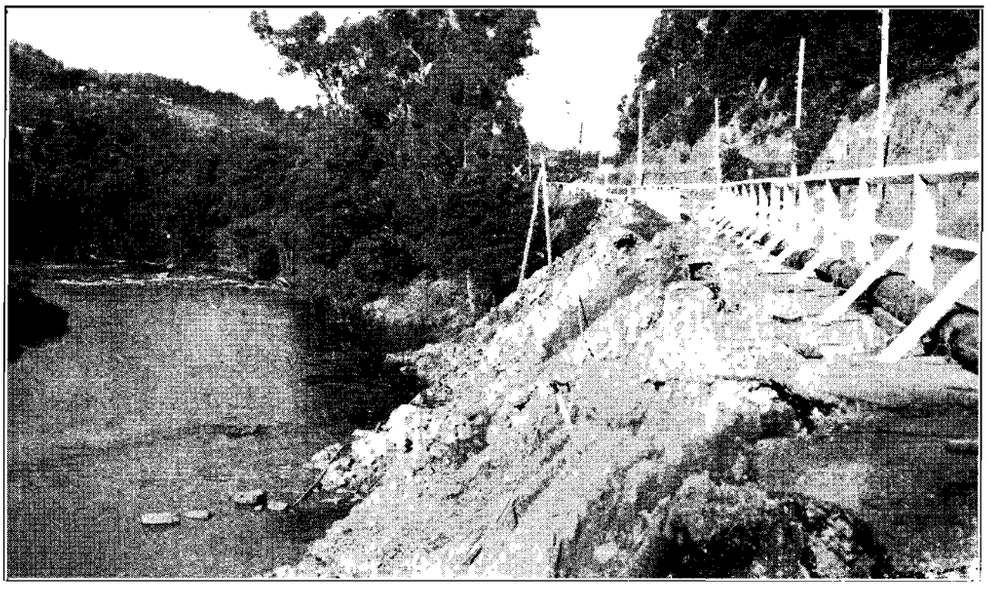


Plate No. 14.—Showing damage on Main Warburton Road near Warburton.

On the Prince's Highway, although there was no extensive damage, car traffic was inconvenienced for some days owing to the overflow of the rivers and streams. At Eumemmerring Creek, between Dandenong and Pakenham, the approaches to the bridge were washed out, and similar damage was caused at the bridge over the Bunyip River at Bunyip, and at the structure over the Moe River between Warragul and Yarragon.

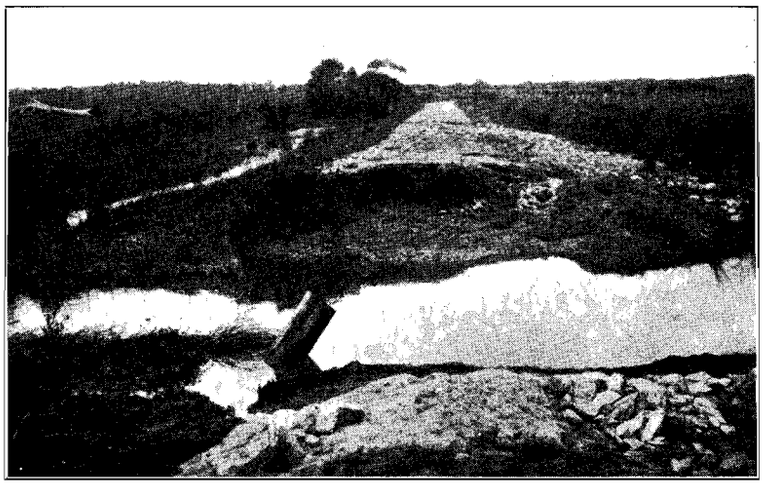


Plate No. 14A.—Showing damage on McCraw's Road, Korumburra Shire.

At Rosedale, where flood waters covered the handrails of the bridge at the township end, traffic was held up for some days until the waters subsided. In view of the frequency of floods at this spot, it is proposed by the Board to at once erect a high-level bridge immediately downstream from the present site to take the place of the three existing timber structures.

On the Main South Gippsland Road the bridge over the Tarwin River was completely swept away, cutting off communication with the town of Leongatha. Steps were immediately taken by the Board to restore communication by the erection of a temporary bridge.

Extensive erosion caused by floods to the banks of the river Avon at Stratford necessitated prompt measures to prevent serious damage being caused to the bridge which forms an important link on the Prince's Highway. The necessary work, which entailed considerable expense, is now in hand.

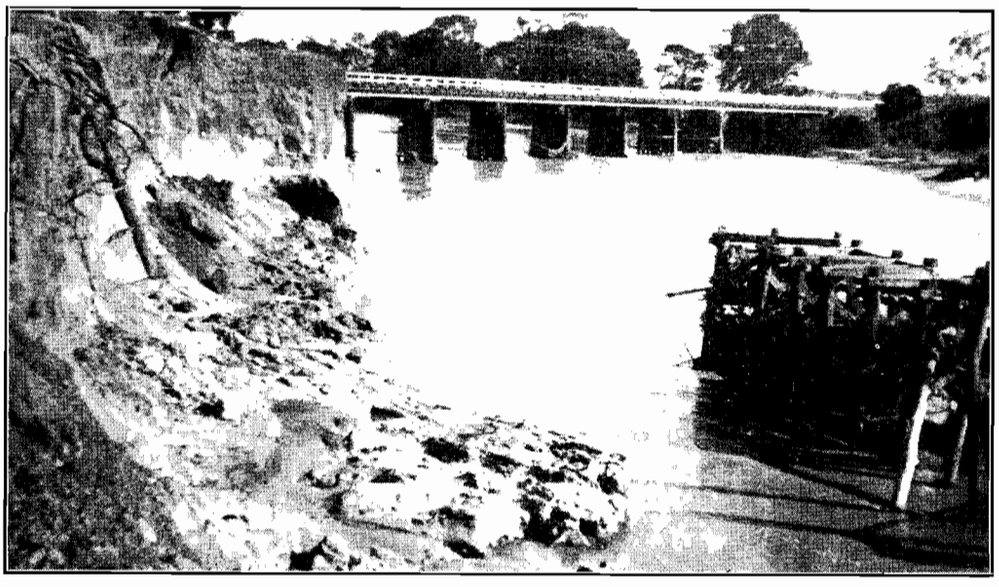


Plate No. 15.—Showing damage to banks of the River Avon at Stratford.

BRIDGES.

Owing to the disastrous floods of December and April last, a large number of bridges and culverts were seriously damaged or washed away, the damage being chiefly confined to the northern, north-eastern and western districts of the State. Where bridges were not damaged, traffic was, in many instances, interrupted for some days before the waters subsided.

In the watersheds of the Yarra, Latrobe, Tarwin and Bass Rivers, where the rainfall was heaviest, the greatest amount of damage to roads and bridges occurred, and, as many of the structures which had been erected a number of years ago were not capable of withstanding the severe floods on account of their weak condition, heavy loss was sustained. In the case of newly-constructed bridges, however, little damage was caused beyond damage to the approaches.

Plate No. 16.—Showing damage by floods at bridge over the Bunyip River on the Prince's Highway.

Plate No. 16A.—Another view showing damage by floods at bridge over the Bunyip River on the Prince's Highway.

On the State highways, bridges and culverts were not affected to any great extent, and where damage did occur it was mainly the approaches to the bridges that were interfered with.

Among the more important bridges erected by the Board under its direct supervision was that on the Hume Highway over the Ovens River at Wangaratta. A contract was entered into for the construction of the bridge and approaches. The structure consists of a three-span deck type, welded plate girders, with reinforced concrete piers and abutments on piled foundations. The deck constructed of timber provides a roadway 22 feet wide with a 6-ft. footway. The bridge is 240 feet long and cost £8,000. The new structure is shown in Plate No. 17, and full details of construction are given in the report of the Chief Engineer.

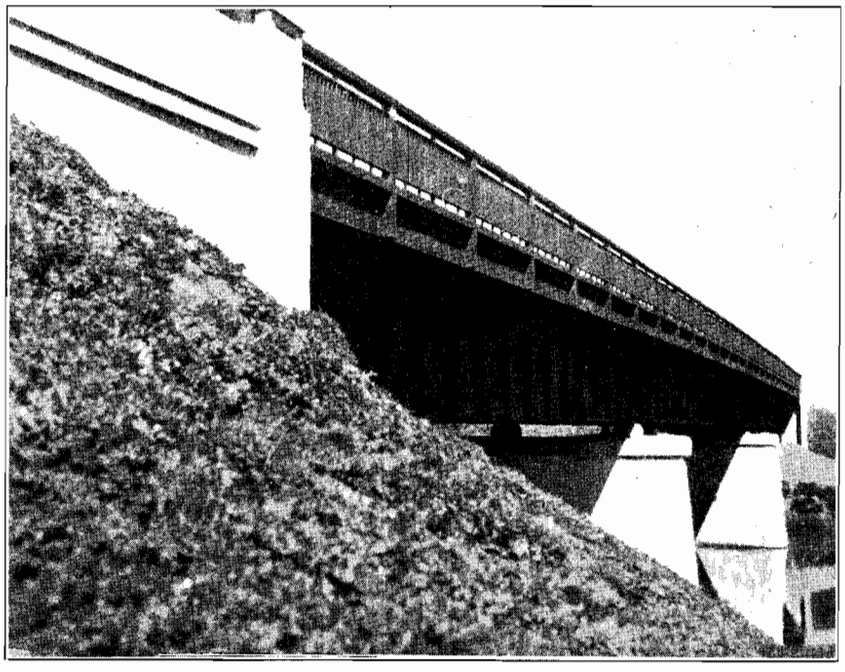


Plate No. 17.—Showing the new bridge over the Ovens River at Wangaratta.

Another work of importance undertaken by the Board was the erection of a new bridge over the Ovens River on the Murray Valley Highway at a point known as Parollo's. The new structure, which is to be a concrete tee beam type, will on completion be 730 feet in length, and will be above high-flood level.

A contract was entered into for the erection of the new bridge for the sum of £9,966, whilst the cost of the materials, which are being supplied by the Board, will bring the total cost to £12,500. It is intended to let a separate contract for the construction of the approaches. Details of construction are supplied in the report of the Chief Engineer.

Plans and specifications have been prepared for the erection of a new high-level bridge on the eastern section of the Prince's Highway at Rosedale, on an alignment immediately downstream from the existing line. It is proposed that the new structure be constructed in two sections, one bridge to be 950 feet long at the Rosedale end, and the other 550 feet in length on the Sale side over the main channel of the Latrobe River, with a connecting bank 650 feet long.

On the Calder Highway, north of Wedderburn, a bridge commenced last year and described in the Board's last annual report was completed at a cost of £645.

Plate No. 18.—Showing new bridge erected on the Calder Highway, north of Wedderburn.

The reconstruction of the trusses and the strengthening of the piers of the McKillop Bridge at the junction of the Snowy and Deddick Rivers, which was partially destroyed by floods in January, 1934, was completed during the year, and the timber superstructure is now being erected. Particulars of the work done are contained in the Chief Engineer's report. The new structure will be 840 feet long, and is estimated to cost £12,320 when completed.

In the Shire of Yea, the structure known as Devlin's Bridge over the Yea River on the Glenburn Road was washed away by floods in December last. In view of the urgency of providing for traffic at the earliest possible date the work was put in hand by day labour. The bridge, which cost £2,329, is described in detail in the Chief Engineer's report.

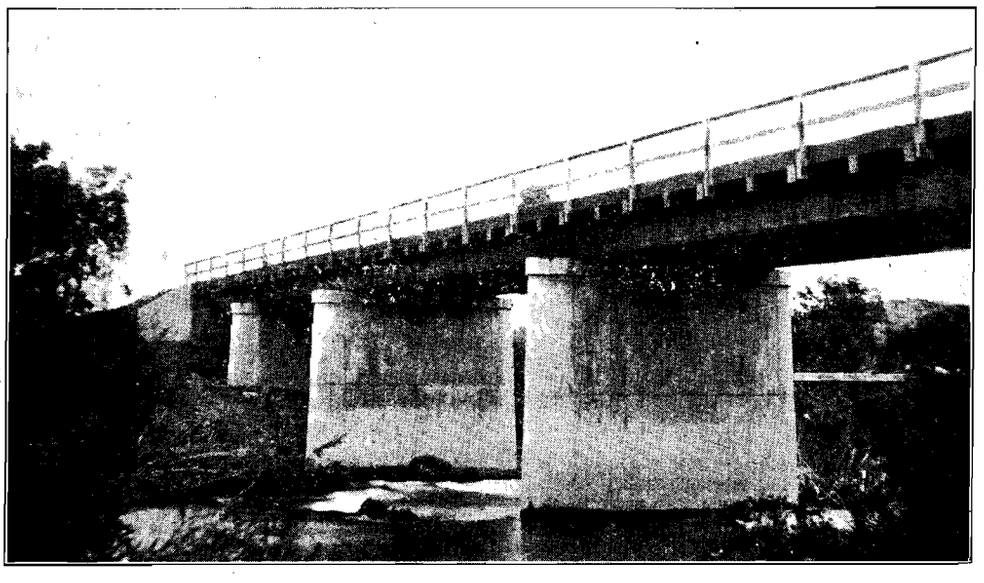


Plate No. 18A.—New bridge (Devlin's) on the Glenburn Road.

On the Deddick River Road at Cabanandra, a bridge 60 feet long, comprising concrete piers, steel joists and timber deck, with a width of 15 feet was erected over the Deddick River at a cost of £1,092.

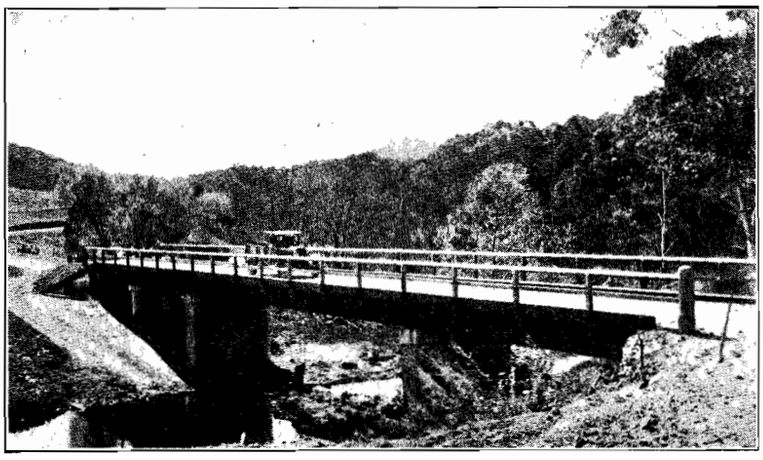


Plate No. 19.—Showing new bridge on the Deddick River Road at Cabanandra.

The Deddick River crossing to the Ambyne Settlement in the Shire of Orbost has been a source of trouble for several years on account of traffic being frequently blocked when the river rose, and extensive damage was caused to the crossing even after minor floods, owing to the velocity of the current. To overcome the difficulty it was decided to construct a suspension bridge capable of carrying vehicles up to 3 tons in weight. The structure consists of 100 ft. central suspended span, with two 30 ft. stringer approach spans, with a deck 8 feet in width. The cost was £750. Further particulars are given in the report of the Chief Engineer.

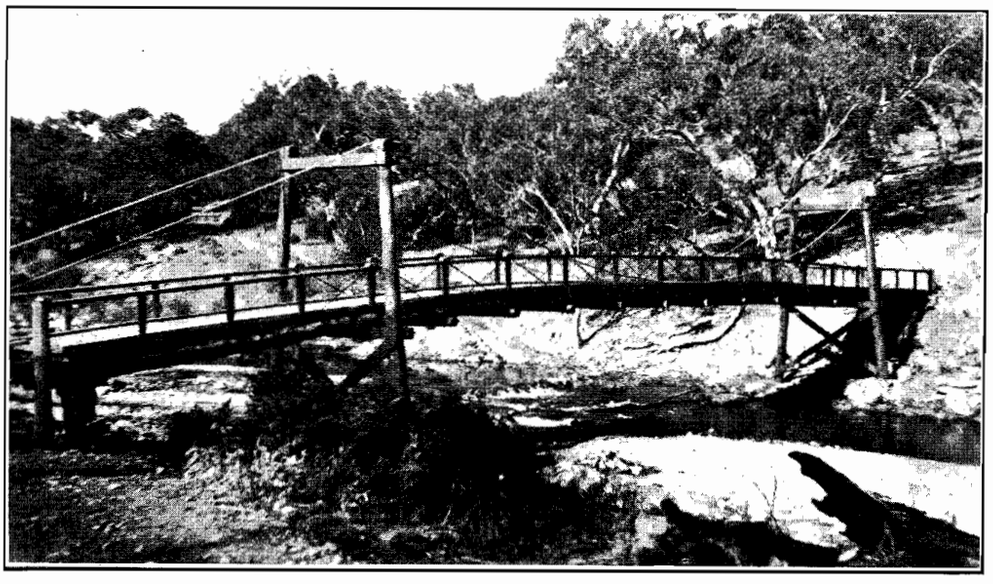


Plate No. 19A.—Suspension bridge over Deddick River.

Between Clunes and Talbot a substantial timber bridge over McCallum's Creek at Dunach on the Ballarat–Maryborough Road was constructed to replace a worn-out structure damaged by floods during the previous year. The cost of the work was £871.

On the western section of the Prince's Highway an old worn-out timber bridge 180 feet in length over the Mount Emu Creek at Panmure was replaced at a cost of £1,676, by a composite structure, comprising concrete piers, rolled steel joists, and timber deck, the existing masonry abutments and sub-piers being retained.

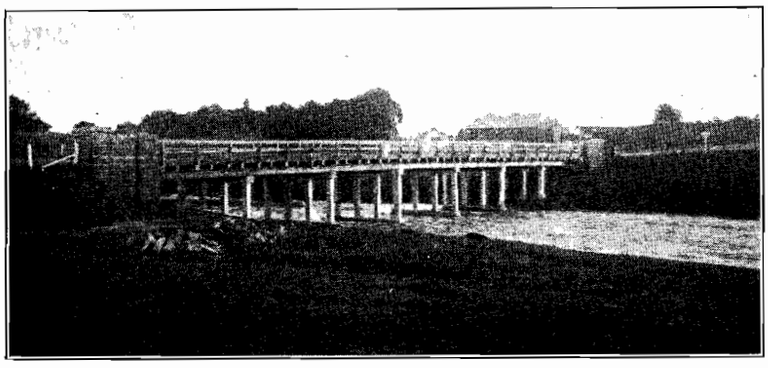


Plate No. 20.—Showing new bridge erected over the Mt. Emu Creek at Panmure on the Prince's Highway.

A number of unsafe and narrow bridges on State highways were replaced during the year with new structures. On the Hume Highway 4 bridges were reconstructed at a total approximate cost of £1,400.

On the Western Highway near Ballan a bridge 60 feet in length and 22 feet wide was erected over Paddock Creek. The structure has cantilever end spans with embankments protected by spalls. The cost of the work was £750.

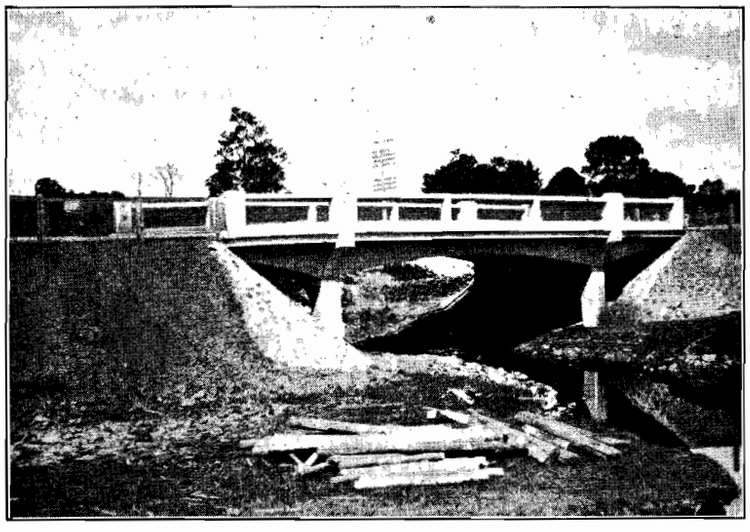


Plate No. 20A.—Showing bridge erected over Paddock Creek on the Western Highway near Ballan.

On the Western Highway widening and repairing of bridges was carried out as far as funds would permit. It is intended to continue this work during the present financial year.

OUTER METROPOLITAN ROADS.

Under the *Country Roads (Borrowing) Act* 1933, No. 4188, provision was made for borrowing an amount of £100,000 for the purpose of constructing such roads as may be declared main roads under the provisions of the Country Roads Act, and thereafter assisting the municipalities concerned by a contribution of two-thirds of the cost of maintenance from the Country Roads Board Fund.

The intention of the Act is that certain sections of roads between declared main country roads leading to the metropolis and tramway termini or connecting with through metropolitan roads should be placed in good condition and after construction kept in order under a proper system of maintenance.

In accordance with this authority a commencement was made last year on reconstructing to a width of 30 feet a length of 3.05 miles of the Beach Road within the City of Mordialloc, extending from its junction with the Point Nepean Road in the township to the boundary of the City of Sandringham ; the work was carried out in rolled concrete covered with a bituminous top.

The road which was completed in May last has proved satisfactory and quite suitable for the traffic. The total cost, including half the cost of moving water and gas mains and effecting necessary alterations to drainage, will be £24,680, or £8,100 per mile ; £24,594 was expended to the 30th June last. Technical details of the work done are given in the Chief Engineer's Report.

To cope with the increasing traffic it was decided to widen the existing arch-bridge over the Merri Creek on the Main Heidelberg Road, and plans and specifications, which were in course of preparation at the end of the financial year, have since been completed.

A contract has been entered into for the work, provision having been made for preserving the main features of the present structure.

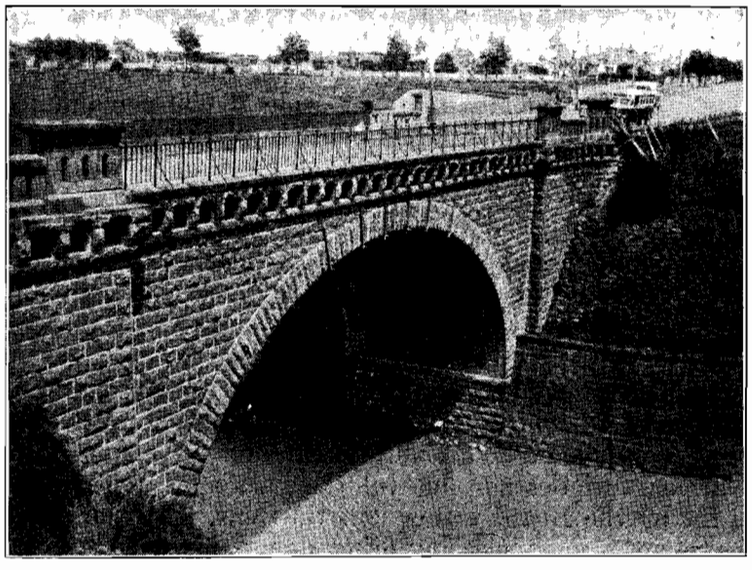


Plate No. 21—Showing existing bridge over Merri Creek.

Plans and specifications were prepared by the City Engineer of Footscray, in collaboration with the Board's Engineer, for the reconstruction of a section of Napier Street at the City of Melbourne boundary. It is proposed to use a rolled concrete base covered with surfacings of various materials by way of experiment, so that opportunity may be taken to observe the effect of the heavy industrial traffic on the pavement.

TREE PLANTING.

Widespread interest has been shown during recent years in the beautification of the highways by the appropriate planting of suitable trees and shrubs, and this work has been enthusiastically carried on in co-operation with the Board by municipal councils, the Tree Planters' Association, and local progress associations, with practical assistance from the Nurserymen's and Seedsmen's Association, and others.

Having in mind that the planting of the roadsides is for all time, the Board has taken into consideration the necessity of so designing any scheme that trees will not interfere with the pavement should it be found necessary to widen it in the future. Co-operative relations have been established with the Postal Department and the State Electricity Commission, so as not to interfere with the existing power or communication lines, and the system of planting as well as the type of trees appropriate for the particular localities have been determined in accordance with previously approved plans, so that unity of idea will be secured for the whole length of highway.

The character of the soil and the contour of the surrounding country have been the determining factors in deciding on the type of trees for the various sections, and the plantations have been so arranged that they will not obscure the view of approaching traffic nor interfere with the entrances to adjoining properties.

Close attention has been given by the Board to the protection and preservation of trees and natural growth along the roadsides, improving the appearance of the roadside and retaining all its aesthetic features. The Board is of opinion that landscape development should be considered along with road construction, and every effort is being made to protect the growth of native timber on the sides of the road and preserve the existing standard of beauty.

To prevent the destruction of roadside timber the Board's officers exercise constant vigilance, and as a deterrent to others seven prosecutions were launched by the Board against persons cutting trees and destroying timber without authority, and fines were inflicted.

The utilization of funds derived from the sale of dead timber on main roads and State highways in planting additional trees and in replacing those cut down or destroyed was instrumental in improving the roadsides on many of the State highways and main roads, but the small sum available allowed only a limited number of trees being planted.

With a view to organizing a definite scheme, year by year, authority was given by the Government during last year for the Board to set aside £3,000 per annum out of the Country Roads Board Fund in order to supplement local effort in planting suitable trees along the roads referred to, and for the care and maintenance of the trees to be attended to by the Board's patrolmen.

With the co-operation of municipal councils, progress associations, and others, marked progress has been made during the present planting season in extending various schemes already commenced.

The Calder Memorial Avenue along the Prince's Highway West, extending from Melbourne to Geelong, for a distance of 34 miles—which was commenced in 1928—was completed during the year. The scheme consists of 230 plantations, each 10 chains long by ½ chain wide, containing trees of various varieties suitable for the particular section of the highway. The trees are being cared for by the Board throughout the year, with the result that they are now well established and present a most pleasing effect along this wind-swept highway.

On the eastern section of the Prince's Highway, extending for a distance of 18 miles, from Oakleigh to Dandenong, 2,000 trees of suitable varieties have been planted, thus completing the avenue commenced last year by the municipalities of Prahran, St. Kilda, Malvern, Caulfield, and Oakleigh. The efforts of these municipalities, as well as those of the Shires of Mulgrave and Dandenong, in co-operation with the Board and the Victorian Tree Planters' Association, have brought the scheme to a successful issue as far as the town of Dandenong. The Board is indebted to Mr. James Railton and Messrs. G. Rimington Pty. Ltd., for their gifts of trees, and to the municipalities mentioned for the interest and the part they took in the scheme.

The scheme has since been extended from Dandenong to Hallam for a distance of 1·2 mile, 180 trees having been planted in single line on either side of the highway.

On the Calder Highway in the Shire of Gisborne the line of trees planted in the previous years by the local shire council in co-operation with the Tree Planters' Association, under the direction of Mr. James Railton, was extended for a distance of 1½ mile. To date 750 trees have been planted from the township of Gisborne over a distance of 6 miles leading to Melbourne. Three-eighths of a mile of roadway has been similarly planted north of Gisborne in continuation of the existing avenue of trees.

Under the direction of the Keilor Shire Council, 20 chains of plantations were provided on the south side of the Calder Highway near Curly Hill.

On the South Gippsland Highway, in the Shire of Cranbourne, an avenue of flowering gums was planted by the Shire Council north of the township of Cranbourne.

The line of trees on the Omeo Highway at Swift's Creek, in the Omeo Shire, was extended by the Omeo Shire Council by the planting of an additional 40 trees.

The Shire Council of Donald carried out valuable work in planting avenues of trees on all declared main roads leading from Donald, and has intimated its intention of continuing the planting each year until every important road in the shire is planted from end to end.

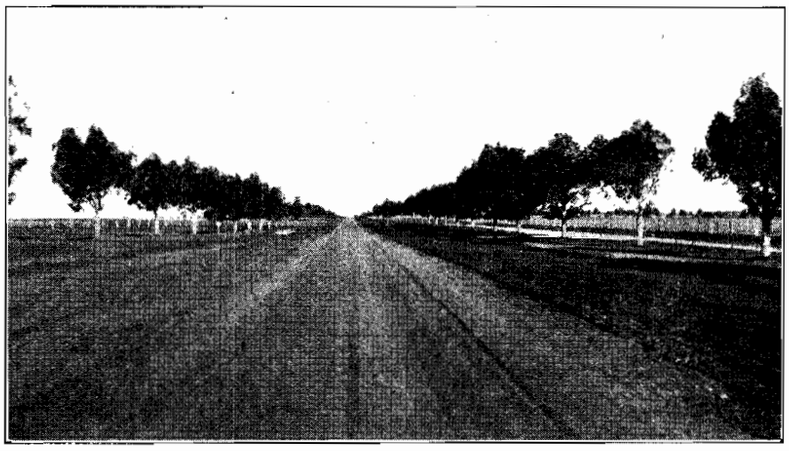


Plate No. 22.—Showing avenue of trees planted on the Donald-Charlton Road, two miles from Donald.

RESEARCH WORK.

For some years past the Board has experienced increasing difficulty in securing high-class timber for bridge construction, and in view of the scarcity of redgum, box, ironbark, and yellow stringybark, the standard of construction for many years has been messmate. It has been found, however, that although this timber is fairly widely distributed throughout the State, satisfactory quality cannot always be obtained.

As it is considered that within the next ten or twenty years it will not be possible to secure messmate of high-class quality, it will be necessary to utilize either second-class messmate or some of the other hardwoods, such as woolly butt, peppermint, white stringybark, mountain ash, &c., but no information is available as to the behaviour of these species which would justify their use in an unpreserved condition.

Having in view the possibility of being compelled to use the species mentioned in the near future, the Board communicated with the Council for Scientific and Industrial Research suggesting that experiments be undertaken by the Council with the object of obtaining information as to how they may be treated in order to render their use profitable.

Mr. I. H. Boas, Chief of the Division of Forests Products of the Council, intimated that one of his greatest difficulties in connexion with preservation work was the tendency of large timber growing bodies to consider that investigation of durability and preservation of timbers is not of interest to them because adequate supplies of timber are available at the moment, and it was refreshing to find that the Board had sufficient regard for the future to consider proper investigations before a shortage became acute.

Mr. Boas also stated that the problem would involve very careful inspection of existing structure timber identifications, preservation investigations, test of seasoning terms, &c., and to carry out this work it would be essential for an investigator to give the whole of his time to the project, the working plan in laying down the lines of investigation to be prepared by the Council in co-operation with the Board. The cost, including salary and travelling allowances of the investigator, would be approximately £500 for two or three years, but in subsequent years the cost would be very small. Towards this expenditure the Board offered to contribute £250 per annum for three years, but, owing to the fact that the Council had no funds available, the Board's offer could not be availed of. The Council hoped, however, that provision for the work would be made in the next year's estimates.

The Board regrets that for financial reasons the Council is unable to undertake for the present the investigations into this problem in co-operation with the Board, as the matter is one of importance, not only to the Board and municipalities, but to the timber industry in general.

The Board trusts that in the near future the necessary funds will be made available to the Council, so that tangible results will be achieved.

In the meantime the Board is utilizing the services of one of its officers, a graduate of the University, to carry on investigations with such technical assistance as the Council for Scientific and Industrial Research is able to give.

Rapid changes in road-building technique to meet modern requirements have taken place within recent years, due to the development of motor traffic, and changing traffic demands have resulted in improved methods of design and construction. The problems confronting the road builder to-day present many difficulties which are common to the different States of the Commonwealth, and in view of the importance of research in the solution of these problems, conferences of the Research Officers of the Road Organizations of New South Wales, Queensland, and Victoria were held in Melbourne, Sydney and Brisbane in July last.

Opportunities were given to the members of the conference to visit the laboratories of the Council for Scientific and Industrial Research (Forests Produce Section), the Ammunition Supply Board to the Department of Defence, the Australia Gas Light Company of Sydney, and the laboratories of the Road Authorities of New South Wales, Queensland, and Victoria.

As the result of its deliberations, the conference has submitted a number of recommendations for the standardization of methods of tests applying to road building materials including gravels, soils, aggregates for concrete and other work, bituminous materials, paints, lubricating oils, general materials and other fabrics and bituminous felts and fabrics.

These recommendations which will be considered by the Road Authorities at an early date, will, if adopted, either in whole or part, insure a higher standard of road building materials as well as economic justification for their use.

It is intended that similar conferences should be held each year, as it is felt that the attendance of officers at conferences of this nature is necessary for the achievement of results through co-operation, by which means individual officers will be in a position to acquire a thorough knowledge of everything going on in their work which can be expected to produce important improvements in the building of roads.

The work carried on in the Board's laboratory has formed a valuable adjunct to that being done in the field, and has played an important part in the construction and maintenance of State highways and main roads. With the rigid laboratory tests of various roadmaking materials, and with careful investigation on the road of the behaviour of these materials, pavement failures are reduced to a minimum.

The following summary indicates the nature and extent of the work carried out in laboratory for the twelve months ended 30th June, 1935 :—

—	Number of Samples.	Number of Tests Involved.
Soils	115*	546
Gravel, concrete aggregates, &c.	707	707
Bitumen, tar, flux oils	819*	1,670
Lubricating oils	43*	150
Total	1,684	3,073

* Each of these samples required individual tests.

In addition, tests were carried out on tent fabrics, and on mixtures of cut-back bitumen and aggregate taken from road surfaces in an endeavour to ascertain the rate of loss of volatile material. Improved facilities have been made available in the laboratory by enlarging the area previously in use, and by the installation of additional equipment as, for instance, a Hutchinson thermostat, the use of which will effect a considerable saving of time, with consequent economy in the testing of tars, oils, &c.

THE SAFETY OF THE ROAD.

In view of the increasing traffic on the State highways and main roads with modern motor vehicles capable of attaining speeds up to 70 miles per hour, a need for a higher standard of highway design has been created. The Board, therefore, has given closer attention to the elimination of all possible sources of danger by realignment of the road, the improvement of curves by super-elevation, widening of narrow sections, the erection of additional guide posts painted white to make them easily discernible at night, the painting of white lines on the centre of the pavement on sharp horizontal curves and over vertical curves where the visibility was poor, and the cutting back of scrub to improve the visibility.

The danger to road traffic from railway level crossings has in particular received careful consideration. At all such crossings a warning sign in the form of a red triangle fitted with reflectors has been installed at each side of the crossing, in addition to the warning sign in the form of a St. Andrew's cross erected by the Railways Department nearer to the crossing. These devices, however, fall far short of what is required to deter the unwary, negligent, or incompetent driver from taking unnecessary risks, and the Board is of opinion that many of these crossings should be dispensed with by erecting overhead bridges, as has already been done on the Hume Highway near Seymour, or by the construction of subways such as that at Barnawartha. The cost, however, debars works of this nature being undertaken with the restricted funds available, but if a certain amount were earmarked each year for the purpose, very valuable work will have been accomplished within a few years, which would result in safeguarding human life, preventing the delays to traffic at present experienced, and effecting considerable savings to the Railway Department where gatekeepers are at present employed in opening and closing the gates.

For the present the Board has arranged as an additional safeguard to paint on the pavement at a distance of 50 yards from the triangular warning sign, the notice " Danger."

During the year ended 30th June last, 378 accidents occurred on State highways, of which 40 were fatal. A map showing the localities in which the accidents happened is appended to the Report.

Police records show that during the calendar year ended 30th December, 1934, there were 2,296 accidents on all roads outside the city and suburban radius, of which 126 were fatal.

CONFERENCE OF STATE ROAD AUTHORITIES.

The Second Annual Conference of representatives of State Road Authorities was held in Sydney in February last, when discussions took place on various matters of common interest. A number of resolutions were passed affecting the administrative, technical and financial sides of the road problem.

The question of the establishment of an Australian Organizing Committee of the Permanent International Association of Road Congresses was among the subjects considered at this Conference, and as an outcome of the recommendation made, notification has since been received that the Prime Minister of the Commonwealth has concurred in the recognition of the Conference as the Australian States' Organizing Committee of the Association.

Another matter dealt with by the conference was that of uniform testing of road-making materials, and the methods of application of test results. It is hoped with the interchange of views and the subsequent development of ideas, standardization of the routine methods of testing may be achieved and a basis laid down upon which uniform material specifications as distinct from constructional specifications can be drawn up.

CONFERENCE OF ENGINEERS.

As the major part of the Board's programme is carried out directly by shire councils, and on the other hand the bulk of the experimental and research work is done by the Board's own staff, the necessity for continued and sympathetic co-operation between the members of the Board's staff and Shire Engineers is obvious. The main point of contact is of course

through the District Engineers, whose co-operation with the Shire Engineers has been particularly evidenced in the past year by considerable improvement in maintenance methods throughout the State.

During the year an effort was made to establish closer contact between Board's Engineers engaged on special work and Shire Engineers. A greater number of Shire Engineers took the opportunity of visiting the Board's laboratory and the workshops, and it is hoped that Engineers generally will realize that the Board welcomes such visits at any time. They afford an opportunity to the Engineers concerned to get into direct touch with research work in the laboratory, and enable the Board's staff to appreciate the particular problems which engineers in various parts of the State are attacking, and lead to that interchange of experience and ideas which is the only sound basis for progressive research. With the continued and rapid mechanization of both road construction and maintenance, it is also felt that all engineers should keep as closely in touch as they can with plant developments.

While it has been the custom to hold District Engineers' Conferences regularly, an innovation during the past year was the holding of a conference of all the Municipal Engineers in the Stawell district under the Chairmanship of the Chairman of the Board, and attended by the Board's Chief Engineer, the District Engineer, and the Board's Examining Engineer, through whose hands practically all plans and specifications submitted by the councils must pass. The Conference was, it is considered, very successful and helpful both to the Board and the engineers, and it is intended to have conferences in the other districts during the coming year. The agenda was based on suggestions received from the engineers in the district, those of general interest being listed for general discussion, and those of local interest being referred to the engineers directly concerned for more personal discussion.

The Municipal Engineers took the opportunity of frankly discussing their difficulties, and criticism was asked for and received. As a result of the conference it is felt that misunderstandings were cleared away, and many ideas of mutual interest produced by individual engineers will undoubtedly be more generally adopted.

OFFENCES UNDER ACTS AFFECTING THE BOARD.

Under the Motor Car Act, in which provision is made for restricting the weight and speed of motor cars carrying goods for hire or in the course of trade on State highways and main roads, proceedings were instituted against a number of offenders for contraventions of the Act, and fines were inflicted in 278 cases for travelling at speeds in excess of the limits allowed. The total fines and costs amounted to £1,267.

In 106 cases prosecutions were instituted for carrying goods which with the weight of the vehicle were in excess of the limits of weight allowed by law, and fines and costs amounting to £492 were imposed.

For carrying loads in excess of the carrying capacity of the motor vehicle as shown by the certificate of registration 139 cases came before the courts, and fines and costs were imposed totalling £453.

Eight drivers of motor cars were also convicted for carrying on their vehicles loads in excess of the regulation width and height, for which offences fines amounting to £34 were inflicted.

For operating motor trucks with defective tires nine convictions were recorded with fines and costs totalling £44.

For breaches of the Local Government Act and the Country Roads Act, 23 prosecutions were launched, and fines and costs amounted to £39.

The total number of successful prosecutions instituted for offences against the Motor Car Act was 546, the total fines amounting to £2,106, and costs £211.

The total number of prosecutions under all Acts affecting the Board was 576 during the year, in respect of which fines and costs totalling £2,383 were imposed.

STATEMENT OF ACCOUNTS.

Statements of accounts for the year ended 30th June, 1935, of the Country Roads Board Fund and balance-sheets as at that date appear in Appendix "A."

The statement of the Country Roads Board Fund shows that motor registration fees amounted to £1,305,326, and fines imposed under the Motor Car Act to £12,027, making a total gross revenue of £1,317,353 for the year.

The cost of collection, amounting to £65,081, was made up as follows:—

	£	£
Motor Registration Branch—		
Salaries and wages	23,219	
Police Patrol—		
Wages	15,199	
Motor expenses	2,415	
Allowances	2,215	
		43,048
Postage, printing, and stationery		10,941
Number plates, &c.		6,163
Miscellaneous		4,929
		65,081
The net revenue under the Motor Car Act was, therefore		1,252,272
Add amount contributed by municipalities towards maintenance and sundry receipts		159,118
		1,411,390

From this amount the following payments were required to be made:—

Interest and Sinking Fund payments on loan moneys expended on main and developmental roads ..	322,518	
Relief to municipalities on account of Interest and Sinking Funds under Act No. 4140	99,990	
Plant, administration, and other expenses	98,796	
		521,304
Leaving a balance available from the Country Roads Board Fund for the maintenance, improvement, and restoration of main roads and State highways		890,086

The amount actually expended to the 30th June was £879,040, the balance representing commitments carried forward to the current financial year.

The contribution to the State under the Federal-aid roads agreement, which expires in December, 1936, cannot be regarded as a permanent source of income, and in the event of the grant being discontinued or reduced it would not be possible to maintain, restore, and improve the roads to the present standard. The amount available has been utilized by the Board mainly in constructing roads of a developmental nature, and in supplementing the amount necessary for the adequate maintenance and reconstruction of roads on which either loan or Federal funds have been expended.

	£
The amount expended last year from Federal funds for the maintenance, improvement, and reconstruction of roads was	190,892
Add amount available from the Country Roads Board Fund	890,086
Total amount available for maintenance, restoration, and improvement	1,080,978

The total amount estimated for the maintenance, improvement, and restoration of roads was £1,329,242, but this sum does not represent the amount required for adequate maintenance, restoration, and improvement, as the expenditure estimated by many councils is governed by the amount they will be required to contribute the following year, so that even on this basis the funds available fell short of actual requirements by £248,264.

Of the expenditure from Loan moneys £72,882 was spent on declared main roads and £56,158 on developmental roads. Including this expenditure the total loan liability of the Board as at the 30th June, 1935, was £11,165,254. The proportion of the Interest and Sinking Fund payments on this expenditure now met from the Country Roads Board Fund is £322,518, whilst municipal councils contribute £165,132 from the municipal fund.

In comparison with the previous year's payments by the municipalities on account of Interest and Sinking Fund the amount paid for last financial year is smaller on account of the relief of £99,990 extended to the councils in accordance with the provisions of Act No. 4140, a large proportion of the relief having been applied towards reducing the arrears.

Statement of expenditure on road construction and maintenance, including expenditure under special appropriations, is submitted below in summarized form, from which it will be noted that the total for the year was £1,549,799 4s. 2d.

— —		Under Direct Supervision of the Board.	Under Supervision of Municipalities.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1. State Highways—				
Maintenance and reconditioning ..	.. ..	286,779 1 7	61,603 14 9	348,382 16 2
2. Main Roads—				
Construction and restoration ..	138,253 12 3			
Maintenance and reconditioning ..	700,074 6 8			
		122,466 5 4	715,881 13 7	838,327 18 11
3. Developmental Roads—				
Construction, &c.	240,060 14 6			
Roads for isolated settlers ..	27,698 15 11			
		56,361 5 6	211,398 4 11	267,759 10 5
4. State Unemployment Relief—				
Main and developmental roads, &c.		70,438 12 1	24,890 6 5	95,328 18 6
		537,028 4 6	1,012,770 19 8	1,549,799 4 2

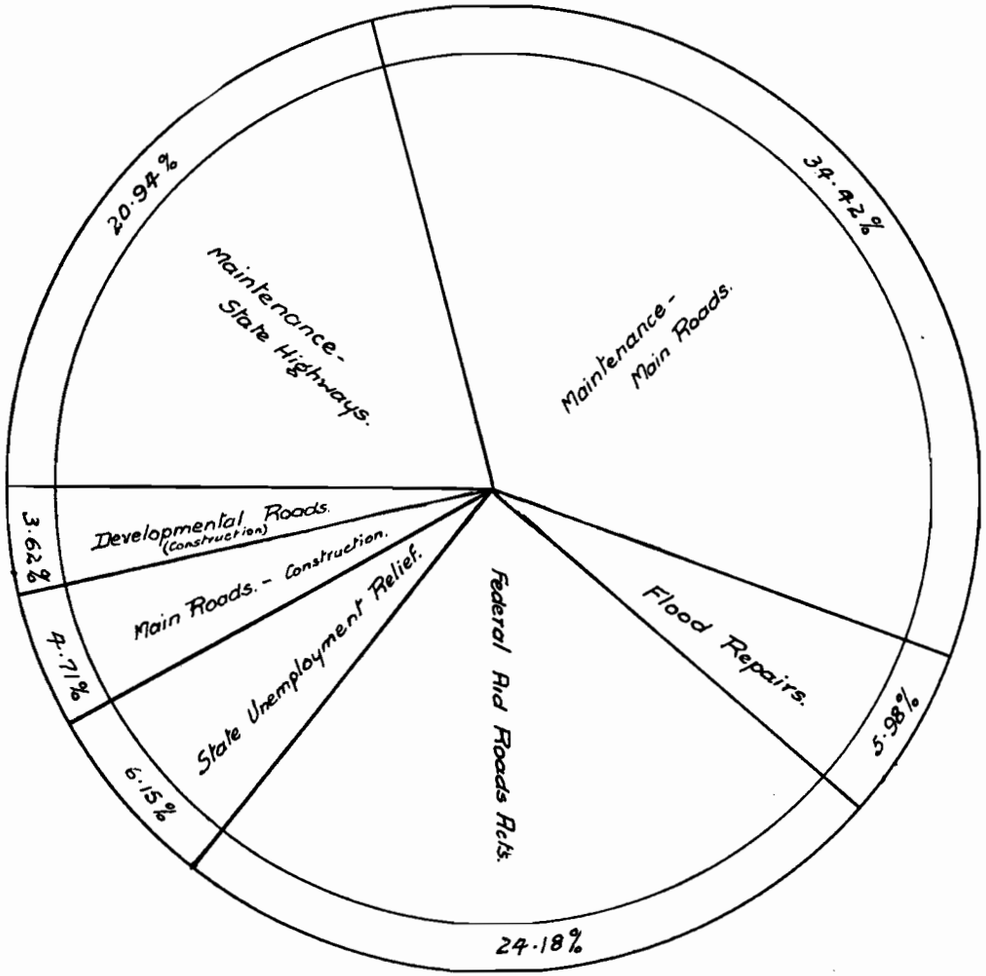
Towards the expenditure on the construction, reconstruction, and maintenance, &c., of main and developmental roads and the erection of new bridges, &c., on State highways, the Commonwealth Government contributed an amount of £398,972 under the provisions of the *Federal Aid Roads Act* 1931. £47,419 was also expended from a special grant from the Commonwealth Government towards cost of repairing roads and bridges damaged by floods.

The expenditure by the Board of funds from various sources is indicated by percentages in the accompanying diagrams.

Diagram No. 1 shows the percentage of expenditure under the several headings for the year ended 30th June last, and Diagram No. 2 gives similar information since the inception of the Board to the end of last financial year.

DIAGRAMS SHOWING COMPARATIVE SECTIONAL TOTAL EXPENDITURE ON ROAD WORKS.

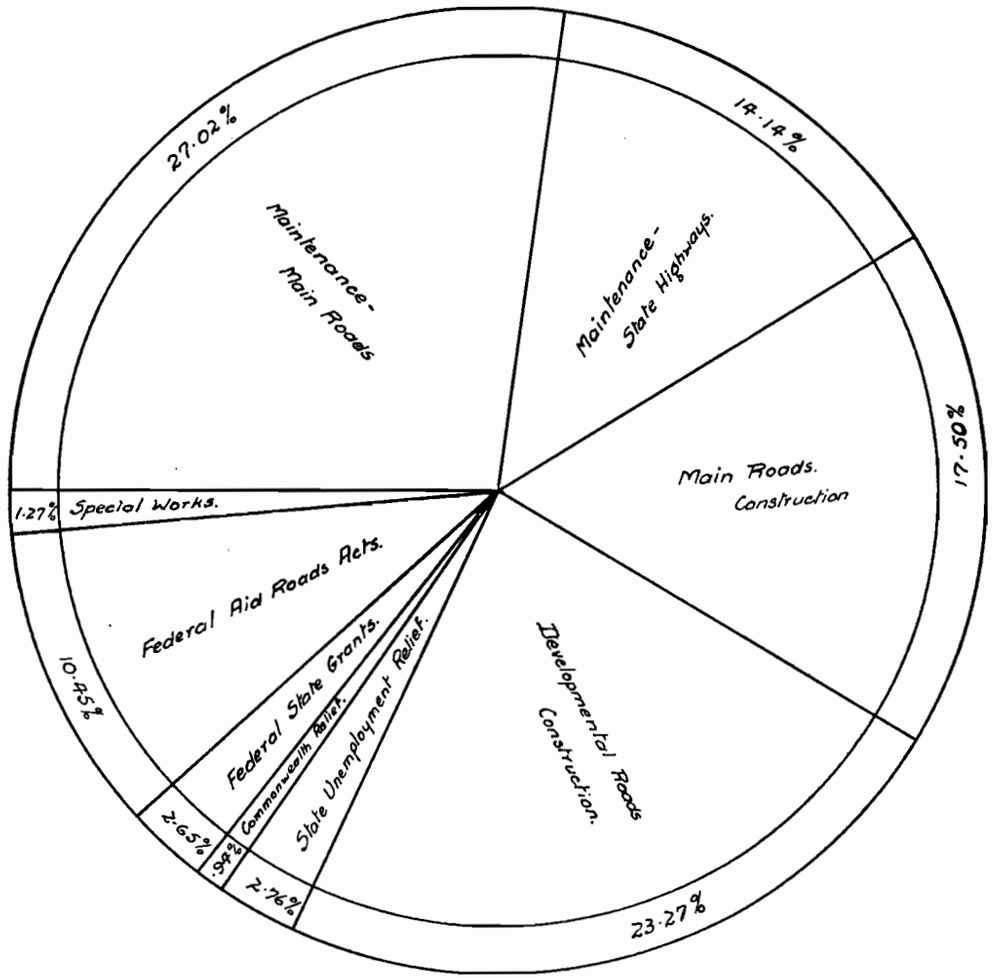
No. 1.



Percentages of

Expenditure for Financial Year 1934-'35.

No. 2.



Percentages of

Total Expenditure since inception of Board to 30.6.1935.

PROTECTION OF ROADS.

The construction of lightly constructed roads suitable for the traffic passing over them has thrown upon the Board in collaboration with the municipalities the responsibility of protecting them against damage by occasional heavy loads.

During the year it was again necessary for the Board to exercise its statutory powers by prohibiting the use of such roads by motor vehicles which with the weight carried thereon exceeded 6 tons. In view of the exceedingly wet conditions prevailing during the greater part of the year in different parts of the State, it was necessary to take action against several drivers of motor vehicles traversing lightly constructed roads with loads in excess of the weight allowed and proceedings were instituted in 52 cases, resulting in fines being inflicted.

For the same reason the Board was compelled to continue the prohibition of the use of trailers drawn by motor trucks over the section of the Calder Highway between Mittyack and Mildura.

It was also necessary to take precautions for the protection of the roads in the general interest of the road user by instituting proceedings against a number of drivers for carrying loads in excess of the limits allowed by law, and prosecutions were instituted in 139 instances.

SEVENTH ANNUAL ROAD CONGRESS.

In October, 1934, the Seventh Annual Road Congress met at Munich, Germany, at which delegates from almost every country in the world attended. Mr. David Craig, Chief Engineer to the Department of Main Roads of New South Wales, attended as the representative of Australia.

The object of the Congress, which meets every four years, is to discuss problems dealing with the construction, maintenance, administration and financing of roads. The opportunity of interchanging ideas, debating various questions of particular interest to roadmaking authorities, and subsequently recording the results of the conclusions arrived at for distribution amongst the members of the Congress form a very valuable contribution to the knowledge to be gained in the modern methods of road construction.

AMENDING LEGISLATION.

During last financial year the *Country Roads Board Fund Act* 1934, No. 4219, was passed by Parliament.

This Act provides that—

(1) Fees for licences to drive motor cars paid under the Motor Car Act in respect of the financial year commencing 1st July, 1934, are not to be paid into the Country Roads Board Fund. Similar provision was made in previous enactments in respect of the financial years 1933 34 and 1934–35.

(2) Annual payment of £50,000 be suspended from Consolidated Revenue into the Country Roads Board Fund, of which £10,000 under the original Act was to be used for the maintenance of main roads and State highways, and £40,000 for distribution among certain municipalities towards the construction, renewal, maintenance, &c., of streets or roads.

APPORTIONMENT OF COSTS.

In accordance with the provisions of section 28 of the *Country Roads Act* 1928, the cost of permanent works and maintenance was apportioned for the year ended 30th June, 1934, £26,409 having been apportioned to municipalities on account of permanent works, and £123,905 on account of maintenance.

On the 1st July last municipal contributions were in arrears to the amount of £36,236, but payments made and relief given under Act No. 4140 during the year reduced the amount outstanding by £15,799. The total sum owing as at the 30th June last was, therefore, £20,437.

The position may be considered as satisfactory, and with the recent general improvement in the agricultural, dairying and pastoral industries, the Board looks forward with confidence to a still further reduction in the municipal liability during the current financial year.

The councils in respect of which amounts are still outstanding are the Shires of Birchip. Charlton, Huntly, Lillydale, Otway, Walpeup, and Borough of Wonthaggi.

LOCATION OF ACCIDENTS
(shown in Red)
ON STATE HIGHWAYS
during the
Year ended 30th June, 1935

SCALE OF MILES

MOTOR REGISTRATION.

During the year ended 30th June, 1935, 200,759 motor cars were registered, the following classes of vehicles being included in the total:—

Private cars	140,482	
Commercial motor vehicles	32,781	
Hire cars	2,303	
Licensed—Omnibus Act	224	
		175,791
Motor cycles		24,968
Total		200,759

In comparison with the previous year, registrations increased by 12,503, equivalent to 6.6 per cent., as against 4.81 per cent. for the previous year's registrations.

Private motor cars increased in number by 9,988, commercial vehicles by 1,932, hire cars by 427, motor cycles by 720, and licensed vehicles under the Omnibus Act by 26.

These figures indicate that the greatest increase took place in the number of private cars, namely, 7.6 per cent., whilst the increase in commercial vehicles was 6.2 per cent., and in the number of motor cycles 2.9 per cent.

The net revenue from motor registrations during last year was £1,252,272, as compared with £1,151,720 for the previous year.

Under Act No. 4219, an amount of £64,833 received during last year for fees for licences to drive motor cars was paid into consolidated revenue instead of being credited to the Country Roads Board Fund. Prior to the 1st July, 1932, the whole amount of these fees was paid in the Country Roads Board Fund for the maintenance of roads.

APPENDICES.

Statements of amounts received and expended during the year under the provisions of the Country Roads Act, statement of apportionment of expenditure in connexion with the construction and maintenance of main roads for the year ended 30th June, 1934, statement of expenditure on the construction and maintenance of main roads during the year ended 30th June, 1935, statement of expenditure in connexion with the construction of developmental roads for the same period, statement showing the mileage, locality, &c., of main roads constructed and maintained during last year, statement showing the mileage, locality, &c., of developmental roads constructed, and statement of mileages, locality, &c., of State highways reconstructed and maintained, are shown in the appendices.

We have the honour to be, Sir.

Your obedient Servants,

W. T. B. McCORMACK, Chairman.

F. W. FRICKE, Member.

W. L. DALE, Member.

W H. NEVILLE,
Acting Secretary.

APPENDIX A.

COUNTRY ROADS BOARD FUND.

Dr. — RECEIPTS. — *Cr.*

			£	s.	d.	£	s.	d.	£	s.	d.
1934.											
July 1.	To Balance								1,658	1	5
1935.											
June 30.	,, Motor Car Act No. 3741—										
	Registration Fees		1,305,326	9	5						
	Fines		12,027	8	6						
			1,317,353	17	11						
	Less Refunds and Cost of Collection		65,081	7	0						
						1,252,272	10	11			
	,, Motor Omnibus Act—										
	Fees and Fines					272	7	4			
	,, Country Roads Board Act, No. 3662—										
	Registration of Traction Engines		497	15	10						
	,, Fees and Fines		584	19	6						
			1,082	15	4						
	,, Acts Nos. 3662, 3741 and 3742—										
	Costs		192	15	0						
						1,275	10	4			
	,, Municipalities Repayments—										
	Permanent Works		63,144	7	4						
	Relief—Act No. 4140		81,977	18	11						
			145,122	6	3						
	Maintenance		128,029	14	5						
						273,152	0	8			
	,, Hire of Plant		32,050	15	8						
	,, Stores and Materials		144,505	7	6						
	,, Sundries		63,137	9	6						
						239,693	12	8			
									1,766,666	1	11
	,, Act No. 4097—Relief of Unemployment					3,171	4	4			
	,, Unemployment Relief Fund					1,920	0	9			
									5,091	5	1
									1,773,415	8	5

PAYMENTS.

		£	s.	d.	£	s.	d.
1935.							
June 30.	By Maintenance—(Appendix)				879,039	16	5
	,, Interest and Sinking Fund (Municipalities Repayments)				117,240	9	1
	,, Recoup to Revenue Act, No. 3944—						
	Interest—Main Roads	105,454	9	4			
	Developmental Roads	149,698	19	7			
	Sinking Fund Contributions	26,446	9	0			
	Exchange	39,052	5	10			
	Loan Conversion Expenses	1,865	16	7			
					322,518	0	4
	,, Relief to Municipalities Act, No. 4140				99,990	0	0
	,, Stores and Materials	151,135	12	0			
	,, Motor Expenses	5,865	12	6			
	,, Plant Purchase and Repairs	46,831	8	5			
	,, Storeyard	19,071	7	6			
	,, Sundry Debtors	26,131	9	5			
	,, Traffic Section (Administration)	1,513	2	11			
	,, Motor Car Acts	2,377	16	1			
	,, Act 3662 (width of tyres)	432	6	7			
	,, General Expenditure (Salaries, &c.)	80,569	18	8			
					333,928	14	1
	,, Construction of Roads for Relief of Unemployment (Wages)				5,091	5	1
	,, Materials, &c., provided from C.R.B. fund				4,560	17	2
	Balance				11,046	6	3
					1,773,415	8	5

RECONCILIATION STATEMENT.

	£	s.	d.
Balance as per Treasury Books	10,161	0	7
Add Outstanding Transfers	3,153	19	2
	13,314	19	9
Deduct Accounts in Transit	2,268	13	6
Balance as per Country Roads Board Accounts	11,046	6	3

REVENUE ACCOUNT, 30TH JUNE, 1935.

1935.		£	s.	d.	£	s.	d.	£	s.	d.
June 30.	To Maintenance Works—General ..				546,470	9	9			
	Wood's Point Road (1) ..	1,707	18	11						
	Wood's Point Road (2) ..	1,165	9	4						
	Mount Buffalo Road ..	1,181	18	10						
	Walhalla Road	880	0	8						
	State Highways	327,633	18	11						
					332,569	6	8			
								879,039	16	5
	,, Contribution to Sinking Fund				29,310	2	3			
	,, Interest on Loans				87,930	6	10			
								117,240	9	1
	,, Recoup to Revenue Act No. 3944—									
	Interest—									
	Main Roads	105,454	9	4						
	Developmental Roads ..	149,698	19	7						
					255,153	8	11			
	,, Sinking Fund Contributions				26,446	9	0			
	,, Exchange				39,052	5	10			
	,, Loan Conversion Expenses				1,865	16	7			
								322,518	0	4
	,, Relief to Municipalities—Act No. 4140				..		..	99,990	0	0
	,, Fees Refunded—Act No. 3742				..		..	2,419	15	0
	,, Audit Fee				449	16	0			
	,, Experimental Works				167	10	5			
	,, Fidelity Guarantee				89	7	9			
	,, Gravel Sites and Metal Investigation				333	6	1			
	,, Instruments				143	10	3			
	,, Motor Expenses				5,872	16	10			
	,, New Offices—Exhibition Building				1,314	5	3			
	,, New Storeyard	958	3	2						
	,, Storeyard Reconstruction ..	1	10	7						
					959	13	9			
	,, Office Expenses				2,705	19	9			
	,, Office Furniture				1,453	17	7			
	,, Patrolmen's Cottages and Engineer's Residence ..				841	4	4			
	,, Plans—Purchase				935	15	1			
	,, Plant Purchase				26,697	2	3			
	,, Postages and Telegrams				1,416	1	7			
	,, Printing and Stationery				1,777	18	2			
	,, Royalty on Gravel and Metal				374	1	9			
	,, Salaries				41,967	17	5			
	,, Storage Sites				574	13	10			
	,, Telephones				847	19	6			
	,, Timber, &c., Revenue Account				14	9	6			
	,, Testing Materials				708	5	0			
	Carried forward ..				89,645	12	1	1,421,208	0	10

Cr.

1934.		£	s.	d.	£	s.	d.	£	s.	d.
July 1.	By Balance							284,760	10	10
1935.										
June 30.	,, Motor Car Act—No. 3741—									
	Registration Fees	1,305,326	9	5						
	Fines	12,027	8	6						
		1,317,353	17	11						
	Less Refunds and Cost of Collection	65,081	7	0						
					1,252,272	10	11			
	,, Motor Omnibus Act—No. 3742—									
	Fees and Fines				272	7	4			
	,, Country Roads Act—No. 3662—									
	Registration of Traction Engines				497	15	10			
	Fees and Fines				584	19	6			
	Costs—Acts No. 3662, No. 3741, and No. 3742				192	15	0			
	Forfeited Deposits				128	6	1			
	Plans, Sale of				74	10	6			
	Plant Earnings	32,876	5	0						
	Deduct Working Costs ..	17,684	6	0						
					15,191	19	0			
	Rents				807	0	0			
	Royalty on Gravel and Metal				267	15	9			
	Sale of Old Roads				210	3	2			
	Storeyard				2,404	6	9			
	Timber, &c., Revenue Account				135	15	0			
	,, Maintenance Works—									
	Contributions Payable by Municipalities	144,549	14	8						
	Adjustment	147	4	9						
					144,462	9	11			
	,, Permanent Works—									
	Contributions Payable by Municipalities ..				142,118	19	9			
								1,559,561	14	6
								1,844,322	5	4

REVENUE ACCOUNT, 30TH JUNE, 1935—*continued.*

Dr.

	£	s.	d.	£	s.	d.
Brought forward	89,645	12	1	1,421,208	0	10
To Travelling Expenses	1,551	8	8			
„ Tree Planting	41	16	6			
„ Traffic Administration	1,513	2	11			
„ Motor Car Acts—No. 3741, Sec. 11–13; No. 3901, Sec. 24–26	2,377	16	1			
„ Act No. 3662—Width of Tires, &c.)	432	6	7			
„ Investigation Surveys	89	8	6			
„ Advertising—Government Printer	211	16	3			
„ Legal Work—Crown Solicitor (Proportion of Annual Fee)	100	0	0			
„ Valuations—Closer Settlement Board	150	10	0			
„ Direction Boards and Warning Signs	1,287	18	1			
„ Traffic Census	101	2	7			
„ Recoup—S. J. Quick	89	15	7			
„ Incidentals	12	9	0			
				97,605	2	10
„ Materials Provided for Unemployment Relief Works under Act No. 4097				4,560	17	2
„ Balance				320,948	4	6
				1,844,322	5	4

Cr.

	£	s.	d.
Brought forward	1,844,322	5	4
	1,844,322	5	4

BALANCE-SHEET AS AT 30TH JUNE, 1935.

LIABILITIES.

	£	s.	d.
Contractors' Deposits	7,759	1	11
Sundry Liabilities	6,335	16	6
Sinking Fund	470,336	19	6
Revenue Account	320,948	4	6
	805,380	2	5

ASSETS.

	£	s.	d.	£	s.	d.
Country Roads Board Fund				11,046	6	3
Maintenance Expenditure—						
Contributions Payable by Municipalities	144,549	14	8			
Contributions Payable by Municipalities (in Arrears) ..	5,717	6	1			
				150,267	0	9
Permanent Works—						
Contributions Payable by Municipalities	142,118	19	9			
Contributions Payable by Municipalities (in Arrears) ..	2,219	11	6			
				144,338	11	3
Outstanding Accounts				5,998	2	0
Materials, Stock—						
Storeyard	11,091	8	2			
Branches	4,542	12	7			
				15,634	0	9
Investment Account for Redemption of Loans				470,336	19	6
Trust Account				7,759	1	11
				805,380	2	5

COUNTRY ROADS BOARD LOAN ACCOUNT, ACT No. 3662.

RECEIPTS.

		£	s.	d.
1935.				
June 30.	To proceeds of Loans	74,872	0	5
	,, State Loans Repayment Fund	28,312	3	4
		103,184	3	9

PAYMENTS.

		£	s.	d.
1934.				
July 1.	By Balance	49	16	10
1935.				
June 30.	,, Permanent Works (Appendix)	72,881	14	6
	Balance	30,252	12	5
		103,184	3	9

RECONCILIATION.

	£	s.	d.
Treasury Balance	29,844	13	2
Add Outstanding Credits	497	12	2
	30,342	5	4
Deduct Accounts in Transit	89	12	11
	30,252	12	5

BALANCE-SHEET AT 30TH JUNE, 1935.

LIABILITIES.

	£	s.	d.	£	s.	d.
Interest on Permanent Works				32,657	1	3
Loan Securities Issued	4,859,884	15	0			
Less Amount Repaid	80,000	0	0			
	4,779,884	15	0			
Deduct Discount	71,016	19	2			
				4,708,867	15	10
State Loans Repayment Fund				114,776	6	11
				4,856.301	4	0

ASSETS.

	£	s.	d.
Permanent Works	4,793,391	10	4
Interest capitalized on Permanent Works (Act 3662)	32,657	1	3
Country Roads Board Loan Account	30,252	12	5
	4,856.301	4	0

DEVELOPMENTAL ROADS LOAN ACCOUNT, ACT No. 3662.

RECEIPTS.

		£	s.	d.
1934.				
July 1.	To Balance	260	0	2
1935.				
June 30.	,, Proceeds of Loans	50,000	0	0
	,, State Loans Repayment Fund	17,762	10	6
		68,022	10	8

PAYMENTS.

		£	s.	d.
1935.				
June 30.	By Expenditure (Appendix)	56,157	10	5
	Balance	11,865	0	3
		68,022	10	8

RECONCILIATION.

	£	s.	d.
Treasury Balance	12,095	8	11
Add Outstanding Credits	201	7	7
	12,296	16	6
Deduct Accounts in Transit	431	16	3
	11,865	0	3

BALANCE-SHEET AT 30TH JUNE, 1935.

LIABILITIES.	£ s. d.	£ s. d.
Loan Securities Issued	6,297,778 6 2	
Deduct Discount	111,917 1 4	
		6,185,861 4 10
Treasury—Developmental Railways, Act No. 3662 (sec. 83/16)	9,661 19 8	
Consolidated Revenue Act, No. 3662 (sec. 84/17)	31,459 6 5	
		41,121 6 1
Interest, Act No. 3662 (sec. 86/1)	76,076 11 7	
Arrears of Interest, Act No. 3662 (sec. 86/1)	7,129 2 0	
Contributions Postponed	16,656 13 7	
		99,862 7 2
State Loans Repayment Fund		197,866 6 7
		6,524,711 4 8

ASSETS.	£ s. d.	£ s. d.
Permanent Works Expenditure		6,371,862 11 2
Contributions Payable by Municipalities, Act No. 3662 (sec. 83/16 and sec. 84/17)	35,750 0 0	
Contributions Payable by Municipalities (in Arrears)	5,371 6 1	
		41,121 6 1
Contributions Payable by Municipalities, Act No. 3662 (sec. 86/1)	92,733 5 2	
Contributions Payable by Municipalities (in Arrears)	7,129 2 0	
		99,862 7 2
Developmental Roads Loan Account		11,865 0 3
		6,524,711 4 8

DEVELOPMENTAL ROADS INTEREST, ACT No. 3662 (Sections 83/16, 84/17, AND 86/1).

1935. RECEIPTS.	£ s. d.	£ s. d.
June 30. To Interest Contributed by Municipalities—		
Act No. 3662, sec. 83/16	6,665 9 8	
84/17	23,807 8 0	
86/1	71,515 14 2	
	101,988 11 10	
Act No. 4140—Relief	18,012 1 1	
		120,000 12 11
		120,000 12 11

1935. PAYMENTS.	£ s. d.
June 30. By Payments to Treasury	120,000 12 11
	120,000 12 11

AUDITOR-GENERAL'S CERTIFICATE.

The Accounts have been audited and compared with the books, with which they agree. Reconciliations have also been made with the books of the Treasury. I certify that the statements submitted are correct.

J. A. NORRIS,
Auditor-General,
28th October, 1935.

E. J. HICKS, Accountant,
23rd October, 1935.

COUNTRY ROADS BOARD.

SUMMARY OF BOARD'S ASSETS AS AT 30TH JUNE, 1935.

	£ s. d.
Patrolmen's Cottages	13,237 13 0
Workshop Fittings, Tools, &c.	1,695 6 7
Motor Car Tools	229 14 6
Office Furniture and Fittings	5,786 8 2
Testing Laboratory Equipment	350 10 0
Furniture, &c., Motor Registration Branch	4,585 7 6
Works Film	50 0 0
Survey Instruments	433 4 0
Pistols	23 15 0
Motor Cars and Cycles (including Police Motor Cycles and Cars)	10,640 0 0
Motor Car Accessories	108 0 0
Loadometers	1,000 0 0
Board's Storeyards	4,901 0 0
	43,040 18 9
Working Plant	57,630 7 11
Total	100,671 6 8

APPENDIX B.

COUNTRY ROADS BOARD.

STATEMENT OF APPORTIONMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE OF MAIN ROADS FOR THE YEAR ENDED 30TH JUNE, 1934.

Name of Municipality.	Permanent Works.		Maintenance.
	Principal.	Interest.	Amount.
	£ s. d.	£ s. d.	£ s. d.
Alberton Shire ..	28 3 5	0 16 8	2,189 6 0
Alexandra Shire ..	..	..	818 4 2
Arapiles Shire ..	677 16 7	3 19 11	574 7 7
Ararat Town ..	..	..	147 4 10
Ararat Shire ..	..	..	2,520 11 8
Avoca Shire ..	161 3 6	1 1 10	276 3 9
Avon Shire ..	..	..	845 4 4
Bacchus Marsh Shire	..	..	733 13 0
Bairnsdale Shire ..	..	..	1,894 11 0
Ballan Shire ..	..	..	414 4 3
Ballarat Shire ..	77 18 2	0 0 7	527 8 8
Bannockburn Shire	..	..	736 10 10
Barrarbool Shire ..	..	..	774 11 11
Bass Shire ..	339 17 7	9 19 11	911 11 10
Beechworth Shire	..	..	464 18 0
Belfast Shire ..	..	..	210 6 4
Bellarine Shire ..	..	..	1,333 8 7
Benalla Shire ..	1,432 7 2	20 8 11	1,312 9 0
Berwick Shire ..	21 19 6	0 16 6	1,003 11 2
Bet Bet Shire ..	..	..	339 6 9
Birchip Shire ..	..	..	263 7 6
Blackburn and Mitcham Shire	..	..	646 14 3
Borung Shire ..	1,862 16 4	14 16 10	2,128 1 6
Braybrook Shire ..	..	..	91 5 10
Bright Shire ..	76 3 2	2 13 0	420 19 2
Broadford Shire ..	..	..	13 0 6
Broadmeadows Shire	..	..	269 18 10
Bulla Shire ..	..	..	575 18 0
Buln Buln Shire ..	..	..	1,240 10 11
Bungaree Shire ..	77 18 2	0 0 7	232 18 3
Buninyong Shire	..	..	196 7 3
Castlemaine Borough ..	..	..	114 19 3
Charlton Shire ..	162 18 0	3 8 1	735 19 7
Chelsea City ..	..	..	39 3 6
Chiltern Shire ..	111 13 5	3 3 9	181 2 7
Clunes Borough ..	..	..	74 9 5
Cohuna Shire ..	..	..	540 7 2
Colac Shire ..	..	..	4,168 7 6
Corio Shire ..	..	..	301 11 6
Cranbourne Shire ..	..	..	744 4 4
Creswick Shire ..	..	..	527 15 1
Dandenong Shire ..	..	..	90 3 0
Daylesford Borough	..	..	415 1 2
Deakin Shire ..	..	..	88 4 2
Dimboola Shire ..	488 17 8	12 17 8	1,154 4 8
Donald Shire ..	..	..	489 16 10
Doncaster and Templestowe Shire ..	..	..	996 5 5
Dundas Shire ..	21 14 11	0 8 8	3,109 17 5
Dunmunkle Shire	2,195 18 7	15 16 0	2,181 15 6
Eaglehawk Borough	..	..	250 4 4
East Loddon Shire	88 18 0	1 1 7	97 17 0
Echuca Borough ..	17 2 0	0 12 10	164 5 1
Eltham Shire ..	162 17 3	1 15 7	714 3 0
Euroa Shire ..	..	..	478 14 7
Ferntree Gully Shire	..	..	1,380 6 4
Flinders Shire ..	..	..	1,475 9 8
Footscray City ..	..	..	68 12 6
Frankston and Hastings Shire	..	..	1,960 8 6
Geelong City ..	..	..	14 3 11
Carried forward	8,006 3 5	93 18 11	46,664 8 8

Name of Municipality.	Permanent Works.		Maintenance.
	Principal.	Interest.	Amount.
	£ s. d.	£ s. d.	£ s. d.
Brought forward	8,006 3 5	93 18 11	46,664 8 8
Gisborne Shire ..	..	..	247 0 11
Glenelg Shire ..	..	..	2,002 0 1
Glenlyon Shire ..	405 5 10	0 12 7	494 5 6
Goulburn Shire ..	..	..	429 14 3
Grenville Shire ..	..	..	724 8 11
Hamilton Town ..	..	..	117 15 10
Hampden Shire ..	..	..	5,859 12 1
Healesville Shire ..	..	..	306 12 8
Heidelberg City ..	..	..	2,095 0 9
Heytesbury Shire ..	704 2 7	9 12 9	1,692 14 7
Horsham Town ..	..	..	807 18 7
Huntly Shire ..	..	..	86 17 9
Inglewood Borough	..	..	71 12 1
Kara Kara Shire ..	853 19 10	13 19 4	664 0 8
Karkarooc Shire ..	201 8 10	6 15 8	1,001 8 4
Keilor Shire ..	..	..	195 7 6
Kerang Shire ..	..	..	180 12 9
Kilmore Shire ..	..	..	153 18 2
Koroit Borough ..	..	..	45 9 5
Korong Shire ..	..	..	207 16 11
Korumburra Shire	..	..	3,740 17 8
Kowree Shire ..	443 16 10	8 3 4	1,132 4 6
Kyneton Shire ..	..	..	680 0 4
Lawloit Shire ..	328 11 8	1 0 2	731 4 2
Leigh Shire ..	71 14 9	1 9 0	820 14 0
Lexton Shire ..	..	..	225 7 0
Lillydale Shire ..	..	..	496 6 3
Lowan Shire ..	1,913 19 1	37 10 1	1,135 3 2
Maffra Shire ..	12 10 0	0 2 10	2,386 13 11
Maldon Shire ..	..	..	257 8 5
Mansfield Shire ..	..	..	829 9 2
Marong Shire ..	..	..	244 2 5
Maryborough Borough ..	..	..	245 9 11
Melton Shire ..	..	..	109 16 6
Metcalfe Shire ..	..	..	216 15 4
Mildura City ..	..	..	116 2 4
Mildura Shire ..	3,189 13 7	49 10 11	880 3 9
Minhamite Shire ..	..	..	994 7 2
Mirboo Shire ..	..	..	448 14 4
Moorabbin City ..	..	..	139 17 9
Mordialloc City ..	..	..	169 13 1
Mornington Shire ..	..	..	261 7 1
Mortlake Shire ..	..	..	2,294 17 4
Morwell Shire ..	..	..	848 15 10
Mount Rouse Shire	..	..	2,447 6 2
Mulgrave Shire ..	..	..	101 6 11
McIvor Shire ..	..	..	393 12 5
Narracan Shire ..	..	..	1,183 5 1
Newham and Woodend Shire	10 1 0	0 8 4	434 7 6
Newstead and Mt. Alexander Shire	..	..	250 2 9
Numurkah Shire ..	290 11 0	0 0 11	717 4 8
Oakleigh City ..	..	..	136 15 1
Omeo Shire ..	..	..	472 13 4
Orbost Shire ..	14 15 9	..	486 5 8
Otway Shire ..	..	..	256 15 3
Oxley Shire ..	461 4 4	13 12 11	858 19 1
Phillip Island Shire	..	..	376 4 6
Port Fairy Borough	..	..	24 18 0
Portland Shire ..	..	..	1,076 6 10
Preston City ..	..	..	41 4 8
Carried forward	16,907 18 6	236 17 9	92,711 15 9

STATEMENT OF APPORTIONMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE OF MAIN ROADS, ETC.—*continued.*

Name of Municipality.	Permanent Works.		Maintenance.
	Principal.	Interest.	Amount.
	£ s. d.	£ s. d.	£ s. d.
Brought forward	16,907 18 6	236 17 9	92,711 15 9
Pyalong Shire ..	..	..	138 5 11
Queenscliffe Borough	..	..	364 12 7
Ringwood Borough	..	..	420 4 0
Ripon Shire ..	..	..	698 1 9
Rochester Shire ..	842 16 9	19 10 5	721 6 0
Rodney Shire ..	397 4 10	7 10 7	1,121 8 4
Romsey Shire ..	..	..	571 5 6
Rosedale Shire ..	..	..	735 1 5
Rutherglen Shire ..	302 11 5	0 12 4	152 16 11
Sale Town ..	277 9 0	9 16 10	216 8 2
Sebastopol Borough	..	..	43 16 4
Seymour Shire ..	441 13 10	5 1 1	411 10 2
Shepparton Borough	..	..	268 6 3
Shepparton Shire ..	..	..	924 10 1
South Barwon Shire	..	..	856 8 7
St. Arnaud Borough	..	..	12 17 10
South Gippsland Shire	..	..	958 2 8
Stawell Shire ..	716 15 7	13 18 1	947 9 8
Stawell Borough ..	128 2 10	0 9 1	181 13 9
Strathfieldsaye Shire	..	..	599 8 4
Swan Hill Shire ..	..	..	851 16 6
Talbot Shire ..	..	..	113 2 7
Tambo Shire ..	..	..	379 12 5
Towong Shire ..	..	..	348 12 6
Carried forward	20,014 12 9	293 16 2	104,748 14 0

Name of Municipality.	Permanent Works.		Maintenance.
	Principal.	Interest.	Amount.
	£ s. d.	£ s. d.	£ s. d.
Brought forward	20,014 12 9	293 16 2	104,748 14 0
Traralgon Shire ..	930 3 6	27 9 7	395 8 9
Tullaroop Shire ..	..	..	839 6 9
Tungamah Shire ..	2,284 4 3	23 17 9	285 18 4
Upper Murray Shire	228 7 3	4 7 4	692 14 11
Upper Yarra Shire	..	..	354 10 8
Violet Town Shire	383 1 11	5 7 10	169 12 6
Walpeup Shire ..	..	..	57 9 0
Wangaratta Shire	..	..	123 0 8
Wangaratta Borough ..	..	..	333 5 3
Wannon Shire ..	473 14 5	15 8 7	1,407 12 11
Waranga Shire ..	..	..	655 0 3
Warragul Shire ..	..	..	748 14 0
Werribee Shire ..	..	..	93 5 0
Warrnambool Shire	..	..	3,044 10 0
Whittlesea Shire ..	..	..	725 1 2
Wimmera Shire ..	..	..	2,248 11 10
Winchelsea Shire ..	488 3 4	6 7 5	768 14 1
Wodonga Shire ..	..	..	243 3 1
Wonthaggi Borough	..	..	350 9 1
Woorayl Shire ..	362 10 6	8 16 2	3,040 9 8
Wycheproof Shire	1,065 13 6	11 14 7	570 9 5
Yackandandah Shire	178 9 7	1 6 11	767 0 5
Yarrawonga Shire	..	..	551 10 4
Yea Shire ..	..	..	690 7 5
Total ..	26,409 1 0	398 12 4	123,904 19 6

APPENDIX C.

COUNTRY ROADS BOARD.

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE OF MAIN ROADS FOR THE YEAR ENDING 30th JUNE, 1935.

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
ALBERTON SHIRE—				
Albert River–Welshpool Road	..		376 18 1	
Balook–Yarram Road	..		482 8 4	
Boolarra–Welshpool Road	..		Bd. 421 14 4	
Carrajung–Gormandale Road	..		1,544 5 10	
Foster–Yarram Road	..		1,549 8 5	
Sale–Yarram Road	..		46 4 0	
Yarram–Boolarra Road	..		1,132 0 6	
Yarram–Port Albert Road	..		2,218 0 3	
Yarram–Won Wron Road	..		131 15 4	
				7,893 15 1
ALEXANDRA SHIRE—				
Cathkin–Mansfield Road	..		1,619 19 10	
Healesville–Alexandra Road	..		2,124 11 2	
Healesville–Alexandra Road	..		Bd. 1,128 3 2	
Terip Terip Road	..		353 2 3	
Upper Goulburn Road	..		2,375 16 9	
Yarck Road	..		227 0 5	
				7,828 13 7
ARAPILES SHIRE—				
Horsham–Hamilton Road	..		1,085 18 1	
Horsham–Natimuk–Edenhope Road	1,469 1 0		829 4 10	
		1,469 1 0		1,915 2 11
ARARAT SHIRE—				
Ararat–Elmhurst Road	..		816 9 4	
Ararat–Warrnambool Road	..		3,379 19 9	
Ballarat–Hamilton Road	..		3,701 5 10	
Maroona–Glenthompson Road	..		1,901 8 9	
				9,799 3 8
ARARAT TOWN—				
Ballarat–Stawell Road	..		878 19 1	
				878 19 1
AVOCA SHIRE—				
Ararat Road	274 9 1		378 1 11	
Ballarat–St. Arnaud Road	..		1,241 3 10	
Bealiba Road	..		207 11 8	
Landsborough Road	..		32 15 11	
Maryborough Road	..		212 11 8	
		274 9 1		2,072 5 0
AVON SHIRE—				
Dargo Road	..		1,049 5 6	
Maffra–Sale Road	..		58 10 7	
Maffra–Stratford Road	..		69 13 1	
Prince's Highway	..		137 8 3	
				1,314 17 5
BACCHUS MARSH SHIRE—				
Ballarat Road	..		416 19 9	
Balliang Road	..		2,018 4 2	
Geelong–Bacchus Marsh Road	..		948 7 2	
Gisborne Road	..		1,496 12 7	
				4,880 3 8
BACCHUS MARSH AND CORIO SHIRES (Joint Works)—				
Balliang Road	..		19 12 7	
				19 12 7
BAIRNSDALE SHIRE—				
Bairnsdale—Lindenow Road	..		2,417 10 2	
Bairnsdale—Paynesville Road	..		1,936 10 10	
Bulumwaal–Tabberabbera Road	..		882 2 0	
Prince's Highway	..		295 13 9	
				5,531 16 9
BALLAN SHIRE—				
Ballarat Road	..		Bd. 10 13 4	
Daylesford Road	..		933 16 11	
Gordon–Meredith "A" Road	..		1,280 17 11	
Mount Wallace Road	..		841 12 8	
Spargo Creek Road	..		10 7 5	
				3,077 8 3
BALLAN AND BUNINYONG SHIRES (Joint Works)—				
Gordon–Meredith Road	..		19 18 7	
				19 18 7
Carried forward	..	1,743 10 1	..	45,231 16 7

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward	..	1,743 10 1	..	45,231 16 7
BALLARAT SHIRE—				
Ballarat–Lexton Road	..		1,273 8 11	
Maryborough–Ballarat Road	..		1,209 16 0	
				2,483 4 11
BALLARAT AND BUNGAREE SHIRES (Joint Works)—				
Ballarat-Creswick Road	Bd. 105 19 3		Bd. 745 1 3	
		105 19 3		745 1 3
BANNOCKBURN SHIRE—				
Gordon–Meredith Road	..		115 11 0	
Inverleigh Road	568 6 6		2,485 3 2	
Shelford–Bannockburn Road	..		299 6 9	
		568 6 6		2,900 0 11
BARRABOOL SHIRE—				
Anglesea Road	..		1,603 14 11	
Hendy Main Road	..		993 17 2	
Airey's Inlet Road	..		Bd. 300 0 0	
				2,897 12 1
BASS SHIRE—				
Almurta Road	..		482 1 5	
Almurta–Grantville Road	..		176 12 5	
Anderson–Dalyston Road	..		1,581 9 9	
Dalyston–Glen Forbes	..		873 4 1	
Inverloch–Wonthaggi Road	..		186 4 0	
Korumburra–Wonthaggi Road	..		910 1 5	
Main Coast Road	87 19 0		974 17 3	
Wonthaggi–Loch Road	..		596 19 7	
Dalyston–Wonthaggi Road	..		93 5 10	
		87 19 0		5,874 15 9
BASS SHIRE AND WONTHAGGI BOROUGH (Joint Works)—				
Loch–Wonthaggi Road	..		193 2 10	
				193 2 10
BEECHWORTH SHIRE—				
Beechworth Road	..		919 11 1	
Bright Road	10 3 6		249 13 5	
Everton–Myrtleford Road	..		550 6 4	
Myrtleford–Yackandandah Road	..		48 15 1	
Stanley Road	..		496 16 1	
		10 3 6		2,265 2 0
BEECHWORTH AND WANGARATTA SHIRES (Joint Works)—				
Beechworth Road	..		15 14 7	
				15 14 7
BELFAST SHIRE—				
Hamilton Road	..		291 11 6	
Penshurst Road..	..		1,844 15 10	
				2,136 7 4
BELLARINE SHIRE—				
Barwon Heads–Ocean Grove Road	..		Bd. 51 0 6	
Geelong–Portarlington Road	..		Bd. 3,161 3 11	
Geelong–Queenscliff Road	..		Bd. 1,013 13 6	
Portarlington–St. Leonards Road	..		Bd. 1,119 10 10	
				5,345 8 9
BENALLA SHIRE—				
Benalla–Shepparton Road	..		323 13 11	
Goorambat Road	..		251 3 1	
Goorambat–Thoona Road	..		621 4 2	
Greta Road	..		161 8 11	
Kilfeera Road	979 19 5		519 4 9	
Lima Road	..		231 11 4	
Sydney Road	..		288 8 0	
Tatong–Tolmie Road	..		564 11 5	
		979 19 5		2,961 5 7
BERWICK SHIRE—				
Beaconsfield–Emerald Road	..		1,724 10 3	
Gembrook Road	..		455 15 9	
Cockatoo–Gembrook Road	..		235 18 9	
Gembrook–Beenak Road	..		68 6 1	
Hallam–Emerald Road	..		91 1 2	
Koo-wee-rup–Longwarry Road	..		164 16 0	
Nar-nar-goon–Longwarry Road	..		1,045 9 7	
Prince's Highway	..		Bd. 761 12 10	
Woori Yallock–Pakenham–Koo-wee-rup Road ..	480 16 0		374 18 11	
Woori Yallock–Pakenham–Koo-wee-rup Road ..	..		Bd. 388 4 4	
		480 16 0		5,310 13 8
BET BET SHIRE—				
Avoca–Bealiba Road	..		430 10 6	
Betley Road	..		300 10 6	
Dunolly Road	..		515 1 9	
Dunolly–Eddington Road..	..		83 15 4	
Maryborough–Dunolly Road	..		210 3 0	
				1,540 1 1
BET BET AND TULLAROOP SHIRES (Joint Works)—				
Betley Road	..		61 6 2	
Dunolly–Eddington	..		2 1 9	
Maryborough–Dunolly Road	..		90 10 2	
				153 18 1
Carried forward	..	3,976 13 9	..	80,054 5 5

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward	..	3,976 13 9	..	80,054 5 5
BIRCHIP SHIRE—				
Beulah–Birchip–Wycheproof Road	..		349 9 4	
Donald–Birchip–Sea Lake Road	..		236 1 10	
				585 11 2
BLACKBURN AND MITCHAM SHIRE—				
Burwood Road	..		457 7 9	
Main Healesville Road	..		5,242 6 6	
				5,699 14 3
BORUNG SHIRE—				
Birchip Road	1,248 13 9		1,397 16 0	
Dimboola Road	1,128 1 9		1,461 8 5	
Hopetoun Road	1,488 18 7		2,595 15 1	
Minyip Road	..		2,325 0 5	
Rainbow Road	1,045 6 7		2,684 15 9	
		4,911 0 8		10,464 15 8
BOX HILL CITY—				
Burwood Road (Outer Metropolitan)	..		68 1 2	
Healesville Road (Outer Metropolitan)	..		2,640 10 2	
				2,708 11 4
BRAYBROOK SHIRE—				
Ballarat Road	1,372 12 6		410 2 0	
Prince's Highway	..		Bd. 171 12 5	
		1,372 12 6		581 14 5
BRIGHT SHIRE—				
Bright Road	..		1,332 1 8	
Harrietville Road	..		560 13 7	
Myrtleford–Yackandandah Road	238 14 0		520 13 1	
Kiewa Valley Road	..		148 5 0	
Mount Buffalo Road	..		Bd. 1,181 18 10	
		238 14 0		3,743 12 2
BROADFORD SHIRE—				
Sydney Road	..		Bd. 67 13 9	
				67 13 9
BROADMEADOWS SHIRE—				
Sydney Road	..		1,405 10 1	
				1,405 10 1
BROADMEADOWS AND KEILOR SHIRES (Joint Works)—				
Lancefield Road	..		1,154 9 9	
				1,154 9 9
BULLA SHIRE—				
Melbourne–Lancefield Road	..		928 7 6	
Sunbury Road	..		49 15 1	
The Gap Road	..		39 14 10	
				1,017 17 5
BULLA AND KEILOR SHIRES (Joint Works)—				
Melbourne–Lancefield Road	..		15 6 5	
				15 6 5
BULN BULN SHIRE—				
Bloomfield Road	..		5 16 8	
Fumina Road	..		145 16 4	
Koo-wee-rup–Longwarry Road	..		430 16 3	
Loch Valley Road	..		67 15 3	
Longwarry–Drouin Road	..		147 16 6	
Main Neerim Road	..		2,072 14 3	
Main South Road	..		374 10 5	
Neerim East Road	..		191 18 11	
Neerim North–Noojee	..		119 18 0	
Prince's Highway	..		95 5 7	
Westernport Road	..		711 15 9	
				4,364 3 11
BUNGAREE SHIRE—				
Daylesford–Ballarat Road	..		1,069 3 1	
				1,069 3 1
BUNINYONG SHIRE —				
Ballarat–Rokewood Road	..		639 4 0	
Elaine–Mount Mercer Road	..		144 4 2	
				783 8 2
CAMBERWELL CITY—				
Doncaster Road (Outer Metropolitan)	..		1,198 17 1	
				1,198 17 1
CASTLEMAINE BOROUGH—				
Melbourne–Bendigo Road	..		159 6 6	
				159 6 6
CHARLTON SHIRE—				
Bendigo Road	..		133 6 1	
Donald Road	..		1,669 15 7	
St. Arnaud Road	758 6 5		1,220 14 6	
		758 6 5		3,023 16 2
CHELSEA CITY—				
Point Nepean Road	..		1,025 19 4	
				1,025 19 4
CHILTERN SHIRE—				
Barnawartha–Howlong Road	..		116 11 5	
Chiltern–Howlong Road	..		136 14 2	
Sydney Road	..		128 4 5	
				381 10 0
Carried forward		11,257 7 4	..	119,505 6 1

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward	..	11,257 7 4	..	119,505 6 1
CLUNES BOROUGH—				
Maryborough–Ballarat Road	..		1,048 18 7	
				1,048 18 7
COHUNA SHIRE—				
Cohuna–Leitchville Road	..		585 5 0	
Murray River Valley Road	..		Bd. 12 4 4	
				597 9 4
COLAC SHIRE—				
Colac–Ballarat Road	..		3,354 7 8	
Colac–Beech Forest Road	..		1,360 12 9	
Colac–Forrest Road	..		3,042 2 9	
Cororooke Road	..		2,699 6 11	
Cressy–Inverleigh Road	..		676 13 9	
Prince's Highway	1,960 14 3		443 1 5	
Swan Marsh Road	..		1,579 14 9	
		1,960 14 3		13,156 0 0
COLLINGWOOD CITY—				
Heidelberg Road (Outer Met.)	..		105 9 10	
				105 9 10
COLLINGWOOD AND HEIDELBERG CITIES (Joint Works)—				
Heidelberg Road–Merri Creek Bridge (Outer Metpn.) ..	Bd. 101 14 11		..	
		101 14 11		
CORIO SHIRE—				
Geelong-Bacchus-Marsh Road	..		689 1 1	
Fyansford	..		Bd. 13 11 10	
Prince's Highway	..		Bd. 34 0 7	
				736 13 6
CORIO AND BACCHUS MARSH SHIRES (Joint Works)—				
Geelong Bacchus Marsh Road	..		6 5 4	
				6 5 4
CRANBOURNE SHIRE—				
Cranbourne–Frankston Road	..		369 17 1	
Koo-wee-rup–Longwarry Road	..		278 8 4	
Koo-wee-rup–Pakenham Road	..		1,506 0 4	
Main Coast Road	..		900 6 0	
Westernport Road	..		412 7 4	
				3,466 19 1
CRESWICK SHIRE—				
Daylesford–Ballarat Road	..		946 15 6	
Castlemaine–Ballarat Road	..		3,060 1 10	
				4,006 17 4
DANDENONG SHIRE—				
Cheltenham Road	..		683 7 9	
Prince's Highway	..		759 6 9	
				1,442 14 6
DANDENONG AND CRANBOURNE SHIRES (Joint Works)—				
Dandenong–Frankston Road	..		1,064 2 1	
				1,064 2 1
DAYLESFORD BOROUGH—				
Ballan Road	..		200 6 0	
Ballarat Road	..		196 2 11	
Castlemaine Road	..		97 13 9	
Daylesford-Trentham Road	..		84 9 5	
Hepburn–Daylesford Road	..		69 4 0	
Malmsbury–Daylesford Road	..		413 12 11	
				1,061 9 0
DEAKIN SHIRE—				
Echuca–Cornella Road	..		55 5 6	
Echuca–Picola Road	..		56 13 3	
Kyabram–Nathalia Road	..		456 6 4	
Kyabram–Tongala Road	..		550 8 4	
Rochester–Kyabram Road	..		145 11 10	
				1,264 5 3
DEAKIN AND NUMURKAH SHIRES (Joint Works)—				
Echuca–Picola Road	..		50 0 0	
				50 0 0
DEAKIN AND ROCHESTER SHIRES (Joint Works)—				
Timmering Road	..		29 14 5	
				29 14 5
DEAKIN AND RODNEY SHIRES (Joint Works)—				
Kyabram–Tongala Road	..		7 17 6	
Rochester–Kyabram Road	..		32 4 3	
				40 1 9
DIMBOOLA SHIRE—				
Horsham Road	..		177 3 0	
Hopetoun-Rainbow Road	..		166 8 5	
Rainbow Road	1,457 9 4		4,720 6 2	
Rainbow-Beulah-Birchip Road	..		378 1 1	
Rainbow Rises Road	..		202 19 4	
Warracknabeal Road	562 6 3		1,490 0 11	
		2,019 15 7		7,134 18 11
DIMBOOLA AND KARKAROOC SHIRES (Joint Works)—				
Hopetoun-Rainbow Road	..		110 9 2	
				110 9 2
Carried forward	..	15,339 12 1	..	154,827 14 2

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward		15,339 12 1	..	154,827 14 2
DONALD SHIRE—				
Donald-Charlton Road	..		759 13 11	
Marnoo-Donald Road	..		1,538 2 3	
St. Arnaud-Birchip Road	1,154 5 7		3,911 5 6	
		1,154 5 7		6,209 1 8
DONCASTER AND TEMPLESTOWE SHIRE—				
Doncaster Road	..		921 14 6	
Heidelberg-Warrandyte Road	..		2,113 4 5	
Warrandyte-Ringwood Road	..		695 5 7	
				3,730 4 6
DUNDAS SHIRE—				
Hamilton-Dunkeld Road	..		2,365 19 1	
Hamilton-Horsham Road	530 14 10		3,204 1 1	
Hamilton-Mount Gambier Road	..		2,529 4 10	
Hamilton-Port Fairy Road	..		3,565 14 9	
Hamilton-Portland Road	..		1,831 14 1	
Hamilton-Warrnambool Road	..		951 7 0	
		530 14 10		14,448 0 10
DUNMUNKLE SHIRE—				
Horsham-Murtoa Road	156 19 6		508 2 3	
Marnoo-Donald Road	..		20 8 2	
Marnoo-Rupanyup Road	1,344 8 9		302 8 6	
Minyip-Donald Road	..		351 3 6	
Rupanyup-Murtoa Road	..		237 1 10	
Stawell-Warracknabeal Road	3,007 17 10		1,430 8 4	
		4,509 6 1		2,849 12 7
EAGLEHAWK BOROUGH—				
Mount Korong Road	..		1,282 5 9	
				1,282 5 9
EAST LODDON SHIRE—				
Dingee Road	457 12 7		26 2 8	
Borung-Prairie Road	..		33 5 0	
Mitiamo Road	834 1 8		27 6 6	
Prairie Road	8 8 0		231 0 0	
		1,300 2 3		317 14 2
ECHUCA BOROUGH—				
Echuca-Wyuna Road	43 16 0		..	
Echuca-Cohuna Road	..		Bd. 462 7 5	
		43 16 0		462 7 5
ELTHAM SHIRE—				
Eltham-Yarra Glen Road	..		966 5 0	
Hurstbridge-Kinglake Road	..		1,171 13 2	
Yarra Glen-Glenburn Road	..		432 4 2	
				2,570 2 4
ESSENDON CITY—				
Bendigo Road (Outer Metropolitan)	..		542 16 8	
Sunbury Road (Outer Metropolitan)	..		291 2 10	
				833 19 6
EUROA SHIRE—				
Arcadia Road	..		64 14 4	
Avenel-Longwood Road	..		9 10 4	
Euroa-Arcadia Road	..		682 18 10	
Euroa-Mansfield Road	..		890 5 2	
Euroa-Strathbogie Road	294 7 4		875 6 0	
Murchison-Shepparton Road	..		Bd. 316 4 11	
Murchison-Violet Town Road	135 17 1		365 14 9	
Sydney Road	..		Bd. 30 0 0	
		430 4 5		3,234 14 4
FERN TREE GULLY SHIRE—				
Belgrave-Emerald Road	..		1,432 4 9	
Burwood Road	..		557 0 7	
Emerald Road	..		414 10 4	
Main Fern Tree Gully Road	..		2,785 2 10	
Monbulk Road	..		1,796 10 6	
Olinda Road	..		1,023 15 1	
				8,009 4 1
FLINDERS SHIRE—				
Hastings-Flinders Road	..		3,480 13 5	
Mornington-Flinders Road	..		766 8 8	
Mornington-Dromana	..		118 0 6	
Red Hill Road	..		319 12 6	
Rosebud-Flinders Road	964 1 9		721 15 1	
Stony Point Road	..		1,228 8 4	
Point Nepean Road	..		3,445 18 3	
		964 1 9		10,080 16 9
FOOTSCRAY CITY—				
Prince's Highway	..		Bd. 642 11 5	
Princes Highway (Outer Metropolitan)	..		1,625 10 9	
				2,268 2 2
FRANKSTON AND HASTINGS SHIRE—				
Frankston-Dandenong Road	..		773 3 11	
Cranbourne-Frankston Road	..		1,498 6 0	
Frankston-Flinders Road	..		3,719 0 8	
Mooroodue Road	..		108 2 5	
Point Nepean Road	..		4,187 10 5	
				10,286 3 5
Carried forward	..	24,272 2 0	..	221,410 3 8

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward	..	24,272 3 0	..	221,410 3 8
GISBORNE SHIRE—				
Bacchus Marsh Road	..		207 18 10	
Gisborne Station Road	..		29 4 3	
Mount Macedon Road	..		458 19 6	
Melbourne–Bendigo Road	..		Bd. 38 19 3	
				735 1 10
GLENELG SHIRE—				
Coleraine–Casterton Road	..		3,076 11 1	
Dergholm Road	..		1,577 2 6	
Mount Gambier Road	..		1,773 0 4	
Portland–Casterton Road	..		1,735 12 10	
Wando Vale Road	..		650 17 6	
				8,813 4 3
GLENLYON SHIRE—				
Ballan Road	..		446 3 11	
Ballarat Road	..		173 10 4	
Castlemaine–Daylesford Road	..		365 4 1	
Daylesford–Hepburn Road	..		169 13 3	
Daylesford–Trentham Road	568 11 2		100 19 4	
Malmsbury–Daylesford Road	..		1,462 12 11	
		568 11 2		2,718 3 10
GOULBURN SHIRE—				
Avenel–Longwood Road	..		52 12 8	
Goulburn Valley Road	..		Bd. 1,671 8 9	
Murchison–Shepparton Road	..		Bd. 169 10 3	
Vickers Road	..		40 12 6	
				1,934 4 2
GRENVILLE SHIRE—				
Ballarat–Hamilton Road	..		4,256 1 5	
Cressy Road	..		17 8 1	
Lismore Road	..		460 17 3	
Pitfield Road	..		140 3 8	
				4,874 10 5
HAMILTON TOWN—				
Ararat Road	..		884 0 1	
Coleraine Road	..		520 8 3	
Portland Road	..		145 11 9	
Port Fairy Road	..		68 18 8	
				1,618 18 9
HAMILTON TOWN AND DUNDAS SHIRE (Joint Works)—				
Hamilton–Warrnambool Road	..		52 8 6	
				52 8 6
HAMPDEN SHIRE—				
Camperdown–Ballarat Road	..		2,976 3 1	
Caramut–Lismore Road	..		3,034 16 10	
Cobden–Terang Road	..		163 5 1	
Lismore–Cressy Road	..		3,521 13 3	
McKinnon's Bridge–Noorat Road	..		654 6 0	
Prince's Highway	..		760 17 6	
Terang–Framlingham Road	..		470 12 2	
Terang–Mortlake Road	..		933 1 8	
				12,514 15 7
HEALESVILLE SHIRE—	..			
Healesville–Alexandra Road	..		790 4 5	
Healesville–Alexandra Road	..		Bd. 232 9 7	
Healesville–Kinglake Road	..		892 8 1	
Healesville–Woori Yallock Road	..		Bd. 367 2 11	
Marysville Road	..		Bd. 251 3 2	
				2,533 8 2
HEIDELBERG CITY—				
Greensborough–Hurstbridge Road	..		948 11 11	
Heidelberg–Warrandyte Road	..		663 4 2	
Main Whittlesea Road	..		967 2 10	
Main Heidelberg–Eltham Road	..		3,119 3 0	
				5,698 1 11
HEYTESBURY SHIRE—				
Camperdown–Cobden Road	..		959 15 11	
Cobden–Terang Road	126 19 6		1,857 3 7	
Cobden–Pt. Campbell–Princetown Road	..		Bd. 1,629 8 7	
Timboon–Nirranda Road	..		79 1 5	
Timboon–Port Campbell Road	..		238 17 9	
		126 19 6		4,764 7 3
HORSHAM TOWN—				
Hamilton Road	..		975 19 9	
Natimuk Road	..		71 10 5	
				1,047 10 2
HUNTLY SHIRE—				
Bendigo–Echuca Road	..		80 19 3	
Bendigo–Echuca Road	..		Bd. 312 19 11	
Heathcote–Elmore Road	..		22 19 0	
				416 18 2
Carried forward		24,967 13 8		269,131 16 8

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward	..	24,967 13 8	..	269,131 16 8
INGLEWOOD BOROUGH—				
Bendigo–Charlton Road	..		289 18 1	
				289 18 1
KARA KARA SHIRE—				
Avoca–St. Arnaud Road	..		832 16 6	
Charlton Road	102 0 4		1,224 19 1	
Marnoo Road	547 16 8		78 4 5	
Navarre Road	..		904 14 10	
St. Arnaud–Donald Road	..		1,515 13 8	
		649 17 0		4,556 8 6
KARA KARA SHIRE Joint Works with CHARLTON AND KORONG SHIRES—				
Charlton Road.	..		26 10 7	
				26 10 7
KARKAROOC SHIRE—				
Hopetoun–Rainbow Road	..		1,167 14 1	
Hopetoun–Warracknabeal Road	..		2,719 18 8	
Hopetoun–Woomelang–Sea Lake Road	851 19 2		289 19 3	
Rainbow–Beulah–Birchip Road	..		601 12 0	
		851 19 2		4,779 4 0
KARKAROOC AND BIRCHIP SHIRES (Joint Works)—				
Rainbow–Beulah–Birchip Road	..		70 1 3	
				70 1 3
KEILOR SHIRE—				
Melbourne–Bendigo Road	..		Bd. 593 8 2	
				593 8 2
KERANG SHIRE—				
Koondrook Road	..		18 18 10	
				18 18 10
KILMORE SHIRE—				
Heathcote Road	..		261 4 3	
Kilmore–Kilmore East Road	..		79 16 9	
Lancefield–Kilmore Road	..		6 18 4	
Sydney Road	..		Bd. 36 13 8	
				384 13 0
KILMORE AND PYALONG SHIRES (Joint Works)—				
Heathcote Road	..		554 0 1	
				554 0 1
KILMORE AND ROMSEY SHIRES (Joint Works)—				
Lancefield–Kilmore Road	..		89 10 7	
				89 10 7
KOROIT BOROUGH—				
Koroit–Warrnambool Road	..		197 13 0	
				197 13 0
KORONG SHIRE—				
Charlton–Bendigo Road	..		459 14 7	
Borung–Hurstwood Road	..		358 11 9	
Serpentine Road	..		510 19 0	
				1,329 5 4
KORUMBURRA SHIRE—				
Bena–Kongwak Road	..		699 12 0	
Bena–Poowong Road	..		867 4 6	
Bena–Korumburra Road	..		112 18 1	
Fairbank Road	..		149 9 9	
Kongwak–Inverloch Road	..		748 17 0	
Korumburra–Drouin Road	..		97 13 5	
Korumburra–Leongatha Road	..		893 14 7	
Korumburra–Warragul Road	..		2,137 14 1	
Korumburra–Wonthaggi Road	..		1,020 0 7	
Lang Lang–Nyora Road	..		68 1 1	
Loch–Nyora Road	..		444 19 11	
Loch–Wonthaggi Road	..		993 1 10	
Nyora–Poowong Road	..		1,096 5 3	
Poowong–Ranceby Road	..		450 18 8	
				9,780 10 9
KOWREE SHIRE—				
Booroopki Road	..		735 0 11	
Booroopki–Frances Road	220 10 0		208 9 3	
Edenhope–Goroke Road	206 0 0		668 5 4	
Hamilton–Edenhope–Apsley Road	..		988 5 0	
Little Desert Road	..		40 15 4	
Wombelano Road	..		522 10 1	
		426 10 0		3,163 5 11
KYNETON SHIRE—				
Daylesford Road	..		398 1 5	
Daylesford–Trentham Road	..		133 13 4	
Melbourne–Bendigo Road	..		1 16 3	
Redesdale Road	..		233 5 0	
Trentham Road	..		1,626 15 5	
Tylden-Woodend Road	..		484 11 2	
				2,878 2 7
Carried forward	.	26,895 19 10	..	297,843 7 4

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward	..	26,895 19 10	..	297,843 7 4
KYNETON AND GLENLYON SHIRES (Joint Works)—				
Daylesford–Trentham Road	..		102 0 0	
				102 0 0
LAWLOIT SHIRE—				
Broughton Road	1,319 18 2		584 10 5	
Little Desert Road	..		650 16 0	
Nhill–Kaniva–Border Road	..		96 9 8	
South Lillimur Road	..		610 4 11	
Yearinga Road	..		666 12 2	
		1,319 18 2		2,608 13 2
LEIGH SHIRE—				
Ballarat–Rokewood Road	..		233 19 4	
Cressy–Rokewood Road			372 16 9	
Inverleigh–Cressy Road	..		3,083 3 11	
Inverleigh–Shelford Road	..		19 1 6	
Rokewood–Shelford Road	..		271 8 0	
Shelford–Bannockburn Road	..		204 18 7	
Werneth Road	..		48 19 10	
				4,234 7 11
LEIGH AND BANNOCKBURN SHIRES (Joint Works)—				
Shelford–Bannockburn Road	136 10 11	136 10 11	..	
LEIGH AND COLAC SHIRES (Joint Works)—				
Cressy–Inverleigh Road	..		428 5 6	
				428 5 6
LEXTON SHIRE—				
Avoca–Ararat Road	..		208 18 3	
Avoca–Ballarat Road	..		1,554 15 1	
				1,763 13 4
LILLYDALE SHIRE—				
Evelyn–Lilydale Road	..		635 16 6	
Main Healesville Road	..		Bd. 499 0 10	
Main Healesville Road	..		68 4 8	
Main Warburton Road	..		Bd. 585 19 1	
Monbulk Road	..		597 2 7	
Mount Dandenong Road	..		1,978 1 7	
Yarra Glen Road	..		411 17 11	
				4,776 3 2
LOWAN SHIRE—				
Dimboola–Kaniva Road	..		456 0 5	
Goroke Road	..		515 5 7	
Lorquon West Road	1,165 15 3		988 18 6	
Yanac Road	..		1,150 1 5	
		1,165 15 3		3,110 5 11
MAFFRA SHIRE—				
Boisdale–Briagolong Road	.		345 0 3	
Briagolong–Dargo Road	..		198 4 11	
Bushy Park–Valencia Creek Road	..		653 3 5	
Licola Road	1,116 14 7		1,971 13 2	
Maffra–Newry Road	..		584 17 9	
Maffra–Sale Road	..		685 9 11	
Maffra–Stratford Road	..		294 19 3	
Tinamba–Boisdale Road	..		1,360 8 8	
Tinamba–Newry Road	..		495 4 7	
Traralgon–Maffra Road	4 8 0		1,329 6 3	
		1,121 2 7		7,918 8 2
MAFFRA AND AVON SHIRES (Joint Works)—				
Maffra–Stratford Road	..		73 10 0	
				73 10 0
MALDON SHIRE—				
Baringhup Road	..		282 4 0	
Castlemaine–Maldon Road	..		525 4 0	
Castlemaine–Maryborough Road	..		Bd. 49 12 0	
Maldon–Eddington Road	..		275 3 11	
Maldon–Newstead Road	..		132 6 11	
				1,264 10 10
MANSFIELD SHIRE—				
Benalla–Mansfield Road	..		272 10 2	
Euroa–Merton Road	..		92 12 11	
Maindample–Benalla Road			110 0 6	
Mansfield Road	..		2,880 13 10	
Mansfield–Tolmie Road	..		230 10 1	
Mansfield–Woodspoint Road	..		792 9 5	
Mansfield–Woodspoint Road	..		Bd. 1,707 18 11	
Merton–Strathbogie Road	..		108 7 1	
				6,195 2 11
MARONG SHIRE—				
Bendigo–Eddington Road	..		2,313 1 0	
Bendigo–Bridgewater Road	..		58 11 10	
Bendigo–Serpentine Road	..		567 16 10	
				2,939 9 8
MARYBOROUGH BOROUGH—				
Castlemaine Road	..		270 11 8	
Eddington Road	..		0 7 2	
				270 18 10
Carried forward	..	30,639 6 9	..	333,528 16 9

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward	..	30,639 6 9	..	333,528 16 9
MELTON SHIRE—				
The Gap Road	..		64 16 11	
Toolern Road	..		263 3 1	
				328 0 0
METCALFE SHIRE—				
Kyneton–Redesdale Road	..		889 16 1	
				889 16 1
MILDURA CITY—				
Deakin Avenue	..		22 5 0	
Langtree Avenue	..		20 0 0	
Punt Road	..		13 5 2	
				55 10 2
MILDURA SHIRE—				
Deakin Avenue	..		36 3 1	
Irymple Road	..		451 8 4	
Melbourne Road	..		104 0 7	
Murray Valley Road	221 1 4		155 5 11	
Wentworth Road	74 7 11		1,539 2 10	
		295 9 3		2,286 0 9
MINHAMITE SHIRE—				
Hamilton–Macarthur–Port Fairy Road	..		1,115 14 11	
Warrnambool–Hawkesdale–Penshurst Road	..		1,393 19 2	
Woolsthorpe–Bessiebelle Road	1,862 6 6		1,314 3 1	
		1,862 6 6		3,823 17 2
MIRBOO SHIRE—				
Grand Ridge Road	..		411 8 6	
Mardan Road	..		367 19 3	
Mirboo–Leongatha Road	..		759 12 7	
Mirboo South Road	..		544 11 7	
Mirboo–Yarragon Road	..		316 5 10	
Morwell–Mirboo Road	..		303 1 2	
				2,702 18 11
MOORABBIN CITY—				
Centre Dandenong Road	..		56 12 0	
Point Nepean Road	..		258 17 8	
				315 9 8
MORDIALLOC CITY—				
Beach Road–(Outer Metropolitan)	22,000 0 0		72 17 9	
Point Nepean Road	..		5,555 18 4	
		22,000 0 0		5,628 16 1
MORNINGTON SHIRE—				
Mornington–Dromana Road	..		2,013 5 4	
Point Nepean Road	..		270 6 1	
Point Nepean Road	..		Bd. 485 15 9	
				2,769 7 2
MORTLAKE SHIRE—				
Caramut–Lismore Road	..		2,485 0 11	
Mortlake–Ararat Road	..		1,707 2 6	
Mortlake–Warrnambool Road	..		675 4 10	
Terang–Framlingham Road	..		1,700 14 11	
Terang–Mortlake Road	..		66 5 2	
				6,634 8 4
MORWELL SHIRE—				
Boolarra–Welshpool Road	..		Bd. 714 1 7	
Jeeralang West Road	41 19 9		547 10 3	
Jumbuk Road	..		564 17 8	
Morwell–Mirboo Rood	..		Bd. 381 3 3	
Morwell–Mirboo Road	..		1,748 8 0	
Prince's Highway	..		507 7 10	
		41 19 9		4,463 8 7
MORWELL AND WOORAYL SHIRES (Joint Works)—				
Boolarra–Foster Road	..		Bd. 267 15 7	
				267 15 7
MOUNT ROUSE SHIRE—				
Ballarat–Hamilton Road	..		3,271 1 3	
Hamilton–Dunkeld Road	..		769 16 4	
Hamilton–Penshurst Road	..		2,634 2 6	
Maroona–Glenthompson Road	..		34 5 10	
Penshurst–Caramut Road	..		1,940 1 7	
				8,649 7 6
MULGRAVE SHIRE—				
Ferntree Gully Road	..		1,013 3 6	
				1,013 3 6
McIVOR SHIRE—				
Heathcote–Elmore Road	102 10 2		426 19 11	
Heathcote–Redesdale Road	..		985 6 5	
Kilmore–Heathcote–Bendigo Road	..		1,827 10 4	
Lancefield–Tooborac Road	..		74 7 7	
Mount Camel Estate	..		152 5 0	
		102 10 2		3,466 9 3
Carried forward	.	54,941 12 5	..	376,823 5 6

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward	..	54,941 12 5	..	376,823 5 6
McIVOR AND PYALONG SHIRES (Joint Works)—				
Lancefield-Tooborac Road	..		20 14 7	
				20 14 7
NARRACAN SHIRE—				
Allambee-Childers Road	..		268 16 1	
Childers-Thorpdale Road	..		158 13 2	
Mirboo-Yarragon Road	..		516 12 5	
Moe-Yallourn Road	..		53 19 1	
Prince's Highway	..		36 18 7	
Trafalgar-Thorpdale Road	..		619 8 10	
Walhalla Road	..		Bd. 880 0 8	
Walhalla Road	..		1,174 9 9	
Willowgrove Road	..		622 3 4	
Yarragon-Leongatha Road	..		361 7 1	
Yarragon-Shady Creek Road	..		240 9 1	
				4,932 18 1
NEWHAM AND WOODEND SHIRE—				
Lancefield Road	..		493 13 1	
Melbourne-Bendigo Road	..		Bd. 17 6 9	
Mount Macedon Road	861 14 1		169 11 4	
Tylden Road	..		177 4 5	
		861 14 1		857 15 7
NEWHAM AND WOODEND AND KYNETON SHIRES (Joint Works)—				
Tylden Road	..		207 11 0	
				207 11 0
NEWSTEAD AND MT. ALEXANDER SHIRE—				
Castlemaine-Daylesford Road	..		Bd. 199 11 7	
Castlemaine-Daylesford Road	..		335 5 5	
Castlemaine-Maryborough Road	..		Bd. 445 1 8	
Creswick Road	..		484 12 11	
Maldon Road	..		235 15 4	
				1,700 6 11
NUMURKAH SHIRE—				
Echuca-Picola Road	..		285 14 7	
Nathalia-Picola Road	46 0 0		448 3 5	
Numurkah-Nathalia Road	..		1,620 7 11	
Numurkah-Tungamah Road	..		143 8 4	
Shepparton-Numurkah-Cobram Road	554 17 2		1,443 14 11	
		600 17 2		3,941 9 2
NUMURKAH AND DEAKIN SHIRES (Joint Works)—				
Echuca-Picola Road	..		158 3 9	
				158 3 9
OAKLEIGH CITY—				
Ferntree Gully Road	..		8 2 6	
Prince's Highway	..		327 18 7	
				336 1 1
OMEO SHIRE—				
Benambra Road	..		597 5 2	
Day Avenue	..		281 18 7	
Swift's Creek-Omeo Road	..		657 6 9	
				1,536 10 6
OMEO AND BRIGHT SHIRES (Joint Works)—				
Bright-Omeo Road	..		2,317 5 2	
Bright-Omeo Road	..		Bd. 687 6 2	
				3,004 11 4
ORBOST SHIRE—				
Cann Valley Road	..		Bd. 963 10 3	
Combienbar Road	..		329 17 2	
Genoa-Gipsy Point Road	..		Bd. 172 6 8	
Marlo Road	574 9 3		954 19 4	
Prince's Highway	..		269 10 8	
		574 9 3		2,690 4 1
OTWAY SHIRE—				
Beech Forest-Apollo Bay Road	..		287 1 6	
Carlisle-Gellibrand Road	..		315 0 2	
Colac-Beech Forest Road	..		143 16 9	
				745 18 5
OXLEY SHIRE—				
Bright Road	..		1,522 0 7	
Greta-Glenrowan Road	287 2 8		428 18 3	
Kilfeera-Boggy Creek Road	..		100 7 11	
Wangaratta-Whitfield Road	..		1,394 4 0	
		287 2 8		3,445 10 9
OXLEY AND BEECHWORTH SHIRES (Joint Works)—				
Bright	976 9 10			
		976 9 10		
PHILLIP ISLAND SHIRE—				
Newhaven Road	..		288 18 1	
Phillip Island Road	..		485 8 1	
Ventnor Road	..		583 19 6	
				1,358 5 8
Carried forward	..	58,242 5 5	..	401,759 6 5

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward	..	58,242 5 5	..	401,759 6 5
PORT FAIRY BOROUGH—				
Hamilton Road	..		118 10 3	
Prince's Highway (Portland)	..		12 11 9	
Prince's Highway (Warrnambool)	..		200 17 10	
				331 19 10
PORTLAND SHIRE—				
Bridgewater Road	..		1,386 11 11	
Heath Road	..		937 9 3	
Portland–Casterton Road	..		590 11 6	
Portland–Hamilton Road	..		1,704 11 6	
				4,619 4 2
PRESTON CITY—				
Epping Road	..		14 1 6	
Epping (Outer Metropolitan) Road	..		1,277 18 11	
Whittlesea Road	..		1,113 13 1	
				2,405 13 6
PYALONG SHIRE—				
Kilmore–Heathcote–Bendigo Road	..		324 10 6	
Lancefield–Tooborac Road	..		318 6 10	
				642 17 4
PYALONG AND MCIVOR SHIRES (Joint Works)—				
Lancefield–Tooborac Road	..		42 8 0	
				42 8 0
QUEENSCLIFFE BOROUGH—				
Geelong Road	..		83 12 10	
Geelong Road	..		Bd. 338 17 3	
Point Lonsdale Road	..		26 16 5	
				449 6 6
RINGWOOD BOROUGH—				
Main Healesville Road	..		1,333 6 8	
Mount Dandenong Road	..		1,019 11 8	
Ringwood–Warrandyte Road	..		484 15 5	
				2,837 13 9
RINGWOOD BOROUGH AND DONCASTER AND TEMPLESTOWE SHIRE (Joint Works)—				
Ringwood–Warrandyte Road	..		112 17 9	
				112 17 9
RIPON SHIRE—				
Ballarat–Ararat Road	..		3 16 4	
Ballarat–Hamilton Road	..		2,456 1 0	
Skipton Road	..		2,458 9 3	
				4,918 6 7
RIPON AND HAMPDEN SHIRES (Joint Works)—				
Ballarat–Hamilton Road	..		7 11 4	
				7 11 4
ROCHESTER SHIRE—				
Corop Road	..		83 12 4	
Rochester–Bamawm–Prairie Road	..		2,139 8 1	
Timmering Road	..		1,003 5 0	
				3,226 5 5
RODNEY SHIRE—				
Kyabram–Nathalia Road	..		111 14 7	
Kyabram–Tongala Road	..		17 2 9	
Mooroopna–Undera Road	..		211 19 6	
Shepparton–Tatura Road	..		1,214 18 7	
Tatura–Byrneside–Kyabram Road	..		1,883 17 6	
Tatura–Murchison Road	..		885 4 6	
				4,324 17 5
RODNEY SHIRE AND SHEPPARTON BOROUGH (Joint Works)—				
Shepparton–Tatura Road	..		45 1 11	
				45 1 11
ROMSEY SHIRE—				
Lancefield–Kilmore Road	..		666 18 1	
Lancefield–Tooborac Road	174 5 2		332 16 9	
Melbourne–Lancefield Road	..		1,454 2 5	
Woodend–Lancefield Road	..		375 6 2	
		174 5 2		2,829 3 5
ROMSEY AND NEWHAM AND WOODEND SHIRES (Joint Works)				
Woodend–Lancefield Road	535 9 6			
		535 9 6		
ROSEDALE SHIRE—				
Prince's Highway	..		501 4 8	
Seaspray Road	..		415 17 1	
Traralgon–Gormandale Road	..		173 16 1	
Traralgon–Maffra Road	..		2,279 10 8	
Willung Road	..		97 15 2	
				3,468 3 8
ROSEDALE AND ALBERTON SHIRES (Joint Works)				
Carrajung–Gormandale Road	..	..	11 4 4	
				11 4 4
Carried forward	..	58,952 0 1	..	432,032 1 4

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward	..	58,952 0 1	..	432,032 1 4
RUTHERGLEN SHIRE—				
Barnawartha–Howlong Road	..		65 6 10	
Chiltern–Howlong Road	1,290 10 7		306 3 6	
Murray Valley Road	..		475 15 10	
Rutherglen–Wahgunyah Road	..		303 2 8	
Rutherglen–Wahgunyah Road	..		Bd. 54 19 7	
Springhurst–Rutherglen Road	..		Bd. 177 4 8	
		1,290 10 7		1,382 13 1
SALE TOWN—				
Prince's Highway	32 3 2		378 8 10	
Sale–Longford Road	..		244 10 10	
		32 3 2		622 19 8
SANDRINGHAM CITY—				
Beach Road (Outer Metropolitan)	410 14 9		78 14 6	
		410 14 9		78 14 6
SEBASTOPOL BOROUGH—				
Ballarat–Hamilton Road	..		207 12 1	
Ballarat–Rokewood Road	..		81 3 2	
				288 15 3
SEYMOUR SHIRE—				
Avenel–Longwood Road	..		99 0 6	
Goulburn Valley Road	..		Bd. 521 14 9	
Highlands Road	..		527 15 8	
Seymour–Yea Road	..		220 5 3	
Sydney Road	..		Bd. 126 16 2	
Upper Goulburn Road	..		639 9 11	
Upper Goulburn Road	..		Bd. 148 4 1	
				2,283 6 4
SHEPPARTON BOROUGH—				
Shepparton–Nagambie Road	..		243 14 3	
Shepparton–Nalinga Road	..		18 5 11	
Shepparton–Numurkah Road	..		16 3 0	
				278 3 2
SHEPPARTON BOROUGH AND RODNEY SHIRE (Joint Works)—				
Shepparton–Mooroopna Road	..		4 5 7	
Shepparton–Tatura Road	..		157 17 7	
				162 3 2
SHEPPARTON SHIRE—				
Dookie–Nalinga Road	..		172 14 10	
Dookie–Violet Town Road	..		9 0 0	
Katandra Road	..		61 5 0	
Pine Lodge Road	..		191 9 0	
Shepparton–Nagambie Road	..		748 2 3	
Shepparton–Numurkah Road	..		462 13 3	
				1,645 4 4
SHEPPARTON SHIRE AND SHEPPARTON BOROUGH (Joint Works)—				
Shepparton–Nalinga Road	..		19 13 9	
				19 13 9
SOUTH BARWON SHIRE—				
Barwon Heads Road	26 19 1		2,517 11 4	
Prince's Highway	..		334 13 7	
Torquay Road	..		586 12 4	
		26 19 1		3,438 17 3
SOUTH BARWON AND BARRARBOOL SHIRES (Joint Works)—				
Torquay Road	..		1,762 3 6	
				1,762 3 6
SOUTH BARWON SHIRE AND GEELONG CITY (Joint Works)—				
Prince's Highway	..		41 11 5	
				41 11 5
SOUTH GIPPSLAND SHIRE—				
Albert River–Welshpool Road	..		69 0 8	
Boolarra–Foster Road	..		491 0 7	
Boolarra–Welshpool Road	..		452 19 3	
Falls Road	..		227 16 9	
Foster–Yarram Road	..		1,783 15 0	
Hazel Park Road	..		206 4 5	
Main South Gippsland Road	..		2,469 17 1	
Stony Creek–Dollar Road	..		186 9 8	
Toora–Gunyah Road	..		404 19 0	
Toora–Wonyip Road	..		242 16 4	
Turton's Creek Road	..		189 11 10	
				6,724 10 7
SOUTH GIPPSLAND AND WOORAYL SHIRES (Joint Works)—				
Boolarra–Foster Road	..		Bd. 170 19 10	
Dollar–Stony Creek Road	..		268 16 8	
Main South Gippsland Road	..		374 11 9	
				814 8 3
ST. ARNAUD BOROUGH—				
Avoca–St. Arnaud Road	..		45 8 1	
Charlton Road	650 7 2		95 4 5	
Navarre Road	..		46 7 1	
St. Arnaud–Donald Road	..		267 3 9	
		650 7 2		454 3 4
Carried forward	..	61,362 14 10	..	452,029 8 11

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward	..	61,362 14 10	..	452,029 8 11
STAWELL BOROUGH—				
Ararat–Stawell Road	..		71 11 7	
Glenorchy Road	..		299 11 9	
Stawell–Grampians Road	100 16 5		50 2 0	
		100 16 5		421 5 4
STAWELL SHIRE—				
Horsham–Wal Wal Road	..		226 4 0	
Landsborough Road	..		84 16 0	
Marnoo Road	330 9 9		1,341 14 9	
Marnoo–Rupanyup Road	..		7 8 2	
Navarre Road	1,828 1 8		521 4 11	
Stawell–Glenorchy–Horsham Road	38 10 6		1,927 11 5	
Stawell–Grampians Road	..		329 5 6	
Stawell–Grampians Road	..		Bd. 509 4 10	
Stawell–Warracknabeal Road	..		1,357 12 10	
		2,197 1 11		6,305 2 5
STRATHFIELDSAYE SHIRE—				
Heathcote–Bendigo Road	206 9 1		1,470 0 8	
Mandurang Road	..		559 12 4	
Strathfieldsaye Road	..		750 11 7	
		206 9 1		2,780 4 7
SWAN HILL SHIRE—				
Annuello–Wemen Road	..		372 7 10	
Euston Road	..		462 2 8	
Nyah–Ouyen Road	..		2,371 19 6	
Swan Hill Road	..		130 1 9	
Tooleybuc Road	..		117 3 11	
Ultima Road	..		959 7 10	
Ultima–Sea Lake Road	..		392 1 2	
Piangil Station Road..	..		467 9 9	
				5,272 14 5
TALBOT SHIRE—				
Maryborough–Avoca Road	..		73 7 10	
Maryborough–Ballarat Road	912 2 4		1,750 0 0	
		912 2 4		1,823 7 10
TAMBO SHIRE—				
Bairnsdale–Bruthen Road	..		72 8 2	
Basin Road	..		197 13 0	
Bruthen–Omeo Road	..		48 10 1	
Mossiface Road	..		67 19 1	
Prince's Highway	..		Bd. 280 12 6	
Nowa Nowa–Buchan–Gelantipy Road	..		882 12 1	
				1,549 14 11
TOWONG SHIRE—				
Murray Valley Road	..		1,243 13 6	
Omeo Road	..		713 13 6	
				1,957 7 0
TRARALGON SHIRE—				
Prince's Highway	..		80 0 5	
Traralgon–Balook Road	..		238 16 0	
Traralgon Creek Road	4 16 2		1,307 11 3	
Traralgon–Gormandale Road	..		666 19 7	
Traralgon–Maffra Road	..		230 11 6	
Tyers Road	..		1,357 1 1	
		4 16 2		3,880 19 10
TRARALGON AND MORWELL SHIRES (Joint Works)—				
Tyers Road	..		300 0 8	
				300 0 8
TULLAROOP SHIRE—				
Avoca Road	..		98 4 11	
Ballarat Road	..		47 8 6	
Castlemaine–Maryborough Road	..		Bd. 991 15 2	
Dunolly Road	..		13 7 9	
Eddington Road	..		259 8 4	
Maryborough–Dunolly Road	..		27 18 1	
Natte Yallock Road	..		628 13 1	
				2,066 15 10
TUNGAMAH SHIRE—				
Cobram–Katamatite Road	..		10 12 6	
Cobram South Road	142 11 0		71 10 7	
Katandra Road	339 17 0		154 17 0	
Numurkah–Tungamah–Wilby Road	13 0 8		728 4 2	
St. James Road	..		53 11 4	
Yarrawonga–Cobram Road	396 7 0		106 4 9	
		891 15 8		1,125 0 4
UPPER MURRAY SHIRE—				
Corryong Road	293 14 8		773 6 4	
Tintaldra Road	910 14 1		2,023 14 3	
		1,204 8 9		2,797 0 7
Carried forward	..	66,880 5 2	..	482,309 2 8

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward		66,880 5 2		482,309 2 8
UPPER YARRA SHIRE—				
Don Road	..		61 17 11	
Little Yarra Road	..		519 11 1	
Warburton Road..	..		2,092 6 9	
Woods Point Road	..		Bd. 1,165 9 4	
				3,839 5 1
VIOLET TOWN SHIRE—				
Murchison–Violet Town Road	454 5 3		479 19 11	
Violet Town–Dookie Road	71 18 1		200 7 10	
Sydney Road	..		Bd. 5 8 4	
		526 3 4		685 16 1
WALPEUP SHIRE—				
Mildura Road	..		64 18 3	
Ouyen–Pinnaroo Road	..		444 13 1	
				509 11 4
WANGARATTA BOROUGH—				
Beechworth Road	..		56 3 4	
Sydney Road	..		159 17 5	
Sydney Road	..		Bd. 3,205 17 7	
				3,421 18 4
WANGARATTA SHIRE—				
Beechworth Road	..		305 15 10	
Beechworth Road	..		Bd. 22 15 1	
Peechelba Road	..		60 4 3	
Springhurst–Rutherglen Road	..		Bd. 100 7 11	
Yarrawonga Road	..		Bd. 615 15 9	
Wangaratta–Whitfield Road	..		255 14 4	
				1,360 13 2
WANNON SHIRE—				
Coleraine–Harrow–Apsley Road	..		1,910 0 6	
Hamilton–Coleraine–Casterton Road	..		1,797 11 4	
Wannon Bridge Road	..		474 17 3	
				4,182 9 1
WANNON AND GLENELG SHIRES (Joint Works)—				
Hamilton–Coleraine–Casterton Road	..		36 6 10	
				36 6 10
WARANGA SHIRE—				
Elmore–Colbinabbin Road	..		938 2 10	
Colbinabbin–Moora Road	..		557 7 8	
Heathcote–Elmore Road	..		1,182 3 10	
Murchison–Rushworth Road	..		726 15 9	
Rushworth–Stanhope Road	..		690 7 3	
Tatura Road	..		95 0 9	
				4,189 18 1
WARANGA AND GOULBURN SHIRES (Joint Works)—				
Murchison–Rushworth Road	..		6 3 3	
				6 3 3
WARANGA AND HUNTLY SHIRES (Joint Works)—				
Heathcote–Elmore Road	..		19 18 1	
				19 18 1
WARRAGUL SHIRE—				
Bloomfield Road	..		649 6 1	
Brandy Creek Road	..		580 14 9	
Darnum–Allambee Road	..		232 12 3	
Prince's Highway	..		86 6 11	
Warragul–Korumburra Road	..		1,068 16 4	
Warragul–Leongatha Road	..		493 3 5	
Darnum–Allambee Road	..		Bd. 1,149 2 5	
				4,260 2 2
WARRNAMBOOL SHIRE—				
Allansford–Nirranda Road	..		863 16 7	
Caramut–Lismore Road	..		91 19 8	
Framlingham Road	..		1,852 15 3	
Garvoc–Laang Road	252 16 8		324 8 9	
Mortlake Road	..		1,512 5 5	
Peterborough Road	..		236 4 5	
Timboon–Nirranda Road	..		712 5 11	
		252 16 8		5,593 16 0
WERRIBEE SHIRE—	..			
Geelong–Bacchus Marsh Road	..		308 4 4	
Prince's Highway	..		Bd. 44 11 2	
				352 15 6
WHITTLESEA SHIRE—				
Epping Road	..		762 1 10	
Main Whittlesea Road	..		994 4 11	
Wallan Road	..		283 11 6	
Whittlesea–Kinglake Road	..		1,775 3 8	
				3,815 1 11
WIMMERA SHIRE—				
Dooen Road	..		259 17 11	
Horsham–Murtoa Road	..		2,867 5 11	
Horsham–Wal Wal Road	..		422 13 10	
Natimuk Road	..		827 10 11	
				4,377 8 7
Carried forward	..	67,659 5 2		518,970 6 2

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION AND MAINTENANCE, ETC.—*continued.*

Municipality and Road.	Permanent Works.		Maintenance Works.	
	Amount.	Total.	Amount.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Brought forward	..	67,659 5 2	..	518,960 6 2
WIMMERA AND ARAPILES SHIRES (Joint Works)—				
Horsham–Hamilton Road	..		782 17 4	
				782 17 4
WIMMERA AND ARAPILES SHIRES AND HORSHAM TOWN (Joint Works)—				
Horsham–Hamilton Road	..		66 17 1	
				66 17 1
WINCHELSEA SHIRE—				
Birregurra Road	..		459 18 11	
Birregurra Road	..		Bd. 118 5 8	
Birregurra–Dean's Marsh Road	..		1,207 8 1	
Birregurra–Forrest Road	341 8 6		1,245 9 7	
Lorne Road	..		Bd. 846 9 7	
Prince's Highway	..		Bd. 271 10 11	
		341 8 6		4,149 2 9
WINCHELSEA AND COLAC SHIRES (Joint Works)—				
Birregurra Road	..		508 5 8	
				508 5 8
WODONGA SHIRE—				
Sydney Road	..		77 0 0	
Tallangatta Road	..		2 14 0	
Wodonga–Yackandandah Road	..		179 10 10	
				259 4 10
WONTHAGGI BOROUGH—				
Wonthaggi–Loch Road	..		92 2 4	
Wonthaggi–Inverloch Road	..		160 17 10	
Wonthaggi–Korumburra Road	..		408 18 0	
				661 18 2
WOORAYL SHIRE—				
Fairbank Road	..		479 5 11	
Farmers Road	35 17 7		1,715 11 9	
Inverloch–Leongatha Road	..		1,215 2 2	
Inverloch–Wonthaggi Road	..		276 2 2	
Kongwak–Inverloch Road	808 6 10		38 0 6	
Leongatha–Mirboo Road	..		1,022 9 7	
Leongatha–Yarragon Road	..		1,083 17 9	
Lower Tarwin Road	..		1,078 1 6	
Main South Gippsland Road	..		2,762 11 5	
Main South Gippsland Road	..		Bd. 26 17 6	
Mardan Road	..		1,791 5 0	
Mardan Road	..		Bd. 473 8 10	
Turton's Creek Road	..		632 12 11	
Wild Dog Valley Road	..		1,101 6 1	
Wild Dog Valley Road	..		Bd. 76 5 0	
		844 4 5		13,772 18 1
WOORAYL AND MIRBOO SHIRES (Joint Works) —				
Turton's Creek Road	..		3 17 1	
				3 17 1
WYCHEPROOF SHIRE—				
Birchip–Wycheproof Road	3,243 9 9		216 4 2	
Birchip–Sea Lake Road	490 10 10		736 7 8	
Corack Road	..		43 15 2	
Sea Lake–Ultima Road	74 0 10		476 8 6	
Woomelang–Sea Lake Road	102 1 6		406 0 2	
Wycheproof–Sea Lake Road	..		385 9 8	
		3,910 2 11		2,264 5 4
YACKANDANDAH SHIRE—				
Dederang Road	..		1,030 12 1	
Gundowring Road	126 13 6		476 4 1	
Kergunyah South Road	..		490 7 2	
Kiewa East Road	..		124 14 0	
Kiewa–Wodonga Road	..		397 16 8	
Myrtleford–Yackandandah Road	..		87 3 1	
Yackandandah–Wodonga Road	..		737 18 6	
		126 13 6		3,344 15 7
YARRAWONGA SHIRE—				
Peechelba Road	..		38 17 8	
Wangaratta–Yarrawonga Road	..		1,391 6 8	
Yarrawonga–Cobram Road	..		19 0 6	
				1,449 4 10
YEA SHIRE—				
Highlands Road	..		89 15 10	
Molesworth–Dropmore Road	..		165 0 2	
Upper Goulburn Road	..		1,664 10 3	
Whittlesea–Yea Road	..		559 2 4	
Yea–Glenburn Road	..		1,100 15 9	
Yea–Glenburn Road	..		Bd. 1,109 8 8	
Yarra Glen–Glenburn Road	..		317 19 10	
				5,006 12 10
YEA AND BROADFORD SHIRES (Joint Works)—				
Upper Goulburn Road	..		175 11 9	
				175 11 9
Total	..	72,881 14 6	..	551,405 17 6

APPENDIX D.

COUNTRY ROADS BOARD.

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION OF DEVELOPMENTAL ROADS FOR YEAR ENDED 30TH JUNE, 1935.

Municipality and Road.	Act No. 3662 (3255). Amount.	Total.
	£ s. d.	£ s. d.
ALBERTON SHIRE—		
Albert River Road.. ..	55 17 4	
Blackwarri–Yarram Road ..	10 8 0	
Carrajung Lower Road ..	120 13 4	
Gelliondale Road	19 11 3	
Lay's Road	479 10 0	
		685 19 11
ARAPILES SHIRE—		
Miga Lake–Gymbowen Road	329 0 11	
		329 0 11
BAIRNSDALE SHIRE—		
Calulu–Boggy Creek Road ..	34 0 9	
Fernbank–Stockdale Road ..	463 2 9	
Glenaladale–Lindenow Road	243 7 11	
Lindenow–Meerlieu Road ..	486 3 6	
		1,226 14 11
BALLAN SHIRE—		
Ballan–Egerton Road ..	175 17 6	
Moorarbool West Road ..	28 11 9	
		204 9 3
BASS SHIRE—		
Almurta–Glen Forbes Road ..	141 13 2	
		141 13 2
BENALLA SHIRE—		
Molyullah–Tatong Road ..	11 8 1	
		11 8 1
BERWICK SHIRE—		
Nar-nar-goon–Gembrook Road	114 7 6	
Tynong–Tonimbuk Road ..	52 19 7	
		167 7 1
BORUNG SHIRE—		
Aubrey Road	4 6 3	
Brim West Road	845 0 3	
Donald–Warracknabeal Road	1 7 0	
Lah West Road	495 17 1	
		1,346 10 7
BORUNG AND KARKAROOC SHIRES (Joint Works)—		
Galaquil West Road ..	354 2 4	
		354 2 4
BRIGHT SHIRE—		
Happy Valley Road ..	162 5 6	
		162 5 6
BULLA SHIRE—		
Konagaderra Road ..	255 14 10	
		255 14 10
BULN BULN SHIRE—		
Lardner's Track	116 8 6	
Neerim South–Neerim East Road	1 12 6	
Poowong Road	133 11 5	
		251 12 5
BUNINYONG SHIRE—		
Elaine–Mount Mercer Road ..	77 9 2	
		77 9 2
CHARLTON SHIRE—		
Teddywaddy Road ..	395 0 8	
Yeungroon Road	506 7 0	
		901 7 8
CRANBOURNE SHIRE—		
Manks Road	830 15 1	
		830 15 1
DEAKIN SHIRE—		
Girgarre North Road ..	134 14 11	
Strathallan East Road ..	13 11 6	
		148 6 5
DIMBOOLA SHIRE—		
Glenlee–Jeparit Road ..	653 6 8	
		653 6 8
Carried forward ..	..	7,748 4 0

Municipality and Road.	Act No. 3662 (3255). Amount.	Total.
	£ s. d.	£ s. d.
Brought forward ..	..	7,748 4 0
DONALD SHIRE—		
Corack East–Donald Road ..	485 13 11	
Donald–Minyip Road ..	454 17 5	
Litchfield Road	456 14 2	
Watchem–Warracknabeal Road	448 11 0	
		1,845 16 6
DUNDAS SHIRE—		
Melville Forest Road ..	281 17 2	
		281 17 2
DUNMUNKLE SHIRE—		
Banyena Road	499 9 0	
Burrum Siding Road ..	497 11 7	
Horsham–Murtoa–Minyip Road	1,004 16 9	
Lubeck West Road ..	492 11 11	
		2,494 9 3
ELTHAM SHIRE—		
Cottle's Bridge – Strathewen Road	111 5 7	111 5 7
FERNTREE GULLY SHIRE—		
Emerald–Macclesfield Road ..	445 0 0	
Emerald–Monbulk Road ..	271 11 0	
		716 11 0
FLINDERS SHIRE—		
Brown's Road	316 12 3	
		316 12 3
FRANKSTON AND HASTINGS SHIRE—		
Hodgins Road	600 3 9	
		600 3 9
GLENELG SHIRE—		
Dergholm–Elderslie Road ..	187 1 1	
Dunrobin–Wando Vale Road	26 15 9	
Merino–Struan–Tahara Road	22 6 5	
		236 3 3
GLENLYON SHIRE—		
Porcupine Ridge Road ..	438 6 10	
		438 6 10
GRENVILLE SHIRE—		
Pittong Road	152 11 1	
		152 11 1
HAMPDEN SHIRE—		
Cundare–Duverney Road ..	832 1 3	
Vite Vite Road	1,160 11 8	
		1,992 12 11
HAMPDEN, HEYTESBURY, AND WARRNAMBOOL SHIRES (Joint Works)—		
Ayresford Road	759 7 11	
		759 7 11
HUNTLY SHIRE—		
Diggora Road	6 19 3	
Drummartin Road	45 13 8	
Elmore–Raywood Road ..	23 16 6	
		76 9 5
KARA KARA SHIRE—		
Sandy Creek Road ..	50 7 4	
Marnoo–St. Arnaud Road ..	147 16 0	
		198 3 4
KARKAROOC SHIRE—		
Hopetoun–Lascelles Road ..	74 7 6	
Hopetoun–Yaapeet Road ..	211 0 0	
Patchewollock–Speed Road ..	119 17 6	
Rosebery East Road ..	117 17 7	
Rosebery West Road ..	399 1 9	
Yaapeet–Nypo Road ..	71 0 0	
Yarto–Patchewollock Road ..	256 12 11	
		1,249 17 3
Carried forward ..	..	19,218 11 6

STATEMENT OF EXPENDITURE IN CONNEXION WITH CONSTRUCTION OF DEVELOPMENTAL ROADS, ETC.—*continued.*

Municipality and Road.	Act No. 3662 (3255). Amount.	Total.
	£ s. d.	£ s. d.
Brought forward ..	..	19,218 11 6
KORONG AND CHARLTON SHIRES (Joint Works)—		
Buckrabanyule South Road ..	208 9 0	208 9 0
KORONG SHIRE—		
Emu-Logan Road	8 10 0	
Inglewood North Road ..	150 9 2	
Kinypanial Road	14 12 6	
Kurting-Rheola Road ..	22 7 0	
Mysia East Road	506 6 6	
Mysia West Road	82 17 11	
Nine Mile Road	161 18 11	
Wedderburn-Springhill Road	325 10 8	
Wychitella North Road ..	52 14 0	1,325 6 8
KORUMBURRA AND WOORAYL SHIRES (Joint Works)—		
Wild Dog Valley Road ..	3 15 0	3 15 0
KOWREE SHIRE—		
Benayeo Road	109 4 8	
Edenhope-Natimuk Road ..	576 16 7	
Elderslie Road	649 16 11	
Elderslie-Narracoorte Road ..	290 11 6	
Miga Lake-Gymbowen Road	283 12 6	1,910 2 2
KYNETON SHIRE—		
Bayntor Road	451 2 6	451 2 6
LAWLOIT SHIRE—		
Serviceton North Road ..	609 15 8	
Serviceton South Road ..	1,118 10 6	1,728 6 2
LILLYDALE SHIRE—		
Monbulk-Seville Road ..	13 0 10	13 0 10
LOWAN SHIRE—		
Netherby Road	883 17 10	
Winiam Road	190 3 0	
Woorak Road	431 3 4	1,505 4 2
MAFFRA SHIRE—		
Bundalaguah Road ..	104 2 3	
Maffra-Newry Road ..	10 15 0	114 17 3
MARONG SHIRE—		
Bendigo-Serpentine Road ..	329 0 0	
Newbridge-Shelbourne Road	345 6 11	
Yarraberb Road	101 10 3	775 17 2
MILDURA SHIRE—		
Benetook Avenue	683 5 11	
Colignan Road	20 0 0	
Red Cliffs South-East Road ..	1,073 18 4	
Red Cliffs East Road ..	11 7 6	
Red Cliffs West Road ..	796 5 0	
Werrimull North Road ..	111 7 2	
Werrimull South Road ..	108 0 0	2,804 3 11
MINHAMITE SHIRE—		
Condah-Macarthur Road ..	892 19 2	892 19 2
MIRBOO SHIRE—		
Allambee-Thorpdale Road ..	25 14 7	
Mardan Road	254 17 0	280 11 7
McIVOR SHIRE—		
Baynton Road	50 0 0	50 0 0
NEWHAM AND WOODEND SHIRE—		
Campaspe Road	766 17 9	766 17 9
ORBOST SHIRE—		
Bete Bolong-Waygara Road	219 0 8	
Jarrahmond Road	511 10 11	
Tostaree Road	297 11 3	1,028 2 10
OXLEY SHIRE—		
Boggy Creek Road ..	644 7 0	
Buffalo River Road ..	110 0 0	754 7 0
PORTLAND SHIRE—		
Drik Drik-Winnap Road ..	133 19 6	133 19 6
Carried forward ..	..	33,965 14 2

Municipality and Road.	Act No. 3662 (3255). Amount.	Total.
	£ s. d.	£ s. d.
Brought forward ..	..	33,965 14 2
ROCHESTER SHIRE—		
Kotta East Road	652 11 4	652 11 4
ROMSEY SHIRE—		
Baynton Road	245 13 3	245 13 3
SOUTH GIPPSLAND SHIRE—		
Amey's Track	185 19 7	
O'Grady's Ridge Road ..	276 1 7	
Yanakie Road	119 0 0	581 1 2
SWAN HILL SHIRE—		
Manangatang-Euston Road ..	22 17 6	22 17 6
TOWONG SHIRE—		
Burrowye-Koetong Road ..	400 14 6	
Guy's Forest Road ..	242 19 6	
Shelley-Jinjellic Road ..	345 16 1	
Snowy Creek Road ..	287 4 4	
Tallangatta Creek Road ..	821 16 3	
Yabba Road	1,175 5 7	3,273 16 3
TRARALGON SHIRE—		
Walker's Road	839 11 4	839 11 4
TUNGAMAH SHIRE—		
Wunghnu-Youanmite Road ..	1,469 14 3	
Yabba North Road ..	615 10 5	2,085 4 8
UPPER MURRAY SHIRE—		
Bectomba Road	549 3 9	
Kancobin Road	52 6 0	
Thowgla Road	181 15 0	783 4 9
VIOLET TOWN SHIRE—		
Fernhills Road	178 7 7	178 7 7
WARANGA SHIRE—		
Mount Camel-Corop Road ..	555 19 1	
Mount Camel Estate Road ..	1,435 15 8	1,991 14 9
WARRAGUL SHIRE—		
Bona Vista-Nilma Road ..	60 13 9	
Ferndale Road	23 17 6	
Lardner's Track	910 10 0	
Old Sale Road	1,000 0 0	1,995 1 3
WARRNAMBOOL SHIRE—		
Naringle Road	1,060 3 7	
Panmure Road	19 2 7	1,079 6 2
WERRIBEE SHIRE—		
Bulban Road	1,202 1 9	1,202 1 9
WANNON SHIRE—		
Melville Forest Road ..	1,298 15 5	1,298 15 5
WODONGA SHIRE—		
Beechworth-Wodonga Road ..	884 8 1	884 8 1
WOORAYL SHIRE—		
Dollar-Dumbalk Road ..	4 17 6	
Dumbalk Road	1,139 11 6	
Mardan-Dumbalk Road ..	333 16 7	
Nerrena Road	8 1 1	1,486 6 8
WYCHEPROOF SHIRE—		
Berriwillock-Woomelang Road	20 9 0	
Culgoa-Lalbert Road ..	991 6 9	
Meridian Road	543 10 7	
Nullawil-Winston Road ..	87 18 3	
Myall-Sea Lake Road ..	417 14 7	
Nyarrin Road	443 4 2	
Sea Lake-Tyrrell Downs Road	161 14 9	2,665 18 1
YACKANDANDAH SHIRE—		
Kergunyah Road	530 10 5	
Running Creek Road ..	372 12 3	903 2 8
		56,134 16 10
Suspense	22 13 7	22 13 7
Total	..	56,157 10 5

APPENDIX E.

COUNTRY ROADS BOARD.

MAIN ROADS.

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, RECONSTRUCTED, AND MAINTAINED UNDER THE PROVISIONS OF THE COUNTRY ROADS ACT 1928 DURING THE YEAR ENDED 30TH JUNE, 1935.

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES.		
ALBERTON SHIRE—			
Albert River–Welshpool Road ..	Longitudinal running planks on timber bridge near Blanc's	..	—
,, ,, ,, ,, ..	Patrol maintenance throughout; flood damage repairs, removing landslides and repairing gravel surface	..	8
Balook–Yarram Road ..	Patrol maintenance throughout; flood damage repairs, removing landslides and repairing road surface	..	9
Carrajung–Gormandale Road ..	Reconditioning and widening pavement and double coat bitumen sealing on Church Road near Yarram	..	·52
,, ,, ,, ..	Road-mix seal at Reville's Hill, North Devon	..	·34
,, ,, ,, ..	Patrol maintenance throughout; flood damage repairs, removal of landslides and repairs to road surface	..	30
Foster–Yarram Road ..	Road-mix seal from shire boundary to Gelliondale, and Gellion's Gate to Albert River bridge	..	6
,, ,, ,, ..	Patrol maintenance throughout	..	8
Sale–Yarram Road	Patrol maintenance	..	·5
Yarram–Boolarra Road ..	Road-mix seal from Tooloonook to Jack River	..	1·9
,, ,, ,, ..	Reconditioning waterbound macadam road from Keating's Corner towards quarry	..	·4
,, ,, ,, ..	Patrol maintenance throughout; flood damage repairs and removing landslides ..	..	15
Yarram–Port Albert Road ..	Reconditioning waterbound macadam and gravel road and double coat bitumen sealing from Alberton Cemetery to Port Albert	..	2·5
,, ,, ,, ..	Patrol maintenance throughout	..	9
Yarram–Won Wron Road ..	Patrol maintenance throughout; flood damage repairs, filling scours and repairs to gravelling	..	5
ALEXANDRA SHIRE—			
Cathkin–Mansfield Road ..	Forming and gravelling, together with the construction of one 25-ft. span timber bridge	..	·32
ARAPILES SHIRE—			
Horsham–Hamilton Road ..	Construction of ten reinforced concrete pipe culverts, 12-in. diameter	..	—
,, ,, ,, ..	Longitudinal planks on bridge over Glenelg River	..	—
,, ,, ,, ..	Gravel econstruction and fencing on curve at McKenzie Creek	..	·13
,, ,, ,, ..	General maintenance throughout	..	25
Horsham – Natimuk – Edenhope Road	Limestone resheeting westerly from Wimmera River	..	2·27
,, ,, ,, ,,	Reconstruction of superstructure of timber bridge over Natimuk Creek	..	—
,, ,, ,, ,,	Realignment of curves in Jacky Sand, parish of Tooan, gravel construction ..	..	·33
,, ,, ,, ,,	Gravelling in parish of Tooan	1·86	..
,, ,, ,, ,,	Limestone construction in parish of Tooan	1·55	..
,, ,, ,, ,,	Gravelling in parish of Kalingur	·89	..
,, ,, ,, ,,	General maintenance throughout	..	23·5
ARARAT SHIRE—			
Ararat–Elmhurst Road	Regravelling at Warra Yadin	..	1
,, ,, ,, ..	Patrol maintenance	..	22
Ararat–Warrnambool Road ..	Regravelling at 24 miles	..	1
,, ,, ,, ..	First seal at 4 miles and 16 miles	..	2
,, ,, ,, ..	Reseal 10 miles and Lake Bolac	..	3·25
,, ,, ,, ..	Patrol maintenance	..	33
Ballarat–Hamilton Road ..	Regravelling at Westmere	..	2
,, ,, ,, ..	First seal at 10 miles	..	1·5
,, ,, ,, ..	Reseal at Lake Bolac	..	1
,, ,, ,, ..	Patrol maintenance	..	22·5
Maroona–Glenthompson Road ..	Regravelling at 2 miles	..	2
,, ,, ,, ..	First seal at 2 miles	..	2
,, ,, ,, ..	Patrol maintenance	..	23
ARARAT TOWN—			
Ballarat–Stawell Road ..	General maintenance	..	3·25
AVOCA SHIRE—			
Ararat Road	Resheeting with gravel	..	1·15
,, ,, ...	Construction of reinforced concrete box culvert and approaches 3¼ miles south of Avoca	—	..
,, ,, ...	Patrol maintenance throughout	..	7·2
Ballarat–St. Arnaud Road ..	Scarifying, resheeting and shouldering section 3 miles north of Avoca	..	·85
,, ,, ,, ..	48-in. diameter pipe culvert to replace timber bridge ¾ mile south of Avoca ..	..	—
,, ,, ,, ..	Patrol maintenance throughout	..	23·25
Bealiba Road	Patrol maintenance throughout	..	9
Landsborough Road ..	Patrol maintenance throughout	..	1·8
Maryborongh Road	Realigning and superelevating curve 2½ miles east of Avoca	..	—
,, ,, ...	Patrol maintenance throughout	..	5
AVON SHIRE—			
Dargo Road	General maintenance	..	45
Maffra–Stratford Road ..	Repairing bitumen surface and flanking	..	2
Prince's Highway	Repairing bitumen surface and flanking, Stratford Township	..	·75
Sale–Maffra Road	Repairing bitumen surface and flanking	..	2·96
	Carried forward	4·30	366·17

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Brought forward	4·30	366·17
BACCHUS MARSH SHIRE—			
Bacchus Marsh–Balliang Road ..	Shouldering and gravel resheeting, 4·3 to 5·1 miles and 7·6 to 8·6 miles ..	..	1·8
,, ,, ,, ,, ..	Sealing 0·0 to 1·5 miles	..	1·5
,, ,, ,, ,, ..	Patrol maintenance throughout	..	15·4
Ballarat Road	Road-mix sealing throughout	..	1·2
,, ,, ...	Patrol maintenance throughout	..	1·2
Geelong–Bacchus Marsh Road ..	Rescaling 0·0 to 0·5 miles	..	·5
,, ,, ,, ..	Patrol maintenance throughout	..	7·8
Gisborne Road	Shouldering and gravel resheeting 7·0 to 8·0 miles	..	1
,, ,, ...	Sealing 4·4 to 5·9 miles	..	1·5
,, ,, ...	Patrol maintenance throughout	..	9·9
BAIRNSDALE SHIRE—			
Bairnsdale–Lindenow Road ..	Reconstruction and bitumen sealing	..	1·95
,, ,, ,, ..	Patrol maintenance throughout	..	9
Bairnsdale–Paynesville Road ..	Reconstruction and bitumen sealing	..	1·62
,, ,, ,, ..	Patrol maintenance throughout	..	10
Buhunwaal–Tabberabbera Road	Patrol maintenance throughout	..	16
Prince's Highway	Patrol maintenance throughout	..	3·4
BALLAN SHIRE—			
Ballarat Road	General maintenance throughout	..	1
Daylesford Road	Double coat bituminous sealing northerly from 5-mile peg	..	·45
,, ,, ...	Road-mix rescaling 3 sections between Western Highway and 5-mile peg ..	..	·95
,, ,, ...	Patrol maintenance throughout	..	12·7
Gordon–Meredith Road ..	Double coat bituminous sealing between Gordon Railway Station and Mt. Egerton	..	1·56
,, ,, ,, ..	General maintenance throughout	..	5·5
Mount Wallace Road ..	Reconstruction, widening and gravel surfacing near Ballan	..	·58
,, ,, ,, ..	Double coat bituminous sealing two sections between Western Highway and 2-mile peg	..	·79
,, ,, ,, ..	Reconditioning with gravel near 8·5-mile peg	..	·33
,, ,, ,, ..	General maintenance throughout	..	10·7
Spargo Creek Road	General maintenance throughout	..	1·25
BALLARAT SHIRE—			
Ballarat–Lexton Road ..	Reconditioning, scarifying, reforming, gravelling and priming and sealing with bitumen, macadam road 15 feet wide	..	1·1
,, ,, ,, ..	General maintenance throughout	..	18·2
Maryborough–Ballarat Road ..	Reconditioning, scarifying, reforming, gravelling and priming and sealing with bitumen, macadam road 15 feet wide	..	1
,, ,, ,, ..	General maintenance throughout	..	12·65
BANNOCKBURN SHIRE—			
Gordon–Meredith Road ..	Gravel sheeting	..	·58
,, ,, ..	Patrol maintenance throughout	..	3
Inverleigh Road	Road-mix seal near Stonehaven, Murgheboluc, and Inverleigh	..	4·01
,, ,, ...	Double coat sealing on gravel near Murgheboluc	..	2·49
,, ,, ...	Reconstruction and gravel sheeting near Inverleigh	..	1·7
,, ,, ...	Construction of deviation west of Inverleigh	·35	..
,, ,, ...	Patrol maintenance throughout	..	16·5
Shelford–Bannockburn Road ..	Gravel sheeting west of Bannockburn	..	2·37
,, ,, ,, ..	Patrol maintenance throughout	..	6·5
BARRABOOL SHIRE—			
Anglesea Road	General maintenance throughout	..	17
Hendy Main Road	General maintenance throughout	..	14
BASS SHIRE—			
Almurta Road	Patrol and general maintenance	..	5·25
Anderson–Dalyston Road ..	Reshaping with crushed rock and double coat bitumen surfacing westerly from the north-eastern angle of Allotment 72, Parish of Woolamai	..	·56
,, ,, ,, ..	Construction of 80-ft. timber bridge and approaches over Bourne Creek ..	..	·42
,, ,, ,, ..	Widening curve at Allotment 13, Parish of Woolamai	..	·4
,, ,, ,, ..	Patrol and general maintenance	..	6·5
Almurta–Grantville Road ..	Patrol and general maintenance	..	3·9
Dalyston–Glen Forbes Road ..	Reshaping flanking and double coat bitumen surfacing northerly from south-western angle of Allotment 115, Parish of Woolamai	..	·95
,, ,, ,, ..	Reshaping and surfacing old macadam road with crushed rock and improving curves southerly from Glen Forbes Railway Station	..	3·55
,, ,, ,, ..	Patrol and general maintenance	..	10·14
Dalyston–Wonthaggi Road ..	Patrol and general maintenance	..	2
Inverloch–Wonthaggi Road ..	Patrol and general maintenance	..	3
Korumburra–Wonthaggi Road ..	Resurfacing with crushed rock to south-eastern angle of Allotment 21B, Parish of Wonthaggi North	..	1·08
,, ,, ,, ..	Double coat bitumen surfacing to south-eastern angle of Allotment 21B, Parish of Wonthaggi North, and northerly from the Wonthaggi Borough boundary	..	1·33
,, ,, ,, ..	Patrol and general maintenance	..	8
Main Coast Road	Raising ends of Flat Bottom Creek bridge	..	—
,, ,, ...	Patrol and general maintenance	..	18·75
Wonthaggi–Loch Road ..	Patrol and general maintenance	..	15·8
BASS SHIRE AND WONTHAGGI BOROUGH (Joint Works)—			
Wonthaggi–Loch Road ..	Patrol and general maintenance	..	·7
BEECHWORTH SHIRE—			
Beechworth Road	Scarifying, reshaping, sheeting, and patrol maintenance	..	25
Bright Road	Widening, sheeting, and patrol maintenance	..	5
Everton–Myrtleford Road ..	Reconditioning, scarifying, gravelling, and patrol maintenance	..	11
Myrtleford–Yackandandah Road	Patrol maintenance	..	3
Stanley Road	Scarifying, reshaping, gravelling, and patrol maintenance	..	9
BELFAST SHIRE—			
Hamilton Road	General maintenance of sealed metalled roadway	..	13·5
Penshurst Road	General maintenance of sealed metalled roadway	..	3·5
,, ,, ...	Pre-mixed seal coat	..	6
BENALLA SHIRE—			
Benalla–Shepparton Road ..	General maintenance throughout	..	·9
Goorambat Road	General maintenance throughout	..	5·6
Goorambat–Thoona Road ..	Provision of additional culverts and patrol maintenance	..	11·8
Greta Road	Provision of additional culverts and patrol maintenance	..	·8
Kelfecra Road	Forming and gravelling	1·21	..
,, ,, ...	Provision of additional culverts and patrol maintenance	..	10
Lima Road	General maintenance throughout	..	2·9
Sydney Road	General maintenance throughout	..	2
Tatong–Tolmie Road ..	General maintenance throughout	..	10
	Carried forward	5·86	789·18

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Brought forward	5·86	789·18
BERWICK SHIRE—			
Beaconsfield–Emerald Road ..	General maintenance of sealed road from the Prince's Highway at Beaconsfield to 6·7 miles	..	6·7
Cockatoo-Gembrook Road ..	General maintenance of ·81 miles of sanded road and 3·49 miles of bitumen surfaced road from Cockatoo to Gembrook	..	4·3
Emerald Road	General maintenance from Woori Yallock–Pakenham–Koo-wee-rup Road to the Cockatoo Creek	..	·2
Gembrook Road	General maintenance of sand and bitumen surfaced road from Gembrook to Junction, with Woori Yallock–Pakenham–Koo-wee-rup Road at Upper Pakenham	..	5·5
Gembrook–Beenak Road ..	Geueral maintenance of sanded road northerly from Gembrook	..	2
Hallam–Emerald Road ..	General maintenance of bitumen surfaced road for 1 mile north of Highway, and sanded road for 3·5 miles to Shire boundary	..	4·5
Koo-wee-rup–Longwarry Road	General maintenance of sand section from Modella School west to Cranbourne Shire boundary	..	1·6
Nar-Nar-Goon–Longwarry Road	General maintenance of bitumen surfaced road for 1 mile from Prince's Highway through Nar-Nar-Goon Township, and sanded road for 10·7 miles to Longwarry	..	11·7
Woori Yallock – Pakenham–Koo-wee-rup Road	General maintenance of sanded road from south shire boundary northerly for 4 miles, and of bitumen surfaced road for 13·75 miles to Cockatoo	..	17·75
BET BET SHIRE—			
Avoca–Bealiba Road	General maintenance throughout	..	13·7
Betley Road	General maintenance throughout	..	4·5
Dunolly Road	Widening and road-mix seal from Dunolly Railway intersection in Broadway, Dunolly	..	·19
,, ,, ...	General maintenance throughout	..	12
Dunolly–Eddington Road ..	General maintenance throughout	..	5
Maryborough–Dunolly Road ..	General maintenance throughout	..	4·5
BIRCHIP SHIRE—			
Beulah – Birchip – Wycheproof Road	Forming, boxing, and limestoning	..	·3
,, ,, ,, ,,	Patrol maintenance throughout	..	22
Donald–Birchip–Sealake Road ..	Forming, boxing, and limestoning	..	·38
,, ,, ,, ,, ..	Patrol maintenance throughout	..	26·75
BLACKBURN AND MITCHAM SHIRE—			
Burwood Road	Reforming of shoulders and table drains	..	·9
,, ,, ...	Patrol maintenance throughout	..	3·8
Main Healesville Road ..	Reconstruction in crushed rock and sealing with bitumen	..	1·2
,, ,, ,, ..	Patrol maintenance throughout	..	4·2
BORUNG SHIRE—			
Birchip Road	Scarifying, shouldering, and resheeting with metal 2½ miles north-east from Warracknabeal	..	1·27
,, ,, ...	Metalling 6 miles north-east from Warracknabeal	1·06	..
,, ,, ...	General maintenance	..	14
Dimboola Road	Scarifying, shouldering, and resheeting with metal 3 miles south-west from Warracknabeal	..	1·15
,, ,, ...	Limestone metalling 6 miles south-west from Warracknabeal	1·13	..
,, ,, ...	Limestone metalling 7 miles south-west from Warracknabeal	1·2	..
,, ,, ...	General maintenance	..	7·5
Hopetoun Road	Metalling between Batchica and Lah	1·92	..
,, ,, ...	Metalling 2½ miles north from Warracknabeal	·9	..
,, ,, ...	Scarifying, shouldering, and resheeting with metal at Batchica	..	·82
,, ,, ...	Resheeting with screened limestone 2½ miles north from Brim	..	1·13
,, ,, ...	Resheeting with screened limestone 1 mile north from Brim	..	1·12
,, ,, ...	General maintenance	..	18
Rainbow Road	Scarifying, shouldering, and resheeting with metal 2½ miles north-west from Warracknabeal	..	·71
,, ,, ...	Limestoning and gravelling 11 miles north-west from Warracknabeal	..	1·12
,, ,, ...	General maintenance	..	18
BOX HILL CITY—			
Burwood Road	Patrol maintenance	..	2·04
Main Healesville Road ..	Reconstruction in modified macadam	..	·36
,, ,, ,, ..	Resurfacing with pre-mixed drag seal	..	·65
,, ,, ,, ..	Patrol maintenance	..	2·03
BRAYBROOK SHIRE—			
Ballarat Road	Patrol maintenance from tram terminous to Albion railway gates	..	3·36
BRIGHT SHIRE—			
Bright Road	Patrol maintenance, resheeting through Bright Township	..	20
Harrietville Road	Patrol maintenance, placing pipe culverts	..	16
Kiewa Valley Road	Patrol maintenance, placing pipe culverts	..	7·8
Myrtleford–Yackandandah Road	Forming, gravelling and construction of 5 feet x 5 feet reinforced concrete culvert	·17	..
,, ,, ,,	Patrol maintenance	..	10·46
BRIGHTON CITY—			
Beach Road	Widening roadway to 30 feet with crushed rock and reconditioning with plant-mix	..	·42
,, ,, ...	Construction of concrete block channel	·42	..
BROADMEADOWS SHIRE—			
Lancefield Road	Premixed surface coat from Essendon Aerodrome to Albion railway line ..	..	1·17
,, ,, ...	Patrol maintenance throughout	..	4·5
Sydney Road	Premixed surface coat from Fawkner Cemetery to Anderson's Road, Fawkner ..	..	1·25
,, ,, ...	Patrol maintenance throughout	..	2
BULLA SHIRE—			
Melbourne–Lancefield Road ..	Patrol maintenance throughout	..	15·5
Sunbury Road	Patrol maintenance throughout	..	2
The Gap Road	Forming and crushed rock surfacing easterly from Shire boundary	·46	..
,, ,, ...	Patrol maintenance throughout	..	1·5
BULN BULN SHIRE—			
Bloomfield Road	Patrol maintenance and loam sheeting	..	·9
Fumina Road	Patrol maintenance	..	9·7
Kooweerup–Longwarry Road ..	Bitumen resealing 12 feet wide	..	1
,, ,, ,, ..	Patrol maintenance	..	6·5
Loch Valley Road ..	Patrol maintenance	..	6·4
Longwarry–Drouin Road ..	Patrol maintenance	..	5·7
Main Neerim Road	Bitumen sealing 16 feet wide and 12 feet wide	..	4·1
,, ,, ,, ..	Patrol maintenance, crushed rock surfacing where necessary	..	22
Main South Road	Bitumen sealing on sand 16 feet wide	..	·75
,, ,, ,, ..	Patrol maintenance	..	14·75
Neerim East Road	Patrol maintenance and crushed rock surfacing where necessary	..	4
Neerim North–Noojee Road ..	Patrol maintenance and crushed rock surfacing where necessary	..	3·5
Prince's Highway	Patrol maintenance	..	1·06
Western Port Road	Bitumen resealing 12 feet wide	..	3
,, ,, ,, ..	Patrol maintenance	..	8·25
BUNGAREE SHIRE—			
Daylesford–Ballarat Road ..	Double coat sealing on fine crushed rock road, four sections north from Pootilla State School	..	1·98
,, ,, ,, ..	Resheeting with fine crushed rock north from Pootilla Post Office and at Clark's Hill to join with Creswick Shire boundary	..	·87
,, ,, ,, ..	General maintenance from Creswick Shire boundary to Ballarat City bou dary .	..	7·7
BUNINYONG SHIRE—			
Elaine–Mt. Mercer Road ..	General maintenance throughout	..	5
Ballarat–Rokewood Road ..	Genera lmaintenance throughout	..	14
	Carried forward	13·12	1,219·87

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Carried forward	13·12	1,219·87
CAMBERWELL CITY—			
Doncaster Road	Widening roadway to channelling with metal 7 inches consolidated thickness penetrated and sealed with bitumen on north side for 8 feet width approximately 11½ chains westward from Bulleen Road and on south side approximately 10 chains from Burke Road eastwards	..	·33
,, ,,	Surfacing for full width, approximately 20 feet, with premixed bituminous drag seal coat eastwards from Bulleen Road	..	1·4
CASTLEMAINE BOROUGH—			
Melbourne-Bendigo Road	Road-mix seal in Forest-street from Urquhart to Hargraves Streets	..	·19
,, ,,	General maintenance	..	3·9
CHARLTON SHIRE—			
Bendigo Road	General maintenance throughout	..	1·75
Donald Road	General maintenance throughout	..	12·55
St. Arnaud Road	Forming and gravelling	1·32	..
,, ,,	General maintenance throughout	..	15·4
CHELSEA CITY—			
Point Nepean Road	Patrol maintenance	..	5·61
CHILTERN SHIRE—			
Barnawartha-Howlong Road	General maintenance northerly from Barnawartha	..	3·5
Chiltern-Howlong Road	General maintenance northerly from Town of Chiltern boundary	..	1·23
CLUNES BOROUGH—			
Maryborough-Ballarat Road	Reforming, gravelling and shouldering	..	·65
,, ,, ,,	Reforming, gravelling and shouldering	..	·73
,, ,, ,,	Resealing	..	·75
,, ,, ,,	General maintenance throughout	..	3·2
COHUNA SHIRE—			
Cohuna-Leitchville Road	General maintenance from Cohuna to Leitchville	..	10·69
Murray Valley Road	General maintenance through Cohuna Township	..	·54
COLAC SHIRE—			
Colac-Ballarat Road	General maintenance throughout	..	21·4
,, ,, ,,	Road-mix sealing between Ondit and Beeac, 6·85 to 7·85 miles	..	1
,, ,, ,,	Widening, resheeting and double coat sealing at Beeac Township	..	1·37
Colac-Beech Forest Road	Road-mix sealing at Elliminyt, 0·0 to 0·76 miles	..	·76
,, ,, ,,	Reconstruction of metalled road with fine crushed rock, 0·76 to 1·21 miles	..	·45
,, ,, ,,	General maintenance throughout	..	11·25
Colac-Forrest Road	Treble coat sealing, tar, bitural and bitumen, from 2·07 to 2·98 miles and from 3·30 to 3·52 miles	..	1·14
,, ,, ,,	Scarifying and resheeting with fine crushed ironstone from 7·0 to 16·9 miles	..	9·9
,, ,, ,,	General maintenance throughout	..	16·9
Cororooke Road	Road-mix sealing between Coragulac and Alvie	..	·95
,, ,,	Reconstruction of metalled road with fine crushed rock and double coat sealing at Alvie	..	1·25
,, ,,	General maintenance throughout	..	7·25
Cressy-Inverleigh Road	Scarifying, grading and resheeting with gravel between Cressy-Shelford Road and Poorneet	..	3·61
,, ,, ,,	General maintenance throughout	..	8·7
Prince's Highway	General maintenance throughout	..	2·44
Swan Marsh Road	Double coat sealing on fine crushed rock road opposite Pirron Yallock Racecourse	..	·87
,, ,, ,,	Double coat sealing on fine crushed rock road at Swan Marsh Township	..	·38
,, ,, ,,	General maintenance throughout	..	5·66
COLLINGWOOD CITY—			
Heidelberg Road	General maintenance between Merri Creek bridge and railway gate at Clifton Hill Station	..	·5
CORIO SHIRE—			
Geelong-Bacchus Marsh Road	Road-mix seal from 2 to 3·8 miles, 8·4 to 8·5 miles, and 9·1 to 9·7 miles	..	2·5
,, ,, ,, ,,	General maintenance throughout	..	19·19
CRANBOURNE SHIRE—			
Cranbourne-Frankston Road	General maintenance throughout	..	7·5
Koo-wee-rup-Longwarry Road	General maintenance throughout	..	6
,, ,, ,,	Modified macadam surfacing northerly from Manks Road	..	·95
,, ,, ,,	General maintenance throughout	..	5·5
Main Coast Road	Surfacing with gravel at Lang Lang and from Nyora turn-off to the Shire boundary	..	6·25
,, ,, ,,	General maintenance throughout	..	8
Westernport Road	General maintenance throughout	..	9
CRESWICK SHIRE—			
Ballarat-Castlemaine Road	Sheeting rough metal road with gravel mixed in place, through Kingston Township	..	·5
,, ,, ,,	Reconstruction of superstructure of timber bridge, approximately 1 mile north-east of Creswick	..	—
,, ,, ,,	Reconstruction of superstructure of timber culvert, 12-ft. span, at Sulky	..	—
,, ,, ,,	Erection of 1,000 feet of guard fence at Bullarook Creek, Smeaton	..	—
,, ,, ,,	Widening pavement throughout Creswick Township preparatory to re-sealing	..	2·25
,, ,, ,,	Sheeting with crushed rock northerly from Captain's Creek	..	1·3
,, ,, ,,	General maintenance throughout	..	23·7
Daylesford-Ballarat Road	Sheeting rough metal road with fine crushed rock between Newlyn and Newlyn North	..	1
,, ,, ,,	General maintenance throughout	..	12·4
DANDENONG SHIRE—			
Cheltenham Road	Road-mix seal	..	·75
,, ,,	Patrol maintenance	..	6·1
Frankston-Dandenong Road	Patrol maintenance, erection of five reinforced concrete box and pipe culverts	..	6·3
Prince's Highway	Road-mix seal	..	1
,, ,,	Patrol maintenance	..	1·8
DAYLESFORD BOROUGH—			
Ballan Road	Sheeting with crushed rock at Golf Links	..	·26
,, ,,	Patrol maintenance throughout	..	1·6
Ballarat Road	Patrol maintenance throughout	..	1·05
Castlemaine Road	Patrol maintenance throughout	..	·65
Daylesford-Trentham Road	Patrol maintenance throughout	..	·9
Hepburn-Daylesford	Patrol maintenance throughout	..	1·14
Malmsbury-Daylesford Road	Sealing near Borough boundary	..	·61
,, ,, ,,	Widening pavement to 16 feet and sheeting with crushed rock	..	·22
,, ,, ,,	Patrol maintenance throughout	..	1·42
DEAKIN SHIRE—			
Echuca-Cornella Road	Forming and gravelling	..	·5
Echuca-Picola Road	General maintenance throughout	..	5
Kyabram-Nathalia Road	Double coat bitumen sealing north from Rodney Shire boundary	..	·75
,, ,, ,,	Patrol maintenance throughout	..	·7
Kyabram-Rochester Road	General maintenance throughout	..	13
Kyabram-Tongala Road	Double coat bitumen sealing south of Tongala and west of Kyabram	..	1·5
,, ,, ,,	General maintenance throughout	..	7
DEAKIN AND NUMURKAH SHIRES (Joint Works)—			
Echuca-Picola Road	Maintenance of Stewart's Bridge over Goulburn River	..	—
DEAKIN AND ROCHESTER SHIRES (Joint Works)—			
Timmering Road	General maintenance	..	·2
	Carried forward	14·44	1,536·56

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Brought forward	14·44	1,536·56
DEAKIN AND RODNEY SHIRES (Joint Works)—			
Kyabram–Rochester Road ..	Patrol maintenance throughout	..	3
Kyabram–Tongala Road ..	Patrol maintenance throughout	..	1
DIMBOOLA SHIRE—			
Hopetoun–Rainbow Road ..	Resheeting existing metal with Rainbow metal ¾ of a mile north from Rainbow..	..	·15
Horsham Road	Road mix seal in Dimboola Township	..	·13
Rainbow Road	Forming and rubbling north from Ellam between Allotments 31, 22A, 23, 22, and 32, Parish of Hindmarsh	1·37	..
,, ,, ...	Forming and rubbling about 3 miles north from Jeparit	·7	..
,, ,, ...	Forming and rubbling north from Ellam, deviation through Allotments 7, 9, 7A, and 9A, Parish of Hindmarsh	·53	..
,, ,, ...	Reshaping and resheeting existing rubble with limestone rubble south from Arkona between Allotments 92, 93, 94, and 83, Parish of Katyil	..	·9
,, ,, ...	Reshaping existing metal, sheeting with gravel and double coat bitumen surfacing north and south from Arkona	..	1·19
,, ...	Resheeting existing loam formation with limestone rubble north from Antwerp between Allotments 125, 126, and 2, Parish of Katyil	..	·61
,, ,, ...	Reshaping and resheeting existing rubble with limestone rubble and gravel and double coat bitumen surfacing north from Jeparit Township	..	·46
,, ,, ...	Forming and rubbling about 5 miles south from Rainbow between Allotment 53, Parish of Werrap, and Allotment 52, Parish of Pullut	..	·31
Rainbow–Beulah–Birchip Road	Sheeting existing loam formation with limestone rubble near Shire boundary between Allotments 14 and 15, Parish of Kenmare	..	·55
Rainbow Rises Road	Resheeting existing metal with Rainbow metal, west from railway line, Rainbow	..	·18
Warracknabeal Road ..	Forming, rubbling, and gravelling approximately 7½ miles north-east from Dimboola	·44	..
,, ,, ..	Reshaping existing metal, sheeting with gravel and double coat bitumen surfacing approximately 3½ miles north-east from Dimboola	..	1·01
,, ,, ..	Reshaping existing metal and sheeting with gravel approximately 4½ miles north-east from Dimboola	..	·95
DIMBOOLA AND KARKAROOC SHIRES (Joint Works)—			
Hopetoun–Rainbow Road ..	Resheeting existing metal with Rainbow metal 3 miles north from Rainbow ..	..	·19
DONALD SHIRE—			
Donald–Charlton Road ..	Road mix seal in the Town of Donald	..	·96
,, ,, ,, ..	General maintenance	..	14
Donald–Minyip Road ..	Road mix seal from the St. Arnaud–Birchip Road to the Depot Road ..	..	1·41
Marnoo–Donald Road ..	Forming and loaming at the Soldiers' Settlement	..	·79
,, ,, ,, ..	General maintenance	..	10·2
St. Arnaud–Birchip Road ..	Fine crushed rock surfacing between Buloke and Litchfield	2·17	..
,, ,, ,, ..	Double coat bitumen surfacing on scarified and reshaped macadam between Donald and Cope Cope	..	3·87
,, ,, ,, ..	Road mix seal south of Donald to the Cemetery and north of Donald to Glennon's Hill	..	2·64
,, ,, ,, ..	General maintenance	..	28·7
DONCASTER AND TEMPLESTOWE SHIRE—			
Doncaster Road	Shouldering and resealing	..	6·27
Heidelberg–Warrandyte Road ..	Sealing and widening	..	9·87
Warrandyte–Ringwood Road ..	General maintenance, gravelling	..	4·27
DUNDAS SHIRE—			
Hamilton–Dunkeld Road ..	Road mix seal on previously sealed macadam opposite Allotment 7, Section 4, Allotments 7 and 6, Section 5, Allotment 9, Section 9, Parish of South Hamilton, and Allotments 6, 7, and 8, Section 2, Parish of Warrayure	..	2·33
,, ,, ,, ..	Modified macadam surfacing opposite Allotments 7 and 8, Section 7, Parish of South Hamilton	..	·72
Hamilton–Horsham Road ..	Road mix seal on previously sealed macadam opposite Allotments 3 and 6, Section 24, Allotments 3 and 6, Section 18, Parish of North Hamilton, Allotments 3 and 4, Section 14, Allotments 1B and 2, Section 10, Allotment 2, Section 5, Kenilworth South, pre-emptive right, and Allotment 1, Section 1, Parish of Jerrywarook	..	4·02
,, ,, ,, ..	Priming and sealing gravel surfaced road opposite Kenilworth South, pre-emptive right, Parish of Jerrywarook	..	·75
,, ,, ..	Forming and gravelling opposite Allotments 12 and 14, Parish of Bepeha ..	1·04	..
Hamilton–Mt. Gambier Road ..	Modified macadam surfacing opposite Allotments 14, 15, 18, 19, 20, and 22, Section 25, Parish of North Hamilton, Allotment 2, Section 18, Bochara pre-emptive right, Allotments 8 and 9, Section 14, and Allotment 4, Section 16, Parish of Bochara	..	3·81
,, ,, ,, ..	Road mix seal on previously sealed macadam opposite Allotments 14, 15, 18, 19, 20, and 22, Section 25, Parish of North Hamilton, Allotments 8 and 9, Section 14, and Allotment 4, Section 16, Parish of Bochara	..	2·84
Hamilton–Port Fairy Road ..	Road-mix seal on previously sealed macadam opposite Allotments 1A, 1B, 4A, 4B, 5A and 5B, Section 10, Parish of Monivae, Allotment 3B, Section 2, part of Brisbane Hill Pre-emptive Right, Section 9A, Parish of Byaduk, Allotment 43, Township of Byaduk, part of Brisbane Hill Pre-emptive Right, Allotments 5B and 6, Section 10, Allotments 1A, 1B, and 2C, Section 17, Allotments 3A and 3B, Section 18, Parish of Byaduk, and Allotments 1A, 4 and 4A2, Section XI., Parish of Warrabkook	..	4·02
,, ,, ,, ..	Modified macadam surfacing opposite Allotments 2A, 3A and 5A, Section 3, Parish of Byaduk, Allotments 2A and 3, Water Reserve, Sections 1, 2, 5 and 6, Township of Byaduk, and Allotments 2A, 2B, 3A, 3B, 4A and 4B, Section 10, Parish of Byaduk	..	2·38
Hamilton–Portland Road ..	Road-mix seal on previously sealed macadam opposite Allotments 1, 2 and 3, Section 23, Parish of South Hamilton, Reserve and Allotments 1, 2 and 3, Section 8, Parish of Yulecart	..	2
,, ,, ,, ..	Modified macadam surfacing opposite Allotment 1, Section 1, Allotments 1 and 2, Section 9A, and Allotments 4 and 5, Section 8, Parish of Yulecart	..	1·15
Hamilton–Warrnambool Road	Road-mix seal on previously sealed macadam opposite Allotments 3 and 4, Section 3, and Allotments 1 and 2, Section 13, Parish of South Hamilton	..	1·04
DUNMUNKLE SHIRE—			
Horsham–Murtoa Road ..	Double coat bitumen spraying west of Murtoa	..	·98
,, ,, ..	Patrol maintenance throughout	..	5·33
Marnoo–Donald Road ..	Patrol maintenance throughout	..	3·5
Marnoo–Rupanyup Road ..	Patrol maintenance throughout	..	10·2
Minyip–Donald Road ..	Gravelling top course on existing foundation course	..	·57
,, ,, ,, ..	Patrol maintenance throughout	..	3·2
Rupanyup–Murtoa Road ..	Patrol maintenance throughout	..	9·25
Stawell–Warracknabeal Road ..	Gravelling top course on existing sandstone foundation course	5·35	..
,, ,, ,, ..	Double coat bitumen spraying north of Rupanyup	..	·55
,, ,, ,, ..	Patrol maintenance throughout	..	28·5
EAST LODDON SHIRE—			
Borung–Prairie Road ..	General maintenance throughout	..	1·5
Dingee Road	General maintenance throughout	..	7
Mitiamo Road	General maintenance throughout	..	5·5
Prairie Road	General maintenance throughout	..	8
ECHUCA BOROUGH—			
Echuca–Cohuna Road ..	Bitumen surfacing	..	1·1
	Carried forward	26·04	1,740·41

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Brought forward	26·04	1,740·41
ELTHAM SHIRE—			
Eltham–Yarra Glen Road ..	Reforming, gravelling, replacing old culverts with concrete pipes and general patrol maintenance between Lower Plenty and Yarra Glen	..	21
Hurstbridge–Kinglake Riad ..	Reforming, widening, gravelling, replacing old culverts with concrete pipes and general patrol maintenance between Wattle Glen and Kinglake	..	16
Yarra Glen–Glenburn Road ..	General patrol maintenance between Yarra Glen and Shire boundary (Mount Slide)	..	8
ESSENDON CITY—			
Bendigo Road	Widening with crushed rock from Gillies Street to municipal boundary at Hoffman's Road	..	·66
Sunbury Road	Premix bituminous drag coat over old bitumen penetration work from intersection with Bendigo Road northward to municipal boundary at Woodlands Street	..	·24
EUROA SHIRE—			
Euroa–Arcadia Road ..	Sanding near Thompson's and Chanter's	..	1
,, ,, ,, ..	Patrol maintenance throughout	..	17
Euroa–Mansfield Road ..	Gravelling in Euroa Township	..	·61
,, ,, ,, ..	Patrol maintenance throughout	..	16·1
Euroa–Strathbogie Road ..	Forming and gravelling near Choake's, Kelvin View	·65	..
,, ,, ,, ..	Patrol maintenance	..	19·2
Longwood–Avenel Road ..	Patrol maintenance throughout	..	2·1
Murchison–Violet Town Road ..	Forming and gravelling near Miepoll	..	·26
,, ,, ,, ..	Patrol maintenance between Miepoll and Violet Town	..	6
FERNTREE GULLY SHIRE—			
Belgrave–Emerald Road ..	Widening pavement between Belgrave and Aura	..	1·7
,, ,, ,, ..	Patrol maintenance	..	6·73
Burwood Road	Patrol maintenance	..	4·55
Emerald Road	Resealing	..	2
,, ,, ...	Patrol maintenance	..	3·25
Main Ferntree Gully Road ..	Widening pavement	..	1·95
,, ,, ,, ..	Drag seal surfacing	..	1·31
,, ,, ,, ..	Patrol maintenance	..	10·8
Monbulk Road	Widening pavement	..	·6
,, ,, ...	Patrol maintenance	..	5
Olinda Road	Widening formation and pavement	..	·7
,, ,, ...	Patrol maintenance	..	6·25
FLINDERS SHIRE—			
Hastings–Flinders Road ..	Double coat sealing at Kennedy's Creek	..	·7
,, ,, ,, ..	Double coat sealing at Flinders	..	·68
,, ,, ,, ..	Road mix seal at Bittern	..	·78
,, ,, ,, ..	Widening and reconditioning as bottom coat, between Merricks and Flinders	..	5·11
,, ,, ,, ..	Sheeting with crushed rock, between Merricks and Flinders	..	2·56
Mornington–Dromana Road ..	Widening, sheeting and double coat sealing south of Tassell's Creek	..	2·34
,, ,, ,, ..	Patrol maintenance throughout	..	3·75
Mornington–Flinders–Road ..	Forming, gravelling, and double coat sealing, at Chapman's Corner	..	·69
,, ,, ,, ..	Patrol maintenance throughout	..	12
Point Nepean Road ..	Widening, sheeting, and double coat sealing at Moat's Corner	..	·38
,, ,, ,, ..	Widening, sheeting, and double coat sealing at Dromana	..	·49
,, ,, ,, ..	Widening, sheeting, and double coat sealing at Tootgarook	..	·64
,, ,, ,, ..	Forming, gravelling, and double coat sealing between Sorrento and Portsea	..	2·18
,, ,, ,, ..	Patrol maintenance throughout	..	21·5
Red Hill Road	Double coat sealing at Red Hill Station	..	·6
,, ,, ,, ..	Patrol maintenance throughout	..	3·75
Rosebud–Flinders Road ..	Construction of a timber bridge and approaches at Main Creek	..	·15
,, ,, ,, ..	Resealing at Rosebud	..	1
,, ,, ,, ..	Patrol maintenance throughout	..	13·5
Stony Point Road	Road mix seal, northerly from Naval Base	..	2·75
,, ,, ,, ...	Patrol maintenance throughout	..	4
FOOTSCRAY CITY—			
Prince's Highway	Two coat drag plant-mix seal on centre carriageway of highway between Nicholson and Barkly Streets and opposite Williamstown Road, Footscray	..	·58
FRANKSTON AND HASTINGS SHIRE—			
Frankston–Cranbourne Road ..	Patrol and general maintenance throughout	..	2·8
Frankston–Dandenong Road ..	Patrol and general maintenance throughout	..	5·5
Frankston–Flinders Road ..	Patrol and general maintenance throughout	..	14
Mooroodue Road	Patrol and general maintenance throughout	..	3
Point Nepean Road	Patrol and general maintenance throughout	..	7·5
GISBORNE SHIRE—			
Gisborne–Bacchus Marsh Road ..	General maintenance	..	9·7
Gisborne Station Road ..	General maintenance	..	1·2
Mount Macedon Road ..	General maintenance	..	6·75
GLENELG SHIRE—			
Coleraine–Casterton Road ..	Double coat bitumen surfacing between 3rd and 7th mile posts	..	3·47
,, ,, ,, ..	Road-mix seal over modified macadam near Casterton	..	1·3
,, ,, ,, ..	Patrol maintenance throughout	..	7
Dergholm Road	Sheeting with crushed rock between 3rd and 4th mile posts	..	·98
,, ,, ...	Road-mix seal over modified macadam near Casterton	..	·8
,, ,, ...	Patrol maintenance throughout	..	22
Mount Gambier Road ..	Sheeting with crushed rock between 6th and 7th mile posts	..	·8
,, ,, ,, ..	Road-mix seal over modified macadam between 1st and 3rd mile posts	..	2·03
,, ,, ,, ..	Road-mix seal over modified macadam between 14th and 16th mile posts	..	·9
,, ,, ,, ..	Patrol maintenance throughout	..	30
Portland–Casterton Road ..	Resheeting in modified macadam at Merino	..	·45
,, ,, ,, ..	Road-mix seal over modified macadam between Casterton and Sandford	..	1·77
,, ,, ,, ..	Sheeting with crushed rock near Sandford	..	1·07
,, ,, ,, ..	Patrol maintenance throughout	..	20
Wando Vale Road	Modified macadam surfacing near Wando Bridge	..	·52
,, ,, ,, ...	Road-mix seal over modified macadam at Wando Bridge	..	·66
,, ,, ,, ...	Patrol maintenance throughout	..	6·55
GLENLYON SHIRE—			
Ballan Road	General maintenance throughout	..	4·45
Ballarat Road	General maintenance throughout	..	3·5
Castlemaine–Daylesford Road ..	Sealing	..	·75
,, ,, ,, ..	General maintenance throughout	..	13
Daylesford–Trentham Road ..	Gravelling and construction of timber bridge	·08	..
,, ,, ,, ..	General maintenance	..	10
Hepburn–Daylesford Road ..	General maintenance throughout	..	1
Malmsbury–Daylesford Road ..	Fine crushed rock sheeting	..	3
,, ,, ,, ..	General maintenance throughout	..	15
GOULBURN SHIRE—			
Avenel–Longwood Road ..	General maintenance	..	2
Vicker's Road	General maintenance	..	9
GRENVILLE SHIRE—			
Ballarat–Hamilton Road ..	Modified macadam surfacing from mileage 6·2 to 7·45	..	1·25
,, ,, ,, ..	Modified macadam surfacing from mileage 14·6 to 15·83	..	1·23
,, ,, ,, ..	Road mix seal from mileage 2·2 to 5·2	..	3
,, ,, ,, ..	Road mix seal from mileage 17·6 to 20·6	..	3
,, ,, ,, ..	Patrol maintenance throughout	..	24
Cressy Road	Patrol maintenance throughout	..	9·8
Lismore Road	Patrol maintenance throughout	..	10
Pitfield Road	Patrol maintenance throughout	..	12·6
	Carried forward	26·77	2,250·88

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
HAMPDEN SHIRE—	Brought forward	26·77	2,250·88
Camperdown–Ballarat Road	Construction of 2-cell reinforced concrete culvert, 6-ft. x 5-ft. cells, at 13·3 miles north of Camperdown	..	—
" " "	Road mix seal with quartz gravel aggregate north-east from Skipton Township	..	3
" " "	Construction of 6-ft. x 3-ft. reinforced concrete culvert at 12 miles north of Camperdown	..	—
" " "	Construction of two reinforced concrete slab decks to masonry culverts at 3·2 miles north of Camperdown	..	—
" " "	Patrol maintenance throughout	..	51·7
Caramut–Lismore Road	Regrading and gravelling west of Derrinallum	..	3·25
" " "	Road mix seal with scoria aggregate west from Lismore	..	2·9
" " "	Patrol maintenance throughout	..	16
Cobden–Terang Road	Road mix seal with scoria aggregate from 2·15 miles to 2·95 miles south of Terang	..	·8
" " "	Patrol maintenance throughout	..	2·95
Lismore–Cressy Road	Construction of 2-cell reinforced concrete culvert, 10-ft. x 5-ft. cells, at 14·6 miles east of Lismore	..	—
" " "	Reconstruction in modified macadam near Lismore	..	·45
" " "	Road mix seal with quartz gravel aggregate near Berrybank	..	3·8
" " "	Road mix seal with quartz gravel aggregate west from Cressy	..	4
" " "	Construction of two reinforced concrete slab decks to masonry culverts	..	—
" " "	Patrol maintenance throughout	..	18·7
McKinnon's Bridge–Noorat Road	Double coat sealing on section constructed with basaltic gravel	..	1·02
" " "	Patrol maintenance throughout	..	3·85
Prince's Highway	Patrol maintenance throughout	..	2·63
Terang–Framlingham Road	Gravel shouldering 3 feet wide on each side of bitumen surfaced road westerly from Terang Township boundary	..	·75
" " "	Road mix seal with scoria aggregate from 0·75 to 1·60 miles west of Terang Township boundary	..	·85
" " "	Patrol maintenance throughout	..	1·6
Terang–Mortlake Road	Road mix seal with scoria aggregate north from Noorat	..	3·5
" " "	Patrol maintenance throughout	..	7
HAMILTON TOWN—			
Ararat Road	Improvements in modified macadam and gravel at corner of Hamilton–Warrnambool Road	..	·04
" "	Widening of macadam in modified macadam throughout	..	·91
" "	Patrol maintenance throughout	..	·91
Coleraine Road	Widening existing macadam in modified macadam in sections	..	·5
" "	Patrol maintenance throughout	..	1·33
Hamilton–Warrnambool Road	Patrol maintenance throughout	..	·51
Port Fairy Road	Patrol maintenance throughout	..	·3
Portland Road	Resealing with ¼" road mix seal	..	·5
" "	Patrol maintenance throughout	..	·5
HEALESVILLE SHIRE—			
Healesville–Alexandra Road	Single bituminous road mix seal coat from south-east township boundary to Castella Street corner	..	·34
" " "	Construction of two side strips each 4 ft. 6 in. wide in full penetration bitumen macadam and new shouldering from south-east township boundary to top of Lilydale Hill	·13	..
" " "	Construction of two side strips each 4 ft. 6 in. wide in full penetration bitumen macadam and new shouldering from Castella Street corner to Kinglake Road junction	·19	..
" " "	Single bituminous road mix seal coat from Castella corner to Church Street	..	·31
" " "	Single bituminous road mix seal coat from Graceburn Bridge to east township boundary	..	·2
Healesville–Kinglake Road	Single bituminous road mix seal coat westerly from junction with Healesville-Alexandra Road	..	·11
" " "	Regrading and reconstruction with crushed rock from chainage 660 feet to railway crossing	·28	..
HEIDELBERG CITY—			
Greensborough – Hurstbridge Road	Carpeting with pre-mixed bituminous screenings, including repairs and widening of metal bed northerly from 3 miles	..	·5
" " " "	Carpeting with pre-mixed bituminous screenings, including repairs and widening of metal bed northerly from 5 miles	..	·5
Heidelberg–Eltham Road	Carpeting with pre-mixed bituminous screenings, including repairs and widening of metal bed easterly from 4 miles 40 chains to city boundary	..	3·14
Heidelberg–Warrandyte Road	Carpeting with pre-mixed bituminous screenings, including repairs and widening of metal bed throughout	..	·47
Main Whittlesea Road	Carpeting with pre-mixed bituminous screenings, including repairs and widening of metal bed throughout	..	1·19
HEYTESBURY SHIRE—			
Camperdown–Cobden Road	Road mix seal	..	1·9
" " "	Patrol maintenance	..	5
Cobden–Point Campbell–Princetown Road	Road mix seal	..	1·6
" " "	Patrol maintenance	..	18·2
Cobden–Terang Road	Road mix seal	..	·8
" " "	Double coat sealing	..	1·75
" " "	Sheeting	1	..
" " "	Patrol maintenance	..	12
Timboon–Nirranda Road	Patrol maintenance	..	8
Timboon–Port Campbell Road	Patrol maintenance	..	5
HORSHAM TOWN—			
Dimboola–Horsham Road	General maintenance throughout	..	2·5
Dooen Road	General maintenance throughout	..	2·15
Hamilton Road	Widening from 15 feet to 20 feet. Constructing 550 feet radius curve sealing with tar and bitumen from Stawell Road to O'Callaghan's Parade	..	·75
Natimuk Road	General maintenance throughout	..	1·4
Western Highway	General maintenance throughout	..	·75
INGLEWOOD BOROUGH—			
Bendigo–Charlton Road	Road mix seal from Dunolly railway intersection	..	·5
" " "	General maintenance throughout	..	1·55
KARA KARA SHIRE—			
Avoca–St Arnaud Road	Patrol maintenance throughout	..	23
Charlton Road	Reshaping existing metalling and gravel surfacing	..	3
" "	Patrol maintenance throughout	..	10
Marnoo Road	Patrol maintenance throughout	..	2
Navarre Road	Patrol maintenance throughout	..	22
St. Arnaud–Donald Road	Reshaping existing metalling and sealing	..	1·2
" " "	Patrol maintenance throughout	..	17
KARKAROOC SHIRE—			
Hopetoun–Rainbow Road	General maintenance, reconditioning and widening for bitumen at Hopetoun	..	24
Hopetoun–Warracknabeal Road	Reconstruction and widening between Beulah and Galaquil	..	2
" " "	General maintenance 0 to 18 miles	..	18
Hopetoun–Woomelang–Sea Lake Road	Clearing, forming, and metalling to Wycheproof Shire boundary	1·05	..
Rainbow–Beulah–Birchip Road	General maintenance 0 to 21 miles, reconditioning and widening for bitumen at Beulah	..	21
	Carried forward	29·42	2,598·94

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Brought forward	29·42	2,598·94
KILMORE SHIRE—			
Heathcote Road	Resheeting sections between Allen's and Boran's	..	·75
" "	Patrol maintenance	..	3·56
Kilmore–Kilmore East Road	General maintenance	..	2·26
Lancefield–Kilmore Road	Patrol maintenance	..	1·29
KILMORE AND PYALONG SHIRES (Joint Works)—			
Heathcote Road	Resheeting sections with granitic gravel	..	·65
" "	Installation of culverts at Boundary Flat	..	·13
" "	Patrol maintenance	..	2·99
KILMORE AND ROMSEY SHIRES (Joint Works)—			
Lancefield–Kilmore Road	Resheeting with gravel sections between Payne's Lane and McDougall's Lane	..	·4
" " "	Patrol maintenance	..	2·28
KOROIT BOROUGH—			
Koroit–Warrnambool Road	General maintenance of sealed macadam road	..	6·25
KORONG SHIRE—			
Borung–Hurstwood Road	Reconstruction of inverts in modified macadam	..	·13
" " "	General maintenance throughout	..	7
Charlton–Bendigo Road	Road mix seal from northern township boundary	..	·75
" " "	General maintenance throughout	..	1·25
Serpentine Road	General maintenance throughout	..	10·5
KORUMBURRA SHIRE—			
Bena–Kongwak Road	Bitumen surfacing from existing bitumen surfaced section to Sheepway's Road	..	·74
" " "	Scarifying and blinding macadam section with fine crushed rock and gravel	..	10
" " "	General maintenance throughout	..	11·5
Bena–Korumburra Road	Scarifying and blinding with gravel throughout	..	3·2
" " "	General maintenance throughout	..	3·2
Bena–Poowong Road	Reconstruction in fine crushed rock and bitumen surfacing from timber bridge to Poowong	..	·94
" " "	Construction of 42 lineal feet of 36 in. diameter reinforced concrete culvert near Allotment 26, Parish of Jeetho	..	—
" " "	Road mix seal surfacing of bitumen from chainage 1·81 to 2·94 miles	..	1·13
" " "	Scarifying and binding macadam section with gravel	..	1·67
" " "	General maintenance throughout	..	6·01
Fairbank Road	Gravel surfacing throughout	..	5·4
" "	General maintenance throughout	..	5·4
Kongwak–Inverloch Road	Bitumen surfacing from chainage 00 to ·69 miles	..	·69
" " "	General maintenance throughout	..	6·3
Korumburra–Drouin Road	General maintenance throughout	..	4·7
Korumburra–Leongatha Road	Construction of 48 lineal feet of 48-in. diameter reinforced concrete pipe culvert near Share's	..	—
" " "	General maintenance throughout	..	4·84
Korumburra–Warragul Road	Reconstruction in crushed rock and double coat sealing from Ranceby towards Warragul	..	1·43
" " "	Binding macadam section with gravel	..	4·52
" " "	Benching and widening bad curves throughout	..	13
" " "	General maintenance throughout	..	13
Korumburra–Wonthaggi Road	Reconstruction in crushed rock and double coat sealing near Shire boundary	..	1·55
" "	General maintenance throughout	..	12·25
Lang Lang–Nyora Road	General maintenance throughout	..	1·91
Loch–Nyora Road	Reconstruction in fine crushed rock and bitumen surfacing from existing bitumen surfaced section to Boundary Road	..	·5
" "	General maintenance throughout	..	5
Loch–Wonthaggi Road	Reconstruction in fine crushed rock and bitumen surfacing	..	1
" " "	Scarifying and blinding macadam sections with gravel	..	2·64
" " "	General maintenance throughout	..	4·64
Poowong–Nyora Road	Reconstruction in fine crushed rock between existing bitumen surfaced sections	..	2·4
" " "	Benching curves throughout	..	6
" " "	Removal of bad foundations near Poowong	..	·01
" " "	General maintenance throughout	..	6
Poowong–Ranceby Road	Double coat sealing from bitumen surfaced section to Drouin Road	..	2·35
" " "	General maintenance throughout	..	4·15
KOWREE SHIRE—			
Booroopki Road	Forming and gravelling near Mortat and Carpolac	..	·61
" "	Patrol maintenance throughout	..	13·5
Booroopki–Frances Road	Forming and gravelling in Minimay District	·17	..
" " "	Patrol maintenance throughout	..	18
Edenhope–Goroke Road	Patrol maintenance throughout	..	28·5
Hamilton – Edenhope – Apsley Road	Scarifying and reshaping between Harrow and Edenhope	..	16
" " "	Patrol maintenance throughout	..	41
Little Desert Road " "	Patrol maintenance throughout	..	14·5
Wombelano Road	Forming and gravelling	..	·34
" "	Patrol maintenance throughout	..	21
KYNETON SHIRE—			
Daylesford Road	Reconditioning with crushed rock at Malmsbury	..	·68
Daylesford–Trentham Road	General maintenance	..	2·5
Melbourne–Bendigo Road	General maintenance in Town of Kyneton	..	1·75
Redesdale Road	General maintenance	..	6·25
Trentham Road	Reconditioning with crushed rock	..	·7
" "	General maintenance balance of road	..	16·3
Tylden–Woodend Road	Reconditioning with crushed rock	..	·31
" "	General maintenance balance of road	..	2·94
LAWLOIT SHIRE—			
Breughton Road	Forming and gravelling near Allotments 106, 119, 121 and 122, Parish of Miram	1·81	..
" "	Patrol maintenance throughout	..	9·9
Little Desert Road	Gravelling between 11·1 and 11·48 miles	..	·38
" "	Patrol maintenance throughout	..	12·1
Nhill–Kaniva–Border Road	Patrol maintenance throughout	..	·7
South Lillimur Road	Gravelling between 5·49 and 5·87 miles	..	·38
" " "	Road mix seal between 1·69 and 1·92 miles	..	·23
" " "	Patrol maintenance throughout	..	6·5
Yearinga Road	Patrol maintenance throughout	..	9·7
LEIGH SHIRE—			
Ballarat–Rokewood Road	Patrol maintenance	..	8
Bannockburn–Shelford Road	Patrol maintenance	..	6·75
Inverleigh–Cressy Road	Reconditioning with crushed rock and bituminous sealing from 3 miles to Warrambine Creek	..	5·5
" " "	Patrol maintenance	..	11·25
Inverleigh–Shelford Road	Patrol maintenance	..	6
Rokewood–Cressy Road	Patrol maintenance	..	11
Shelford–Rokewood Road	Patrol maintenance	..	17
Werneth Road	Patrol maintenance	..	3
LEIGH AND COLAC SHIRES (Joint Works)—			
Cressy–Inverleigh Road	Reconditioning and bituminous sealing from Woady Yallock Creek to Cressy railway station	..	
"	Patrol maintenance	..	2·25
	Carried forward	31·4	3,083·52

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Brought forward	31·4	3,083·52
LEXTON SHIRE—			
Avoca–Ararat Road	Patrol maintenance throughout	..	9·7
Ballarat–Avoca Road	Double coat sealing on gravel from 7·21 to 9·4 miles	..	2·19
" " "	Realignment of road at Gibson's Bridge at 15·25 miles	..	·13
" " "	Patrol maintenance throughout	..	17
LILLYDALE SHIRE—			
Lillydale–Evelyn Road	Reconstruction in crushed rock 16 feet wide	..	·57
" " "	Patrol maintenance	..	3
Main Healesville Road	Patrol maintenance at Lillydale	..	1
Monbulk Road	Sealing and widening to 16 feet from Union Church to Silvan	..	2·74
" "	Double coat sealing of crushed rock from Silvan towards Monbulk	..	1·96
" "	Patrol maintenance	..	8·2
Mount Dandenong Road	Widening to 16 feet and double coat sealing at Croydon	..	1
" " "	Patrol maintenance	..	11·8
Yarra Glen Road	Double coat sealing of crushed rock pavement	..	·57
" " "	Patrol maintenance	..	4·6
LOWAN SHIRE—			
Dimboola–Kaniva Road	Patrol maintenance throughout	..	2·2
Goroke Road	Patrol maintenance throughout	..	6·7
Lorquon West Road	Forming and metalling between Allotments 107 and 108, Parish of Woorak	·29	..
" " "	Forming and metalling between Allotments 110 and 125, Parish of Woorak and Allotments 12 and 11, Parish of Lorquon	·66	..
" " "	Patrol maintenance throughout	..	19
Yanac Road	Patrol maintenance throughout	..	18
MAFFRA SHIRE—			
Boisdale–Brigagolong Road	Patrol maintenance	..	5
Briagolong–Dargo Road	Patrol maintenance	..	5
Bushy Park–Valencia Creek Road	Bridge repairs and single coat sealing near Valencia Creek	..	5
Licola Road	Widening cutting	·5	..
" "	Single coat sealing	..	·75
" "	Patrol maintenance	..	40
Maffra–Newry Road	Patrol maintenance	..	7
Maffra–Sale Road	Road mix seal near Purdy's	..	1
" " "	Patrol maintenance	..	7
Maffra–Stratford Road	Road mix seal near Gilder's	..	1·75
" " "	Patrol maintenance	..	3
Tinamba–Boisdale Road	Patrol maintenance, road mix seal in Boisdale and Maffra	..	14
Tinamba–Newry Road	Patrol maintenance, road mix seal near Newry	..	3
Traralgon–Maffra Road	Single coat sealing	..	1·25
" " "	Patrol maintenance, bridge widening	..	7
MALDON SHIRE—			
Baringhup Road	Patrol maintenance, repairs to Baringhup Bridge and approaches, and repairing flood damages from Baringhup East to junction with Baringhup West and Joyce's Creek Roads	..	5
Castlemaine–Maldon Road	Patrol maintenance and repair of flood damages from Maldon to Maryborough–Castlemaine Road	..	10
Maldon–Eddington Road	Patrol maintenance from Maldon to Eddington Bridge	..	16
Newstead Road	Patrol maintenance from Maldon to Newstead Shire boundary and repair of flood damages, including sheeting creek bank at Nevill's, rebuilding culvert, and reconstructing stone crossing and apron at Sandy Creek	..	5
MANSFIELD SHIRE—			
Benalla–Mansfield Road	Patrol maintenance from 0 to 9·5 miles	..	9·5
Euroa–Merton Road	Patrol maintenance from 0 to 4·4 miles	..	4·4
Maindample–Benalla Road	Patrol maintenance from 0 to 5·5 miles	..	5·5
Mansfield Road	Bituminous surfacing between ·25 mile east and 1·5 mile west	..	1·5
" "	Patrol maintenance from 0 to 25 miles west	..	25
" "	Patrol maintenance from 0 to 17·5 miles east	..	17·5
Mansfield–Tolmie Road	Patrol maintenance from 0 to 5·7 miles	..	5·7
Mansfield–Woods Point Road	Patrol maintenance from 0 to 18·5 miles	..	18·5
Merton–Strathbogie Road	Patrol maintenance from 0 to 6·6 miles	..	6·6
MARONG SHIRE—			
Bendigo–Bridgewater Road	Patrol maintenance, erection of guide posts	..	1·24
Bendigo–Eddington Road	Preparation and sealing near Kangaroo Flat	..	1·48
" " "	Road mix seal near Kangaroo Flat and Lockwood	..	3·79
" " "	Sanding clay formation near Johnson's	..	1
" " "	Patrol maintenance	..	25
Bendigo–Serpentine Road	Road mix seal at Myers Flat	..	·67
" " "	Patrol maintenance	..	8·5
MARYBOROUGH BOROUGH—			
Castlemaine Road	Road mix seal commencing at railway crossing	..	1·5
MELTON SHIRE—			
The Gap Road	Patrol maintenance throughout	..	·75
Toolern Road	Patrol maintenance throughout, sheeting sections with crushed rock near Missen's Road	..	6
METCALFE SHIRE—			
Kyneton–Redesdale Road	General maintenance throughout, construction of three pipe culverts	..	12
MILDURA SHIRE—			
Deakin Avenue	General maintenance	..	·81
Irymple Road	Bituminous sealing and general maintenance from Deakin Avenue to Ginquam Avenue	..	4·87
Melbourne Road	Bituminous sealing section of road from main channel south of Red Cliffs to north railway crossing	..	1
Wentworth Road	General maintenance and road mix seal between 15th Street and intersection of Cowanna Avenue North with Forest Reserve	..	13·5
MINHAMITE SHIRE—			
Hamilton – Macarthur – Port Fairy Road	General maintenance	..	17
Warrnambool – Hawkesdale – Penshurst Road	Realignment and reconstruction in crushed rock and priming and sealing with bitumen	..	·85
" " " "	General maintenance	..	22
Woolsthorpe–Bessiebelle Road	Construction in crushed rock	·85	..
" " "	Reconstruction in crushed rock	1·35	..
" " "	Fencing, draining, machine forming, and culverts on Dunmore deviation and adjoining sections	3	..
" " "	General maintenance	..	29
MIRBOO SHIRE—			
Grand Ridge Road	Scarifying and reshaping through Allotments 88, 90A, and 79, Parish of Allambee East	..	1·1
" " "	Double coat bitumen sealing through Allotments 88, 90A, and 79, Parish of Allambee East	..	1·1
" " "	Construction of 12-in. diameter reinforced concrete culvert near Allotment 110, Parish of Allambee East	..	—
" " "	Patrol maintenance throughout	..	6
Leongatha–Mirboo Road	Scarifying and reshaping surface and straightening road throughout	..	4·4
" " "	Replacing stringers in bridge near Allotment 102, Parish of Mardan	..	—
" " "	Construction of 30-ft. span timber bridge near Allotment 102B, Parish of Mardan	..	—
" " "	Patrol maintenance throughout	..	4.4
	Carried forward	38·05	3,592·79

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Brought forward	38·05	3,592.79
MIRBOO SHIRE—*continued.*			
Mardan Road	Road mix seal from junction with Mirboo South Road to Allotment 34, Parish of Mardan	..	·57
,, ,, ...	Double coat bitumen sealing from Allotment 31 to Allotment 34, Parish of Mardan	..	·66
,, ,, ...	Replacing piles and sheeting on bridge abutments at J. Watts, Allotment 30, Parish of Mardan	..	—
,, ,, ...	Patrol maintenance throughout	..	4·6
Mirboo South Road	Double coat bitumen sealing from Cains Hill to Shire boundary	..	2·05
,, ,, ,, ...	Construction of 12-in. diameter reinforced concrete culvert near Grand Ridge Road	..	—
,, ,, ,, ...	Patrol maintenance throughout	..	9·5
Mirboo–Yarragon Road ..	Patrol maintenance throughout	..	5·7
Morwell–Mirboo Road ..	Double coat bitumen sealing of metal surface from Allotment 33A, Parish of Mirboo to Shire boundary	..	3·52
,, ,, ,, ..	Repairs to subsidence at Allotment 28, Parish of Mirboo	..	—
,, ,, ,, ..	Patrol maintenance throughout	..	5·5
MOORABBIN CITY—			
Centre Dandenong Road ..	General maintenance throughout	..	2·89
Point Nepean Road	Road mix seal between South Road and railway gates	..	·2
,, ,, ,, ...	General maintenance throughout	..	2·93
MORDIALLOC CITY—			
Beach Road	Construction of rolled concrete base with pre-mixed asphaltic top 30 feet wide from near Mordialloc Creek bridge to near Cromer Road, Beaumaris	3·05	..
,, ,, ...	Pre-mixed asphaltic top on existing macadam, near Point Nepean Road ..	..	·05
,, ,, ...	Repairs, &c., at Cromer Road	..	·04
Point Nepean Road	Crushed surfacing 30 feet wide between concrete kerbs from Balcombe Road to Latrobe Street	..	·62
,, ,, ,, ...	Road mix seal from Moorabbin Road to railway bridge	..	1·6
,, ,, ,, ...	Patrol maintenance from Mordialloc Creek bridge to Latrobe Street	..	3
MORNINGTON SHIRE—			
Mornington–Dromana Road ..	Road mix seal	..	2
,, ,, ..	Patrol maintenance	..	6·5
Point Nepean Road	Patrol maintenance	..	9·8
MORTLAKE SHIRE—			
Caramut–Lismore Road ..	Road mix seal Mortlake and Darlington section from 2·39 to 4·15 miles ..	..	1·76
,, ,, ,, ..	Road mix seal Mortlake and Hexham section from ·25 to ·67 miles and from 6·47 to 9·85 miles	..	3·8
,, ,, ,, ..	Road mix seal Hexham and Caramut section from Hexham Bridge to ·5 miles and from 1·12 to 3·72 miles	..	3·27
,, ,, ,, ..	Gravelling 4 inches deep on 16 feet wide defective bitumen work on the Hexham and Caramut section from ·5 to 1·12 miles	..	·62
Mortlake–Ararat Road ..	Road mix seal from 1·44 to 5·05 miles and from 9·76 to 13·38 miles	..	7·23
Mortlake–Warrnambool Road ..	Road mix seal from 2·22 to 3·12 miles, from 9·76 to 11·6 miles, and from 12·89 to 14·51 miles	..	3·82
Terang–Framlingham Road ..	Scarifying, grading, metalling and double coat bitumen surfacing from 6·7 to 7·64 miles, 9·34 to 9·75 miles and from 11·25 to 12·24 miles	..	2·34
MORWELL SHIRE—			
Jeeralang West Road ..	General maintenance throughout	..	23·5
Jumbuk Road	General maintenance throughout	..	12·5
Morwell–Mirboo Road ..	General maintenance	..	9
Prince's Highway	General maintenance throughout	..	1·5
MOUNT ROUSE SHIRE—			
Ballarat–Hamilton Road ..	Modified macadam surfacing between Dunkeld and Glenthompson	..	·95
,, ,, ,, ..	Double coat bituminous surfacing on crushed rock between Dunkeld and Glenthompson	..	1·61
,, ,, ,, ..	Double coat bituminous surfacing on gravel between Glenthompson and Wickliffe	..	2·54
,, ,, ,, ..	Patrol maintenance throughout	..	21
Hamilton–Dunkeld Road ..	Modified macadam surfacing between 1·75 and 2·3 miles from Dunkeld ..	..	·32
,, ,, ,, ..	Double coat bituminous surfacing on scarified and reformed road ·75 miles from Dunkeld	..	·31
,, ,, ,, ..	Double coat bituminous surfacing on crushed rock at 1·5 miles from Dunkeld ..	..	·37
,, ,, ,, ..	Patrol maintenance throughout	..	4
Hamilton–Penshurst Road ..	Modified macadam surfacing between 0 and 1·75 miles from Penshurst to Port Fairy	..	1·12
,, ,, ,, ..	Road mix seal between Penshurst and 8·15 miles north, and Penshurst and 4·15 miles south	..	3·79
,, ,, ,, ..	Patrol maintenance throughout	..	14
Maroona–Glenthompson Road ..	Patrol maintenance throughout	..	1
Penshurst–Caramut Road ..	Modified macadam surfacing between 12·05 and 14·79 miles from Penshurst ..	..	·76
,, ,, ,, ..	Road mix seal between ·4 and 1 mile from Penshurst	..	·6
,, ,, ,, ..	Double coat bitumin surfacing on scarified and reformed road at 9·5 miles from Penshurst	..	·75
,, ,, ,, ..	Patrol maintenance throughout	..	15
MULGRAVE SHIRE—			
Ferntree Gully Road	Reshaping, widening to 20 feet, sheeting with crushed rock and sealing with bitumen	..	·7
,, ,, ,, ...	Patrol maintenance between Box Hill Road and the Dandenong Creek	..	5
McIVOR SHIRE—			
Bendigo Road	Gravel surfacing	..	3·79
Heathcote–Elmore Road ..	Forming, gravelling, and construction of timber bridge and reinforced concrete box culverts	..	1·35
,, ,, ..	Forming, grading, and construction of timber bridge and flood crossing	..	1
,, ,, ..	Gravel surfacing	..	1·89
Heathcote–Redesdale Road ..	Gravel surfacing	..	1·26
NARRACAN SHIRE—			
Allambee–Childers Road ..	Patrol maintenance	..	8·5
Childers–Thorpdale Road ..	Patrol maintenance	..	1·5
Leongatha–Yarragon Road ..	Patrol maintenance, widening, benching and widening of curves, where necessary ..	..	9
Mirboo–Yarragon Road ..	Patrol maintenance and improvement of curves	..	6·5
Moe–Yallourn Road	Patrol maintenance	..	2
Prince's Highway	Patrol maintenance	..	1·5
Thorpdale–Trafalgar Road ..	Patrol maintenance, widening, benching and sanding of curves where necessary ..	..	9
Walhalla Road	Patrol maintenance and realignment and regrading where necessary	..	32
Willow Grove Road	Patrol maintenance and sand and loam sheeting where necessary	..	22
Yarragon–Shady Creek Road ..	Patrol maintenance and sheeting where necessary	..	6
NEWHAM AND WOODEND SHIRE—			
Mount Macedon Road ..	Crushed rock surfacing from Macedon Village Settlement towards Divide ..	1·19	..
,, ,, ..	Patrol maintenance	..	5·25
Woodend–Lancefield Road ..	Patrol maintenance	..	9·25
Woodend–Tylden Road ..	Remodelling approaches to Harper's Bridge	..	·06
,, ,, ,, ..	Patrol maintenance	..	3·2
NEWHAM AND WOODEND AND KYNETON SHIRES (Joint Works)—			
Woodend–Tylden Road ..	Remodelling approach to Harper's Bridge	..	·08
,, ,, ,, ..	Patrol maintenance	..	1·2
	Carried forward	42·29	3,922·79

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Brought forward	42·29	3,922·79
NEWSTEAD AND MT. ALEXANDER SHIRE—			
Castlemaine–Daylesford Road ..	Patrol maintenance and reconditioning	..	7·3
Creswick Road	Reconditioning	..	1
,, ,, ...	Patrol maintenance	..	10
Maldon Road	Reconditioning	..	1
,, ,, ...	Patrol maintenance	..	4
NUMURKAH SHIRE—			
Echuca–Picola Road ..	Patrol maintenance	..	6
Nathalia–Picola Road ..	Patrol maintenance throughout	..	7·8
Numurkah–Nathalia Road ..	Patrol maintenance throughout	..	15·9
Numurkah–Tungamah Road ..	Patrol maintenance throughout	..	5
Shepparton – Numurkah – Cobram Road	Forming and gravelling east from Katunga Hotel	1·27	..
,, ,, ,,	Scarifying and reshaping metal through Wunghnu Township	..	1·24
,, ,, ,,	Patrol maintenance throughout	..	20·6
OAKLEIGH CITY—			
Ferntree Gully Road	General maintenance throughout	..	·48
Prince's Highway	General maintenance throughout	..	1·12
OMEO SHIRE—			
Benambra Road	Construction of bridge over Reedy Creek at Hinnomunjie	..	..
,, ,, ...	Patrol maintenance throughout	..	15
Bright–Omeo Road	Forming and reforming at Hotham, Sharp's and Mountain Maid	..	3
,, ,, ,, ...	Replacing timber culverts with reinforced concrete culverts	..	..
,, ,, ,, ...	Patrol maintenance throughout	..	32
Day Avenue	Benching and shouldering curves	..	..
,, ,, ...	Sheeting with gravel	..	1·75
,, ,, ...	Patrol maintenance throughout	..	1·75
Swift's Creek–Omeo Road ..	Repairs to Horse Flat bridge	..	..
,, ,, ,, ,, ..	Reforming	..	2
,, ,, ,, ,, ..	Patrol maintenance throughout	..	20
ORBOST SHIRE—			
Combienbar Road	General maintenance	..	8·5
Marlo Road	Double coat sealing with tar and bitumen near Edlington's, Cameron's and Ross's ..	1·4	..
,, ,, ...	General maintenance, repairing flood damages at Gilbert's Gulch and other sections of road	..	10·2
Prince's Highway	Double coat sealing in Salisbury Street	..	·5
,, ,, ...	General maintenance	..	1·32
OTWAY SHIRE—			
Beech Forest–Apollo Bay Road	Patrol maintenance throughout	..	14
Carlisle–Gellibrand Road ..	Road mix seal from Gellibrand to Charley's Creek Bridge	..	·91
,, ,, ..	Patrol maintenance throughout	..	10·85
Colac–Beech Forest Road ..	Rescaling from Gellibrand Railway Station to Gellibrand River Bridge ..	..	·34
,, ,, ,, ,, ..	Patrol maintenance throughout	..	4
OXLEY SHIRE—			
Bright Road	Reconstruction	..	5
,, ,, ...	Patrol maintenance, scarifying, and gravelling	..	25
Greta–Glenrowan Road ..	Reconstruction	..	2
,, ,, ,, ..	Patrol maintenance, gravelling, and culverts	..	6
Kelfeera Road	Patrol maintenance	..	2
Wangaratta–Whitfield Road ..	Reconstruction	..	3
,, ,, ,, ..	Patrol maintenance, scarifying, and gravelling	..	28·5
PHILLIP ISLAND SHIRE—			
Newhaven Road	General maintenance throughout	..	7·75
Phillip Island Road	General maintenance throughout	..	2·5
Ventnor Road	General maintenance throughout	..	4·5
PORT FAIRY BOROUGH—			
Hamilton Road	General maintenance of sealed macadam road	..	1·4
Prince's Highway–Warrnambool	Reshaping sealed macadam to standard cross section	..	·08
,, ,, ,,	General maintenance of sealed macadam road	..	2·6
Prince's Highway – Portland	General maintenance of sealed macadam road	..	1·56
PORTLAND SHIRE—			
Bridgewater Road	Reforming and sheeting west from Wattle Hill Creek	..	2·23
,, ,, ...	Patrol maintenance	..	10·5
Heath Road	Reforming and sheeting at North Portland	..	1·63
,, ,, ...	Patrol maintenance	..	10·8
Portland–Casterton Road ..	Sheeting with gravel south of Hotspur	..	1
,, ,, ,, ..	Sheeting with gravel near Digby	..	2
,, ,, ,, ..	Patrol maintenance	..	20·85
Portland–Hamilton Road ..	Patrol maintenance	..	28·8
PRESTON CITY—			
Epping Road	General maintenance	..	1·4
,, ,, ...	Plant mix seal from Edgar Street to railway crossing	..	·95
Whittlesea Road	Widening 4 feet on east side from Darebin Creek north-easterly in macadam ..	..	1·37
PYALONG SHIRE—			
Kilmore – Heathcote – Bendigo Road	Construction of pipe culverts at High Camp and intersection with Lancefield Road	..	—
,, ,, ,,	Patrol maintenance	..	11·34
Lancefield–Tooborac Road ..	Patrol maintenance	..	10·8
PYALONG AND McIVOR SHIRES (Joint Works)—			
Lancefield–Tooborac Road ..	Patrol maintenance	..	2·04
QUEENSCLIFFE BOROUGH—			
Geelong Road	General maintenance throughout	..	3·5
Point Lonsdale Road ..	General maintenance throughout	..	1·2
RINGWOOD BOROUGH—			
Main Healesville Road ..	General maintenance, resurfacing, and widening	..	3·24
Mount Dandenong Road ..	General maintenance, straightening	..	1·75
Ringwood–Warrandyte Road ..	General maintenance	..	1·57
RIPON SHIRE—			
Ballarat–Ararat Road ..	Realignment and gravelling at 99 mile turn	..	·15
,, ,, ,, ..	General maintenance throughout	..	1·4
Ballarat–Hamilton Road ..	Double coat bitumen sealing from 1·77 to 3·16 and 4·32 to 6·36 miles ..	..	3·44
,, ,, ,, ..	Reshaping and gravelling from 11·41 to 13·65 miles	..	2·24
,, ,, ,, ..	Patrol maintenance throughout	..	16·26
Skipton Road	Double coat bitumen sealing from 3·74 to 4·52, 6·91 to 7·32, 9·02 to 9·60, and 15·87 to 17·51 miles	..	3·41
,, ,, ...	Reshaping and gravelling and alignment at 10·2 miles, from 5·26 to 5·36, 6·15 to 6·67, and 9·60 to 11·11 miles	..	2·13
,, ,, ...	Gravel dressing from 0·66 to 1·02 miles	..	·36
,, ,, ...	Patrol maintenance throughout	..	18·68
	Carried forward	44·96	4,387·28

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works. Constructed.	Reconstruction and Maintenance Works. Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Brought forward	44·96	4,387·28
ROCHESTER SHIRE—			
Corop Road	Patrol maintenance throughout		5·5
Rochester – Bamawm – Prairie Road	Sealing in the Parish of Bamawm		2·36
,, ,, ,,	Patrol maintenance throughout		27·5
Timmering Road	Sealing easterly from Campaspe Bridge		2
,, ,,	Patrol maintenance throughout		4·5
RODNEY SHIRE—			
Kyabram–Nathalia Road	Road mix seal in Kyabram Township		·19
,, ,, ,,	Patrol maintenance throughout		1
Kyabram–Tongala Road	Patrol maintenance throughout		1
Mooroopna–Undera Road	Patrol maintenance throughout		8
Shepparton–Tatura Road	Road mix seal north of Tatura		·68
,, ,, ,,	Modified macadam reconstruction north of Tatura		1·11
,, ,, ,,	Road mix seal 4 miles west of Mooroopna		·45
,, ,, ,,	Road mix seal in Mooroopna Township		·65
,, ,, ,,	Patrol maintenance throughout		10
Tatura – Byrneside – Kyabram Road	Road mix seal south of Lancaster		1·73
,, ,, ,,	Modified macadam reconstruction north of Merrigum		·64
,, ,, ,,	Road mix seal in Merrigum Township		·38
,, ,, ,,	Modified macadam reconstruction at Byrneside		·11
,, ,, ,,	Patrol maintenance throughout		10·5
Tatura–Murchison Road	Road mix seal south of Tatura		·77
,, ,, ,,	Road mix seal north of Murchison		·37
,, ,, ,,	Patrol maintenance throughout		13
RODNEY SHIRE AND SHEPPARTON BOROUGH (Joint Works)—			
Shepparton–Tatura Road	Patrol maintenance throughout		1·8
ROMSEY SHIRE—			
Lancefield–Kilmore Road	Reconditioning with gravel near Springfield		1·35
,, ,, ,,	Patrol maintenance		9·71
Lancefield–Tooborac Road	Relocating, forming, and gravelling near Shire boundary	1·48	..
,, ,, ,,	Reconditioning with gravel near Lancefield		·64
,, ,, ,,	Patrol maintenance		4·31
Melbourne–Lancefield Road	Reconditioning with gravel at Bolinda and Monegeetta		3·16
,, ,, ,,	Sealing from Bolinda to Monegeetta		4·64
,, ,, ,,	Patrol maintenance		15·85
Woodend–Lancefield Road	Patrol maintenance		5·62
ROMSEY AND NEWHAM AND WOODEND SHIRES (Joint Works)—			
Woodend–Lancefield Road	Construction of bridge and approaches at Monument Creek	·1	..
ROSEDALE SHIRE—			
Carrajung–Gormandale Road	Patrol maintenance		·75
Prince's Highway	Road mix seal through Township of Rosedale		·91
,, ,,	General maintenance		·91
Seaspray Road	Patrol maintenance		15·75
Traralgon–Gormandale Road	Patrol maintenance		4·53
Traralgon–Maffra Road	Reforming and gravelling at Glengarry		1
,, ,, ,,	Double coat sealing near Latrobe River		1
,, ,, ,,	Double coat sealing near Cowwarr		1
,, ,, ,,	Patrol maintenance		21
Willung Road	Patrol maintenance		8
RUTHERGLEN SHIRE—			
Barnawartha–Howlong Road	Rubble in cement pitching in two scours		—
,, ,, ,,	Patrol maintenance		1·6
Chiltern–Howlong Road	Regrading approaches to bridges on Howlong Flats		·31
,, ,, ,,	Patrol maintenance, painting and creosoting bridges on Howlong Flats		4·7
Murray Valley Road	First sealing gravel road at west end of Township of Rutherglen		·34
,, ,, ,,	Road mix seal at east end of Township of Rutherglen		·03
,, ,, ,,	Patrol maintenance		·79
Rutherglen–Wahgunyah Road	Road mix seal south of Murray River Bridge		·34
,, ,, ,,	Patrol maintenance		5·9
SALE TOWN—			
Prince's Highway	Road mix seal from Wurruk Bridge to Sale Post Office		1
Sale–Longford Road	General maintenance and flood damage repairs from Sale Post Office to swing bridge		3
SANDRINGHAM CITY—			
Beach Road	Patrol maintenance		5·82
SEBASTOPOL BOROUGH—			
Ballarat–Hamilton Road	Road mix seal throughout		·84
,, ,, ,,	Patrol maintenance throughout		·84
Ballarat–Rokewood Road	Patrol maintenance throughout		2·35
SEYMOUR SHIRE—			
Avenel–Longwood Road	General maintenance throughout		5·5
Highlands Road	Patrol maintenance		16
Seymour–Yea Road	General maintenance		7
Upper Goulburn Road	Patrol maintenance		11·4
SHEPPARTON BOROUGH—			
Shepparton–Nagambie Road	Road mix seal, ½ inch x 15 feet		·82
,, ,,	General maintenance throughout		2·5
Shepparton–Nalinga Road	General maintenance throughout		·95
Shepparton–Mooroopna Road	General maintenance throughout		·04
Shepparton–Numurkah Road	General maintenance throughout		·95
Shepparton–Tatura Road	Flood protection works on north-east wing of Goulburn River bridge		—
,, ,, ,,	Road mix seal, ½ inch x 15 feet		·14
,, ,, ,,	General maintenance throughout		·14
SHEPPARTON SHIRE—			
Dookie–Nalinga Road	General maintenance		7·75
Dookie–Violet Town Road	General maintenance		·1
Katandra Road	General maintenance		7·77
Pine Lodge Road	General maintenance		3·57
Shepparton–Nagambie Road	General maintenance		9·38
Shepparton–Nalinga Road	General maintenance		·4
Shepparton–Numurkah Road	General maintenance		12
SOUTH BARWON SHIRE—			
Barwon Heads Road	Widening from 12 feet to 16 feet in modified macadam from 7 miles towards Geelong		1·72
,, ,, ,,	Resealing with road mix seal from Charlemont Corner (6 miles) towards Geelong		·25
,, ,, ,,	General maintenance		12·5
Prince's Highway	General maintenance		1·22
Torquay Road	Reconstruction with scoria, priming and sealing from 7 miles towards Geelong		1·25
,, ,,	General maintenance		3
	Carried forward	46·54	4,721·41

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Brought forward	46·54	4,721·41
SOUTH BARWON AND BARRABOOL SHIRES (Joint Works)—			
Torquay Road	Resealing scoria construction with bitumen, road mix seal	..	1·25
" "	General maintenance	..	8·5
SOUTH GIPPSLAND SHIRE—			
Albert River–Welshpool Road	Patrol maintenance	..	1·7
Boolarra–Foster Road	Patrol maintenance	..	8
Boolarra–Welshpool Road	Patrol maintenance	..	11·8
Falls Road	Patrol maintenance	..	5
Foster–Yarram Road	Gravelling from 6·05 to 6·52 and 8·8 to 9·4 miles	..	1·07
" "	Patrol maintenance throughout	..	16·93
Hazel Park Road	Patrol maintenance	..	4·89
Main South Gippsland Road	Bitumen sealing	..	3·35
" " "	Patrol maintenance	..	10·65
Stony Creek–Dollar Road	Patrol maintenance	..	9·1
Toora–Gunyah Road	Patrol maintenance	..	12
Toora–Wonyip Road	Patrol maintenance	..	5
Turton's Creek Road	Patrol maintenance	..	5
ST. ARNAUD BOROUGH—			
Avoca–St. Arnaud Road	Patrol maintenance throughout	..	1·6
Charlton Road	Deviating and construction southerly from boundary	1·02	..
" "	Patrol maintenance throughout	..	1·5
Navarre Road	Patrol maintenance throughout	..	1
St. Arnaud–Donald Road	Patrol maintenance throughout	..	2·5
STAWELL SHIRE—			
Horsham–Wal Wal Road	Forming and gravelling	..	·15
" "	Forming and gravelling	1·56	..
Landsborough Road	General maintenance	..	5
Marnoo Road	Forming and gravelling	·38	..
" "	General maintenance	..	35
Navarre Road	Forming and gravelling	·15	..
" "	General maintenance	..	22
Stawell – Glenorchy – Horsham Road	Forming, gravelling and inverts	..	3·5
" "	General maintenance	..	21
Stawell–Grampians Road	Forming and crushed rock surfacing	1·07	..
" "	Forming and culverts beyond Myrtlebank	..	2·4
STRATHFIELDSAYE SHIRE—			
Bendigo–Heathcote Road	Road mix seal easterly from Bendigo City boundary	..	·34
" "	Priming and sealing easterly from previous section towards Bull's Head	..	·5
" "	Construction of single-span timber bridge at Bull's Head	—	..
" "	Patrol maintenance throughout	..	12
SWAN HILL SHIRE—			
Annuello–Women Road	Resheeting	..	·75
" "	Patrol maintenance	..	13
Enston Road	Sheeting with crushed rock	..	·72
" "	Patrol maintenance	..	2·46
Nyah–Ouyen Road	Sheeting with limestone	..	2·84
" "	Reshaping	..	3·27
" "	Grubbing	..	1
" "	Widening with crushed rock	..	2·03
" "	Patrol maintenance from Nyah West to Chinkapook	..	24
Piangil Station Road	Road mix seal	..	·99
Swan Hill Road	Patrol maintenance	..	1·27
Ultima Road	Reshaping and light reforming	..	10
" "	Reshaping limestone	..	1·02
" "	Patrol maintenance	..	20
Ultima–Sea Lake Road	Patrol maintenance throughout	..	19
TALBOT SHIRE—			
Ballarat Road	Forming and gravelling near Clunes	..	1·41
" "	General maintenance	..	11·02
Maryborough Road	Construction and double coat sealing near Daisy Hill	..	2·1
" "	Construction and double coat sealing near Talbot	..	1·07
TAMBO SHIRE—			
Bairnsdale–Bruthen Road	General maintenance throughout	..	·6
Basin Road	General maintenance throughout	..	10·2
Bruthen–Omeo Road	General maintenance throughout	..	·8
Mossiface Road	General maintenance throughout	..	2
Nowa Nowa–Buchan–Gelantipy Road	General maintenance throughout	..	33
TOWONG SHIRE—			
Murray Valley Road	Patrol maintenance	..	20·3
Omeo Road	Reconditioning across Mitta River Flats	..	·68
" "	Patrol maintenance	..	1·36
TRARALGON SHIRE—			
Prince's Highway	Patrol maintenance throughout	..	1·1
Traralgon–Balook Road	Patrol maintenance throughout and repair of flood damage	..	12·25
Traralgon Creek Road	Realignment, 500 feet, and construction of bridge 30 feet long at Stony Creek	·09	..
" "	Patrol maintenance throughout and repair of flood damage	..	16
Traralgon–Gormandale Road	Widening cutting and bank at Handley's Hill	..	·25
" "	Patrol maintenance throughout and repair of flood damage	..	6·9
Traralgon–Maffra Road	Patrol maintenance throughout and repair of flood damage	..	3
Tyers Road	Resheeting near township	..	·46
" "	Patrol maintenance throughout and repair of flood damage	..	7·75
TULLAROOP SHIRE—			
Avoca Road	Patrol maintenance throughout	..	9·2
Ballarat Road	Patrol maintenance throughout	..	3·1
Dunolly Road	Patrol maintenance throughout	..	·8
Eddington Road	Patrol maintenance throughout	..	14
Maryborough–Dunolly Road	Patrol maintenance throughout	..	3·4
Natte Yallock Road	Scarifying existing gravel, resheeting with 3 inch loose depth of gravel and shouldering	..	2·05
" "	Patrol maintenance throughout	..	7·25
TUNGAMAH SHIRE—			
Cobram South Road	Forming, reforming and gravelling in the Parishes of Cobram and Yarroweyah	2·58	..
" "	General maintenance	..	4·36
Katamatite–Cobram Road	General maintenance	..	1·02
Katandra Road	Forming, reforming and gravelling in the Parishes of Yabba and Katandra	3·21	..
" "	General maintenance	..	9·47
Numurkah – Tungamah – Wilby Road	Reforming, forming and gravelling in the Parishes of Naringaningalook and Dunbulbalane	·82	..
" "	General maintenance	..	30·7
Yarrawonga–Cobram Road	Reforming and gravelling in the Township of Cobram	·43	..
" "	General maintenance	..	1·68
UPPER MURRAY SHIRE—			
Corryong Road	First coat bitumen sealing between junction of Tintaldra Road at Cudgewa and Colac Colac Bridge	..	4·01
" "	First coat bitumen sealing between Colac Colac School and south-west boundary of Town of Corryong	..	1·76
" "	Patrol maintenance throughout	..	13·2
	Carried forward	57·85	5,274·74

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works. Constructed.	Reconstruction and Maintenance Works. Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Brought forward	57·85	5,274·74
UPPER MURRAY SHIRE—*continued.*			
Tintaldra Road	Forming and gravelling west of Allotments 1C, 1E, section 5, Parish of Cudgewa ..	·28	
" "	Forming and gravelling in two sections west of Allotments 7 and 7A, section 7, and Allotments 3B and 4, Section 6, Parish of Cudgewa	·53	..
" "	Construction of reinforced concrete culvert and forming and grading in Township of Cudgewa	·08	..
" "	First coat bitumen sealing between junction of Corryong Road at Cudgewa and and Cudgewa Recreation Reserve	..	1·5
" "	First coat bitumen sealing curve in township of Tintaldra	..	·18
" "	Patrol maintenance throughout	..	14·25
UPPER YARRA SHIRE—			
Don Road	General maintenance throughout	..	1·15
Little Yarra Road	General maintenance throughout	..	10·2
Warburton Road	General maintenance throughout	..	16
VIOLET TOWN SHIRE—			
Murchison–Violet Town Road ..	Forming and gravelling near Mullen's Creek	1·2	..
" " " ..	Patrol maintenance	..	6·6
Violet Town–Dookie Road " ..	Patrol maintenance	..	16·35
WALPEUP SHIRE—			
Mildura Road	Scarifying and resheeting limestone pavement through the Ouyen Township ..	..	·5
Ouyen–Pinnaroo Road ..	Forming and metalling over flats between Tutye and Cowangie	1·6	..
" " " ..	Forming and metalling two 1,000 ft. sections between Galah and Walpeup ..	·37	..
WANGARATTA BOROUGH—			
Beechworth Road	Patrol maintenance throughout	..	1
Sydney Road	Patrol maintenance throughout	..	5·5
WANGARATTA SHIRE—			
Beechworth Road	Patrol maintenance throughout	..	11
Peechelba Road	Patrol maintenance throughout	..	1·5
Wangaratta–Myrtleford Road ..	Patrol maintenance throughout	..	6·5
WANNON SHIRE—			
Coleraine–Harrow–Apsley Road	Gravel sheeting from end of bitumen at 3 miles to Peterson's	..	1·51
" " "	Gravel sheeting at A. Walker's and Pigeon Ponds	..	1·1
Hamilton – Coleraine – Casterton Road	Road mix seal from railway crossing at Coleraine to racecourse gate	..	1·72
Wannon Bridge Road ..	Gravel sheeting from McLean's Bridge to Wannon River	..	1·29
WARANGA SHIRE—			
Colbinabbin–Elmore Road ..	Road mix seal at McTaggart	..	2
" " " ..	Sealing at Colbinabbin East	..	2
" " " ..	General maintenance	..	11
Colbinabbin–Moora Road ..	General maintenance	..	7·7
Heathcote–Elmore Road ..	Forming and gravelling at Myola	·95	..
" " " ..	Sealing at Elmore, Toolleen and Myola	..	1·73
" " " ..	General maintenance	..	19
Murchison–Rushworth Road ..	General maintenance	..	16·5
Rushworth–Stanhope Road ..	General maintenance	..	11·5
Tatura Road	General maintenance	..	1·2
WARRAGUL SHIRE—			
Bloomfield Road	Road mix seal	..	1
" "	Double coat bituminous surfacing	..	·6
" "	Patrol maintenance	..	8
Brandy Creek Road	Widening pavement to 16 feet	..	·25
" " " ..	Patrol maintenance	..	8·2
Darnum–Allambee Road ..	Patrol maintenance	..	8
Prince's Highway	Patrol maintenance	..	1·05
Warragul–Korumburra Road ..	Construction of 3-cell reinforced concrete box culvert	..	—
" " " ..	Patrol maintenance	..	15·5
Warragul–Leongatha Road ..	Patrol maintenance	..	4
WARRNAMBOOL SHIRE—			
Allansford–Nirranda Road ..	Road mix seal	..	2·65
" " " ..	Patrol maintenance	..	17
Framlingham Road	Bitumen surfacing	..	1·59
" "	Patrol maintenance	..	5·25
Garvoc–Laang Road	Bitumen surfacing	..	·87
" " " ..	Patrol maintenance	..	5·25
Lismore–Caramut Road ..	Patrol maintenance	..	6
Mortlake Road	Road mix seal	..	1·59
" "	Patrol maintenance	..	16·5
Peterborough Road	Patrol maintenance	..	9
Timboon–Nirranda Road ..	Road mix seal	..	2·03
" " " ..	Patrol maintenance	..	5·25
WARRNAMBOOL AND MORTLAKE SHIRES (Joint Works)—			
Framlingham Road	Modified macadam surfacing	·5	..
WERRIBEE SHIRE—			
Geelong–Bacchus Marsh Road ..	Patrol maintenance throughout; sheeting section near Davis Road with crushed rock	..	2·25
WHITTLESEA SHIRE—			
Epping Road	Patrol maintenance, rescaling between Keon Park and Woodstock	..	10
Main Whittlesea Road ..	Patrol maintenance, resurfacing with crushed rock and rescaling between south boundary of Shire and Whittlesea Township	..	14
Wallan Road	Patrol maintenance, resurfacing with crushed rock between Whittlesea and north boundary of Shire	..	6
Whittlesea–Kinglake Shire ..	Patrol maintenance, rescaling and sealing between Whittlesea Township and Scrubby Creek	..	4·5
WIMMERA SHIRE—			
Dooen Road	Maintenance of shoulders	..	3·1
" "	Constructing approach to railway west of Allotment 16, Parish of Dooen ..	..	—
Horsham–Murtoa Road ..	Double coat bituminous surfacing between 4·28 and 8·29 miles	..	4·01
" " " ..	Forming side track between ·44 and 1·62 miles	..	1·18
" " " ..	Patrol maintenance	..	8·29
Horsham–Wal Wal Road ..	Loaming and gravelling 2 inches depth between 4·28 and 4·85 miles	..	·57
" " ..	Patrol maintenance throughout	..	8·2
Natimuk Road	Patrol maintenance	..	9·4
WIMMERA AND ARAPILES SHIRES (Joint Works)—			
Horsham–Hamilton Road ..	Double coat bituminous surfacing between 0 and ·57 miles	..	·57
" " " ..	Scarifying, reshaping and blinding metal between 2 and 3·1 miles	..	1·1
" " " ..	Patrol maintenance	..	3·1
WIMMERA AND ARAPILES SHIRES AND HORSHAM TOWN (Joint Works)—			
Horsham–Hamilton Road ..	Resealing throughout	..	·18
	Carried forward	63·36	5,641·25

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Brought forward	63·36	5,641·25
WINCHELSEA SHIRE—			
Birregurra Road	Double coat sealing of bitumen opposite Allotments E, Section XIX., and D, F, Section XX., Parish of Birregurra	..	1·12
,, ,, ...	General maintenance throughout	..	4
Birregurra–Deans Marsh Road ..	Gravelling opposite Allotments 63B and 62B, Parish of Whoorel	..	·46
,, ,, ,, ,, ..	Double coat sealing of bitumen sections between Birregurra and Whoorel ..	..	1·51
,, ,, ,, ,, ..	General maintenance throughout	..	7·5
Birregurra–Forrest Road ..	Gravelling sections opposite Allotments 40, 39, 62 and 63, Parish of Murroon ..	..	1·01
,, ,, ,, ..	Double coat sealing of bitumen near Birregurra	..	·63
,, ,, ,, ..	Double coat sealing of bitumen near Fairholm School	..	·76
,, ,, ,, ..	Gravelling sections opposite Allotments 39 and 62, Parish of Murroon	·45	..
,, ,, ,, ..	General maintenance throughout	..	10
WINCHELSEA AND COLAC SHIRES (Joint Works)—			
Birregurra Road	Double coat sealing of bitumen from Birregurra railway station to Hallett's, opposite Allotments F, G, and H, Section XXII., Parish of Birregurra	..	·91
WODONGA SHIRE—			
Sydney Road	Road mix seal in High Street, Wodonga, from railway line to Post Office ..	..	·14
WONTHAGGI BOROUGH—			
Loch–Wonthaggi Road ..	Patrol maintenance	..	·85
Wonthaggi–Inverloch Road ..	Patrol maintenance	..	2·33
Wonthaggi–Korumburra Road	Patrol maintenance	..	·76
WOORAYL SHIRE—			
Fairbank Road	General maintenance throughout	..	2·08
Farmers Road	General maintenance throughout	..	13·5
Inverloch–Leongatha Road ..	General maintenance throughout	..	16
Inverloch–Wonthaggi Road ..	General maintenance throughout	..	2·5
Kongwak–Inverloch Road ..	Forming and gravelling	1·7	..
,, ,, ,, ..	General maintenance throughout	..	2·16
Leongatha–Mirboo Road ..	General maintenance throughout	..	6·8
Leongatha–Yarragon Road ..	General maintenance throughout	..	13
Lower Tarwin Road	General maintenance throughout	..	11·75
Main South Gippsland Road ..	General maintenance throughout	..	17
Marden Road	General maintenance throughout	..	10
Turton's Creek Road	Construction of 30-ft. span timber bridge at "Falls"	..	—
,, ,, ,, ..	General maintenance throughout	..	6·75
Wild Dog Valley Road ..	General maintenance throughout	..	9
WYCHEPROOF SHIRE—			
Birchip–Sea Lake Road ..	Forming and limestoning south of Sea Lake	1·06	·29
,, ,, ..	Patrol maintenance throughout	..	17
Birchip–Wycheproof Road ..	Forming, limestoning and gravelling west of Wycheproof	1·7	..
,, ,, ,, ..	Patrol maintenance throughout	..	17
Coraek Road	Forming and gravelling west of Wycheproof	..	·25
,, ,, ..	Patrol maintenance throughout	..	2
Sea Lake–Ultima Road ..	Forming and limestoning east of Sea Lake	·12	·35
,, ,, ,, ..	Patrol maintenance throughout	..	6
Woomelang–Sea Lake Road ..	Forming and limestone metalling south-west of Sea Lake	·28	·91
,, ,, ,, ..	Patrol maintenance throughout	..	10
YACKANDANDAH SHIRE—			
Dederang Road	Patrol maintenance throughout	..	28
Gundowring Road	Patrol maintenance throughout	..	20·08
Kergunyah South Road ..	Construction of timber bridge near Allotment 4, Section 2A, Parish of Gundowring	..	—
,, ,, ,, ..	Patrol maintenance throughout, placing culverts	..	11·2
Kiewa East Road	Patrol maintenance throughout, placing culverts	..	3·2
Kiewa–Wodonga Road ..	Patrol maintenance throughout, placing culverts	..	6·5
Myrtleford–Yackandandah Road	Patrol maintenance throughout, placing culverts	..	5·4
Yackandandah Wodonga–Road	Patrol maintenance throughout, placing culverts	..	15·75
YARRAWONGA SHIRE—			
Peechelba Road	General maintenance	..	1
Yarrawaonga–Cobram Road ..	General maintenance	..	·75
Yarrawonga–Wangaratta Road	Patrol maintenance, reconstruction and sealing in Township of Yarrawonga ..	..	10·5
YEA SHIRE—			
Highlands Road	General maintenance	..	2·5
Molesworth–Dropmore Road ..	General maintenance	..	10
Upper Goulburn Road ..	Reforming and resheeting with gravel	..	·52
,, ,, ..	General maintenance	..	21
Whittlesea–Yea Road ..	Forming and gravelling top of Flowerdale Hill	..	·18
,, ,, ,, ..	Regrading south of Matinson's	..	·01
,, ,, ,, ..	General maintenance	..	31
Yarra Glen–Glenburn Road ..	Resheeting with crushed rock	..	1·38
,, ,, ,, ,, ..	General maintenance	..	10
Yea–Glenburn Road	Realigning and gravelling near Quinlan's	..	1·38
,, ,, ,, ...	General maintenance	..	18
YEA AND BROADFORD SHIRES (Joint Works)—			
Upper Goulburn Road ..	General maintenance	..	1·75
	Total	68·67	6,037·7

UNDER DIRECT SUPERVISION OF THE BOARD.

ALBERTON SHIRE—			
Boolarra–Welshpool Road ..	Removal of slips and reinstatement of roadway from Grand Ridge Road to South Gippsland Shire boundary. Day labour	..	4·5
,, ,, ,, ..	Removal of slips, building up of scours, repairs to culverts and replacement of a bridge from Boolarra to a point 4½ miles towards Welshpool. Day labour	..	2·25
,, ,, ,, ..	General maintenance, Grand Ridge Road to South Gippsland Shire boundary ..	..	8·5
ALEXANDRA SHIRE—			
Marysville Road	Repairs to bridge over Acheron River at Taggerty. Day labour	..	·01
BALLAN SHIRE—			
Ballarat Road	General maintenance at Ballan	..	1·01
BALLARAT SHIRE—			
Ballarat–Creswick Road ..	Forming, gravelling, and stone pitching of floodway, approximately ¾ mile north of Burrumbeet Creek	·19	..
,, ,, ,, ..	Construction of a new reinforced concrete box culvert and extending masonry culvert at centre of floodway. Day labour	·01	..
,, ,, ,, ..	Widening pavement with gravel and forming shoulders from Ballarat City boundary towards Creswick. Day labour	..	1·8
,, ,, ,, ..	Priming and sealing at Mount Rowan Post Office. Day labour	..	·5
,, ,, ,, ..	General maintenance	..	5·75
BARRABOOL SHIRE—			
Airey's Inlet Road	General maintenance, Airey's Inlet to Anglesea	..	7
	Carried forward	·2	31·32

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER DIRECT SUPERVISION OF THE BOARD—*continued.*		
	Brought forward	·2	31·32
BELLARINE SHIRE—			
Barwon Heads–Ocean Grove Road	General maintenance throughout	..	1
Geelong–Queenscliffe Road ..	General maintenance throughout	..	15
Geelong–Portarlington Road ..	General maintenance throughout	..	17
Portarlington–St. Leonard's Road	General maintenance throughout	..	7
BERWICK SHIRE—			
Nar-nar-goon–Longwarry Road	Increasing length of Bunyip River bridge at Bunyip. Day labour	..	·01
Prince's Highway	Reconstruction in crushed rock and sealing, in the township of Berwick. Day labour	..	·31
,, ,, ...	General maintenance at Berwick	..	·31
Woori Yallock–Pakenham–Koowee-rup Road	Removal of slips and resheeting sections scoured by floods between Cockatoo Railway Station and Shepherds Creek	..	3
,, ,, ,,	General maintenance, Cockatoo Railway Station to Shepherds Creek	..	6
BRAYBROOK SHIRE—			
Prince's Highway	General maintenance at Braybrook	..	1·33
BRIGHT SHIRE—			
Bright–Omeo Road	General maintenance, Harrietville to Mount Hotham	..	19·5
BROADFORD SHIRE—			
Sydney Road	Construction of stock crossing over Sunday Creek at Broadford. Day labour ..	·01	..
,, ,, ...	General maintenance at Broadford	..	1·45
CLUNES BOROUGH—			
Maryborough–Ballarat Road ..	Making up shoulders and trimming northerly from the borough boundary ..	..	·82
CORIO SHIRE—			
Fyansford Road	General maintenance throughout	..	·7
Prince's Highway	General maintenance at Corio	..	2
COHUNA SHIRE—			
Murray Valley Road	General maintenance in Cohuna township	..	·51
ECHUCA BOROUGH—			
Echuca–Cohuna Road ..	Priming and sealing, Warren-street bridge to Murray Valley Highway. Day labour	..	1·18
,, ,, ,, ..	General maintenance	..	1·18
EUROA AND GOULBURN SHIRES—			
Murchison–Shepparton Road ..	General maintenance, Murchison East to Shepparton Shire boundary	..	10·8
EUROA SHIRE—			
Sydney Road	General maintenance at Euroa	..	1·8
FOOTSCRAY CITY—			
Prince's Highway	Roadmix sealing at Footscray. Day labour	..	·83
,, ,, ...	General maintenance at Footscray	..	1·58
GISBORNE SHIRE—			
Melbourne–Bendigo Road ..	General maintenance at Gisborne	..	1·33
GOULBURN SHIRE—			
Goulburn Valley Road ..	Roadmix sealing in township of Nagambie. Day labour	..	·9
,, ,, ,, ..	Repairs to abutments and approaches to bridge over Goulburn River at Murchison. Day labour	..	·01
GOULBURN AND SEYMOUR SHIRES—			
Goulburn Valley Road ..	General maintenance, Hume Highway to Goulburn River at Murchison ..	..	29·8
HEALESVILLE SHIRE—			
Healesville–Alexandra Road ..	Repairs to road surface near Buxton. Day labour	..	·04
,, ,, ,, ..	Construction of new bridge at Yarra River Flats. Day labour	..	·01
,, ,, ,, ..	General maintenance, Yarra River to Buxton	..	20
Healesville–Woori Yallock Road	Repairs to road surface near Dairy. Day labour	..	·25
,, ,, ,,	Road mix sealing, Healesville–Alexandra Road to Albert Road. Day labour ..	..	·5
,, ,, ,,	Repairs to bridge over Badger Creek. Day labour	..	·01
,, ,, ,,	General maintenance, Healesville–Alexandra Road to Yarra River	..	7
Marysville Road	Widening and renewing superstructure of Wilke's Creek bridge. Day labour ..	..	·01
,, ,, ...	General maintenance, St. Fillans to Marysville	..	6
HEYTESBURY SHIRE—			
Cobden–Port Campbell–Princetown Road	Shouldering with buckshot gravel between Newfield and Port Campbell. Day labour	..	1·5
HUNTLY SHIRE—			
Bendigo–Echuca Road ..	Priming and sealing between Bendigo and Epsom. Day labour	..	·84
,, ,, ,, ..	General maintenance, Elmore township	..	1·08
,, ,, ,, ..	General maintenance, Bendigo to Epsom	..	1·08
KEILOR SHIRE—			
Melbourne–Bendigo Road ..	Roadmix sealing at Keilor. Day labour	..	·89
,, ,, ,, ..	General maintenance at Keilor	..	1·1
KILMORE SHIRE—			
Sydney Road	General maintenance at Kilmore	..	1·58
LILLYDALE SHIRE—			
Main Healesville Road ..	Roadmix sealing from railway bridge to Hynes tile works at Lillydale. Day labour	..	·36
,, ,, ,, ..	Roadmix sealing, Rosemont deviation. Day labour	..	·8
,, ,, ,, ..	Roadmix sealing, Green Point to Yeringberg. Day labour	..	·55
,, ,, ,, ..	Roadmix sealing on Melbourne Hill. Day labour	..	·08
,, ,, ,, ..	General maintenance, Ringwood Borough boundary to Yarra River	..	15
Main Warburton Road ..	Roadmix sealing, Stringybark Creek to Seville. Day labour	..	4·5
,, ,, ,, ..	General maintenance, Healesville Road junction to Woori Yallock	..	9
MANSFIELD SHIRE—			
Mansfield–Wood's Point Road	Removing slips, repairing road surface, replacing timber culvert at Cadden's Hill with reinforced concrete pipes and widening washed out road at Gaffney's Creek. Day labour	..	5
,, ,, ,, ,, ..	General maintenance, Jamieson to Matlock	..	38·5
MIRBOO, WARRAGUL, AND WOORAYL SHIRES—			
The Grand Ridge Road ..	Removal of slips, repairs to culverts, and reinstatement of road surface between Hallston and Sea View. Day labour	..	10
MIRBOO, SOUTH GIPPSLAND, MORWELL AND WOORAYL SHIRES—			
The Grand Ridge Road ..	Removal of slips, repairs to culverts, and reinstatement of road surface between Ryton and Limonite. Day labour	..	9·75
MORNINGTON SHIRE—			
Point Nepean Road	Roadmix sealing from south end of Balcombe's cutting to Flinders Shire boundary. Day labour	..	2·04
,, ,, ,, ...	Roadmix sealing on Mount Eliza between Tower Hill and Grice's Road. Day labour	..	·5
MORWELL SHIRE—			
Boolarra–Foster Road ..	General maintenance, Boolarra to Boolarra South. Day labour	..	6
Boolarra–Welshpool Road ..	Construction of new bridge over creek at Boolarra. Day labour	..	·01
,, ,, ,, ..	General maintenance throughout	..	9
Morwell–Mirboo Road ..	Widening and sealing between Hazelwood and Morwell. Day labour	..	2·5
,, ,, ,, ..	Removal of slips, repairs to culverts and road surface northerly from Morwell–Mirboo Shire boundary. Day labour	..	3·5
,, ,, ,, ..	General maintenance, Morwell–Mirboo Shire boundary to Morwell	..	14
Morwell River Road	Repairs to Jackson's bridge at Boolarra. Day labour	..	·01
,, ,, ,, ..	Construction of a new bridge at Siggins. Day labour	..	·01
,, ,, ,, ..	Construction of a new bridge at Fox's. Day labour	..	·01
,, ,, ,, .	Removal of slips, reinstatement of road surface, widening, building up scours, repairs to culverts. Day labour	..	8·5
	Carried forward	·21	338.18

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Permanent Works Constructed.	Reconstruction and Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER DIRECT SUPERVISION OF THE BOARD—*continued.*		
	Brought forward	·21	338·18
NEWHAM AND WOODEND SHIRE—			
Melbourne–Bendigo Road ..	General maintenance at Woodend	..	1·14
NEWSTEAD AND MT. ALEXANDER, MALDON AND TULLAROOP SHIRES—			
Castlemaine–Maryborough Road	General maintenance, Castlemaine to Maryborough	..	25·84
ORBOST SHIRE—			
Cann Valley Road	Repairs to two bridges over Cann River at Noorinbee. Day labour	..	·04
,, ,, ,, ...	General maintenance, Cann River to New South Wales border	..	29
Genoa–Gipsy Point Road ..	Widening, cutting back corners, benching and superelevating curves between Genoa and Gipsy Point. Day labour	..	3
,, ,, ,, ,, ..	General maintenance, Genoa to Gipsy Point	..	7
SEYMOUR SHIRE—			
Sydney Road	Reinstatement of shouldering at Seymour. Day labour	..	·3
,, ,, ...	Roadmix sealing at Seymour. Day labour	..	·25
,, ,, ...	Roadmix sealing north of Seymour. Day labour	..	·23
,, ,, ...	General maintenance at Seymour	..	1·56
Upper Goulburn Road ..	Reconstruction in sand and sealing three miles east of Tallarook. Day labour ..	..	·5
SOUTH GIPPSLAND SHIRE—			
Boolarra–Foster Road ..	Removal of slips, repairs to culverts and reinstatement of road surface between Gunyah Junction and Mount Square top. Day labour	..	4·25
,, ,, ,, ..	General maintenance, Gunyah Junction to Mount Square Top	..	8·5
Toora–Gunyah Road	Removal of slips and reinstatement of roadway from Grand Ridge Road to Devil's Pinch junction. Day labour	..	2
STAWELL SHIRE—			
Grampians Road	General maintenance throughout	..	19·03
TULLAROOP SHIRE—			
Maryborough–Ballarat Road ..	Reconstruction of piers and superstructure at Dunach bridge over McCallum Creek, together with approaches	..	·02
TAMBO SHIRE—			
Prince's Highway	General maintenance, Lakes Entrance township	..	2·37
TALBOT SHIRE—			
Castlemaine–Maryborough Road	Roadmix sealing west of Joyce's Creek. Day labour	..	3·77
UPPER YARRA SHIRE—			
Wood's Point Road	General maintenance, McVeigh's to Matlock. Day labour	..	33·5
VIOLET TOWN SHIRE—			
Sydney Road	General maintenance in Violet Town	..	·8
WANGARATTA SHIRE—			
Beechworth Road	General maintenance and rescaling open crossings, "Avenue" section near Wangaratta. Day labour	..	·9
Yarrawonga Road	General maintenance, Wangaratta to Wangaratta Shire boundary	..	11·3
WANGARATTA AND RUTHERGLEN SHIRES—			
Springhurst–Rutherglen Road	General maintenance, Springhurst to Rutherglen	..	10·5
WANGARATTA BOROUGH—			
Sydney Road	Reconstruction and sealing south of Wangaratta. Day labour	..	2·44
WARRAGUL SHIRE—			
Darnum–Allambee Road ..	Repairs, removal of slips, building up scours, and repairs to culverts between McDonald's Track and Hazeldene Road. Day labour	..	1·5
WERRIBEE SHIRE—			
Prince's Highway	General maintenance at Werribee	..	·85
WINCHELSEA SHIRE—			
Birregurra Road	Renewing superstructure of bridge over Birregurra Creek. Day labour ..	..	·01
Lorne Road	General maintenance, Lorne to Dean's Marsh	..	16
WOORAYL SHIRE—			
Wild Dog Valley Road ..	Construction of new bridge over Wild Dog Creek at Leongatha. Day labour ..	..	·01
YEA SHIRE—			
Yea–Glenburn Road	Clearing, forming, and gravelling on new alignment at Delvin's bridge ..	..	·34
,, ,, ,, ...	Construction of new bridge over Yea River at Glenburn	..	·10
	Total	·21	525·23

APPENDIX F.

COUNTRY ROADS BOARD.

DEVELOPMENTAL ROADS.

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED UNDER THE PROVISIONS OF THE COUNTRY ROADS ACT 1928, DURING THE YEAR ENDED 30TH JUNE, 1935.

Name of Municipality and Road.	Nature and Locality of Works.	Works Constructed.
		Miles.
	UNDER MUNICIPALITIES.	
ALBERTON SHIRE—		
Albert River Road	Forming and gravelling approaches to Little Albert River Bridge	·2
Carrajung Lower Road	Reforming and gravelling from Carrajung-Gormandale Road to T. Brown's	·8
" " "	Forming and gravelling through Allotment 16, Parish of Callignec	·5
Christie's-Albert River Road	Widening on hill between Albert River Road and J. Greenaway's	·5
Lay's Road	Reforming and gravelling from Wilson's to O'Connor's	2·55
ARAPILES SHIRE—		
Miga Lake-Gymbowen Road	Gravelling in Parish of Kalingur	1
BAIRNSDALE SHIRE—		
Calulu-Boggy Creek Road	Forming and gravelling	1·2
Glenaladale-Lindenow Road	Forming and gravelling	·88
BALLAN SHIRE—		
Ballan-Egerton Road	Reforming and surfacing with gravel, south-westerly from Mount Wallace Road junction	·88
Moorarbool West Road	Regrading and gravelling approaches to crossing over Eastern Moorarbool River	·05
BERWICK SHIRE—		
Narnargoon-Gembrook Road	Forming and sanding	1·33
" " "	Construction of bridge over Ararat Creek	—
Tynong-Toonimbuk Road	Sanding	·32
BORUNG SHIRE—		
Brim West Road	Surfacing with limestone and crushed rock (local stone) westerly from Brim	1·82
Galaquil West Road	Limestone metalling and culvert westerly from Galaquil	·49
Lah West Road	Crushed rock surfacing 1½ miles west from Lah	·82
BRIGHT SHIRE—		
Happy Valley Road	Filling, pitching and culverts near Allotment 1, Section VI., Parish of Tawonga	—
BULLA SHIRE—		
Konagaderra Road	Forming, loaming, and gravelling two sections commencing at chainage 5,200 feet from west side of bridge over Maribyrnong River and on east side of bridge	·55
BULN BULN SHIRE—		
Poowong Road	Reforming and sanding 13 feet wide, 4 inches consolidated depth	·34
BUNINYONG SHIRE—		
Elaine-Mount Mercer Road	Gravelling on top of Leigh Grand Junction East Hill	·15
CHARLTON SHIRE—		
Teddywaddy Road	Forming and gravelling	·49
Yeungroon Road	Forming and gravelling and two stone crossings	·89
DIMBOOLA SHIRE—		
Glenlee-Jeparit Road	Forming and rubbling about 9 miles from Jeparit	1·05
DONALD SHIRE—		
Corack East-Donald Road	Granite sand surfacing from the Donald-Charlton Road	1·76
Donald-Minyip Road	Fine crushed rock surfacing at East Laen	·8
Litchfield Road	Fine crushed rock surfacing at Carron	·79
Watchem-Warracknabeal Road	Fine crushed rock surfacing near Watchem	·7
DUNDAS SHIRE—		
Melville-Forest Road	Forming and gravelling opposite Allotment 1C, Section 14, Allotment 4B, Section 13, and Allotments 5 and 7, Section 12, Parish of Urangara	·78
DUNMUNKLE SHIRE—		
Banyena Road	Forming and gravelling north of Banyena Siding	·44
Burrum Siding	Forming and gravelling south of Burrum Siding	·42
Horsham-Murtoa-Minyip Road	Forming and gravelling west of Minyip	·85
Lubeck West Road	Forming and gravelling west of Lubeck	·44
ELTHAM SHIRE—		
Cottle's Bridge-Strathewen Road	Forming and grading adjacent to Allotments 18 and 36B, Parish of Greensborough, and Allotment 22, Parish of Queenstown	·45
FERNTREE GULLY SHIRE—		
Emerald-Macclesfield Road	Forming and metalling near Macclesfield	·6
Emerald-Monbulk Road	Forming and metalling between the Menzies Creek and Emerald	1·13
" " "	Construction of reinforced concrete culvert and approaches at the Menzies Creek	·03
FLINDERS SHIRE—		
Brown's Road	Reforming and gravelling at Trueman's lane	·54
FRANKSTON AND HASTINGS SHIRE—		
Hodgin's Road	Reforming and metalling opposite Allotment 54, Parish of Bittern	·26
GLENELG SHIRE—		
Dergholm-Elderslie Road	Forming and gravelling in two sections between Dergholm and Poolaijelo	·72
HAMPDEN SHIRE—		
Vite Vite Road	Metal sheeting 12 feet wide by 3 inches loose depth from 00 to 6,600 lineal feet on section originally constructed with only 6 inches depth of metal	1·25
HAMPDEN, HEYTESBURY AND WARRNAMBOOL SHIRES (Joint Works—		
Ayresford Road	Construction of 4-span concrete, steel and timber bridge, together with approaches over the Mount Emu Creek	—
HEALESVILLE SHIRE—		
Myers' Creek Road	Widening and regrading to 20 feet width of formation and surfacing 15 feet wide with stone broken on the road bed from Myers' Creek Falls northerly to Duce's Bridge	·63
KARKAROOC SHIRE—		
Hopetoun-Lascelles Road	Forming and limestoning near De Frederick's	·27
" " "	Forming and limestoning between Allotments 1 and 1A, Parish of Nyallo	·16
Hopetoun-Yaapeet Road	Forming and limestoning near Downey's	·78
" " "	Forming and limestoning near Frew and Miller	·6
Patchewollock-Speed Road	Forming and limestone metalling from Speed Station	1·3
Rosebery East Road	Forming and limestoning near Hogan's	1·52
Rosebery West Road	Forming and limestoning between Rentsch and Gniel	1·77
Yaapeet-Nypo Road	Forming and limestoning between Fuller and Frew	1·2
Yarto-Patchewollock Road	Forming and limestoning near Yarto	·83
KORONG SHIRE—		
Borung-Charlton Road	Gravelling near Allotments 19, 66 and 25, Section V., Parish of Borung	2·18
Buckrabanyule South Road	Sanding near Allotments 4 and 32, Parish of Woosang	·97
Mysia East Road	Gravelling near Allotments 146, 145 and 177, Parish of Mysia	·66
" " "	Forming near Allotments 146 and 145, Parish of Mysia	1
Nine Mile Road	Gravelling from Allotment 105D to Allotment 108, Parish of Barrakee	1·06
Wedderburn-Spring Hill Road	Gravelling near Allotment 30, Parish of Kurraca and Allotment 55, Parish of Berrimal	·76
Wychitella North Road	Gravelling near Allotment 49, Parish of Buckrabanyule	·53
KOWREE SHIRE—		
Benayeo Road	Forming, gravelling and culverts near Benayeo	·16
Edenhope-Natimuk Road	Forming, gravelling and culverts, near "Maryvale" and Bates' Lake	·9
Elderslie Road	Forming, gravelling and culverts near "Mundarro" and Meereek	1·05
" " "	Forming near Meereek	·6
Miga Lake-Gymbowen Road	Forming, gravelling and culvert near Gymbowen	·59
	Carried forward	48·24

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF ROADS CONSTRUCTED, ETC.—*continued.*

Name of Municipality and Road.	Nature and Locality of Works.	Works Constructed.
		Miles.
	UNDER MUNICIPALITIES—*continued.*	
	Brought forward	48·24
KYNETON SHIRE—		
Baynton Road	Forming and surfacing with crushed rock northern section in Parish of Baynton ..	·48
LAWLOIT SHIRE—		
Serviceton North Road ..	Forming and gravelling near Allotments 59D, 38, 39 and 40, Parish of Dinyarrak ..	1·54
Serviceton South Road ..	Forming and gravelling near Allotments 11, 12 and 23, Section 3, Parish of Leeor ..	1·76
LOWAN SHIRE—		
Netherby Road	Forming and metalling between Allotments 23 and 16, Parish of Lorquon	·11
,, ,, ...	Forming and metalling between Allotments 23 and 63 and Allotment 24, Parish of Warraquil	·67
Winiam Road	Forming and gravelling between Allotments 14 and 21, Parish of Winiam	·34
Woorak Road	Forming, metalling and gravelling between Allotments 10 and 11, Parish of Woorak ..	·4
,, ,, ...	Clay forming between Allotments 32 and 29C, Parish of Balrootan	·22
MARONG SHIRE—		
Bendigo–Serpentine Road ..	Forming and gravelling near Section 38, Parish of Yarraberb	·91
Newbridge–Shelbourne Road ..	Forming and gravelling in three sections in Parish of Laanecoorie	·9
Yarraberb Road	Forming and gravelling at the "Woolshed," Yarraberb	·27
MILDURA SHIRE—		
Benetook Avenue	Limestone metalling foundation course between Nineteenth and Twenty-first Streets ..	1·51
Red Cliffs East Road ..	Metalling top course between Red Cliffs Township and Pumping Station	·75
Red Cliffs South-east Road ..	Limestone metalling top course between Red Cliffs and South-east Red Cliffs	·49
Red Cliffs West Road ..	Gravelling foundation course between Red Cliffs South and Cardross North	1·71
,, ,, ,, ..	Limestone metalling top course on section between Red Cliffs Township and Cardross ..	1
MINHAMITE SHIRE—		
Condah–Macarthur Road ..	Forming and gravelling	1·2
MIRBOO SHIRE—		
Mardan Road	Boxing and sanding between Allotments 115A and C, Parish of Mirboo and Allotments 1 and 1A, Parish of Dumbalk	·61
McIVOR SHIRE—		
Baynton Road	Forming, gravelling, and construction of reinforced concrete culverts	·64
NARRACAN SHIRE—		
Old Sale Road	Reforming and crushed rock surfacing 13 feet wide, 5 inches consolidated	1·15
NEWHAM AND WOODEND SHIRE—		
Campaspe Road	Surfacing with crushed rock Cranny's deviation	·31
,, ,, ...	Surfacing with crushed rock, deviation through Allotment 108U, Woodend	·36
,, ,, ...	Surfacing with crushed rock west of Allotment 8A, Section D, Parish of Woodend ..	·09
OMEO SHIRE—		
Brookville Road	Forming deviation at junction with Swift's Creek–Omeo Road	·81
ORBOST SHIRE—		
Bete Bolong–Waygara Road ..	Gravelling in three sections through Cumming's, Russell's and Brew's	1·38
Jarrahmond Road	Gravelling in seven sections near Nixon's, Trewin's and Eppelstun's	1·29
Tostarre Road	Gravelling in two sections near Camillier's and Nunn's	·79
OXLEY SHIRE—		
Boggy Creek Road	Forming and gravelling near Lewis's	1
,, ,, ,, ...	Construction of timber bridge and approaches at Boggy Creek	·2
Buffalo River Road	Reforming, widening and gravelling near Fletcher's and Izzard's	1·6
PORTLAND SHIRE—		
Winnah–Drik Drik Road ..	Reforming and metalling at Jones' Hill	·54
ROCHESTER SHIRE—		
Kotta East Road	Gravelling from Allotment 34, Parish of Bamawm to north-western angle of Allotment 64, Parish of Millewa	1·35
ROMSEY SHIRE—		
Baynton Road	Construction of culvert near Allotment 66, Parish of Lancefield	..
RUTHERGLEN SHIRE—		
Black Swamp Road	Forming and gravelling north of Black Dog Creek	·88
SOUTH GIPPSLAND SHIRE—		
Amey's Track	Construction of deviation from Urquhart's to Condor's	1·03
McCartin's Road	Regrading and deviating old road to McMaster's	·59
O'Grady's Ridge Road ..	Reforming and gravelling from Terrill's to Moran's	1·01
TOWONG SHIRE—		
Burrowye–Koetong Road ..	Forming and gravelling through Allotments 4 and 1, Section 14, Parish of Burrowye ..	1·5
Guy's Forest Road	Forming and gravelling south of Allotment 8, Section XV., Parish of Burrowye ..	·35
Little Snowy Creek Road ..	Forming, culverts and gravelling west of Allotments 4A, 7A and 8, Section X., Parish of Dorchap	·58
Tallangatta Creek Road ..	Forming, gravelling and culverts north of Allotments 17 and 38, Section A, Parish of Keelangie	·52
Yabba Road	Forming and gravelling southerly from Wagra Spring Creek Bridge to the west of Allotment 8, Section VIII., Parish of Wagra	·98
TRARALGON SHIRE—		
Walker's Road	Surfacing with crushed rock	1·25
TUNGAMAH SHIRE—		
Yabba North Road	Forming, reforming and gravelling in the Parish of Yabba Yabba	1·2
,, ,, ,, ...	Forming, reforming and gravelling	·79
Youanmite–Wunghnu Road ..	Forming, reforming and gravelling in the Parishes of Youanmite and Dunbulbalane ..	1·11
UPPER MURRAY SHIRE—		
Beetoomba Road	Forming and sanding east of Allotments 25 and 26, Section A, Parish of Berringama ..	·9
Kancobin Road	Reforming and gravelling between Allotments 1 and 2, Section 2, Parish of Thowgla ..	·47
VIOLET TOWN SHIRE—		
Harry's Creek Road	Forming, grading and pipe culverts near Allotments 18 and 22, Parish of Marraweeny ..	·8
WANGARATTA SHIRE—		
Boorhaman–Springhurst Road	Forming and gravelling between Allotments 45 and 65, Parish of Bontherambo and Allotments 42 and 66, Parish of Bontherambo	·66
WANNON SHIRE—		
Melville Forest Road ..	Gravel sheeting between Monument Bridge and Mrs. A. Taylor's	2·25
,, ,, ,, ...	Construction of timber bridge at Hinchcliffe's 15-ft. x 12-ft., and forming and grading at Hinchcliffe's and at Rabbiter's Hut	·31
WARRAGUL AND BULN BULN SHIRES (Joint Works)—		
Lardner's Track	Forming and sanding	1·08
WARANGA SHIRE—		
Mount Camel–Corop Road ..	Forming and gravelling near Corop	1·58
Mount Camel Estate Road ..	Forming and gravelling south from Colbinabbin Post Office	3·56
WARRNAMBOOL SHIRE—		
Naringal Road	Forming and gravelling	2·34
WERRIBEE SHIRE—		
Bulban Road ..	Surfacing with crushed rock west of Manor	1·06
WODONGA SHIRE—		
Wodonga–Beechworth Road ..	Forming, gravelling and culverts	1·35
,, ,, ,, ..	Forming, gravelling and culverts	1·22
WOORAYL SHIRE—		
Dumbalk Road	Forming with crushed rock in four sections	2·13
Mardan–Dumbalk Road ..	Forming with crushed rock	2·77
Meeniyan–Nerrena Road ..	Forming with crushed rock near Meeniyan	1·46
WYCHEPROOF SHIRE—		
Culgoa–Lalbert Road ..	Forming and limestone metalling east of Culgoa	1·8
Meridian Road	Forming and limestoning south of Berriwillock	1
Nyarrin Road	Grubbing and clearing east of Nyarrin Railway Station	1
Sea Lake–Myall Road ..	Forming and limestoning west of Sea Lake	·36
Sea Lake–Tyrrell Downs Road..	Forming and limestoning north of Sea Lake	·16
YACKANDANDAH SHIRE—		
Kergunyah Road	Forming and gravelling near Allotments 3 and 4, Section B, Parish of Murramurrangbong ..	·57
Running Creek Road	Forming and gravelling near Allotment 31, Parish of Tawanga	·63
	Total	115·87

APPENDIX G.

COUNTRY ROADS BOARD.

STATE HIGHWAYS.

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF HIGHWAYS RECONSTRUCTED AND MAINTAINED UNDER THE PROVISIONS OF THE COUNTRY ROADS ACT 1928 DURING THE YEAR ENDED 30TH JUNE, 1935.

Name of Highway and Section.	Nature and Locality of Works.	Works Reconstructed.	Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER DIRECT SUPERVISION OF THE BOARD.		
PRINCE'S HIGHWAY (WEST)—			
Section 1	Double coat sealing Point Cook Road approaches. Day labour	·2	
,,	Road mix sealing from Werribee to railway crossing. Day labour	2·34	
,,	Widening, regulating, resheeting and sealing from Little River towards Geelong. Day labour	5·5	
,,	Resealing experimental section near Little River. Day labour	·38	
,,	Gravelling shoulder strips between Werribee and Corio. Day labour	10·91	
,,	Relocation of curve at Lara. Day labour	·1	
,,	Widening bridge over irrigation channel at Werribee. Day labour	·01	
,,	General maintenance		52
Section 2	Forming, grading, and surfacing with fine crushed rock, approaches to bridge near Armytage	·21	
,,	Shouldering in crushed rock and scoria between Warncoort and Colac and between Colac and Pirron Yallock. Day labour	5·5	
,,	Shouldering in scoria between Pomborneit and Camperdown. Day labour	9·2	
,,	Resheeting in crushed rock and sealing, the cracked area at Warncoort. Day labour	·27	
,,	General maintenance		48·81
Section 3	Shouldering in scoria between Camperdown and Garvoc. Day labour	4·08	
,,	Shouldering in scoria between Warrnambool and Port Fairy. Day labour	3·6	
,,	Road mix sealing between Camperdown and Gnotuk. Day labour	2·09	
,,	Road mix sealing near Panmure. Day labour	1·48	
,,	Widening in crushed rock and sealing from Garvoc railway crossing to Garvoc. Day labour	2·15	
,,	Re-aligning and reconstructing in crushed rock between Garvoc and Panmure. Day labour	·05	
,,	Construction of new concrete, steel and timber bridge over Mt. Emu Creek at Panmure. Day labour	·02	
,,	Construction of timber stock crossing over Yalloak Creek at Garvoc. Day labour	·01	
,,	General maintenance		52·38
Section 4	Forming, reforming, boxing and gravelling between Tyrendarra and Livingstone's Hill, Shire of Portland	·63	
,,	Sealing buckshot gravel between Heathmere and Heywood, Shire of Portland. Day labour	4·56	
,,	Sealing buckshot gravel from Tyrendarra to Livingstone's Hill, Shire of Portland. Day labour	1·9	
,,	Widening and resurfacing with buckshot gravel between Bolwarra and Heywood, Shire of Portland. Day labour	3·73	
,,	General maintenance		49·8
Section 5	Sealing buckshot gravel from Winnap to Dartmoor, Shire of Portland. Day labour	2·87	
,,	Sealing limestone and crushed rock between Dartmoor and the South Australian Border, Shire of Portland. Day labour	8·41	
,,	Renewing and lengthening culverts between Heywood and the South Australian Border, Shire of Portland. Day labour	·05	
,,	General maintenance		44·62
PRINCE'S HIGHWAY (EAST)—			
Section 1	Construction of a 3-cell reinforced concrete culvert and demolition of existing timber culvert at approximately 36-mile post between Pakenham and Nar-Nar-Goon, Shire of Berwick	·01 ·01	
,,	Sanding shoulders between Drouin and Warragul, Shires of Buln Buln and Warragul. Day labour	·95	
,,	Road mix sealing between Hallam and Narre Warren, Shire of Berwick. Day labour	1·43	
,,	Sealing cracks and repairing edges between Oakleigh and Dandenong, Shires of Mulgrave and Dandenong. Day labour	3·91	
,,	Improvement to curves at either end of Berwick Township, Shire of Berwick. Day labour	·12	
,,	Reconstruction of shoulders near Hallam, Shire of Berwick. Day labour	3·2	
,,	Constructing entrance to May Road east of Beaconsfield, Shire of Berwick. Day labour	·4	
,,	Re-instatement of shouldering and surfacing in small sections. Day labour	2·4	
,,	Widening and renewing superstructure of bridge at Beaconsfield, Shire of Berwick. Day labour	·01	
,,	Reconstruction of bridge over Eumemmering Creek at Dandenong, Shire of Dandenong. Day labour	·01	
,,	Increasing length of bridge over Bunyip River at Bunyip, Shires of Berwick and Buln Buln. Day labour	·01	
,,	General Maintenance		49·93
Section 2	Resheeting, superelevating, priming and sealing near Morwell River bridge. Day labour	·29	
,,	Repairs to bridge over Little Moe River at Darnum. Day labour	·01	
,,	Repairs to Moe River bridge at Yarragon. Day labour	·01	
,,	General maintenance		66·76
Section 3	Road mix sealing from 147-mile post to Delvine, Shires of Avon and Bairnsdale. Day labour	12·03	
,,	Screwing up, painting and general maintenance of timber bridge over Nuntin Creek. Day labour	·01	
,,	General maintenance		38·1
Section 4	Construction of a single span timber bridge 24 feet long, together with approaches at Bosse's Swamp near Nicholson River, 5 miles from Bairnsdale, Shire of Bairnsdale	·02	
,,	Forming, grading, draining and gravelling new curve at Lucknow Township at junction of Prince's Highway and Omeo Highway, Shire of Bairnsdale. Day labour	·12	
,,	Construction of a new welded steel truss span over Snowy River at Orbost, Shire of Orbost. Day labour	·02	
,,	Re-alignment at Bunga Hill and Bills Turn-off between Merraugbaur and Toorloo Arm. Day labour	·53	
,,	General maintenance		58·83
	Carried forward	96·65	461·23

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF HIGHWAYS RECONSTRUCTED, ETC.—*continued.*

Name of Highway and Section.	Nature and Locality of Works.	Works Re-Constructed.	Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER DIRECT SUPERVISION OF THE BOARD—*continued.*		
	Brought forward	96·65	461.23
PRINCE'S HIGHWAY (EAST)—*continued.*			
Section 5	Construction of a 3-span timber bridge over Cann River 58 miles east of Orbost, Shire of Orbost	·02	..
,, ...	Construction of a timber bridge over Bellbird Creek at 262-mile post, Shire of Orbost. Day labour	·01	..
,, ...	Grubbing, clearing, forming, grading, widening, gravelling and re-aligning between Cabbage Tree and Club Terrace, Shire of Orbost. Day labour	·35	..
,, ...	General maintenance	..	56
Section 6	Grubbing, clearing, forming, grading, trimming, and draining west of Thurra River, Shire of Orbost	·82	..
,, ...	Grubbing, clearing, forming, grading, trimming and draining east of Governor's Bend, Shire of Orbost	·76	..
,, ...	Widening existing road and surfacing at Mt. Drummer, Shire of Orbost. Day labour	2·6	..
,, ...	Grubbing, clearing, forming, grading and draining west of Thurra River, Shire of Orbost. Day labour	·79	..
,, ...	General maintenance	..	42·8
WESTERN HIGHWAY—			
Section 1	Construction of a reinforced concrete bridge over Paddock Creek together with approaches, Shire of Ballan	·02	..
,, ...	Hand sealing edges of pavement between Deer Park and Melton, Shires of Braybrook and Melton. Day labour	12·6	..
,, ...	Construction of stock crossings at Jones Creek and Kororoit Creek, Deer Park, Shire of Braybrook. Day labour	·05	..
,, ...	Beaching at Pyke's Creek, Ballan, Shire of Ballan. Day labour	·01	..
,, ...	Redecking culverts at Bungaree and Ballarat. Day labour	·01	..
,, ...	General maintenance	..	55·2
Section 2	Re-alignment construction, gravelling, priming and sealing, west of Beaufort, Shire of Ripon. Day labour	1·6	..
,, ...	Regrading approaches to culvert at 110-mile post, between Middle Creek and Ararat, Shire of Ararat. Day labour	·01	..
,, ...	Gravelling over existing bitumen, priming and sealing east of Ararat, Shire of Ararat. Day labour	·78	..
,, ...	Repairs and extensions to seven culverts between Beaufort and Buangor, Shires of Ripon and Ararat. Day labour	·07	..
,, ...	General maintenance	..	50·32
Section 3	Reconstruction of the superstructure in timber of two culverts in the parish of Ararat, Shire of Ararat	·02	..
,, ...	Priming and sealing deviation west of overhead bridge at Armstrong, Shire of Stawell. Day labour	·37	..
,, ...	Repairs to culvert between Ararat and Great Western, Shire of Stawell. Day labour	·01	..
,, ...	Completion of widening of timber bridge between Armstrong and Great Western, Shire of Stawell. Day labour	·01	..
,, ...	General maintenance	..	50·36
Section 4	Priming, and sealing between Gerang and Kiata, Shire of Dimboola. Day labour	2·02	..
,, ...	Completion of reconstruction, priming and sealing north of Horsham, approximately 190-mile post, Shire of Wimmera. Day labour	·81	..
,, ...	Completion of resheeting with limestone between Kiata and Lowan Shire boundary, Shire of Dimboola. Day labour	3·09	..
,, ...	General maintenance	..	38·7
CALDER HIGHWAY—			
Section 1	Renewal of culvert at Chewton, Shire of Metcalfe. Day labour	·01	..
,, ...	Painting girders of bridge and repairs to invert at Elphinstone, Shire of Metcalfe. Day labour	·01	..
,, ...	General maintenance	..	58
Section 2	Resheeting with granitic sand between Harcourt and Bendigo, Shires of Maldon and Marong. Day labour	5·74	..
,, ...	Priming and sealing between Castlemaine and Harcourt, Shire of Maldon. Day labour	2·19	..
,, ...	Priming and sealing between Ravenswood and Big Hill, Shire of Marong. Day labour	2·42	..
,, ...	Road mix sealing in Bridgewater township, Shire of Marong. Day labour ..	·41	..
,, ...	General maintenance	..	43·07
Section 3	Construction of a reinforced concrete bridge, single span, together with approaches about three miles north of Wedderburn, Shire of Korong	·02	..
,, ...	Construction of a 4-cell reinforced concrete culvert over Forbes Creek at Glenalbyn, together with approaches, Shire of Korong	·01	..
,, ...	Road mix sealing at Nardoo Creek bridge north of Wedderburn, Shire of Korong. Day labour	·27	..
,, ...	Priming and sealing west of Inglewood, Shire of Korong. Day labour	·17	..
,, ...	Priming and sealing at Hope Creek bridge near Kurtung. Day labour	·19	..
,, ...	Regrading and sealing flood crossings between Teddywaddy and Fairview, Shires of Wycheproof and Charlton. Day labour	2·33	..
,, ...	Re-aligning and sealing curve at Woosang Post Office. Day labour	·1	..
,, ...	Construction of bridge and approaches at Glenalbyn, Shire of Korong. Day labour	·01	..
,, ...	Construction of bridge and approaches at Wedderburn, Shire of Korong. Day labour	·01	..
,, ...	General maintenance	..	52·23
Section 5	Reforming and limestoning near Day Trap Corner, Shire of Swan Hill. Day labour	·3	..
,, ...	Reshaping and resheeting east of Nandaly, Shire of Swan Hill. Day labour ..	1·35	..
,, ...	Re-aligning and limestoning curve south of Mittyack, Shire of Swan Hill. Day labour	·3	..
,, ...	Forming and limestone sheeting from Mittyack to Nunga, Shires of Swan Hill and Walpeup. Day labour	3·35	..
,, ...	General maintenance	..	44·81
Section 6	Reforming, sanding, limestone sheeting at Landrook Plains. Day labour ..	·67	..
,, ...	Re-alignment, forming and limstone sheeting at Kiamat, Shire of Walpeup. Day labour	·22	..
,, ...	Reshaping and limestone sheeting between Hattah and Nowingi. Shire of Mildura. Day labour	5·87	..
,, ...	Limestone resheeting south of Nowingi, Shire of Mildura. Day labour	2·8	..
,, ...	General maintenance	..	62·63
NORTHERN HIGHWAY—			
Section 1	Road mix sealing from Huntly to Goornong, Shire of Huntly. Day labour ..	5·39	..
,, ...	Road mix sealing from Rochester to Strathallan, Shire of Rochester. Day labour	4·06	..
,, ...	Priming and sealing at junction with Murray Valley Highway, Shire of Rochester. Day labour	·48	..
,, ...	General maintenance	..	48·38
	Carried forward	162·16	1,063·73

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF HIGHWAYS RECONSTRUCTED, ETC.—*continued.*

Name of Highway and Section.	Nature and Locality of Works.	Works Reconstructed.	Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER DIRECT SUPERVISION OF THE BOARD—*continued.*		
	Brought forward	162·16	1,063·73
HUME HIGHWAY—			
Section 1	Prevention of scour in drains north of Broadford, Shire of Broadford Day labour	·12	..
,, ...	Road mix sealing between Craigieburn and Campbellfield, Shire of Broadmeadows. Day labour	2·23	..
,, ...	Road mix sealing at Campbellfield, Shire of Broadmeadows. Day labour ..	2·55	..
,, ...	General maintenance	..	48·32
Section 2	Reconstruction in concrete an existing culvert over Five Mile Creek, north of Baddaginnie Railway Station, Shire of Benalla	·01	..
,, ...	Regrading hill 2½ miles north of Avenel, Shire of Seymour. Day labour ..	·34	..
,, ...	Road mix sealing south of Violet Town, Shire of Violet Town. Day labour ..	1·03	..
,, ...	Road mix sealing between Seymour and Avenel, Shire of Seymour. Day labour ..	9·72	..
,, ...	Priming and sealing regraded hill 2½ miles north of Avenel, Shire of Seymour. Day labour	·34	..
,, ...	Construction of shouldering between Avenel and Longwood, Shires of Seymour and Goulburn Day labour	10·98	..
,, ...	Priming and sealing two gaps at Longwood and Locksley, Shire of Goulburn. Day labour	·17	..
,, ...	Patching with premixed material between Seymour and Longwood, Shires of Seymour and Goulburn. Day labour	12	..
,, ...	General maintenance	..	55·66
Section 3	Construction of piers, abutments and timber deck over Ovens River bridge at Wangaratta together with timber approach bridge and timber stock bridge, Borough of Wangaratta	·04	..
,, ...	Construction of approaches to highway and stock bridges over Ovens River at Wangaratta, Borough of Wangaratta	—	..
,, ...	Supply, delivery and erection of approximately 116 tons of welded steel plate girders and handrails and delivery and erection of 8 tons of rolled steel joists for bridge over Ovens River, Borough of Wangaratta	·02	..
,, ...	Construction of steel and timber superstructure on existing bridge over Frying Pan Creek at Barnawartha, Shire of Chiltern. Day labour	·02	..
,, ...	Widening two existing narrow reinforced concrete bridges between Springhurst and Chiltern, Shire of Chiltern. Day labour	—	..
,, ...	Construction of shouldering between Benalla and Winton, Shire of Benalla. Day labour	5·18	..
,, ...	Road mix sealing between Barnawartha Subway and Wodonga, Shires of Chiltern and Wodonga. Day labour	5·12	..
,, ...	Patching with pre-mixed material between Barnawartha Subway and Murray River, Shires of Chiltern and Wodonga. Day labour	8·04	..
,, ...	Painting girders on Long Bridge over Reedy Creek, north of Wangaratta, Shire of Wangaratta. Day labour	·01	..
,, ...	Repairs to wingwalls of bridge over House Creek near Wodonga, Shire of Wodonga. Day labour	·02	..
,, ...	General maintenance	..	60·18
OMEO HIGHWAY—			
Section 1	General maintenance	..	16·53
MURRAY VALLEY HIGHWAY—			
Section 2	Forming, grading, trimming, west of Strathmerton, Shire of Numurkah ..	1·72	..
,, ...	Clearing, grubbing, forming, grading, trimming and consolidating and construction of culverts between McCoy's Bridge and Wyuna, Shire of Deakin	1·05	..
,, ...	Forming, grading, trimming, draining and consolidating west of Tongala turn-off, Shire of Deakin	1·81	..
,, ...	Road mix sealing east of Cobram, Shire of Tungamah. Day labour	1	..
,, ...	Reforming and sanding west of Cobram, Shire of Tungamah. Day labour ..	·95	..
,, ...	Construction of shouldering near Nathalia, Shire of Numurkah. Day labour ..	·7	..
,, ...	Regrading approaches to two bridges over channel south of Nathalia, Shire of Numurkah. Day labour	·16	..
,, ...	Reforming and sanding near Strathmerton, Shire of Numurkah. Day labour ..	3·9	..
,, ...	Sanding newly constructed formation between Strathmerton and Nathalia, Shire of Numurkah. Day labour	7·26	..
,, ...	Completion of section commenced by Contract and sanding formation between Strathmerton and Nathalia, Shire of Nurmurkah. Day labour	5·4	..
,, ...	Construction of open crossings and box culverts in Shire of Rutherglen. Day labour	·15	..
,, ...	Completion of sanding and formation near Cobram and at Strathmerton, Shires of Tungamah and Numurkah. Day labour	2·4	..
,, ...	Forming and sanding north of Nathalia, Shire of Numurkah. Day labour ..	4·78	..
,, ...	Widening and resheeting between Hume Highway and Rutherglen, Shires of Chiltern and Rutherglen. Day labour	·83	..
,, ...	Shouldering and resheeting east of Rutherglen, Shire of Rutherglen. Day labour	4·15	..
,, ...	Construction of new curve at junction with Hume Highway, Shire of Chiltern. Day labour	·1	..
.. .. ..	Construction of culverts between Hume Highway and Rutherglen, Shires of Chiltern and Rutherglen. Day labour	·02	..
,, ...	Road mix sealing east of Rutherglen, Shire of Rutherglen. Day labour ..	·32	..
,, ...	Reforming west of Rutherglen, Shire of Rutherglen. Day labour ..	·97	..
,, ...	Construction of shouldering west of Rutherglen, Shire of Rutherglen. Day labour	·6	..
,, ...	Construction of new curves in the Shire of Yarrawonga. Day labour	·27	..
,, ...	Construction of shouldering east of Yarrawonga, Shire of Yarrawonga. Day labour	·4	..
,, ...	Widening and road mix sealing east of Yarrawonga, Shire of Yarrawonga. Day labour	4·06	..
,, ...	Widening and road mix sealing west of Yarrawonga, Shire of Yarrawonga. Day labour	1	..
,, ...	Construction of shouldering west of Yarrawonga, Shire of Yarrawonga. Day labour	1·05	..
,, ...	Forming and sanding between Yarrawonga and Cobram, Shires of Tungamah and Yarrawonga. Day labour	6·32	..
,, ...	Widening, regrading and re-aligning culverts east of Echuca, Shire of Deakin. Day labour	·04	..
,, ...	Shouldering narrow formation east of Echuca, Shire of Deakin. Day labour ..	1·22	..
,, ...	Priming and sealing easterly from Northern Highway, Borough of Echuca. Day labour	·93	..
,, ...	General maintenance	..	140·5
Section 3	Construction of steel and timber bridge over Nine Mile Creek near Kerang, together with approaches, Shire of Kerang	·02	..
,, ...	Priming and sealing west of Echuca, Shire of Rochester. Day labour	·99	..
,, ...	Priming and sealing near Maher's Bridge, Shire of Rochester. Day labour ..	·5	..
,, ...	Priming and sealing east of Turrumberry, Shire of Rochester. Day labour ..	3·88	..
,, ...	Priming and sealing east of Gunbower, Shire of Rochester. Day labour ..	4·08	..
,, ...	Re-alignment of curves between Turrumberry and Kerang, Shires of Rochester, Cohuna, and Kerang. Day labour	·7	..
,, ...	Priming and sealing between Leitchville and Cohuna, Shire of Cohuna. Day labour	5·26	..
,, ...	Road mix sealing on waterbound macadam west of Cohuna, Shire of Cohuna. Day labour	·89	..
,, ...	Sanding and construction of drains west of Cohuna, Shire of Cohuna. Day labour	3·64	..
,, ...	Priming and sealing from Cohuna to Pyramid Creek, Shire of Cohuna. Day labour	5·06	..
,, ...	Priming and sealing west of Pyramid Creek, Shire of Cohuna. Day labour ..	3·73	..
	Carried forward	302·41	1,384·92

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF HIGHWAYS RECONSTRUCTED, ETC.—*continued.*

Name of Highway and Section.	Name and Locality of Works.	Works Reconstructed.	Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER DIRECT SUPERVISION OF THE BOARD—*continued.*		
	Brought forward	302·41	1,384·92
MURRAY VALLEY HIGHWAY—*continued.*			
Section 3	Priming and sealing easterly from Kerang, Shire of Kerang. Day labour	3·42	..
,,	Reforming, re-aligning curve and resheeting with crushed rock, west of Kerang, Shire of Kerang. Day labour	1·64	..
,,	Reforming and road mix sealing west of Kerang, Shire of Kerang. Day labour	·38	..
,,	Forming, re-aligning and sheeting with gravel at Lake Charm, Shire of Kerang. Day labour	·45	..
,,	Construction of bridge over Nine Mile Creek, Shire of Kerang. Day labour	·02	..
,,	Construction of bridge over Loddon River at Kerang, Shire of Kerang. Day labour	·02	..
,,	Construction of bridge at Lake Charm, Shire of Kerang. Day labour	·02	..
,,	General maintenance	..	83·15
Section 4	General maintenance	..	36·51
SOUTH GIPPSLAND HIGHWAY—			
Section 1	Construction of a 3-cell reinforced concrete culvert and demolition of existing bridge near Monomeith, Shire of Cranbourne	·01	..
,,	Construction of a 3-cell reinforced concrete culvert together with approaches between Lang Lang and Nyora, Shire of Cranbourne	·01	..
,,	Construction of a 3-span timber bridge at Richardson's Creek, three miles from Tooradin, Shire of Cranbourne	·02	..
Section 1	Construction of a 3-cell reinforced concrete culvert together with approaches at approximately 55-mile post, Shire of Cranbourne	·01	..
,,	Sanding and double coat sealing at Caldermeade, Shire of Cranbourne. Day labour	·5	..
,,	Gravelling shoulders at Tooradin, Shire of Cranbourne. Day labour	2·12	..
,,	Completion of resheeting and double coat sealing south of Cranbourne, Shire of Cranbourne. Day labour	3·7	
,,	Completion of resheeting and double coat sealing between Tooradin and Koo-wee-rup, Shire of Cranbourne. Day labour	4·4	..
,,	Reconstruction with crushed rock and sealing between Cranbourne and Five Ways, Shire of Cranbourne. Day labour	4·4	..
,,	Reconstruction with sand and crushed rock and sealing between Tooradin and Koo-wee-rup, Shire of Cranbourne. Day labour	3·76	..
,,	Resheeting with Koo-wee-rup sand and sealing near Caldermeade turn-off, Shire of Cranbourne. Day labour	·5	..
,,	Regrading approaches and sealing north-west of Tooradin, Shire of Cranbourne. Day labour	·23	..
,,	Resheeting with sand south-east of Lang Lang, Shire of Cranbourne. Day labour	1·4	..
,,	Reinstatement of formation and crushed rock surfacing in the Shire of Cranbourne. Day labour	1	..
,,	Reinstatement of shouldering and surfacing in Shire of Cranbourne. Day labour	·4	..
,,	Repairs to abutments of Eumemmering Creek bridge at Dandenong, Shire of Cranbourne. Day labour	·01	..
,,	Repairs to sheeting of bridge at Tooradin, Shire of Cranbourne. Day labour	·01	..
,,	General maintenance	..	37·5
MIDLAND HIGHWAY—			
Section 1	Resheeting and double coat sealing between Clarendon and Buninyong, Shire of Buninyong. Day labour	4·52	..
,,	Resheeting and double coat sealing between Buninyong and Ballarat, Shire of Buninyong. Day labour	4·47	..
,,	Spreading gravel north of Bannockburn, Shire of Bannockburn. Day labour	2·84	..
,,	Widening and redecking 19 culverts between Geelong and Ballarat, Shires of Bannockburn and Ballarat. Day labour	·03	..
,,	General maintenance	..	48·6
Section 4	Priming and sealing near Goorambat Post Office, Shire of Benalla. Day labour	·36	..
,,	Priming and sealing at Nalinga, Shire of Shepparton. Day labour	·65	..
,,	General maintenance	..	36·32
Section 5	Construction of steel and timber bridge 38-feet long together with approaches at Lima South, Shire of Benalla	·02	..
,,	Completion of re-alignment on shire boundary between Benalla and Mansfield Shires. Day labour	·08	..
,,	General maintenance	..	27·5
BONANG HIGHWAY—			
Section 1	Grubbing, clearing, forming, grading, gravelling, trimming and draining, between Spring Creek and New South Wales border, Shire of Orbost	1·86	..
,,	Gravelling boggy and slippery patches from Little Bill to Bonang River. Day labour	7·2	..
,,	General maintenance	..	72·04
	Total	352·87	1,726·54
	UNDER MUNICIPALITIES.		
ALBERTON SHIRE—			
South Gippsland Highway—			
Section 3	Patrol maintenance from 17 to 44 miles, Monkey Creek to Yarram, and flood damage repairs between 22 and 41 miles	..	27
,,	Reconstruction of bridge over Bruthen Creek	·03	..
,,	Reconstruction of approaches to bridge over Bruthen Creek	·09	..
,,	Reforming and gravelling between Woodside and Hubert's Corner, near 34 miles	1·2	..
,,	Widening bitumen pavement near Yarram, from 41 to 44 miles	3	..
LAWLOIT SHIRE—			
Western Highway—			
Section 5	Resheeting gravel from 265 to 265·11, 265·99 to 266·28, and 266·53 to 266·87 miles	·74	..
,,	Reconstruction of curve between 265·92 and 266·11 miles	·19	..
,,	Resheeting gravel between 247·1 and 247·58, and 245·83 and 246·12 miles	·77	..
,,	Preparation of side tracks throughout	15·2	..
,,	Road mix seal between 255 and 257·16 miles	2·16	..
,,	Patrol maintenance throughout	..	29·2
LOWAN SHIRE—			
Western Highway—			
Section 4	Road mix seal between Allotments 47 and 47A, and Allotments 22 and 22A, Parish of Balrootan, from 230·79 to 231·74 miles	·95	..
,,	Priming and sealing between Allotment 47 and Allotments 22 and 21, Parish of Balrootan, from 232·07 to 232·22 miles	·15	..
,,	Patrol maintenance throughout	..	3·4
Section 5	Priming and sealing between Allotments 75 and 81, Parish of Tarranginnie, from 236·07 to 236·45 miles	·38	..
,,	Road mix seal between Allotments 74 and 75, and Allotments 81 and 68A, Parish of Tarranginnie, from 236·45 to 236·74 miles	·29	..
	Patrol maintenance throughout	..	9·8
	Carried forward	25·15	69·4

STATEMENT SHOWING MILEAGE, LOCALITY, ETC., OF HIGHWAYS RECONSTRUCTED, ETC.—*continued.*

Name of Highway and Section.	Nature and Locality of Work.	Works Reconstructed.	Maintenance Works Carried Out.
		Miles.	Miles.
	UNDER MUNICIPALITIES—*continued.*		
	Brought forward	25·15	69·4
MILDURA SHIRE—			
Calder Highway	Regrading, reforming, general maintenance, and road mix seal from Nowingi to Irymple	..	21·13
Murray Valley Highway ..	Regrading and reforming between Merbein Irrigation Settlement and the South Australian border	..	61·09
OMEO SHIRE—			
Omeo Highway—			
Section 1	Benching and shouldering curves between 53 and 62·5 miles	—	..
,, ...	Construction of culverts in lieu of open crossings	—	..
,, ...	Patrol maintenance throughout	..	17
Section 2	Benching and shouldering curves between 8 and 10 miles	2	..
,, ...	Construction of timber bridge at Wattle Circle at 40·19 miles	—	..
,, ...	Construction of timber bridge over Stoney Creek at 44·7 miles	—	..
,, ...	Construction of culverts at open crossings	—	..
,, ...	Patrol maintenance throughout	..	46
Section 3	Construction of timber bridge over Wilson's Creek at 2·5 miles	—	..
,, ...	Deviation at Wilson's Creek from 2·41 to 3·07 miles	·66	..
,, ...	Patrol maintenance throughout	..	52
SWAN HILL SHIRE—			
Murray Valley Highway—			
Section 3	Patrol maintenance	..	8·56
Section 4	Reshaping pavement and shoulders	30	..
,, ...	Widening and road mix seal	·99	..
,, ...	Clearing, forming, and limestone gravelling	·22	..
,, ...	Patrol maintenance	..	71·85
TOWONG SHIRE—			
Murray Valley Highway—			
Section 1	Road mix seal from Wodonga Shire boundary towards Huon Railway Station, 11·93 to 13·26 miles	1·33	..
,, ...	First seal from Huon to Sandy Creek, 15·17 to 17·45 miles	2·28	..
,, ...	Road mix seal from Huon School towards Bolga, 20·35 to 23·09 miles ..	2·24	..
,, ...	Reconditioning and widening from Tatonga Siding to Omeo Highway Junction, 27·35 to 28·89 miles	1·36	..
,, ...	Construction of timber bridge at Dry Forest Creek at 35·55 miles	·02	..
,, ...	Reconditioning from 62·37 to 63 miles	·63	..
,, ...	Realignment following flood damage from 64·64 to 64·98 miles	·34	..
,, ...	Patrol maintenance from 11·93 to 90·93 miles	..	79
Omeo Highway—			
Section 3	Construction of bridge and approaches at Stockyard Creek, 75·31 to 75·47 miles	·16	..
,, ...	Patrol maintenance from Lightning Creek to Eskdale, 54·89 to 80·24 miles ..	..	25·35
Section 4	Construction of junction with Little Snowy Creek Road at Eskdale, 80·19 to 80·34 miles	·15	..
,, ...	Patrol maintenance from Eskdale to Tallangatta, 80·24 to 104·36 miles ..	..	24·12
UPPER MURRAY SHIRE—			
Murray Valley Highway—			
Section 1	Forming and gravelling with approach roads, between 98·79 and 100·82 miles ..	2·54	..
,, ...	Forming and gravelling between 101·97 and 102·79 miles	·82	..
,, ...	Forming and gravelling between 105·35 and 106·2 miles	·85	..
,, ...	Forming and gravelling between 106·89 and 107·53 miles	·64	..
,, ...	First coat bitumen sealing between 110 and 112 miles	2	..
,, ...	Patrol maintenance throughout	..	21·21
WODONGA SHIRE—			
Murray Valley Highway—			
Section 1	Tar priming and sealing	2·95	..
,, ...	Road mix seal	2·68	..
,, ...	Patrol maintenance throughout	..	10·75
WYCHEPROOF SHIRE—			
Calder Highway—			
Section 4	Double coat sealing north of Wycheproof and in Nullawil township from 185·5 to 190·5, and 197·68 to 198·12 miles	5·44	..
,, ...	Patrol maintenance throughout	..	49
	Total	85·45	556·46

CHIEF ENGINEER'S REPORT.

The Chairman,

Sir,—

I have the honour to submit herewith a discussion on points of technical interest arising in the work carried out by the Board during the year ended 30th June, 1935.

1. *Administration—General.*—The conference in the Stawell district marked, it is considered, an important advance in the endeavour to obtain the closest co-operation between Municipal Engineers and the Senior Engineers of the Board. This co-operation has always been considered of the greatest importance, not only for the smooth working of the administrative machinery, but also for technical development.

During the year some re-arrangement of duties of Senior Engineers was made, with a view to allowing District Engineers and Senior Headquarters Engineers more time for discussion in the field with Municipal Engineers. This has been found particularly necessary in view of the rapid changes in construction methods, and in particular in surface sealing technique and organization.

2. *Road Alignment.*—For some years the Board has been endeavouring to increase the radii of curves on all important main roads, and transition curves have been used on the inlying portions of State highways and heavily trafficked main roads. These transition curves have been based on a fixed transition length, using cubic spirals for the transition curve. This practice has, however, not been general and has certain defects. Within the last two or three years the whole question of road alignment has become one of major importance owing to a fairly considerable change in the design and operating characteristics of the lower priced motor cars. Until a few years ago cars capable of comfortable and quiet cruising speeds of 60 to 70 miles an hour were very rare. Now, however, those motor cars which comprise approximately 90 per cent. of the total sales lie within this class, and whereas fast cars some years ago were driven generally by skilled drivers, the average car driven by the average driver now frequently cruises at quite high speeds, so that such speeds can be expected to become more and more common. The whole question was subject to exhaustive investigation during last financial year, and approval given to the general adoption of transition curves, to increased superelevation, and to a system of fixing a certain speed value for a section of road (e.g. the Gisborne-Woodend section of the Calder highway) both vertical and horizontal curves on these sections being designed for that speed value.

The fundamental difference between the transition curves now used and those adopted some years ago, is the making of the length of the transition a function of the speed and the radius of the circular curve. In determining the constants to be used in the design of curves use has been made of the excellent experimental work done by the Iowa State College of Agriculture, and published in the pamphlet *Skidding Characteristics of Automobile Tyres on Roadway Surfaces, and their relation to Highway Safety.* The methods used in the State of Oregon, United States of America, have also been of value. In general two speeds are considered in designing a road alignment and are designated as "critical speed" and "design speed." The critical speed is the speed at which a skilled driver can just safely negotiate a curve without skidding, while the design speed is that speed at which an unskilled driver, driving a car with poor tire equipment (unfortunately a not uncommon combination) can safely traverse a curve, or alternatively, the speed at which an average driver with tires in average condition can comfortably and safely traverse a curve. The co-efficient of friction against sideways skidding applicable to critical speeds is taken as approximately .3 and for design speeds .15.

At the tangent point there is no acceleration towards the centre of the curve, but when following the path of the curve there is the acceleration $\frac{V^2}{R}$ towards the centre. In making the change of path from the tangent to the curve there is thus a change of acceleration from 0 to $\frac{V^2}{R.}$ The rate of change is determined by the rate at which the steering wheel is turned and the length of the transition is fixed by the formula $L = \frac{V^3}{CR}$ For critical speeds a maximum rate of change of acceleration is taken as 3 feet per second per second per second, and approximately 1.5 feet per second per second per second for design speeds.

The maximum superelevation has been fixed at 1 in 10. While greater superelevation might be safely used in this country without fear of skidding inwards or overturning of ill-balanced loads, it is felt that 1 in 10 is a reasonable maximum, which is quite free from skidding inwards and reasonably comfortable at slow speed. It will be seen that the force towards the centre, due to superelevation is only one-third of the force produced by friction at the critical speed.

Appended to this report is a copy of the instructions issued to engineers indicating the procedure for fixing the design speed, and for setting out of transition curves, based on the constants discussed. These constants may of course be modified as the result of experience.

3. *Road Maintenance.*—Reference was made in the last annual report to the experimental work carried out with the use of pneumatic-tired power graders to replace horse-drawn drags or small graders for maintenance work. During the past year several graders were put into operation on patrol maintenance, and on these lengths no other men or plant were used for routine maintenance. The lengths maintained varied from 58 to 72 miles, and the one man with his machine was responsible for all ordinary maintenance. For special work such as putting out maintenance material or extensive work on drains, a small gang equipped with a truck, under general district control, was sent to each length as required. The result on gravel and sand clay roads indicated that where maintenance costs had been approximately £35 per mile they were reduced to £20 to £22 per mile. This includes the periodical truck gang as well as the power grader maintenance, but does not include supply of maintenance material, which is put out by contract every few years. The spreading, however, is included in the work of the truck gang, and the costs are quite comparable. However, the costs alone are not indicative of the whole position, because the improvement in the riding qualities of the roads was very marked indeed. The surfaces were deteriorating under the previous system, which would have had to be reinforced at added cost had the newer method not been adopted. In fact the use of drags on roads carrying any volume of fast traffic is rapidly becoming an anachronism. Not only does the faster traffic tend to cause corrugations to appear more rapidly, but also the drag has little effect in improving the general

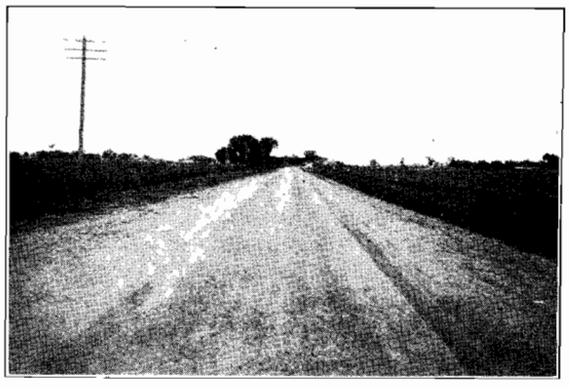
longitudinal section of the road, which is so essential to comfortable travelling at the higher speeds. While the ordinary blade has been used in the earlier stages of patrol maintenance, the multi-blade maintainer, described in the previous report, appears to have considerable advantages when the cross-section of the road has been made reasonably uniform.

These maintainers appear to take much less power than a blade for the same cutting action, although the total length of steel in contact with the road is greater. Probably there is more of a shearing action owing to the comparatively small angle the individual blades make with the centre line of the road. This is evident in the operation of these units on hard material such as limestone in dry weather. With the same power an 8-ft. blade cannot operate at all successfully, whereas a multi-blade maintainer cutting a 10-ft. swathe can do quite useful work.

4. *Truck Patrols.*—Nine (9) new truck patrols have been organized during the year, resulting in an annual saving of £4,150. Each patrol consists generally of three men and a 2½-ton truck with tipping body, covering an average length of 68 miles of bituminous-surfaced road. On unsealed roads requiring dragging, truck patrols are not generally used, and the power grader patrols are being developed as described above. Truck patrols are, however, operating successfully on old waterbound systems in the hill country of South Gippsland and the Otway district.

5. *Strip Seal.*—Following information received on the development of penetration macadam running strips on old gravel roads in Rhodesia, it was decided to experiment with a modification of this idea, on old 15-ft. gravelled roads on the Murray Valley highway near Rutherglen. On these roads in the north of the State, subject to comparatively light traffic, usually under 100 vehicles per day, the unsurfaced gravelled roads have many unsatisfactory features. These parts of the State are dry and warm for most of the year; consequently the dust nuisance is considerable, and these dust clouds have been the cause of accidents. Again, the wear on the road is fairly heavy and corrugations form rapidly. Cutting of these corrugations necessarily produces a fairly deep mulch which in a dry season causes still further loss of material and some danger to traffic. If the corrugations were not regularly removed, the roads would become extremely uncomfortable. On the other hand the cost of re-shaping to a standard cross section and sealing, say 16 feet to 18 feet wide, is heavy. It was therefore decided to put down a section consisting of four types of experimental seal. On two lengths of one-quarter of a mile each, strips approximately 2 ft. 9 in. wide, separated by a space of 2 feet were sealed. On one of the two lengths the edges of each strip were reinforced by digging a shallow trench about 1½ inch deep and filling with premixed material, on the other strip no edge preparation of any sort was carried out, the strips being primed and sealed in the ordinary way. Two other lengths, each a quarter of a mile in length and continuous with the previous two, were sealed 7 ft. 6 in. wide, one length having reinforced edges, the other being an ordinary double coat seal. The section in question carries about 150 vehicles per day, and is immediately adjacent to the town of Rutherglen. This section carries rather more traffic than the type would be considered suitable for, and on one fairly sharp curve no widening was attempted, the whole of the traffic leaving the strip and "cutting" the corner, thus there was a severe test of the edges at this corner, which occurred on the 7 ft. 6 in. unreinforced edge strip. The experiment has been entirely satisfactory; there has been no maintenance whatsoever on the sealed surfaces or edges in the seven months, including a very wet winter, during which traffic has been using the road. The gravel between the two separate strips, however, got quite rough, and its maintenance would appear difficult.

As a result of this experiment, it was decided in future to adopt a width of 8 feet without any attempt to reinforce the edges. The lack of any trouble at the edges, even at the curve mentioned, is probably due to the fact that the whole of the 8 feet sealed was on a very well consolidated portion of the road with sound gravel immediately adjacent, whereas on the ordinary road pavement sealed full width, the edges are seldom consolidated owing to the small amount of traffic using the edges before sealing, and the adjacent material is usually earth, which does not give adequate support when wheels run just outside the sealed section. Many old gravelled roads have a reasonable thickness in the centre, but excessive camber for sealing the full width. For passing purposes this camber is seldom sufficiently steep to be troublesome, and it is not desired to encourage traffic to use the gravel edge of the road on these light trafficked roads; consequently the cost of sealing this type of road 8 feet wide would be much less than half the cost of a 16-ft. pavement, which would need to be reconstructed to its full width, involving the building up of shoulders as well. With the development of traffic, the building up of the sides of the road, and the widening of the seal coat will be a simple matter.



Strip Seal 7 ft. 6 in. wide, east of Rutherglen.

6. *Tapered Cross-Sections.*—The adoption of tapered cross-sections having the full normal thickness for the centre 6 feet only, and tapering out to 15 feet or 18 feet without a boxing, as described in the 1932 annual report, has been used widely with excellent results in the past few years. The principle involved is very similar to the strip seal described in a previous paragraph. The bulk of the traffic uses the centre of the road for travelling, using the edges only for passing. It had been felt, and was stated in the 1932 report, that these pavements should not be used where any considerable traffic development was considered probable, and originally they were used only on roads carrying traffic of under 40 vehicles per day. However, the experience under heavy traffic, and the experience with the strip seal mentioned above, indicate that traffic of 100 vehicles per day could quite reasonably be catered for by the tapered cross-section, which could readily be strengthened and brought to normal shape without any loss of the original work, were it required, and there seems to be no reason why a narrow seal, described above, should not be used on these pavements before the necessity for full width strengthening arises.

7. *Bituminous Surfacing.*—During the past year the new spraying units described in the last annual report were put into general operation and were quite satisfactory. The main feature of the season's work was the adoption as routine practice of road mix seal for all re-sealing. The season was the wettest one in the Board's history, and costs were somewhat higher than

should be normal, while inexperience on the part of operators and some difficulty in arranging for satisfactory material also militated against low cost. Further work is being done on the type of mixing machines to be used, but the process is readily applicable to all normal conditions, and involves no difficulty provided reasonable care is given to obtaining aggregates free from excessive fines. The method appears to have considerable flexibility regarding the amount of bituminous binder to be used.

Road-mix seals were originally developed in order to reduce the roughness of many old macadam pavements without the necessity for costly re-sheeting. Other advantages have, however, become apparent and in many cases are of more importance than the improving of the riding qualities. The non-skid nature of a road-mix seal was appreciated in the early stages, and with the increase in touring speeds recently discussed this property has developed considerable importance. During the past wet winter, two other advantages became apparent. The more important of these advantages was that of night time visibility. On wet nights the ordinary "slick" bituminous seal coat has very poor visibility indeed. With the road-mix seal, however, exposing a surface of angular fragments to the rays of head lights, the surface appears a light grey in colour instead of black, and the visibility of the pavement is markedly increased. The second point, while not of considerable importance, is worthy of mention, and that is the reduction in noise when travelling over a road-mix seal compared to the constant hissing noise when travelling on a wet, slick bituminous surface. Some details of the year's sealing operations are given below.

8. *Bituminous Materials.*—Reference has been made in previous reports to the difficulty of finding economical use for heavier tar products, even those of the much improved type such as "Bitural." This has been largely and quite successfully used in penetration work, and also with reasonable success for first seal in surface sealing, when re-sealed at a fairly early stage. Penetration macadam is, however, no longer used for routine pavement construction. Traffic-bound pavements of the lighter type have moreover become very common, and while these are undoubtedly flexible, they are capable of carrying fairly heavy rural road traffic without failure. For sealing this type of road a binder must retain its ductility at low temperature, and the tar products appear to be inherently poor in this respect.

Again, with the lighter trafficked roads now being surface sealed, the life of the first seal where bitumen is used is five or six years without resealing, while with straight tar products a maximum of two to three years is obtained, and then only on non-flexible bases. The characteristic causing most trouble with the tar products is the hardening at low temperatures, described as "poor susceptibility."

Some experiments carried out three years ago have indicated that tar bitumen mixtures consisting of 60 per cent. of bitumen with 40 per cent. of tar pitch retain reasonable ductility as a surface seal, and it is proposed next season to use this material for a large percentage of the first seal work on the heavier pavements.

During the past financial year, the cut back used for road mix seal surfacing was, for average conditions, 100 parts 85/100 penetration bitumen, 20 parts heavy oils, and 20 parts power kerosene. During the coming financial year it is hoped that sufficient quantity of light tar oil will be available to replace power kerosene in practically all the road mix work.

It has never been found economical in the Board's experience to use bituminous emulsions for construction work generally, but a considerable quantity has been used for maintenance work, both for surface patching and for premixing with aggregate for patching purposes. While emulsion is very convenient to use, it has certain disadvantages. Owing to its high surface tension, it does not penetrate cracks as well as a cut back bitumen. When used for premixing, the mixed material must be used fairly rapidly before the emulsion has completely broken, and again, for surface sealing of small areas, it does not hold screenings until at least partial breaking has occurred. The cost per gallon of binder is also rather high, particularly where the material has to be taken long distances by rail, and freight is therefore paid not only on the bitumen binder, but on the water. For these reasons the Board investigated the question of making "cut backs" for maintenance work. The early tests were quite satisfactory, and during the past year most of the patching and maintenance materials required have been cut back bitumen made either at the headquarters store-yard or in district yards. Old 800-gallon heaters, no longer required for spraying purposes, have been used, and the standard mix consists of 100 parts 85/100 penetration bitumen, 23 of a light fuel oil (Balikpapon), and 40 parts of power kerosene. The kerosene is obtained from the local depots of the oil company. The cost of this material, allowing for drum depreciation, has worked out over the year's operations at 8.3d. per gallon in Melbourne. The viscosity of the material is between 3 and 4 poises at 122 deg. Fahr. ($3\frac{1}{2}$ poises = approx. 40 deg. Engler). This consistency is found satisfactory in the north of the State for practically the whole year, and for most of the year in the southern areas. During the winter, however, in the southern areas emulsions have been found more satisfactory, and the requirements of this material have been purchased on contract as in the past.

9. *Modified Macadam.*—Some years ago, prior to general adoption of fine crushed rock, modified macadam was largely used by the Board in areas where gravel was not available, and where penetration macadam had previously been commonly used. Modified macadam is virtually a waterbound macadam road surface sealed at the time of construction. It has been observed, and will be the common experience of most road engineers, that a well consolidated waterbound road using a hard aggregate, and with a satisfactory surface seal, can withstand a considerable amount of even heavy urban traffic. It was usual to have the macadam well consolidated before the surface was sealed, but in building this type of road under motor traffic the difficulty is that ravelling usually occurs before the consolidation takes place. The necessary modification arises when the construction has progressed to the stage where usually a light layer of toppings was spread over the road surface, and the pavement opened to traffic. In modified macadam all excess toppings are broomed off, the coarse aggregate exposed, and about .4 gallon per square yard of cold tar sprayed on the surface. This is allowed to penetrate for about 24 hours, and then a light coat of screenings—1 cubic yard to 120-140 square yards of surface—is spread, and traffic allowed to use the road for a period depending on the density of traffic and on construction requirements. The length of time can vary fairly widely without affecting the stability of the road, but under traffic of, say, 300-400 vehicles per day, seven days is usually allowed.

Roads have been left up to two months under traffic of 300 vehicles per day, however, and then sealed quite successfully. The seal coat consists of .3 gallon per square yard of bitumen with aggregate rolled in in the ordinary way. This type of road has an advantage over penetration macadam in that it is completely waterproof, and the voids between the coarse aggregate are well filled. Penetration macadam appears to have no theoretical advantages over this type of road, and

a section laid two years ago on the Prince's highway, in the City of Footscray, carrying 2,000 vehicles per day, of which 530 are heavy trucks, has stood up remarkably well, and appears to be absolutely stable. This road was constructed on an old penetration macadam and sealed waterbound macadam base, which was of poor shape, probably due to defects in early construction, and to irregular consolidation under extremely heavy traffic. The results of the Board's experience in recent years indicates that modified macadam is quite satisfactory for fairly heavily trafficked suburban roads, and if sealed with a road mix seal, the riding qualities are comparable with those of a first class traffic bound pavement, providing always that the initial construction has been carried out carefully and with due regard to careful boning.

10. *Outer Metropolitan Roads.*—During the past financial year the operations on roads in the outer metropolitan area, which were recently declared main roads by the Board, were limited, although many proposals have been investigated, and plans and specifications are in preparation for work to be carried out in the coming financial year. A contract has been let for the widening of the arch bridge over the Merri Creek, and this proposal involved a good deal of consideration of the aesthetics as well as the economics of the project. The existing bridge is a spandrel filled brick arch with bluestone masonry spandrel walls and very high bluestone abutments. In order to preserve the main appearance of this structure the widening will be carried out by the use of a concrete arch barrel, but the bluestone spandrel walls will be taken down and re-erected. Similarly, the stone now used in the south wingwalls, which will be demolished in the widening, will be used for facing the new concrete wingwalls. Alternative schemes for replacing the whole bridge with a new structure would not only have been more expensive than the widening finally decided upon, but none of the feasible projects would have compared in aesthetic value with the present structure.

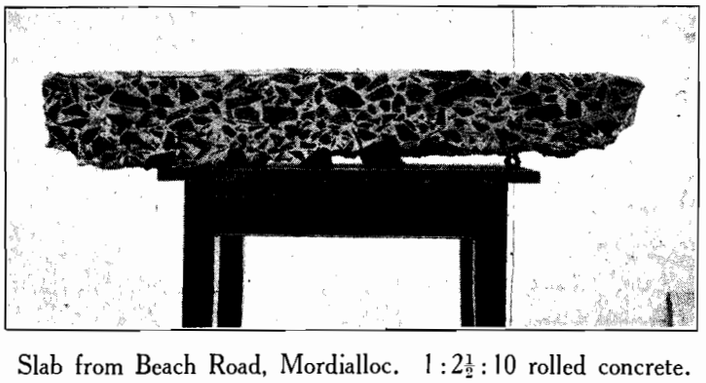
The only major work completed during the year was the construction of Beach-road, Mordialloc. Three miles of rolled concrete base with a drag spread, cold mix black top was laid, and is described in some detail below.

Plans have been prepared by the City Engineer of Footscray, in conjunction with the Board's Engineers, for the construction of a very heavily trafficked section of Napier-street, on the boundary of the City of Melbourne. This carries heavy traffic from the docks to industrial areas in Footscray, and it is proposed to use this section for further experiment. A rolled concrete base will be used, and various experimental surfacings are to be laid, and the results under the intensive industrial traffic will be noted.

11. *Rolled Concrete.*—This type of construction was devised and provisionally patented some years ago by two members of the Board's staff, but owing to Board's operations being mainly in rural areas, where much lighter types of construction are adequate, only experimental lengths with a maximum of 1,000 feet had been laid up to last year. The theoretical considerations which lead to the development of this type of pavement might be briefly stated as follows:—Loose coarse aggregate, as used either for concrete or for macadam roads, contains approximately 50 per cent. of voids, but when compacted by rolling in a macadam road voids are reduced to approximately 25 per cent. Again, since a normal mortar is weaker than even comparatively poor stone, provided all voids in the coarse aggregate of concrete are filled with mortar, and sufficient cement paste is also available to coat the coarse aggregate, the strength of the concrete is dependent on the strength of the mortar and not on the ratio between the amount of mortar and the amount of coarse aggregate. Thus if we can reduce the voids in the coarse aggregate by manipulation (as by rolling or by vibration) it is possible to obtain a strong concrete with a comparatively small amount of mortar, and therefore of cement. With cement at £4 per ton, 1 : 2½ mortar costs approximately 50s. per cubic yard, while coarse aggregate costs approximately 10s. It is obvious that considerable economy results in reducing the mortar content. It is found that a 1 : 2½ : 12 mix can be readily compacted on a reasonably firm base (and will probably be adopted as standard in the future), although on a very solid base a 1 : 2½ : 14½ concrete has been laid experimentally, and cores taken have shown high density. No voids were discernible to the eye, and the concrete weighed 158½ lb. per cubic foot. For contract work done up to the present 1 : 2½ : 10 has been specified, as it was felt that this would be easy to construct, and contractors are as yet quite inexperienced in this method. The "Hassam" or penetration cement concrete type of pavement also shows a considerable cement saving, due to compaction by rolling the aggregate before penetration with the grout. In this case, however, only limited rolling can be used, otherwise the pores close, rendering penetration of the grout difficult.

Further, a fairly high water/cement ratio is necessary, and a fine sand has also been found desirable. It is probably for these reasons that while the compressive strength of penetration concrete cores have been reasonably high, due possibly to the interlock gained during compaction, the modulus of rupture in a number of tests at various ages undertaken by the Board in comparison with rolled concrete has been between one-half and three-fifths that of the rolled concrete.

One difficulty in the use of both these types for high class roads has been the difficulty of obtaining a good surface finish, the harsh mix being obviously difficult to tamp to a very smooth longitudinal or transverse cross section. The cost of finishing even the normal type of cement concrete is fairly high, and the best finishes seldom compare favorabaly with the drag spread asphaltic concrete or asphaltic macadam now being commonly used in Australia. For this reason the Board has so far limited the use of the rolled concrete to bases for drag spread black tops.



Slab from Beach Road, Mordialloc. 1 : 2½ : 10 rolled concrete.

12. *Beach Road—City of Mordialloc.*—It was decided to completely reconstruct the whole length of this road, as it was in very bad order, and also too narrow for the safety of traffic in holiday periods. A rigid pavement was considered desirable, and roller compacted concrete was adopted. As the cost of finishing the harsh concrete to the standard necessary for fast moving traffic would be high, it was decided to leave a rough textured surface and to cover this with a bituminous top spread by a long length drag. A black surface was also considered less glaring on this seaside road.

The specification called for a 1 : 2½ : 10 mix with the provision that the sand be measured on a dry rodded basis, so that the actual mix was approximately 1 : 3 : 10. The cross section adopted was 7 in.—5 in. —7 in. without reinforcement and without any special work at joints, these being made at the end of day's work only. The water/cement ratio was usually about 0.95.

The finishing requirements were that the surface should not vary more than ½ inch from a 15 feet straight edge, except that local depressions not more than 6 inches in diameter could be up to ¾ inch therefrom. The contractor used a run of crusher metal and various grades of sand, an average grading being as follows:—

Metal.		Sand.	
Inch.	Per cent.		Per cent.
Pass 3	100	Pass No. 8 B.E.S.A.	98
2	87	18	82
1½	52	36	40
¾	2	85	4

When work started the contractor and his gang were inexperienced, and unfortunately the weather was continuously wet while working over an area that had been a swamp, and where subgrade conditions were very bad. It sometimes happened that the subgrade would tend to become displaced before the edges were thoroughly consolidated. In these cases the addition of grout was a simple method of rendering the slab homogeneous. Where trouble of this nature was experienced cores were subsequently cut out by a chilled steel shot drill, and if the slab was defective repairs were made.

It as found that in no case was a core obtained which was honeycombed on the bottom, and of 69 cores taken only eight were poor.

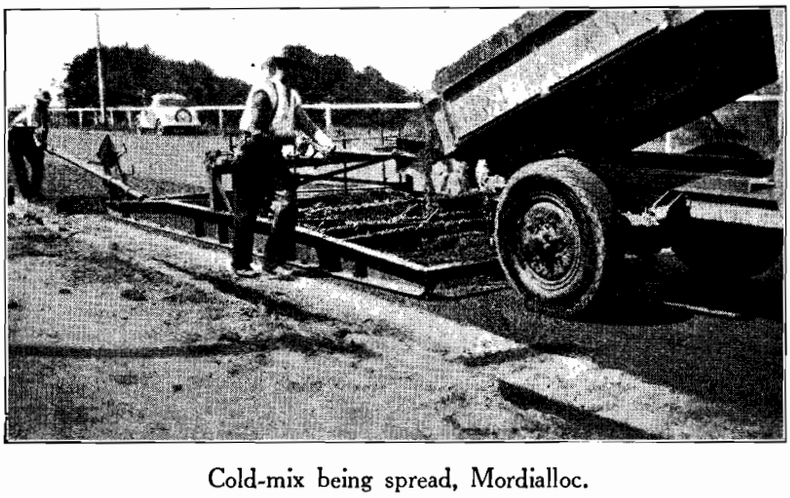
During the construction care was taken to sweep the excess mortar from the surface so that the tops of all the stones were left exposed to provide a key for the bituminous surface. The specification provided that the contractor should install a sprinkling system to keep the whole of the surface wet for not less than seven days. This was accomplished by laying half-inch wrought iron piping along the surface and connecting the ends to hydrants. The lengths of pipe were joined by T's, the T's being fitted with 1-16-in. jets spaced 18 feet apart. This was sufficient with the help of the wind to keep the whole surface wet. It was possible to operate 30 jets from one hydrant for a total length of 540 feet.

The average compressive strength of eleven cores (6-in. diameter) was 2,750 lb. per square inch (corrected to 28 days) and four beams sawn from a 4-ft. x 3-ft. slab cut out of the pavement, broke at 550 lb. a square inch in tension (average of seven breaks).

Measurements of thickness of 52 cores showed that the actual thickness of the concrete is about 3.9 per cent. greater than the nominal or specified thickness. The cement used amounted to 3.13 bags per cubic yard of concrete, based on the measured thickness, which is about 2 per cent. less than the computed quantity per cubic yard. The actual amount used was, however, about 1.2 per cent. more than was computed on the basis of the specified thickness.

For approximately 1,300 feet between Owen-street and the Point Nepean-road end of the work the bituminous top consisted of coarse graded, hot mixed material spread with a drag. It contained between 3.8 per cent. and 3.7 per cent. of 40-50 bitumen, and was spread at the rate of 110 lb. per square yard. This section was subsequently sealed with a cut-back bitumen at the rate of .125 gallon per square yard in order to waterproof the surface. The remainder of the road was surfaced with a cold mix consisting of screenings, and in the bottom course 10 per cent., and the top course 15 per cent. of sand. Both courses contained 3.6 per cent. of binder, except between Marina-road and Moorabbin-road where it was increased to 3.8 per cent. This percentage includes bitumen and oil only, and does not include the power kerosene, petrol, or tar oil which were used for cutting back. Power kerosene was most commonly used, being cheapest and quite satisfactory.

Between Owen-street and Moorabbin-road the 80-100 bitumen was fluxed with 4½ per cent. of asphaltic oil, and between Moorabbin-road and Cromer-road with 10 per cent. of asphaltic oil. This latter section was done rather late in the year, during April and May, and it was considered advisable to soften the bitumen on account of the low temperatures. Generally from 16 per cent. to 22 per cent. of volatile solvent was used, the exact quantity being left to the discretion of the Overseer and depending upon the temperature at the



Cold-mix being spread, Mordialloc.

time of working. Typical gradings of the screenings and sand were as follow:—

SCREENINGS.

Inch.	Per cent.
Passing $\frac{7}{8}$	100
Passing $\frac{3}{4}$	91
Passing $\frac{1}{2}$	62
Passing $\frac{3}{8}$	41
Passing $\frac{1}{4}$	22
No. 8	2

SAND.

	Per cent.
Pass No. 8	95
Pass No. 18	67
Pass No. 36	32
Pass No. 85	9
Pass No. 200	2

The screenings weighed approximately 2,270 lb. per cubic yard and the dry sand 2,700 lb. The bottom course weighed 2,640 lb. and top course 2,775 lb. loose measurement. As dry material was essential, screenings were obtained from the quarry as required, practically no stock being kept on hand. The sand could not be obtained dry and so was all dried on metal sheets. This was a rather costly process but a virtue was made out of the necessity and it was loaded into the mixer as hot as possible.

The materials were mixed in a half yard concrete mixer and when work was first started some difficulty was experienced in keeping the mixer clean, but the following procedure was worked out and proved very satisfactory, it being possible to mix over 60 cubic yards of screenings in one day. The materials were loaded into the hopper so as to avoid, as far as possible, sand coming in contact with the drum, one barrow of screenings being tipped in first, then the sand, and on top of that three more barrows of screenings. This meant that the sand in bulk did not come in contact with the mixing drum. After a batch was discharged and before loading the next charge, one quart of mixture consisting of two parts of residual oil and one part power kerosene was added to the drum. This residual oil was allowed for, the corresponding amount being omitted from the fluxing oil added in the heaters, and also the measured amount of fluxed bitumen per batch was reduced accordingly. Fluxed bitumen was measured out from the heaters into three pots and the required quantity of power kerosene added to each pot and stirred. As soon as the loading hopper was elevated, one pot of bitumen was poured from each side and then the third from the loading side. The mixer operator was careful to see that this cut back bitumen was ready waiting to be poured into the drum before he actually loaded it, as it had been found that if the drum were rotated with the dry charge for any length of time, the oil on the inside was dried off and the hot bitumen would adhere to the dry sides and make the drum very dirty. Mixing was continued for about a minute and the material discharged as soon as possible, as prolonged mixing tended to cause balling up of finer material. The mixed material was carted to the road in tipping trucks containing three batches ($1\frac{1}{2}$ cubic yards loose measurement of screenings).

The drag for spreading the material was designed after consideration of the one used by the Main Roads Board of New South Wales and the one designed by A. C. Tregoning, Esq., and used by a number of the municipalities around Melbourne. It is 20 ft. long and 6 ft. 6 in. wide inside runners. The main spreading blade is 5 ft. 6 in. long with subsidiary blades at each side having individual adjustment so that by closing them down a width of only 5 ft. 6 in. can be spread. Also by raising one or both, windrows of material can be left for spreading outside the normal width of the machine. A spreading tail blade at the back distributes the windrow automatically and will spread 1 inch loose thickness for an additional width of 15 inches. That is, with one side gate open wide and one tail blade, a total width of 7 ft. 9 in. can be spread; with the addition of another tail blade 9 feet could be spread. However, this tail blade is only successful on a fairly true surface, as otherwise the ups and downs of the rear of the machine cause it to spread irregularly.

The drag was fitted with diagonal distributing blades to spread the material uniformly in front of the main spreading blade. As originally designed these were attached to the frame by bolts in slots for vertical adjustment. It was found that owing to the difficulty of making this adjustment it was never done properly, and there were frequent stops in order to hand spread the material to the side where the open side gate required about twice the average quantity. The blades were subsequently fitted with screw adjustment operated by hand wheels, and the operator soon learnt that a little care in making the adjustment saved him considerable work. It was then the usual thing for complete truck loads to be distributed without a stop. One of the most important details effecting good distribution of the material is the cleanliness of the blades and the machine, and these were always kept well oiled and free from adhering material by scrubbing with a mixture of oil and power kerosene. Coil springs in the draw chains were used and enabled the trucks to start smoothly and without strain on the transmissions.

The bituminous material was spread to a loose thickness of $1\frac{3}{8}$ inches in two equal courses. The screws controlling the spreading blade were so arranged that the length of screw showing above the adjusting wheel indicated the amount of opening. This amount had to be varied slightly from time to time, chiefly on account of differences of temperature and the operator was instructed that each load should cover a certain length, this length being computed to give the nominal loose thickness desired. At the end of a strip where a day's work joint would be made the material was left with a diagonal end and a recess cut back for the runner so that when the strip was continued the whole length of both runners would be on the lower course. This avoided the break in surface which would occur if the runner were dragged from off the top of the finished surface.

The spread material was left open as long as practicable before rolling so as to give the cut back opportunity of evaporating. However, where circumstances made it necessary to roll very soon after spreading there does not seem to have been any ill effects.

The roller used was a Fordson, total weight 7 tons 14 cwt., but with rear wheels 16 inches wide, and having a weight of 314 lb. per inch width. After the top course was rolled it was lightly spread with toppings which had been oiled with about $1\frac{1}{2}$ gallons of residual oil per cubic yard. These were broom dragged and then rolled thoroughly.

The unit costs of the work were—

	Per square yard. s.	d.
Concrete base (7 in.–5 in.–7 in., average thickness $5\frac{1}{2}$ in.) excluding excavation	5	8
Bituminous top 1.7 in. average loose thickness	1	$9\frac{1}{4}$

The total cost was £8,100 per mile for a width of 30 feet from kerb to outer edge of pavement, which was unkerbed, including half cost of shifting water and gas mains, and some drainage.

The average traffic is at present about 600 vehicles per twelve-hour day, but on holidays it reaches about 6,500 vehicles between 7 a.m. and 7 p.m.

13. *Laboratory.*—For some time work in the laboratory has been hampered by lack of adequate bench space and the generally poor arrangement of the whole laboratory for efficient working. Plans were drawn up during the year for complete re-organization of the laboratory equipment, and these were approved by the Board and work on the reconstruction and re-equipment commenced during the past financial year. This has of necessity considerably hindered work during the reconstruction, and routine work only has been carried out during this period. However, during the year, in addition to the routine tests of bituminous materials and mineral aggregates, some research work on the nature of various types of cut-backs and fluxed bitumens has been carried out. In the past, laboratory work has been limited very largely to physical tests, but in the re-organization of the laboratory, provision is being made for carrying out a fairly wide range of chemical tests as required. In particular, these will be useful for paints and similar materials.

14. *Details of Surface Treatment.*—An exceptionally wet spraying season was experienced, and this is indicated by the efficiency tables given hereafter.

Two further spraying units are proposed for the season 1935-36, although the total anticipated mileage is only 750. These units are being added to give the flexibility necessary for carrying out work at those times of the year when the weather conditions are most suitable. The peak periods, for which this extra plant is required, occur in the early summer, when the plant is required for sealing gravel and fine crushed rock roads constructed during the late winter, and in December, January, and February, which are the most satisfactory months for road-mix sealing.

Spraying Plant.—1. General.

(*a*) *Units used.*—The following sprayers were used during the season:—

300 gallon non-automotive	5
400 gallon on V8 "Ford" chassis transferred from old "Thornycroft" chassis	4
New 400 gallon sprayers on V8 "Ford" chassis as described in last year's annual report	5

(*b*) The total length of surface treated by C.R.B. plant during the last five years is given below:—

1930-31	359	miles.
1931-32	422	„
1932-33	650	„
1933-34	835	„
1934-35	574	„
	2,840	miles

(*c*) *Further Additions.* — Two new 400-gallon sprayers similar to those obtained at the beginning of last year have been purchased for work during the coming season.

2. Work Done.

Lengths of various types of work carried out during the season by the sprayers are given below:—

Type of Sprayer.	Miles of Various Types of Work.		
	First Seal.	Roadmix Seal.	Modified Macadam.
400 gallon	204.5	215.0	..
300 gallon	128.0	25.2	1.0
Totals ..	332.5	240.2	1.0
	Total miles ..		573.70

3. Plant Operation.

The figures for efficiency of operation for the 400-gallon sprayers, which are given in the tables below, are based on a rated output of 66 loads per week of 5½ days (for first seals and 44 loads per week for roadmix seals). The efficiency is expressed in percentage of time away from the storeyard (exclusive of time stored in the field) spent in various operations or in idleness. Total exceeding 100 per cent. indicate that rated output was exceeded on some occasions.

1. Efficiency of Old 400-Gallon Sprayers Now Fitted to V.8 "Ford" Chassis.

Operation.	Sprayer No.				Average.
	16.	17.	18.	19.	
Spraying	16.9	38.2	37.3	31.6	31.00
Moving	18.6	23.1	22.2	22.3	21.55
Weather	23.9	18.8	22.7	19.0	21.10
Holidays	8.0	10.1	8.5	8.8	8.85
Mechanical delays ..	2.1	2.9	1.8	0.3	1.78
Avoidable delays ..	30.5	6.9	7.5	18.0	15.72
Total ..	100.0	100.0	100.0	100.0	

2. Efficiency of New 400-Gallon Sprayers.

Operation.	Sprayer No.					Average.
	11.	12.	13.	14.	15.	
Spraying ..	26.5	37.0	20.2	27.5	19.0	26.04
Moving	27.2	28.8	16.3	13.7	21.6	21·52
Weather	23.0	18.0	36.6	27.5	34.6	27.94
Holidays ..	9.4	9.9	10.5	14.2	9.4	10.68
Mechanical delays ..	1.8	2.0	3.1	2.2	1.6	2.14
Avoidable delays ..	12.1	5.0	13.3	14.9	13.8	11.82
Total ..	100.0	100.7	100.0	100.0	100.0	100.14

The table given below shows the efficiency of the 400-gallon sprayers during the last four spraying seasons:—

Operation.	1931-32.	1932-33.	1933-34.	1934-35.
Spraying	43.2	51.6	53.0	28.2
Moving	22.4	22.9	22.8	21.5
Weather	11.5	7.2	13.2	24.9
Holidays	8.0	12.5	6.8	9.9
Mechanical delays ..	3.6	2.3	0.8	2.0
Avoidable delays ..	11.1	7.7	9.0	13.6

During the seasons 1931-32 to 1933-34 the rated output was 44 loads per week. For the season 1934-35 the rated output was 66 loads per week.

It will be noticed that the efficiency during the season 1934-35 was lower than that attained in the previous years. This is partly due to the wet spraying season, but chiefly due to the higher rated capacity obtained by the addition of a third heater to each spraying unit. This increase in the possible output, although lowering the efficiency figures, involves very small addition to the actual total expenditure. It emphasizes the need for attention to the following points:—

1. That the work should be carried out in longer sections wherever possible. The average length of job for 1934-35 was 1.44 miles.

2. That the covering material required for work in the early spring should, if possible, be obtained during the previous summer.
3. That attention should be paid to the organization of roadmix seal work in order to obtain the rated output from the plant when weather conditions are favorable.

4. Plant Development.

(*a*) The following minor alterations have been made to the plant described in the last report:—

The floating gauge recording the height of the bitumen in the spraying tank on a dial in the cabin of the sprayer was not satisfactory, owing to its mechanical design. Owing to the satisfactory longitudinal distribution, which was obtained by spraying at a constant pressure and the use of a tacheometer, the gauge was little used and has been discarded.

(*b*) Advantage has been taken of the introduction of 10 h.p. "Ford" four-cylinder engines to install these instead of the 8 h.p. units on the new sprayers recently made.

(*c*) Adjustable curtains have been fitted to the "Goroco" spreaders to prevent material being spread beyond the desired width, while certain portions of the supporting angles have been cut away to prevent interference with uniform distribution.

5. Further Development Proposed.

(*a*) *Jets.*—The distribution of bitumen by the Board's sprayers at right angles to the centre line of the road is not considered satisfactory. A series of tests on jets was described in the report for the year ending 30th June, 1931. Following these, a slot jet of the "Etnyre" type was adopted. Although the tests on jets indicated that the transverse distribution with this type of jet should be satisfactory, this was not always found to be so in practice. By introducing a strip of sand-paper across a section of road which was being sprayed, cutting the strip into lengths and weighing these, it was found that the actual distribution on the road was not nearly so uniform as was anticipated. Further investigations are being initiated in order to ascertain not only the actual distribution of the material in the spray produced by a jet at a given height from the ground, but also to ascertain this distribution when the material finally comes to rest. This appears to be influenced by the horizontal component of the velocity of the material at right angles to the road when it hits the latter. Investigations will be carried out on the following lines:—

1. To determine the distribution of various types of slot jets at various pressures when this is unaffected by movement after hitting the road surface, i.e., when spraying into a box divided by partitions.
2. To ascertain the actual distribution obtained at the same pressures when the material is sprayed on to a road surface.

(*b*) *Mechanical Loaders.*—Hitherto, covering material has been loaded into trucks, by which it is distributed to the road by hand. The development of the use of mechanical loaders in the Board's spraying work has been retarded by the large amount of moving involved, and the rather cumbersome nature of the machines available on the market. A light loader, suitable for easy removal from job to job, has been designed and a contract let for the manufacture of it. If this machine is successful, it is anticipated that a saving of approximately £2,500 per annum will be made by the introduction of similar machines for all the Board's spraying units.

(*c*) *Spreading aggregate.*—The mechanical spreaders used last year are generally considered to be satisfactory. The results obtained are not only cheaper, but much more satisfactory than hand work. Satisfactory longitudinal distribution, however, still largely depends on the skill of the truck driver and the care of the ganger supervising the work. It is desirable that the rate at which material is spread should be proportional to the speed of the spreading vehicle. Methods of spreading having this advantage will be investigated during the coming season.

6. Aggregate.

The grading of the aggregate used for covering material and the rates of application remained unaltered, except that the maximum amount of material contained in crushed screenings or gravel which might pass a No. 8 sieve was reduced from 15 to 5 per cent. On account of the difficulties of obtaining supplies, the grading for screened gravel remained unaltered.

7. Normal Types of Work.

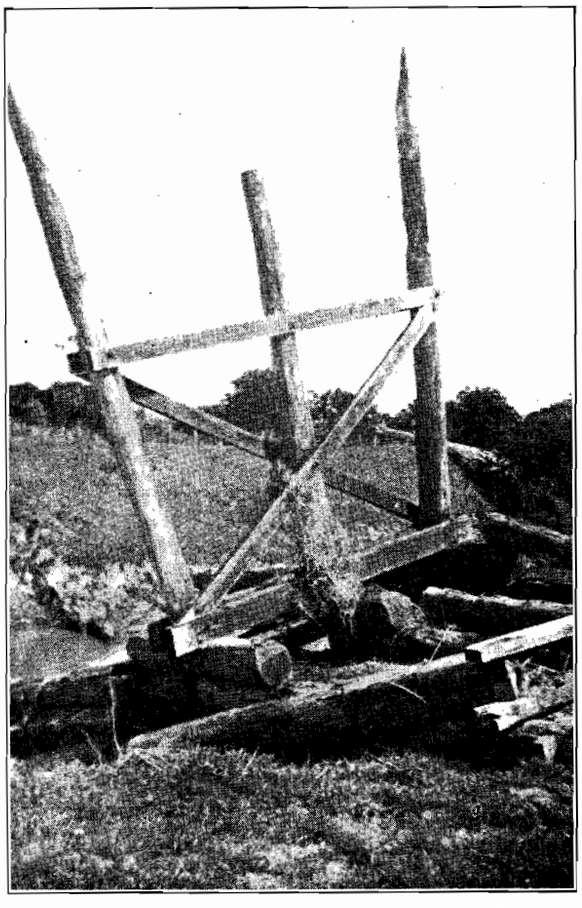
In the table given below, the normal types of sealing carried out by the Board during the season 1934-35 are summarized.

SUMMARY OF METHODS OF SEALING NORMALLY USED DURING SEASON 1934–35.

Type of Work.	Primer (if any).		Binder.		Aggregate.				
	Nature.	Rate of Application gals./sq. yd.	Nature.	Rate of Application gals./sq. yd.	Per cent. Passing ½" Cir.	Per cent. Passing ¼" Cir.	Per cent. Passing No. 8.	Nature	No. of sq. yds. covered by 1 c. yd.
Double coat first seal	Light Crude Tar as specified in last report, or 50/50 mixture 85/100 Bitumen and Asphaltic Oil	0.20	85/100 Pen. Bitumen fluxed with Asphaltic Oil to 400 sec. float test at 90 deg. F.	0.30	100	20–65	0– 5	Screening or crushed gravel	60
					100	20–65	0–15	Screened gravel	
Triple coat first seal	Light Crude Tar ..		(*a*) *First Application.* "Bitural" 250 pen. ..	.15	As above				100
		0.20	(*b*) *Second Application.* 85/100 Pen. Bitumen fluxed with Asphaltic Oil to 400 sec. float test at 90 deg. F.	.15	As above				100
R.M.S. ½" loose ..	.. ..	..	*Mixture as below, parts by volume—	0.20					72
R.M.S. ¾" loose ..	.. ..	..	85/10 Bitumen, .. 100 Asphaltic Oil, .. 10 Tar Oil No. 1 .. 10	0.25	As above				48
R.M.S. 1" loose ..	.. ..	..	Power Kero. .. 20	0.30					36

* Viscosity at 122°F is approximately 14 poises.

15. *Bridges.*—In December, 1934, a very serious flood occurred. The heaviest rainfall occurred in the watersheds of the rivers Yarra, Latrobe, Tarwin, and Bass. The Board had erected practically no new bridges over any of these rivers, and the old bridges which had been up for many years were in a very weak condition. The loss of bridges was very great, as in practically no cases were the bridges constructed with their decks at a high enough level to escape the flood waters. Practically no damage was done to any bridge which had recently been built, though, in many instances, the road approaches to the ends of the bridges were severely damaged. This indicates that the standard of work now being done by the Board is probably not extravagant, but has a reasonable factor of safety. Even among the relatively old bridges, those timber bridges which were supported on driven timber piles were not completely damaged, and in many cases withstood the flood waters. The type of bridge, however, in which bed logs were used without being properly fastened to the stream bed suffered severely during these floods. This indicates that it is highly desirable for piers to be made as strong as possible, particularly in those cases where light bridges are required for roads leading to isolated settlers, and all developmental roads.



Old bridge at Glenforbes wrecked by floods. (Showing necessity for supervision in construction, and for strong pier design.)

The severity of this flood presents a difficult problem to the Board, because if structures are to be designed to have waterways sufficiently large to pass floods of similar magnitude to that resulting in December, a very large cost will be incurred. This is particularly applicable to the majority of bridges, i.e., those required for catchment areas of up to 50 square miles. Where development of an area would be hindered by the impossibility of finding funds to provide bridges of sufficient length to take severe flood flows, it would appear to be very desirable to have the approaches so arranged that when a large flood occurs, the waters may escape over the approach road, and thereby prevent a structure from being washed away.

The Board's policy has been to perform work by contract wherever possible. For the five years immediately preceding this large flood, the number of contractors available had been gradually reduced. The standard of equipment was not high because, during these lean years, all contractors had tried to make their old plant last out. The sawmillers had no stocks of timber, and the Board was faced with a very difficult position in the restoration of traffic on the roads in the areas which had been affected to the greatest extent by the flood. It was determined, therefore, that the only way in which the bridges could be reconstructed was a judicious use of both day labour and contract work. The plant and equipment available for day labour work was difficult to obtain, but over a period of some months it has been possible to purchase a certain amount of equipment so that work could be carried out more expeditiously. It appears essential that the Board should always have at work on maintenance and construction of bridges, and available for emergency, at least a nucleus of a construction staff with adequate plant and a certain amount of construction materials.

Reinforced Concrete Box Culverts.

During the year, some experiments have been made on a new method of construction of these widely used structures. The types commonly used have either been entirely cast *in situ* or precast. The Board constructed a culvert on the Mardan-road having a height of 6 feet and a span of 8 feet by the method which is shown diagrammatically in Fig. 1. This method was adopted because of the very large cost of formwork in reinforced concrete construction.

In most parts of Victoria it has been found possible to purchase cement and aggregates, and to deliver them to the job for from 40s. to 50s. per cubic yard of concrete. The cost of labour of mixing and placing, even in the most careful work, does not exceed 5s. per cubic yard. Nevertheless, it was found that contractors were making very little profit at a total cost of £6 per cubic yard, including cement, and that work was costing a similar amount by day labour. The great discrepancy is due to the cost of formwork. To reduce this to the minimum, this type of culvert was tried out. The floor slab is cast directly on to the prepared earth foundation, and requires no formwork at all. A few days after the floor has been completed, the walls of the culvert may be constructed in a horizontal position using the previously constructed floor as the lower formwork. After these walls are sufficiently strong, they may be lifted up and fitted into grooves in the floor slab. The deck slab is then cast in place on top of these walls.

Insufficient data is available at the present time to indicate what the saving from this method of construction will be, but where conditions are favorable it appears possible to build a relatively large concrete cell culvert at a cost no greater than a similar single span timber bridge. For use of cattle subways, this type of construction, which provides for a paved invert, appears to have distinct possibilities.

Devlin's Bridge, over Yea River, Yea-Glenburn Road.

The flood washed away the old bridge in December, 1934. During the summer time it was possible to deviate traffic some distance downstream over an earth formation to another bridge, but once rain started, this deviation was quite impassable. It was necessary, therefore, for the Board to proceed with the reconstruction of a new bridge as soon as possible in order to have a road open for traffic during the following winter. Authority was given for the work to proceed by day labour, which in the case of reasonably small works, enables the work to be commenced very quickly

FIG. 1.—PRECAST BOX CULVERT 8 FT. X 6 FT.

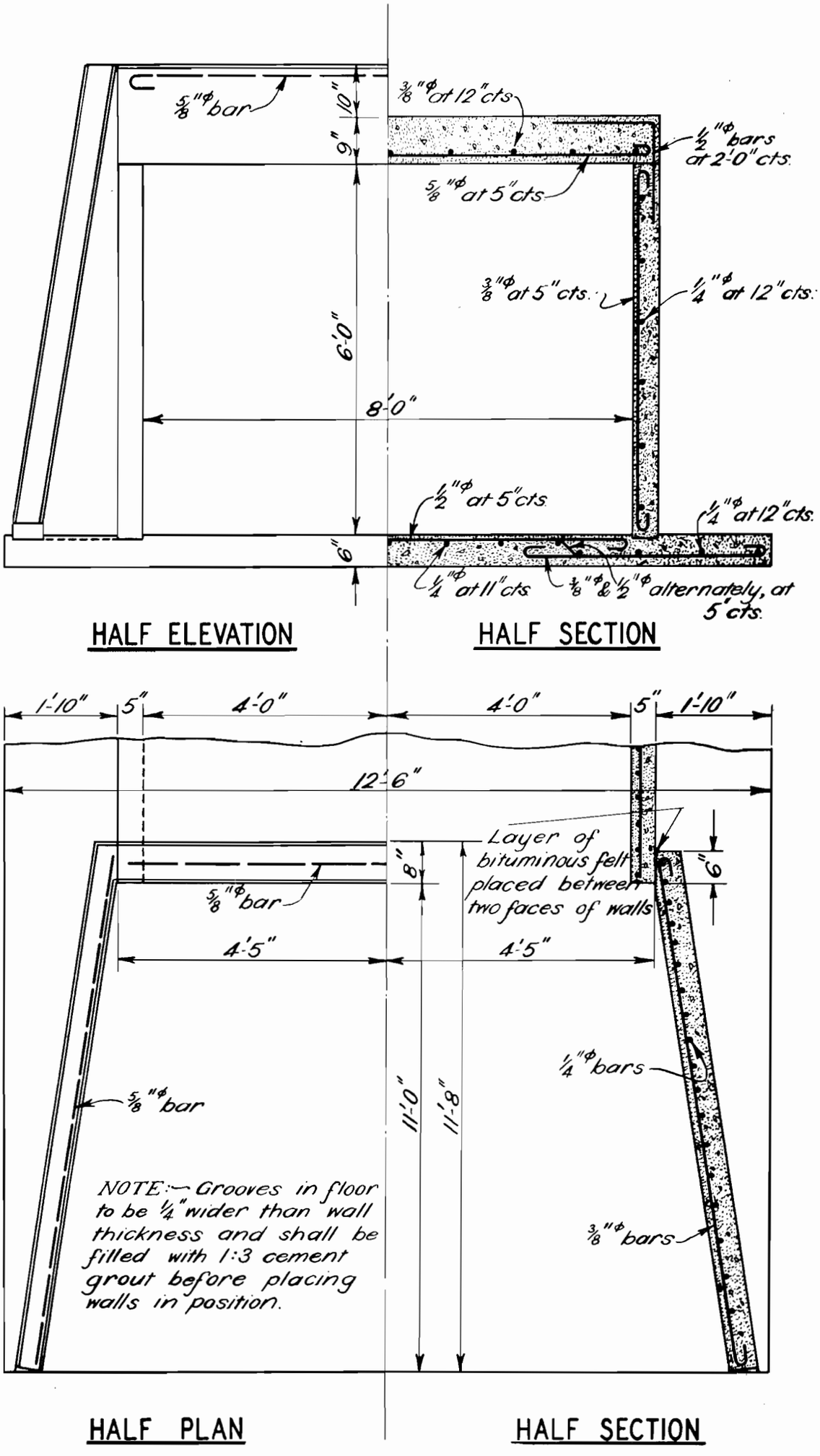
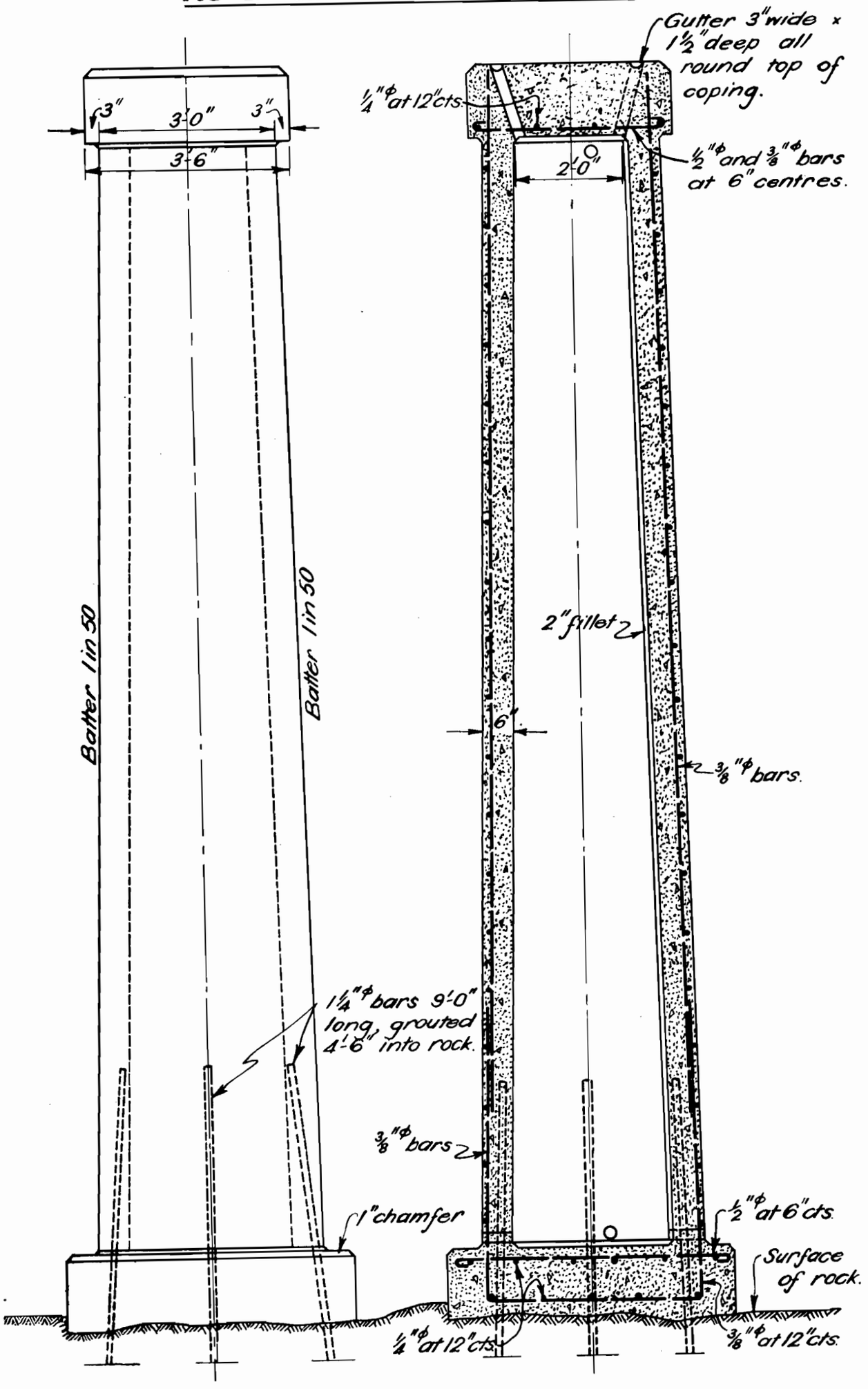


FIG. 2.—PIERS—DEVLIN'S BRIDGE—YEA.



after approval has been obtained. By the time plans and specifications have been provided in a satisfactory form for contract work, and allowing for the time that such contracts must be advertised, it is found possible to commence work from four to five weeks earlier by day labour than when work is to be done by contract. The completed bridge over the Yea River at this point is shown in Plate No. 18A.

Bed rock under the river piers was somewhat irregular, and as it was covered by running water during the construction of the pier bases, the cost of making a coffer-dam would have been high. In this instance, heavy planks were bolted together, and placed on edge so as to form a wall around the limits of the proposed pier foundation. Into this area chaff bags of concrete were placed. The bags were only half full of freshly mixed concrete, and were sewn up. They were placed all round the edge of the enclosure, and tramped into place by a man walking on them. By this means it was possible to bring the concrete base up above water level without delay, and at a low cost. The holes were subsequently drilled through both the concrete and underlying rock, and steel bars were grouted into the rock to ensure that the concrete of the pier was properly bonded to the underlying rock. During this drilling work, it was found that the concrete placed in the bags was quite similar to concrete placed in a dry coffer-dam. The appearance of the piers shown in the illustration gives the impression that they are far heavier than a study of their true dimensions warrants. A cross section of the pier is shown in Fig. 2. Provided there are several piers to be constructed, the cost of the formwork is not large, as it can be stripped quickly and can be used several times over.

Retaining Walls.

During the year considerable attention was paid to the question of river bank protection following the flood in December. Where the Prince's Highway East crosses the Avon River at the town of Stratford, the flood at Easter time scoured out a tremendous area of river bank, thereby endangering the bridge, and to a certain extent the township of Stratford. It is understood that river erosion has taken place steadily at Stratford during the last half century, and thousands of pounds have been spent in various structures designed to prevent the erosion. However, they do not appear to have been very successful, and the inherent defects of articulated construction decided the Board to depart from the use of timber and to try materials capable of providing a continuous watertight surface. The wall, which is shown in Fig. 3, is not a very heavy wall. It, however, appears to have the virtue that no other known means could give, viz., greater security against scour in the river bed from undermining the structure, and it appears to be capable of protecting the river bank. It consists of a concrete wall down to water level, supported on steel sheet piling and restrained against overturning by 1 inch steel rods taken back to timber piles driven below ground water level.

At Warburton, a similar problem had to be met, and over a considerable length, the main road was reduced in width by erosion between the road and the river bed. It was necessary to widen the road at three places having an aggregate length of approximately 600 feet. The road was between the river on one side and the railway line on the other. As it was not feasible to move the railway line over into the mountain, it became necessary to build the road out into the river.

A reinforced concrete wall up to flood level was therefore required to protect the road filling. The foundation for the concrete wall was on rock, but the surface of the rock was very irregular. To have used this rock for the foundation of a normal reinforced concrete wall would have required a lot of rock to be removed to provide a level footing, or a lot of concrete to be placed over the low areas to bring the surface of the rock up to a reasonably level area. The type of wall shown in Fig. 4 was therefore constructed. The wall is held from overturning by a series of counterfort walls at 10 feet centres. The rods in the counterforts are carried down into the holes drilled in the rock and filled with grout. It is necessary that the holes drilled in the rock should be completely filled with grout before the rods are placed in them, otherwise it is impossible to pour the grout down in the narrow space between the rod and the rock. The overturning moment at the base of the wall is resisted by a tee beam section. The wall requires very little thickening to transfer the bearing pressure to the underlying rock.

Ovens River Bridge at Parollo's, Murray Valley Highway.

The existing crossing consists of four timber bridges over the river and flats, of a total length of 830 feet, 550 feet of which is in very poor condition. The alignment is bad, and some of the bridges are below flood level. Between the bridge on the western side the road is on natural surface and is completely blocked during even minor floods. The completion of the Yarrawonga Weir, now proceeding, will mean that the site will be continually under water and would render the maintenance of timber structures more difficult. Waterway requirements for a high level bridge with approaches above flood level necessitated a structure 730 feet long, and after consideration of alternative types of construction, it was decided to build a concrete tee-beam bridge downstream of the existing structures.

The piers will be supported on timber piles which were considered satisfactory, as they will be capped 4 feet below ground level, and after completion of the Yarrawonga Weir will be permanently under water.

A close investigation was made of the most economical proportions. In a structure of so many similar spans, a slight decrease in the size of members means a considerable reduction in the total cost. Allowing for good concrete materials and skilled supervision it was possible to decrease costs further by utilizing higher unit stresses in the concrete.

Design Details.

Handrails ..	.. Concrete and wire mesh type.
Deck ..	.. 22 ft. wide, 8 in. deep.
Beams ..	.. 3 No. at 8 ft. centres; 18 in. wide, 4 ft. deep.
Spans ..	.. 13 No. at 50 ft.; 2 at 40 ft. Length = 730 ft.
Piers ..	.. 3 legs, one under each beam.
Abutments ..	.. R.C. Box type on timber piles.
Loading Standard	.. C.R.B. Class A.A.

Three beams were found to be more economical than four beams, the total moments and shears to be carried with a wheel concentration of 1.6 per beam for three beams and 1.3 per beam for four beams being somewhat less for the former. Formwork and placing costs per cubic yard were also less. The deck is not greatly affected by the beam spacing within these limits as an increase of beam spacing means an increase of the effective width for the concentrated loads which govern the deck design.

FIGS. 3 AND 4.—RETAINING WALLS.

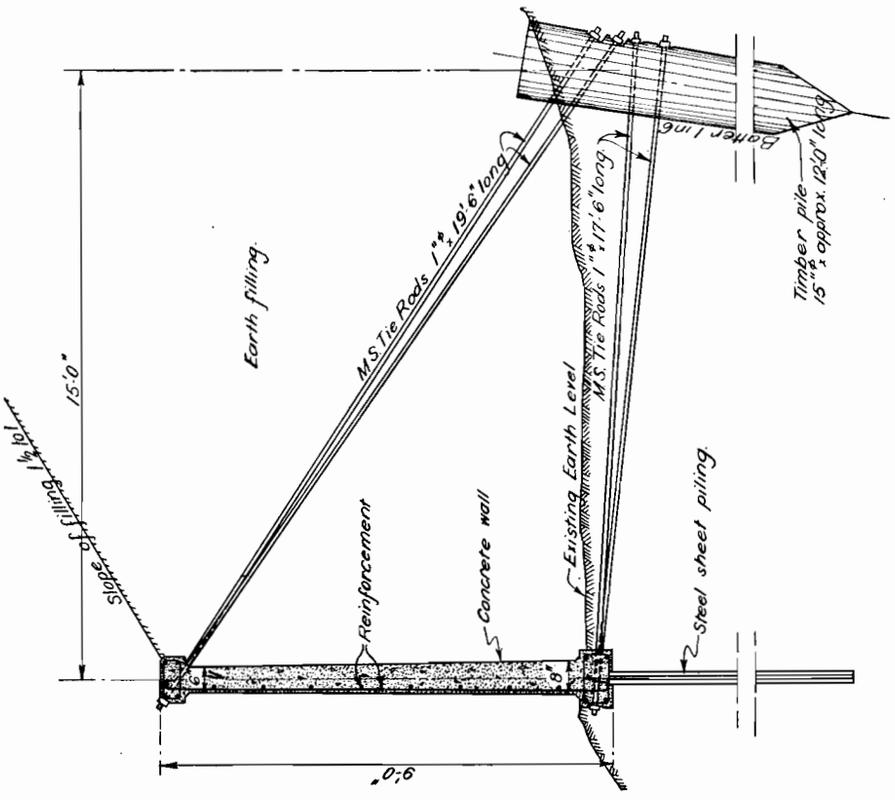


Fig. 3. RETAINING WALL—STRATFORD

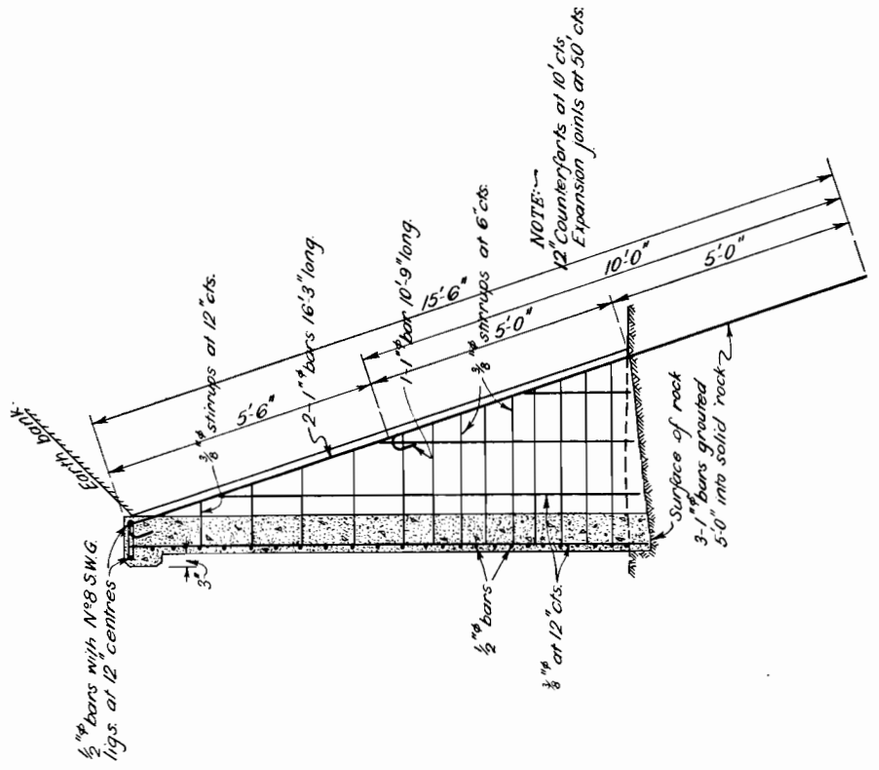


Fig. 4. RETAINING WALL —— WARBURTON

The most economical pier for this bridge has one column under each beam with a group of three piles under each leg. This obviates the necessity for heavy crossheads. The most economical span length for any given number of piles per pier was then found to be the greatest that would just avoid the use of an additional pile. The final choice, considering cost only, lay between 35 feet spans with six piles per pier and 50 feet spans with nine piles per pier. The latter arrangement was adopted as providing a better appearance and less obstruction to debris.

Provision for expansion was made by using a split pier at intervals of 150 feet, i.e., at every third pier.

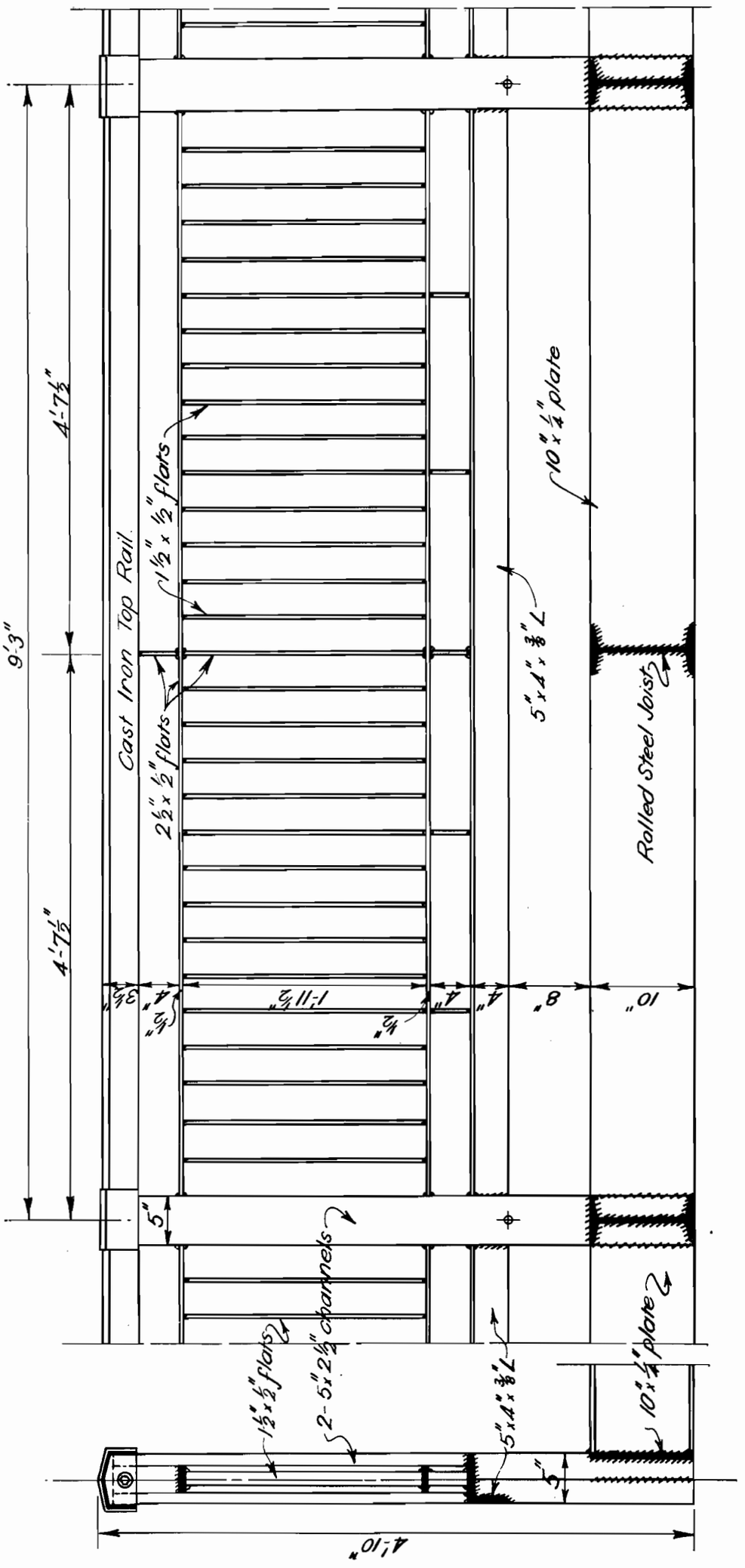

WELDED HANDRAIL—OVENS RIVER BRIDGE
9'3"
4'-7½"
4'-7½"
Cast Iron Top Rail.
1½" x ½" flats
2½" x ½" flats
10" x ¼" plate
5" x 4" x ⅜" L
Rolled Steel Joists
3½"
4"
½"
1'-11½"
4"
4"
8"
10"
5"
2-5" x 2½" channels
1½" x ½" flats
5" x 4" x ⅜" L
10" x ¼" plate
5"
4'-10"

Fig. 5.

During the year, tenders were called for the construction of the bridge, and a start has been made on the piers. The tender price was £9,966, which together with materials supplied by the Board and supervision gives a total cost of £12,500. The cost per square foot of bridge deck is 15s. 6d.

A separate contract will be let for the approaches.

Ovens River Bridge, Wangaratta.

During the year, the contracts for the bridge and approaches were completed. The general view of the new bridge, details of which were given in the last annual report, is shown in Plate No. 17. The structure consists of a three span deck type welded plate girder bridge with reinforced concrete piers and abutments on piled foundations. The deck is of timber and provides a roadway 22 feet wide and a 6-feet footway. Steel cross-beams and handrails were provided. The latter is composed of standard rolled sections and flats welded together, the posts being welded to the ends of the cross-beams. A light casting, bolted to the tops of the posts, was used for the top rail. The handrail has a good appearance and was constructed at low cost. Details are shown in Fig. 5.

McKillop Bridge, Snowy River.

A description of the destruction of the superstructure and one pier of this bridge in the severe flood of January, 1934, has been previously given (see twenty-first Annual Report). The piers had proved amply strong against flood waters. It was found possible to raise them a further 15 feet provided that the legs were relieved of the bending moment due to the rigid frame action on which basis they were originally designed. This latter was accomplished by the insertion of reinforced concrete diaphragms into the open spaces between the legs. The piers were extended in reinforced concrete by drilling holes into the top of the existing piers and grouting in steel reinforcement.

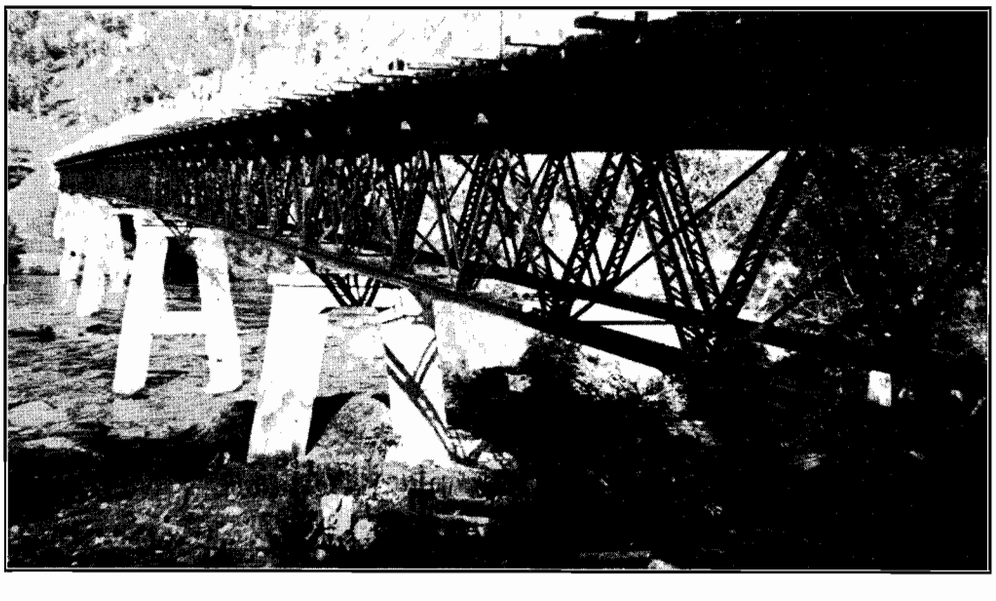
The extension was made of the same general form as the strengthened original piers and the completed piers have a satisfactory appearance. The original abutments were raised the necessary 15 feet by constructing a curtain wall in the open front of the abutments, and by providing a concrete cap on top of the abutment between the new and old curtain walls. The wing-walls at the Gelantipy end were removed so that the old abutment now has the appearance of a rectangular pier.

The truss details in the new structure were generally the same as in that destroyed by the flood (see nineteenth Annual Report), the only modifications being as follows:—

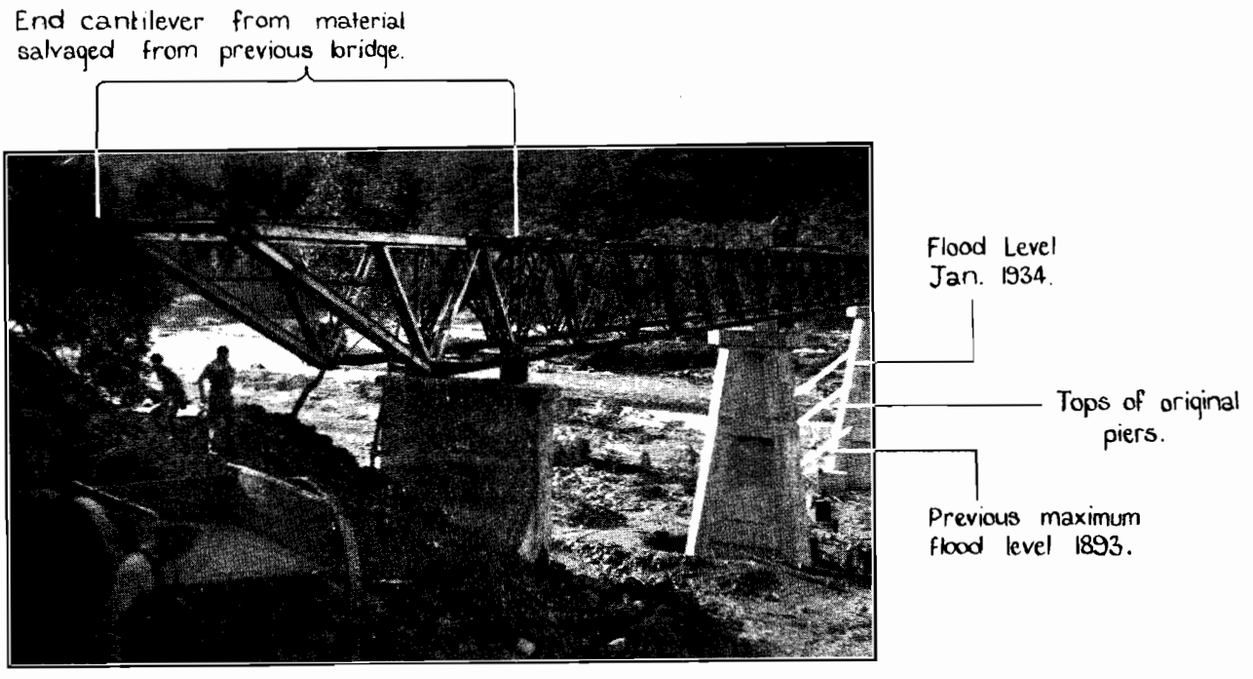
(*a*) The old abutments could not be strengthened to cope with the earth pressure due to the increased height of the structure, and it was found most economical to extend the trusses by cantilevers at each end of the bridge and by using the old abutments as piers. The cantilevers were 37 feet 6 inches long and were of the same form as the main trusses. No abutments will be used on the new structure; the filling, which consists mainly of rock, will spill underneath the cantilevers, and is protected at the base by a dock fill toe.

(*b*) Some trouble has been experienced at the bearing of welded structures from the distortion due to the cooling weld metal. To minimize this trouble, the splicing of the trusses of adjacent spans was carried out at the $\frac{1}{4}$ point of the span instead of directly over the piers as in the previous structure. Examination of the twisted wreckage in the original bridge shows that the minimum sized fillet, 3-16 inch., is not sufficient, and in the new bridge this was increased to $\frac{1}{4}$ inch.

The superstructure is of timber and is 15 feet wide between kerbs. The reconstruction of the trusses and strengthening of the piers was completed during the year and construction of the timber superstructure is now proceeding.



McKillop Bridge—Previous Structure.



McKillop Bridge—New Higher Structure.

DEDDICK RIVER BRIDGE, AMBYNE SETTLEMENT ROAD.

This developmental road crossed the Deddick River by means of a ford. This was impassable to wheeled traffic during any freshet, and because of the high velocity of the current considerable damage was done to the crossing after even minor floods. Rock outcropped on the southern bank, but on the northern side was overlain by a considerable depth of shingle and sand. The river is fast flowing, and brings down large logs, so that a high level structure with a large opening was required. The traffic is not heavy, as the area is not yet fully developed. It was decided that a suspension bridge capable of carrying vehicles weighing 3 tons would be satisfactory. The structure is shown in Plate No. 19A. and consists of a 110-ft. central suspended span with two 30-ft. stringer approach spans. The deck width provided is 8 feet.

The suspension span was stiffened against local deflections by means of a truss incorporated in the handrails. The handrail was increased from the usual 4-in. x 4-in. rail to a section of 6-in. x 4-in. It was fully spliced so as to be continuous throughout. The outer stringer of the deck system was used as the lower chord. The diagonal members consist of double system of 1-in. diameter steel rods. Vertical 6-in. x 4-in. posts were provided at each hanger. The rods are screwed at each end, and extend through the top and bottom chords at the posts, being secured by nuts. The structure thus stiffened at small expense is remarkably rigid.

The suspension cables and decking consisted of material previously used in the temporary suspension bridge used over the Snowy River at Orbost in January, 1934, the hangers and the diagonals for the stiffening trusses being obtained from old materials salvaged from the McKillop bridge.

LATROBE RIVER BRIDGE, PRINCES HIGHWAY EAST, AT ROSEDALE.

The existing crossing consists of three timber bridges and a long floodway section. The width of the crossing is 3,000 feet. Serious disruption of traffic due to the flooding of the crossing has been frequent, particularly during the last few years, and the Board decided to construct a high level crossing.

During the extraordinary flood of December, 1934, observations showed that the existing crossing was adequate as regards waterway, there being no apparent difference in river levels upstream or downstream of the crossing, but this flood reached a critical stage as far as the township of Rosedale was concerned, so that any reduction of waterway could not be considered.

The flood waters overtopped the handrails of the bridge at the Rosedale end of the crossing, and, as this bridge was in poor condition, raising the deck level and repairing the structure would have cost more than a new bridge. The raising of the level of the roadway along the flood section above flood level would also have necessitated the construction of a considerable length of new bridges, and would have seriously inconvenienced the heavy highway traffic during the period of construction. The alignment of the bridges was very poor, two curves at the Sale end being particularly bad, and it was decided that an entirely new high level crossing on an alignment immediately downstream from the existing line provided the most satisfactory solution. After an investigation of flood flow conditions, it was decided that the new structure should be constructed in two sections, one bridge 950 feet long at the Rosedale end, another 550 feet long at the Sale end over the main channel of the Latrobe River, with a bank 650 feet long connecting them. The underside of the bridge beams will be entirely above the level of all known floods, and capable of carrying them safely without any heading up. The total area of waterway provided is 20,000 square feet, which for the 120,000 cusec flood of December, 1934, gives a velocity through the proposed bridge of 6 feet per second. The site is singularly well fitted for the construction of a large number of similar spans, and as demonstrated in the tender prices received for the Ovens River bridge on the Murray Valley Highway, such a structure can be very economically constructed in concrete. An additional reason for the use of concrete is the large quantity of first class timber which would be required for a structure of this size. This would be very difficult to obtain, and would seriously inconvenience timber bridge construction in other parts of Gippsland.

Details of the proposed structures are as follows:—

Loading.—Standard C.R.B., Class A.A.—20-ton vehicles.

Deck.—22 feet wide x 8 inches thick.

Handrails.—Concrete and wire mesh type.

Beams.—3 No. 1 ft. 6 in. x 4 feet, at 8 feet centres.

Spans.—50 feet, freely supported.

Length.—Bridge A—950 feet.
Bridge B—550 feet.

Piers.—Three concrete columns similar to Parollo's bridge. Every third pier will be split to provide for expansion. Timber piles, 25 feet to 30 feet long, capped with concrete not less than 4 feet below ground level.

Bridge abutments are usually the most difficult part of the structure to design satisfactorily at reasonable cost. The end spans of the bridge in this case will be cantilevered beyond the end piers, so that the toe of the earth fill approach will just reach the pier. The space between the underside of the deck and the top of the fill at each side will then be filled in with thin concrete curtain walls. This arrangement will give the appearance of a solid abutment, but is much simpler to design, and costs considerably less to construct.

Plans and specifications have been prepared for the work, which should be completed in 1937.

Electric Arc Welded Joints in Truss Members.

The introduction of welding into the design of steel structures has resulted in a considerable saving in cost as compared to the cost of equivalent rivetted structures, the saving in some cases being as high as 25 per cent. In particular, small and medium sized highway trusses can be very economically constructed by this method. The Board's experience in the last few years has covered a wide variety, if not a very large tonnage, of welded steel work, and it is therefore considered desirable to set out some points of interest noted during the design and construction of the various structures. It is hoped that they may be of value to engineers who have as yet no great experience in this type of structural work.

In the calculation of forces in members of welded trusses, the same methods are employed as for rivetted structures, but the sections and joint details adopted are very different. Gusset plates can be almost entirely eliminated, and where it is necessary to use them, they can be made of comparatively small size. This considerably simplifies the joint construction, and saves not only the material of the gusset plate itself, but also eliminates the double jointing in connecting the subsidiary member to the gusset, and then the gusset to the main member. Care must be taken, however, to check the stress conditions in the welded joint very carefully to ensure that local overstressing is not caused at any point. The more rigid parts of the section will tend to take most of the stress, and in order to equalize the loads, it may be necessary to stiffen the more flexible portions by some means. For example, thin channel webs may be stiffened by the use of small flats on edge, welded to the web and flanges.

In tension members, due to the elimination of rivet holes, the full section of the member is available, thus effecting a considerable saving of weight. For compression members, the weight required for the sections is about the same as for rivetted work, but the building up of latticed or batten plated columns is far simpler in welded construction because the standard of accuracy required in laying a light plate on to the main members and welded around the edges is far less exacting than where rivet holes are required. The absence of rivet holes which must necessarily be drilled and matched in the shop permits the use in the field of sections direct from the rolling mills, the only requirement being that the material be cut to the desired lengths. Even this does not need to be done with a high degree of accuracy. It may be mentioned that the design of the joints was such that all the material, both plates and sections, for the McKillop bridge over the Snowy River was delivered to the site direct from the rolling mills and fabricated satisfactorily without any further work on them being necessary.

The type of joint between web and chords depends on the sections of the members, but where possible it will be found simplest to use fillet welds rather than butt welds for the connexions, as the former do not require the same accuracy in cutting and fitting as the latter.

Where the form of the truss precludes simple lap type joints, the use of oxy-torch in conjunction with welding permits the use of butt and intersection joints in a manner not possible by riveting. The "carpentering" of the ends of sections to permit interpenetration is a comparatively cheap and simple process. A considerable amount of this type of work may be done at a cost of a few shillings per ton, due to the comparatively small cross-section of the members in comparison to their lengths.

Butt welded joints are completely satisfactory for compression members, but unless particular care is taken in the method and materials used, they are not entirely reliable in tension due to the possible formation of hair cracks on cooling. For this reason, while butt welds should be used for the splices in compression chords on account of their greater economy of weld metal, the lapped type of joint by means of side plates is more satisfactory for the tension chords. In this latter case, it will be found more economical to use long plates and small sized fillets rather than short plates and heavy fillets owing to the saving of weld metal. This is due to the fact that the strength of the fillet increases directly as the throat thickness, while the amount of weld metal deposited increases as the square of this thickness. This applies to all welded joints.

In all welded joints, the question of accessibility for welding must be kept continually in mind, and the design should be such that all parts of the joint can be welded from a normal welding position. If the operator is compelled to adopt an unnatural strained position, the welding will be poor with a consequent reduction of the safety factor of the structure.

It has been found that the use of heavy gauge electrodes and high welding currents do not introduce any more heat or tendency to distortion into the work than the smaller electrodes and current, and as the former is the more economical due to the smaller welding time required, the heaviest gauge electrode possible should be used. The actual size is limited by the thickness of the material to be welded and it has been found that for normal highway structures composed of light channels and angles the heaviest electrode permissible is No. 6 gauge. No. 8 gauge is probably the best for general use. For initial runs of butt welds it is preferable to use No. 10 gauge. For the Board's work, the smallest size fillet used for strength purposes is $\frac{1}{4}$ inch. Particular emphasis is laid on the evenness of welding as tests have shown that uneven welding due to local concentrations of stress has a much lower strength under fluctuating stresses than an even weld of the same nominal size. It is very difficult to get satisfactory welding done in the field because of relatively poor plant. To overcome this to a certain extent, the Board has purchased a field welding set especially arranged so that welding current is kept uniform. The Board supplies electrodes for all its works, so that the most suitable type of electrode may be used for particular jobs.

VIBRATION APPLIED TO CONCRETE.—During this financial year, further consideration has been given to the question of vibration as an aid to the compaction of concrete.

Where the structures to be built are large, it is considered that an independent compressor unit is practically a necessity for the economical placing of sound concrete; but for the small jobs, which represent by far the greater portion of the Board's work, it is not economical to use an independent compressor. An extra item of plant requires transport and maintenance, and, even if a small compressor with the necessary engine could be provided at a low enough capital cost to warrant a plant hire rate of, say, £3 per week, it would probably cost approximately 5s. per cubic yard of concrete for work requiring less than 100 cubic yards. This rate is more than the economic value of the benefits derived from vibration, as it would be possible to use one extra bag of cement and sufficient water to ensure a mix which flowed readily into place. This would give very uniform concrete with the necessary strength.

For the type of concrete mixer employing a mechanical hoist, the engine capacity installed is a great deal in excess of that actually required for mixing the concrete once the materials are in the drum. Arrangements have, therefore, been made in one of the Board's 7-ft. concrete mixers to take advantage of this spare engine capacity, and a 4-in. x 4-in. compressor has been fitted to the concrete mixer and operated by the engine of the mixer. To enable the engine to operate the hoisting skip, an automatic device has been installed so that when the skip of materials is to be lifted the compressor is automatically cut out. As the length of time taken to load the concrete mixer is only approximately 15 per cent. of the total time, it is necessary to have only a relatively small storage capacity (approximately 15 cubic feet) to enable the two vibrators to work continuously throughout the day. The total cost of the necessary compressor, together with mountings and attachments to the concrete mixer, is approximately £75. This machine was successfully used for vibrating 500 lineal feet of retaining wall for flood protection work at Stratford, on the Prince's Highway East, Avon river. The cost of vibration, including all charges, was approximately 8d. per yard.

Yours obediently,

L. F. LODER, Chief Engineer.

APPENDIX.

1. TO FIX THE DESIGNED SPEED FOR A SECTION OF ROAD.

The engineer in charge of the work shall be responsible for submitting a recommendation in this matter to the Board.

Factors limiting speed are:—

1. Sight distance.
2. Vertical curvature.
3. Horizontal curvature.

From survey of the existing road or proposed route the designed speed which can be obtained without realignment or regrading, by introducing transition curves, should be ascertained. The introduction of a transition curve having the same secant distance reduces the minimum radius to approximately three-quarters of the original value.

The following method should be adopted:—

(*a*) *Classify horizontal and vertical curves as suitable for 70, 60, 50, 35, or 25 m.p.h. designed speed.* The speed values of the various curves on the section should be tabulated.

(I) For horizontal curves, curvature and sight distance must be considered.

Use Fig. 1, adopting a value of R equal to $\frac{3}{4}$ of existing circular radius as minimum radius of transitioned curve. First find V for given value of I and R. Then find a second value of V with given value of R and E + F = 0.25. The lower value of V is the speed value as far as curvature is concerned.

Allowing average co-efficient of friction for braking of 0.50, minimum sight distances which should be adopted for various speeds are as follows:—

Designed speed M.P.H.	Minimum sight distance in ft. on C.L. & 4′ above road level.
70	750
60	550
50	400
40	275
30	175
25	120

(II) For vertical curves, sight distance and comfort must be considered.

Minimum sight distances for various speeds are set out in above table.

For comfort the rate of change of grade should not exceed the following:—

Designed speed M.P.H.	Maximum rate of change of grade per 100′. Per cent.
40–70	5
25–30	10

(*b*) From inspection of tabulated speed values obtained as set out in (*a*), decide on one or two designed speeds which could be obtained at reasonable cost.

(*c*) Prepare estimate of regrading and realigning to these standards.

(*d*) Decide on designed speed which is to be recommended for the section.

2. INSTRUCTIONS FOR SETTING OUT TRANSITION CURVES.

(*a*) *Notation.*—

L=Length of transition curve in feet.
v=Designed speed in feet per second.
V=Designed speed in M.P.H.
R=Radius of smallest allowable circular arc or minimum radius at centre of double spiral (feet).
i=Intersection angle in radians.
I=Intersection angle in degrees.
F=Allowable coefficient of friction at designed speed.
E=Maximum allowable super elevation in feet per ft.
A=Allowable rate of change of acceleration on transition curve at designed speed. (feet per second^3)

(*b*) *The curve shall be set out with the following values for F. E. and A at the designed speed:*—

F=0.15.
A=1.54′ per second per second per second.
E=Shall not be greater than 0.10 feet per ft.

(*c*) *Find minimum* radius considering v, i, A., i.e., radius at centre of double spiral.

$$R = \sqrt{\frac{v^3}{iA}}$$

Taking value of A equal to 1.54, $R = 10.9 \sqrt{\frac{V^3}{I}}$

(*d*) *Find minimum value for R with given values for V, F and E.*

$$R = \frac{v^2}{g\,(E+F)} = 0.067 \quad \frac{V^2}{E+F}$$

If R as found above is greater than the minimum found as set out in (*c*) this larger value of R must be adopted.

(*e*) *Find length of transition with minimum radius obtained in (c) or (d).*

$$L = \frac{v^3}{AR}$$

Taking value of A equal to 1.54, $L = 2.05 \times \frac{V^3}{R}$

(*f*) *Find secant distance with R & L as determined by methods (c), (d) and (e).*

$$\text{Shift} = \frac{L^2}{24R} - \frac{L^4}{2688R^3}$$

$$\text{Secant distance} = R\,(\text{Sec.}\ \frac{I}{2} - 1) + \text{Shift sec.}\ \frac{I}{2}$$

If this secant distance can be exceeded a larger value of R and a correspondingly smaller value of L can be adopted, remembering that L x R is constant for any one speed value.

(*g*) Finally adopt values for L and R and recalculate value of shift if necessary.

(*h*) *To find tangent length to beginning of transition.*

$$\text{Tangent length} = R \tan \frac{I}{2} + \text{shift tan} \frac{I}{2} + \frac{L}{2} - \frac{L^3}{240\,R^2}$$

$$= (R + \text{shift}) \text{ Tangent } \frac{I}{2} + \frac{L}{2} - \frac{L^3}{240\,R^2}$$

(*i*) *Setting out transition curve.*

(1) By co-ordinates from tangent point as origin (see Fig. 2).

$$Y = \frac{l^3}{6\,R\,L} - \frac{l^7}{336R^3L^3}$$

$$X = l - \frac{l^5}{40\,R^2\,L^2}$$

(2) By deflections from tangent at tangent point (see Fig. 2).

$$\theta = \text{Tan}^{-1} \frac{y}{x}$$

(*j*) *Setting out circular arc (see Fig. 2).*

$$\phi = \frac{L}{2R} \text{ radians.}$$

$$\text{equals } 28{\cdot}65\ \frac{L}{R} \text{ degrees.}$$

Circular measure of circular arc is $i - 2\,\phi$

Knowing these angles, set out circular arc of radius previously fixed to connect the two points at which this circular arc junctions with the transition curves.

$V^3 = 1.54 R^2 I$ circ.

$1.54 L R = V^3$

$V^2 = gR(E+F)$

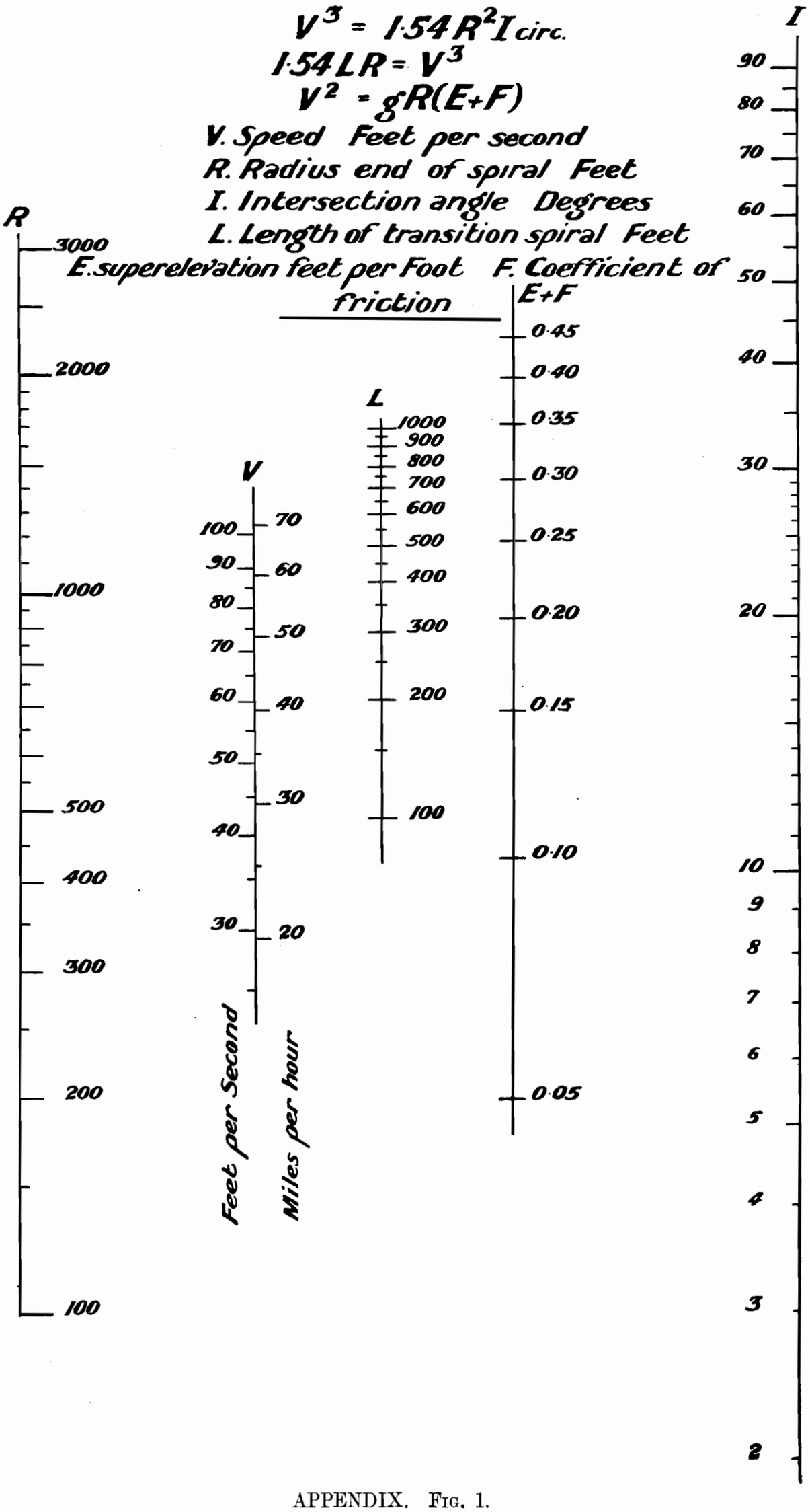
V. Speed Feet per second

R. Radius end of spiral Feet

I. Intersection angle Degrees

L. Length of transition spiral Feet

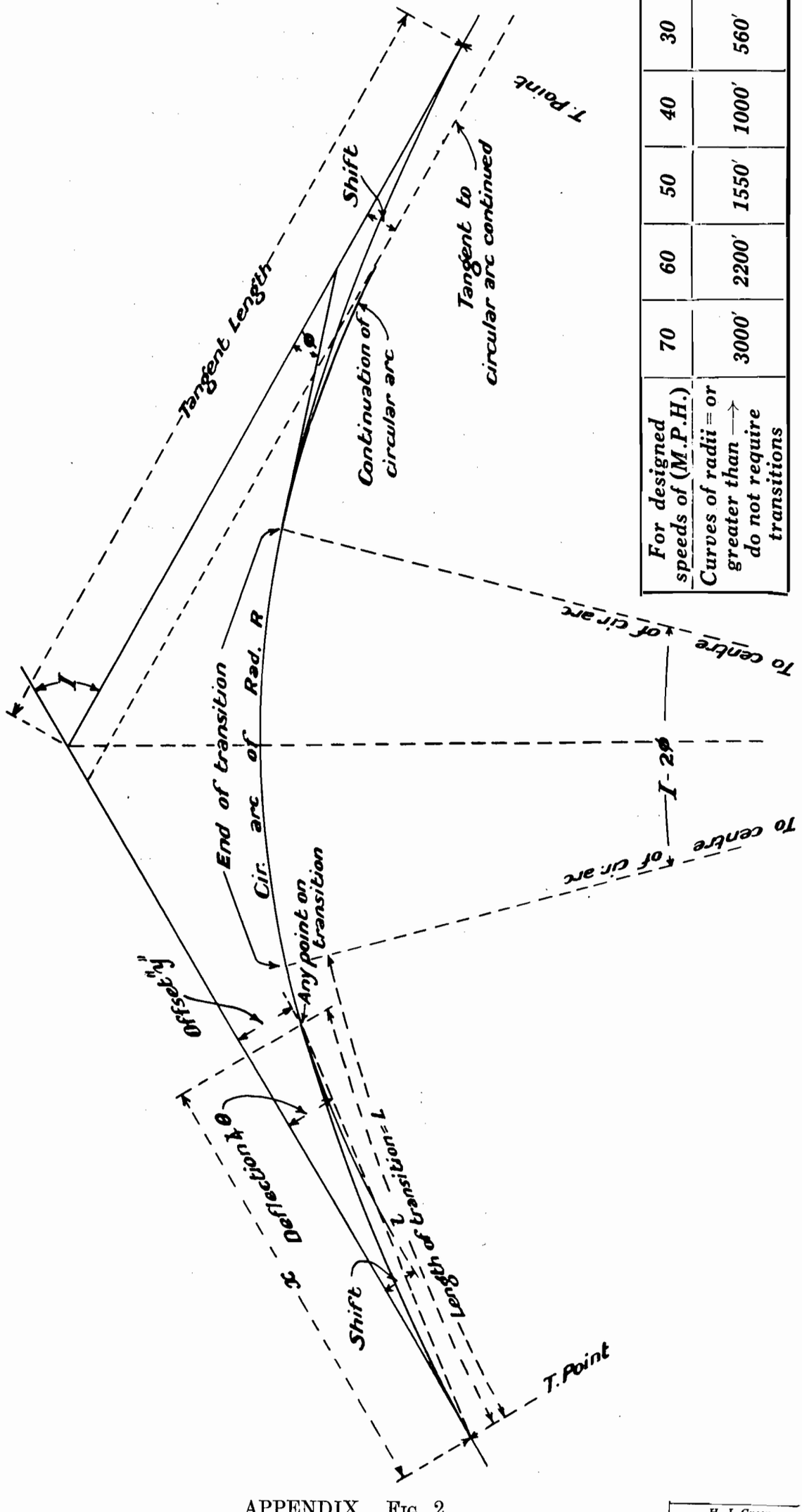
E. superelevation feet per Foot F. Coefficient of friction



APPENDIX. FIG. 1.

— C. R. B. —

— Standard Notation for transitioned curves



For designed speeds of (M.P.H.)	25	30	40	50	60	70
Curves of radii = or greater than → do not require transitions	380′	560′	1000′	1550′	2200′	3000′

APPENDIX. FIG. 2.

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