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NATIONAL PUBLIC WORKS

GENEVA, 1934

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PUBLIC WORKS

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ORGANISATION FOR COMMUNICATIONS AND TRANSIT

ENQUIRY

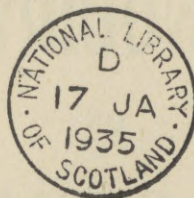
ON

NATIONAL PUBLIC WORKS

Series of League of Nations Publications

VIII. TRANSIT

1934. VIII. 8.



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INTRODUCTION.

At its seventy-sixth session, the Council of the League of Nations, in taking note of the work of the Committee of Enquiry into Questions of Public Works and National Equipment set up by the Communications and Transit Organisation, and of the position in which the discussion of this question had been left at the London Monetary and Economic Conference, recorded its view that, quite apart from the question of public works which involve an appeal for foreign capital—with which the studies of the Committee had hitherto been concerned—a continuous international study of general questions relating to public works, including big programmes of work financed out of national resources, would undoubtedly be of great value, as permitting of a comparison, in the interests of all the Governments, of the experience acquired in the different countries, particularly as regards the effects of the execution of public works, or of a particular category of public works, on the resumption of economic activity and on unemployment. The Council concluded that it would certainly be useful to collect without delay any preparatory information which might be required on this matter, with a view to subsequent discussion.

The report adopted by the Assembly at its fourteenth session expressed similar views. It stated that such information as might be collected on the subject would be particularly useful and would enable Governments to judge of the possibility and desirability of pursuing, under present circumstances, a policy of carrying out programmes of public works on parallel lines.

The Secretary-General of the League, under these circumstances, requested the Governments by a Circular Letter, dated March 7th, 1934, to communicate to him the following particulars :

I. A brief description of the main public works :

- (a) Undertaken since the beginning of the year 1929 and now completed ;
- (b) Now in course of execution ;
- (c) The execution of which is at present in contemplation or schemes for which are in preparation.

The term " public works " is intended to include the various categories of work mentioned in the list reproduced below, and the public works described should, as far as possible, be classified according to the categories shown in that list.

II. The principal administrative methods followed or contemplated for the execution of the work referred to in I, and any legal provisions relating to such work.

(Has the work in question been carried out, or is it being, or to be, carried out on behalf of or by the order of a central, regional or local or other authority, or on behalf of a company holding a concession from public services, or on behalf of private persons receiving a grant from the public authorities ? Is such work being carried out directly by the authorities, or by contract, etc. ?)

III. The principal methods employed for financing such work.

(Is the expenditure on the work charged to the ordinary or the extraordinary budget of the State, the budget of regional or local administrations, the budgets of public bodies, etc., or is it financed by an internal or external loan? Security of such loans; plans of repayment, etc.)

IV. An estimate, as far as is possible, of the allocation of expenditure on the execution of the public works referred to in I, as between materials and equipment provided by national or foreign industries, on the one hand, and labour—that is to say, wages and miscellaneous social expenditure—on the other.

V. The Government's opinion with regard to the effects obtained or expected from the execution of the public works referred to in I on the resumption of economic and industrial activities and on unemployment.

CLASSIFICATION OF PUBLIC WORKS BY CATEGORIES.

- (a) Roads and bridges.
- (b) Railway lines, including tramways, metropolitan railways, etc. (If possible, mention the more important construction works separately.)
- (c) Complete agricultural land reclamation (drainage, irrigation, construction of dwelling-houses and various new buildings, or establishment of entire new settlements, country roads and other works connected with land settlement).
- (d) Canals and other inland waterways (including improvement work on rivers, defensive work against floods, etc.). (Work not already included under (c).)
- (e) Land improvement work, bringing of new land under cultivation, reforestation, etc. (Work not already included under (c).)
- (f) Provision of drinking-water supplies and sewage disposal. (Work not already included under (c).)
- (g) Work carried out in sea and river ports, including mechanical equipment of such ports.
- (h) Work for the establishment of air ports.
- (i) Building and construction work forming part of a general plan and carried out (or to be carried out) with the participation or approval of public authorities, classified according to category (administrative buildings, dwelling-houses, etc.). (Work not already included under (c).)
- (j) Electric installations, hydro-electric and heating power centres, motive-power transmission.
- (k) Gasworks and long-distance gas supply.
- (l) Telegraph and telephone installations, wireless broadcasting stations.
- (m) Other work.

A large number of replies to this Circular Letter have already reached the Secretariat and are the subject of the present document. They are from the Governments of the following countries :

Union of South Africa, Australia, Austria, Belgium, United Kingdom of Great Britain and Northern Ireland, Bulgaria, Canada, Czechoslovakia, Denmark, Estonia, Finland, France, Greece, Haiti, Iraq, Italy, Latvia, Lithuania, Luxemburg, Netherlands, New Zealand, Nicaragua, Norway, Portugal, Salvador, Switzerland, Turkey, United States of America, Yugoslavia.

Other replies are awaited. The delay in their arrival is undoubtedly due to the considerable time required for collecting the necessary particulars. This is clear from certain preliminary communications received by the Secretariat. These replies will be published in an addendum to the present document.

The replies from the Governments are, in general, reproduced in full ; but certain details or particulars of a purely local character have been eliminated where the reply was too long to admit of its publication *in toto*. The replies were in some cases accompanied by printed documents. These have, in general, not been reproduced ; but extracts have been made from them where the subject-matter appeared to come more specifically within the scope of the enquiry. An index precedes the replies from Governments ; it enumerates, under the heading of each category of work mentioned in the annex to the Circular Letter, the countries whose replies fall directly into these categories. It is important to note, however, that the index includes only the documentation reproduced in the present volume. A list of the documents annexed to replies which have not been published or of which only extracts have been reproduced will be found at the end of this volume.

These documents are kept in the Records of the Secretariat. Additional information from these sources could be supplied to Governments upon request.

This study of national public works is the first which has been based on official information furnished on application by all Governments. It was accordingly essential to leave considerable latitude to the Governments in the preparation of their replies, and there could be no question of imposing any over-rigid scheme upon them. The Circular Letter was to be regarded therefore only as a means of facilitating the task of the Governments ; the latter were free to seek guidance, in so far as they thought possible, from the very general indications contained in the circular. The replies were bound, however, to vary considerably. Some of them are confined to a general statement ; others consist of brief statements with documents attached, giving more detailed information ; while others are comprehensive replies following closely the indications in the Circular Letter.

Under these conditions, it was thought better to publish the replies received as nearly as possible in their original form, without any attempt to draw up any systematic comparative statement based on the information contained in them. It was felt that it would not be possible, until after a study of the replies from the different Governments and possibly examination by some appropriate technical organisation, to proceed in the light of the results of the present initial enquiry to define more precisely the scope of the information required in the future, in the event of it being thought desirable to collect periodically documentary information covering the whole of the programmes of national public works.

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UNION OF SOUTH AFRICA.

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2. A brief statement by the Union Department of Lands of the policy contemplated by the Union Land Settlement Act, 1912, as amended from time to time.
3. Memorandum by the Union Department of Agriculture on anti-soil-erosion works and improvement of pasturage.
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 - (a) New construction ;
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 - (a) Pietersburg municipal aerodrome ;
 - (b) Cape Town municipal airport ;
 - (c) Port Elizabeth municipal aerodrome ;
 - (d) Durban municipal aerodrome ;
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6. Memorandum by the Union Director of Forestry.
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Owing to financial stringency, the South West African Administration has up to the present been unable to carry out programmes of work which may strictly be classed as "National Public Works" and its main endeavours for the relief of unemployment have been confined to the reparation and construction of roads.

The Administration intends spending an approximate amount of £20,000 during the current financial year on roads in the territory.
9. Memorandum by the Electricity Supply Commission on electrical undertakings in the Union of South Africa.
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I. PUBLIC WORKS DEPARTMENT.

INTRODUCTION.

(a) Before replying to the various questions, it is desirable to indicate briefly the relationship of the National (Union) Public Works Department to the provincial administrations and Government departments.

(b) The Union Public Works Department designs and erects (usually under contract) all buildings required by the Central Government departments—that is, *inter alia*, all administrative office buildings, law courts, police stations and barracks, gaols and prisons, post offices, buildings for agricultural experimental and research work, buildings required for district administration, etc. Bridges across rivers forming boundaries of provinces are also provided for and erected by the Central Department.

(c) The provincial administrations are responsible for internal roads and bridges and for hospitals and schools, except vocational schools. The services of the Central Public Works Department are available on request from the provinces, and two of the four provinces use these services almost exclusively (except for road construction), while the other two provinces have built up organisations of their own.

(d) At one time, the Central Department also erected hospital and university buildings, but the policy now is to give these buildings out to architects in private practice.

REPLIES TO QUESTIONNAIRE.

I (a) and (b). — No special programme of public works has been undertaken in the period of five years since 1929. A steady programme of erection of new buildings and bridges under the categories outlined in (b) above has been in progress. The average expenditure on new buildings, including inter-provincial bridges, during the five years has been approximately £600,000 per annum from funds provided by the Union Government and approximately £250,000 per annum for provincial services carried out by the Public Works Department in terms of paragraph (c) above.

The more important services commenced or dealt with in this five-year period were :

		Estimated total cost
		£
Pretoria :	New block of administrative offices	255,000
Johannesburg :	New post office	395,000
Cape Town :	New police barracks	125,000
Cape Town :	Art Gallery	60,000
Cape Town :	Archives building	55,000
Cape Town :	New blocks of administrative offices	180,000
Durban :	New blocks of administrative offices	100,000
Port Elizabeth :	New police barracks	34,000
Port Elizabeth :	New magistrates' courts and office block	72,000
Pretoria :	Additions to Government printing works	65,000
Pretoria :	Police training depot (improvements)	50,000
Durban :	Additions to post office	110,000
London :	South Africa House	300,000
Cape Town :	New hospital buildings	750,000
Pretoria :	New hospital buildings	400,000
Bloemfontein :	New hospital buildings	300,000
East London :	New hospital buildings	70,000

I (c). — For the year commencing April 1st, 1934, the Union Parliament authorised an exceptionally large programme of public works, the estimated total cost of which is approximately £2,000,000.

The programme comprises ordinary buildings and bridges falling under the categories outlined under (b) above. The outstanding services included in this programme are :

	£
Cape Town Research Laboratories	30,000
New buildings and barracks for the Defence Department . . .	250,000
Johannesburg magistrates' courts and offices	350,000
Pretoria magistrates' courts and offices	100,000
Pietermaritzburg magistrates' courts and offices	61,000
Additions to various mental hospitals	100,000
Tuberculosis hospital in Natal	60,000
Pretoria State Library additions	26,000
Johannesburg : Miners' phthisis bureau and miners' training-schools additions	68,000
Johannesburg : Additions to post office	78,000
Various inter-provincial bridges	130,000
Pretoria : Additions to administrative offices	130,000

II. — The Union Public Works Department maintains a large professional staff. Usually, the various works are put out to contract for erection on designs and plans prepared by the department. Occasionally, large services are put out to competition amongst architects in private practice, and an assessor is appointed to select the winning design. Generally speaking, however, all public works are designed, and the erection is supervised, directly by officers of the department, the works being executed under contract let under stringent conditions of public tender.

III. — The works are financed under the ordinary budget of the State. The funds are obtained partly from current revenues and partly from loans. Loans are raised internally or externally, according to the needs.

IV. — The Department does not maintain statistics which would enable a categorical answer to be given to this question, but the department's experience is that, on an average over all services, labour and materials each represents approximately 50 per cent of the cost. This division takes no account of labour expended on the manufacture of building materials, brickmaking, stone quarrying, paints, etc., but represents the estimated division of building costs as between materials delivered on the site and labour for erection and construction.

V. — Although in more normal years the building activities of the Public Works Department represent only a small portion of the total activities of the building industry throughout the Union, the period from 1929 to March 1934 was one in which private building was at a low ebb, and undoubtedly the building programmes carried out by the Department had very beneficial effects in easing the acute effects on artisans and the building trade generally.

As indicated above, the Government, in March 1934, decided to embark upon an exceptionally large building programme, which will certainly help to restore confidence and trade and employment throughout the country. Signs of revival are already in evidence, and it is anticipated confidently that, by the end of the year, the industry will be in full employment again.

2. DEPARTMENT OF LANDS.

BRIEF RECAPITULATION OF THE MAIN FEATURES OF THE PRINCIPAL LAND SETTLEMENT ACT IN OPERATION IN THE UNION OF SOUTH AFRICA.

Land settlement operations in the Union of South Africa are governed chiefly by the Land Settlement Act of 1912, as amended from time to time. This Act contemplates :

- (1) The rehabilitation of members of the farming community who, for various reasons, have become dispossessed of their farms and assets, but who, by thrift, have again acquired a certain amount of capital in the way of either cash or stock and who merely require land in order again to become independent ;
- (2) The placing on farms of members of the community who possess qualifications sufficient for utilising the land and who have the necessary capital.

It has not been possible, by means of the available suitable Crown land in the Union, to meet the requirements of those desiring to acquire land, and, to meet the demand of the landless, the legislation in question contemplates two main schemes :

1. The more popular, and certainly the more successful scheme, is the purchase of farms for prospective settlers on a contributory basis—the Government providing up to nine-tenths of the purchase price of the land and subsequently, when necessary, making advances for permanent improvements and for stock and equipment. Briefly, the procedure is for the applicant to obtain an option on the farm he desires to acquire, and then to submit this option, together with his application, to the department. If, after inspection, the department is satisfied as to the applicant's capital and qualifications and the purchase price and suitability of the farm for settlement purposes, the property is purchased and is allotted to the settler on lease for a period of forty years at the cost to the Government, plus two years' interest on such cost price. For the first two years, no further instalments of interest accrue. During the following eight years, interest, payable yearly in advance, accrues at 4 per cent on the allotment price, and, on the expiry of that period, the purchase price (less the amount contributed by the allottee towards the purchase price), together with interest at the rate of 4 per cent per annum, is payable yearly in advance in thirty equal instalments.

Contributions by the Government towards the purchase price are limited usually to £1,500 in each case. The amounts advanced for permanent improvements and for stock and equipment vary, but the maximum for this purpose is limited by legislation. Expenditure is met from loan funds provided by Parliament and, during recent years, the following sums were spent on the purchase of land :

	£
1929-30	487,662
1930-31	528,271
1931-32	286,886
1932-33	56,915

The security for the expenditure is the land and improvements. In regard to advances for stock and equipment, the dominium in the material purchased vests in the Government till the advance has been repaid.

2. The Government, from time to time, purchased large blocks of land suitable for dry-land farming and subdivided these into small holdings ; but, generally speaking, this method of rehabilitating the farming community has not proved successful. Latterly, therefore, the policy of the Government, so far as closer settlement is

concerned, has concentrated on irrigation settlement in various parts of the country. A suitable site having been selected for this purpose, the land destined for irrigation is purchased. The preliminary activity, embracing the building of the dam and the canal systems, is performed by the Irrigation Department, and, only when that department has completed its work, the scheme is handed over to this department for settlement purposes. The land is then divided into holdings varying from 10 to 30 morgen (with communal grazing in addition), and the purchase price of these holdings must equal the cost of the land, plus the costs of transfer, subdivisional charges and other necessary expenditure thereon. Applications for allotment are invited by means of advertisement, and, after consideration of the applicants by a Board established for this and other purposes, the successful applicants take occupation on a lease basis. The latest amending legislation provides that the settler shall be entitled to exercise his option of purchase at any time within a period of ten years, and, once such option is exercised, the purchase price becomes payable over a period of thirty years, with interest at 4 per cent. Personal occupation of the holding is compulsory. The land comprising the settlement is purchased from moneys provided by Parliament on the loan vote, and advances are made to settlers (also from the loan vote) to enable them to clear the land where necessary, to build their houses and the required outbuildings, and to purchase stock and equipment.

The security in these cases is naturally the same as that under the Contributory Scheme.

During recent years, four irrigation settlements have been laid out, but these are not of an extensive nature. They contemplate absorbing 85, 37, 33 and 23 settlers respectively. The expenditure incurred or contemplated by the department on the purchase of land and on subdivisional survey, etc., will amount to approximately £29,700, £45,600, £35,100 and £48,300 respectively.

The expenditure on advances for permanent improvements and for stock and equipment during recent years has been as follows :

	£	s.	d.
1929-30	88,114	11	1
1930-31	24,409	12	9
1931-32	50,936	7	2
1932-33	14,061	10	11

Apart from the main Land Settlement Act of 1912, provision has also been made by Act 38 of 1924 for the establishment of what are known as probationary settlement areas, and an extensive scheme is at present in existence under irrigation on the banks of the Orange River. The provisions of this legislation empower the Minister to receive applications from indigents who are regarded as likely to be suitable, when trained, to become lessees of holdings under the principal Act. Successful applicants are given rights of temporary occupation and undergoing a course of training for periods up to five years. During this probationary period, monthly allowances are paid to the probationers, and, in addition, they receive a share of the crops grown by them. Supervision is exercised by a Committee of Control, and, when that body is satisfied as to the merits of a probationer, he is given a plot on lease in terms of the main Act. Expenditure on land and for clearing and for preparatory work for houses, etc., is made from moneys provided by Parliament on the loan vote, while sums spent on allowances and for the purchase of seed and equipment form a charge against the ordinary revenue appropriation. The expenditure on the scheme in question, which contemplates the ultimate settlement of 650 families, has, in recent years, been as follows :

From Loan Funds.

	£	s.	d.
Land and survey (including "Karos" purchased in 1914-15 for £17,820 and "Uitdraai" purchased in 1929-30 for £30,190 18s. 8d.).	74,353	6	1
Irrigation works	39,533	8	6
Development	260,161	2	5

Roads and bridges :

	£	s.	d.	
Roads	347	2	7	
Bridges	7,500	0	0	
	7,847	2	7	381,894 19 7

From Revenue Vote.

Salaries	10,589	16	2	
Subsistence and transport	2,770	14	5	
Maintenance of settlement works	4,069	19	1	
Probationary lessees (including maintenance allowances and other recoverable expenditure, amounting to £18,004 13s. 7d.).	56,520	2	8	
Committee of Control	821	13	5	
Contribution to divisional councils for construction of roads	2,400	0	0	
	77,172	5	9	
	£459,067	5	4	

As already indicated, the schemes outlined in this memorandum do not, generally speaking, directly contemplate relief for the unemployed ; but, in providing avenues for permanent independence for a class that, without assistance, would possibly become submerged, the tide of unemployment is undoubtedly stemmed.

3. DEPARTMENT OF AGRICULTURE. .

CATEGORY (c) (ANTI-SOIL-EROSION WORKS AND IMPROVEMENT OF PASTURAGE).

I. — The problem of dealing with soil erosion has become of such tremendous importance in various parts of the Union that the Union Government decided last year to declare it a matter of national importance. The Department of Agriculture was instructed to take active steps to combat the evil and to reclaim waste areas as far as is economically possible.

II. — Works requiring technical advice are planned and surveyed by engineers whose services are available at no cost to the owner. Such works can be undertaken by the farmer either :

- (a) At his own expense ;
- (b) With a Government loan ; or
- (c) By unemployed Europeans.

(a) Where the landowner prefers to undertake anti-soil-erosion works at his own expense, he is paid a bonus of 25 per cent up to a maximum of £62 ros. in each individual case on all work completed to the satisfaction of the department.

(b) Special loans to a maximum of £250 in each individual case can be obtained from the Government for the construction of anti-soil-erosion works. Such loans are repayable over a period of thirty years and bear interest at the rate of $3\frac{1}{2}$ per cent annually. A subsidy is also paid by the State in such cases, so that, for every £100 loaned, he will be required to repay £75 only.

(c) In order to ease the unskilled unemployment position, it is considered that this cannot be done to better advantage than to encourage the use of such labour on construction works of national importance, and it has been decided to subsidise the utilisation of such labour for anti-soil-erosion works, approved by the department, to the extent of seven-eighths of the wage-bill involved. The remaining one-eighth is registered as a quitrent against the deed of transfer of the property concerned, repayable without interest over a period of fifty years. The necessary legislation to cover the expenditure is contained in the Finance Act 64 of 1934.

III. — The expenditure is charged to the ordinary budget of the State, and the question of the security of such loans and the terms of repayment were dealt with under II.

IV. — The expenditure in connection with the anti-soil-erosion campaign is estimated to cost £223,000 during the financial year ending March 31st, 1935. Of the amount mentioned, £160,000 has been provided for the payment of wages to unemployed Europeans. Materials and equipment which may be necessary for the erection of the works are supplied by owners and are mostly of local manufacture.

V. — The object in view of the scheme is to remove the causal factors of soil erosion and to repair as much as possible the existing damage. It is anticipated that the measures taken will considerably tend to conserve water and improve pasturage generally, thereby making farming less precarious and in many cases more profitable.

4. RAILWAYS AND HARBOURS : INFORMATION REGARDING NEW CONSTRUCTION AND OPEN LINES WORKS.

NEW RAILWAYS COMPLETED.

Act No. 8 of 1929.

Koophmansfontein-Postmasburg Line.

(1) Work commenced : August 30th, 1929.

Work completed : November 1st, 1930.

Length of line : 65 miles 58 chains.

Width of formation is 16 feet on banks and 18 feet in cuttings.

New 80-lb. rails on new steel sleepers laid 2,112 to the mile.

Total cost : £304,417.

(2) The work was carried out under the direction of a resident engineer with a construction staff with quarters on the site of the work.

The actual construction of the line was let to contract.

(3) The cost of constructing this branch line was, in terms of an agreement, financed by a private company. The principal sum is repayable to the company.

(4) Without considerable research, unable to ascertain readily the particulars desired.

(5) Line was constructed to serve the manganese ore deposits at Postmasburg.

Witvlei-Gobabis Line.

(1) Work commenced : June 1929.

Work completed : November 6th, 1930.

Length of line : 31 miles 43 chains.

Width of formation is 14 feet.

Second-hand 45-lb. and 40 $\frac{1}{4}$ -lb. section rails with second-hand steel sleepers laid 1,760 and 2,092 to the mile respectively.

Cost : £65,025.

(2) The work was carried out under the supervision of a district engineer with staff on the site of the work.

The actual execution of the work was carried out mainly by a series of contracts.

(3) The work was financed under the Railways and Harbours Capital and Betterment Estimates U.G.12, 1929 and subsequent years.

(4) Particulars desired are not readily available.

(5) Line was constructed to provide transport facilities for local farmers.

Act No. 28 of 1929.

Dordrecht Deviation.

(1) Work commenced : September 10th, 1931.

Work completed : October 19th, 1932.

Length of line : Approximately 8 miles 53 chains.

Width of formation is 14 feet in both cutting and on embankments.

Second-hand 80-lb. section rails on new 60-lb. steel sleepers laid 1,716 per mile.

Cost at date : £46,854.

(2) This work was supervised by departmental officers, and the earthworks, platelaying and ballasting were carried out by civilised labour.

(3) The work was financed under the Railways and Harbours Capital and Betterment Estimates U.G.12, 1929 and subsequent years.

The cost is being recovered by means of surcharges.

(4) Reliable figures are not available.

(5) The deviation was constructed in order to serve the township of Dordrecht.

Act No. 43 of 1931.

Northam-Tabazimbi Line.

(1) Work commenced : March 6th, 1933.

Work completed : February 26th, 1934.

Length of line : Approximately 28 miles 64 chains.

Width of formation is 14 feet in cuttings and on embankments.

The line is laid with class 3, 80-lb. section rails of various lengths with new 60-lb. section steel sleepers laid 1,980 per mile.

Parliamentary vote : £149,146.

(2) The construction work was carried out under the supervision of an engineer-in-charge, the earthworks, platelaying and ballasting being carried out by civilised labour under butty-gang conditions. The remainder of the work was mostly let to contract.

(3) Work was financed out of Railway and Harbour Capital Funds.

(4) Figures are not available.

(5) Line was built under an agreement with the South African Iron and Steel Industrial Corporation for the conveyance of iron ore.

Act No. 33 of 1925.

Molteno-Jamestown Line.

(1) Work commenced : April 10th, 1929.

Work completed : June 3rd, 1931.

Length of line : 41 miles 73 chains.

Width of formation is 14 feet in cuttings and on embankments.

Second-hand 60-lb. section rails on new steel sleepers, 1,760 per mile.

Cost : £214,141.

(2) Work was carried out under the direction of a district engineer and staff resident near the works.

The actual construction work was carried out partly under civilised labour conditions and partly by contracts.

(3) Financed out of Railway and Harbour Capital and Betterment Works Funds.

(4) Information required is not readily ascertainable.

(5) Line was constructed to provide transport facilities.

Parys-Vredefort Line.

(1) Work commenced : April 19th, 1929.

Work completed : April 24th, 1930.

Length of line : 10 miles 62 chains.

Width of formation is 14 feet in cuttings and on embankments.

New 60-lb. section rails 33 feet long on steel sleepers, 1,920 to the mile.

Cost : £52,989.

(2) The work was carried out under the direction of an engineer-in-charge with staff and partly under civilised labour conditions and partly by contracts.

(3) Financed out of Railway and Harbour Capital and Betterment Works Funds.

(4) No reliable information available.

(5) Line was constructed to provide transport facilities.

Chailey-Mount Alida Line.

(1) Work commenced : November 29th, 1929.

Work completed : July 1st, 1931.

Length of line : 25 miles 15 chains.

Width of formation is 14 feet in cuttings and on embankments.

Second-hand 60-lb. section rails on steel sleepers, 1,760 per mile.

Cost : £108,015.

- (2) The work was carried out by a resident engineer and staff, resident on the site of the works, partly under civilised labour conditions and partly by contract.
- (3) Financed out of Railway and Harbour Capital and Betterment Works Funds.
- (4) Without considerable research, unable to ascertain readily the particulars desired.
- (5) Line was constructed to provide transport facilities.

LINES IN HAND.

Act No. 43 of 1931.

Kleinstraat-Matrosberg Loop Line.

- (1) Work commenced : September 22nd, 1931.
Estimated date of completion : September 22nd, 1934.
Length of line : Approximately 7 miles 64 chains.
The line is being laid with new 96-lb. rails on new steel sleepers, 2,112 to the mile.
Estimated cost : £123,439.
- (2) This work is being carried out under the ægis of an engineer-in-charge with a construction office near the work. A portion of the earthworks was carried out under butt-gang conditions, but there were three large cuttings which were let to contract employing civilised labour. The platelaying and ballasting were also let to contract.
- (3) Financed out of Railway and Harbour Capital and Betterment Works Funds.
- (4) Reliable figures not available.
- (5) The loop line is being constructed to facilitate the working of coastwise traffic over the Hex River Mountains.

Point-Congella Line.

- (1) Work commenced : June 20th, 1932.
Probable date of completion : June 1935.
Length of line : Approximately 1¾ miles (double track).
New 96-lb. section rails on new wood sleepers, size 7 feet by 10 inches by 5 inches, 2,120 to the mile.
Parliamentary vote : £224,024.
- (2) This work was authorised by Act No. 43 of 1931 and is being supervised by the technical officers attached to the System Manager's Office, Durban, but acting under orders from the chief civil engineer. The accounting work is being done by the local accountant at Durban.
The work in hand is being carried out directly under the supervision of the Administration, the cost of unskilled labour being a charge to the Department of Labour, from whom it is recovered, the men being paid a daily rate.
- (3) Financed out of Railway and Harbour Capital and Betterment Works Funds.
- (4) Particulars desired are not available.
- (5) Line is being constructed to facilitate working at Durban.

Mimosa-Alicedale Deviation.

- (1) Work commenced : August 31st, 1931.
Probable date of completion : July 31st, 1934.
Length of line : Approximately 19½ miles.
Second-hand 80-lb. section rails on new steel sleepers, 2,112 per mile.
Parliamentary vote : £191,331.
- (2) The work is being carried out by an acting district engineer with departmental staff temporarily resident on the works.
The earthworks, platelaying and ballasting were carried out for the greater part by civilised labour, the tunnel work being let to contract, also employing civilised labour.
- (3) Financed out of Railway and Harbour Capital and Betterment Works Funds.
- (4) Figures are not readily available.
- (5) This deviation is being constructed with a view to overcoming heavy grades and curvatures existing on the midland main line between Mimosa and Alicedale.

Act No. 3 of 1933.

Germiston-Elsburg Loop Line.

- (1) Work commenced : September 19th, 1932.
Estimated date of completion : June 30th, 1934.
Length of line : Approximately 3 miles 11 chains (double track).
Second-hand 80-lb. section rails on wood sleepers, size 7 feet by 10 inches by 5 inches, 2,112 per mile.
Parliamentary vote : £126,969.
- (2) This work is being supervised by departmental engineer and construction staff. The earthworks, platelaying and ballasting are being carried out by European labour, the cost of the unskilled labour being subsequently recovered from the Labour Department.
- (3) Financed out of Railway and Harbour Capital and Betterment Works Funds.
- (4) Figures are not readily available.
- (5) Loop is being constructed to facilitate traffic working.

Act No. 25 of 1933.

Springs-Nigel Line.

- (1) Work commenced : September 5th, 1933.
Estimated date of completion : January 31st, 1935.
Length of line : Approximately 21 miles 22 chains.
Second-hand 75-lb. rails on new steel sleepers, 2,200 per mile.
Parliamentary vote : £141,500.
- (2) This work is being carried out by an acting district engineer with construction staff temporarily resident near the works.
The earthworks are being carried out under the piecework butty-gang conditions, the cost of the unskilled labour being subsequently recovered from the Labour Department.
- (3) Financed out of Railway and Harbour Capital and Betterment Funds.

- (4) Reliable figures are not readily available.
- (5) Line is being constructed mainly to serve gold-mining developments in the Springs-Nigel area.

Twinplaats-Marble Hall Line.

- (1) Work commenced : September 1st, 1933.
Estimated date of completion : August 31st, 1934.
Length of line : Approximately 36½ miles.
The line is being laid with second-hand 60-lb. section rails with new steel sleepers, 1,980 per mile.
Parliamentary vote : £123,199.
- (2) This work is being carried out under the supervision of an acting district engineer and staff who are resident on the site of the work. The earthworks, platelaying and ballasting are being carried out by civilised labour, the cost of the unskilled labour being recovered from the Department of Labour.
- (3) Financed out of Railway and Harbour Capital and Betterment Works Funds.
- (4) Particulars desired are not readily available.
- (5) This railway is being built mainly to provide suitable transport facilities for the conveyance of marble and limestone, but it will, at the same time, prove of considerable benefit to the farming community.

Stanger-Tugela Improvements.

Stanger-Darnall Section :

- (1) Work commenced : March 20th, 1929.
Work completed : September 12th, 1930.
Length of line : Approximately 5¾ miles.
The line is laid with 80-lb. section rails on wood sleepers, size 7 feet by 10 inches by 5 inches, 2,112 to the mile.
Total cost : £83,439.

Darnall-Tugela Section.

- (1) Work commenced : July 1932.
Probable date of completion : August 1934.
Length of line : Approximately 8 miles 55 chains.
New and second-hand 80-lb. section rails on wood sleepers, size 7 feet by 10 inches by 5 inches, 2,112 per mile.
Estimated cost : £136,447.
- (2) This work is being carried out under the supervision of an acting district engineer and staff, the accounting work being done by the local accountant, Durban. The work is being carried out under a series of contracts using unrestricted labour.
- (3) Financed out of Railway and Harbour Capital and Betterment Works Funds.
- (4) Reliable figures are not readily available.
- (5) Work is being undertaken to facilitate traffic working.

Mount Vernon-Cliffdale, doubling Existing Line.

- (1) Work commenced : February 27th, 1931.

Length of line : 24 miles 40 chains.

New 96-lb. rails on new wood sleepers, size 7 feet by 10 inches by 5 inches, 2,112 per mile.

Estimated cost : £380,941.

(2) This work is being carried out under a district engineer and staff, under a series of contracts using unrestricted labour.

(3) Financed out of Railway and Harbour Capital and Betterment Works Funds.

(4) Particulars desired are not readily available.

(5) Doubling existing line.

East London-Chiselhurst Deviation.

- (1) Work commenced : September 4th, 1933.

Probable date of completion : September 4th, 1935.

Length of line : Approximately 2 miles 49 chains (double track).

The line is being laid with 96-lb. section rails on wood sleepers, 7 feet by 10 inches by 5 inches, 2,112 per mile.

Estimated cost : £126,000.

(2) This construction is being carried out under the supervision of an engineer-in-charge and staff. The earthworks are being carried out under civilised labour butty-gang system.

The larger concrete work in overhead road bridges and subways is being let to contract.

The cost of unskilled labour is being recovered from the Labour Department.

(3) The work is being carried out under agreement with the East London City Council, the Labour Department and the Administration, all of which are sharing in the cost.

(4) Reliable figures are not readily available.

(5) Deviation is being constructed to relieve unemployed distress and to facilitate traffic working.

HARBOURS.

(g) (a) *Works undertaken since 1929 and completed.*

Table Bay Harbour: Sea Port, Cape Town.

Renewal of timber superstructure on the old south breakwater and shortening of breakwater. — Commenced in September 1930 and completed in November 1932. The shortening of this breakwater by 140 feet was undertaken to facilitate the entry of ships into the Alfred Basin and the remaining portion of the breakwater was faced on the channel side with a new timber structure. The work was carried out by the Administration.

Provision of 60-ton floating crane. — Put in hand in December 1929 and completed in December 1931. Built under contract. Provided to facilitate handling of cargo and increase the floating equipment of the harbour.

Extension of fruit-handling facilities. — Commenced in April 1931 and completed in August 1933. Necessitated by the increase in export fruit traffic. Work carried out by the Administration.

Additional refrigerator compressor. — Commenced October 1932 and completed in October 1933. Provided to meet the increased export fruit traffic. Work done departmentally by the Administration.

The fruit-handling facilities are temporarily housed in the existing cargo shed on the East Pier, where the mail-boats are berthed. Consideration is now being given to the erection of a permanent pre-cooling store on the new basin.

Durban Harbour: Sea Port.

Reconstruction of "D", "E" and "F" cargo sheds. — Commenced in March 1929 and completed in June 1930. Necessitated to meet modern requirements and increased traffic. Work carried out by the Administration.

Provision of one 80-ton mobile crane and eleven 4-ton electric wharf cranes. — Authorised in November 1929 and all installed by December 1932. The cranes were supplied under contract and erected by the Administration. Necessitated by modern requirements.

Provision of two 4-ton electric cranes. — Authorised in April 1931 and put into service July 1933. Supplied by contract and erected by the Administration. Necessitated by modern requirements.

Provision of one 25-ton floating crane. — Authorised in April 1931 and ready for use in December 1932. Supplied by contract. Required to augment the floating equipment of the harbour.

Wharfage at Congella. — Constructed to meet growing demands for accommodation of cargo-boats. Commenced July 1932 and completed in March 1934. Work carried out by the Administration.

Provision of twin-screw hopper dredger. — Authorised in January 1930 and delivered in October 1930. Supplied by contract.

Provision of sea-going hopper dredger. — Authorised in February 1930 and delivered in February 1931. Supplied by contract.

The above dredgers were provided to assist existing craft and meet increased dredging requirements occasioned by the establishment of deep-water berths at Congella and the facilities for bulk oil traffic at Island View.

Algoa Bay: Sea Port, Port Elizabeth.

Repairs to north jetty. — Heavy repairs to the north jetty were authorised in January 1930 and effected in September 1931, the work being done by the Administration.

Pre-cooling store. — Sanction was given in February 1931 for the provision of a pre-cooling store on the Dom Pedro jetty to meet demands for the export of fruit from Port Elizabeth. The work was commenced in May 1931 and completed in July 1932, and was carried out by the harbour engineer.

Waterborne sewerage. — The installation of waterborne sewerage in the harbour area was undertaken in April 1931 and completed in May 1931. The work was carried out by contract.

Additional lighters. — The provision of additional lighters to meet increased traffic was undertaken in October 1930 and completed in June 1931, the work being done by the Administration through the Mechanical Department.

Buffalo Harbour: Sea Port, East London.

Electric cranes. — Authorised in February 1930 and completed in August 1931. Supplied by contract and erected by the Administration. Required to meet modern demands occasioned by the improved facilities at East London.

First Creek bridge. — Commenced in June 1931 and completed in December 1932. Work done by the Administration. Built to replace old timber structure.

Coaling jetty. — Commenced in January 1932 and completed in March 1933. Work carried out by the Administration, to assist shipping.

Protective concrete pitching of western training wall. — Commenced in January 1929 and completed in April 1929. Work carried out by the Administration. Efficiency measure.

Walvis Bay: Sea Port.

Provision of fog siren and tower at Pelican Point. — Commenced in December 1930 and completed in January 1932. Work done by the Administration. Safety measure.

(g) (b) *Works undertaken since 1929 and not yet completed.*

Cape Town: Table Bay Harbour.

Cape Columbine lighthouse, etc. — The erection of a lighthouse, etc., at Cape Columbine was undertaken in April 1934 and is being carried out by the Administration as a safety measure to passing ships.

Port Elizabeth Harbour.

Closing of Dom Pedro jetty. — This forms part of the scheme to provide Port Elizabeth with an enclosed harbour. The work was started in February 1932 and is now nearing completion. The work is being done by the Administration.

Enclosed harbour scheme. — This scheme aims at giving Algoa Bay an enclosed harbour in keeping with the trade of the port and reasonable future development. It is the accepted scheme of various proposals. Authorised in September 1931, the work was started in May 1932 and is being carried out by the Administration.

The scheme includes the closing-in of the Dom Pedro jetty and the extension of the breakwater, while a north arm will be constructed to give an entrance of 400 feet into the sheltered waters of the harbour. Wharves and quays will be built inside the harbour area to meet requirements and will be equipped with suitable facilities.

New tug. — Authority for the purchase of a new tug for Port Elizabeth was given in December 1933 and is due for delivery about August 1934. The tug will be supplied under contract.

East London Harbour.

New tug. — Authorised December 1933 and due for delivery about August 1934. To be supplied under contract.

"C.W. Malan" Basin. — Commenced in March 1930, this work is still in hand and is being done by the Administration.

The work aims at creating a water area 35 feet at L.W.O.S.T. of sufficient size in which to swing vessels up to approximately 720 feet in length. This turning basin will be equipped with wharves and suitable handling facilities for loading and unloading ships at the wharves. The object is being achieved by dredging out of either side of the river banks, in the dry on the east bank and by dredger.

Berths for oil-tankers are being provided on the west bank.

(g) (c) *Contemplated New Works.*

Cape Town Harbour.

New Basin. — In order to accommodate larger ships which are being built for the Union Castle Mail Steamship Company, it is found necessary to develop the New Basin at Cape Town. The question is now receiving consideration and suggested schemes have been put forward.

These include new wharves or quays with attendant sheds and handling facilities.

Pre-cooling store. — A permanent pre-cooling store is contemplated for handling fruit traffic at Cape Town Harbour.

Port Elizabeth Harbour.

Pre-cooling store. — It is proposed to erect a pre-cooling store to serve the enclosed harbour, when sufficiently advanced, for handling fruit traffic at Port Elizabeth.

East London Harbour.

Pre-cooling store. — Plans and specifications are now in hand for the erection of a pre-cooling store at East London for handling fruit traffic.

General.

All new harbour works, replacements and renewals are financed from the railway and harbours vote authorised by Parliament each year, and taken from loan funds, Betterment Fund, surrender of working capital in excess of requirements, credits in respect of assets written out of capital account, etc., recoveries from municipalities and other sources as contributions towards cost of various works.

(l) TELEGRAPH AND TELEPHONE INSTALLATIONS.

The Administration possesses long-distance telegraph and telephone communication circuits from its headquarters in Johannesburg to all the important depot stations and principal centres. Following on this, the physical are being duplicated by carrier-wave circuits, of which three are already in existence.

The most important system headquarters have automatic telephone exchanges installed, of which there are four—viz., Johannesburg, Cape Town, East London and Durban.

The only wireless installations at the present time are those in connection with harbour and lighthouse activities.

Radio beacons are now being installed at one of the most important lighthouses—i.e., Cape Columbine.

(j) ELECTRIFICATION OF RAILWAYS.

Natal Province.

Between 1923 and 1927, the electrification of a section of the Natal main line—namely, from Pietermaritzburg to Glencoe Junction — was undertaken, involving 170 route miles of track.

During 1930-31, an extension of 25 route miles was electrified from Pietermaritzburg to Cato Ridge, while work is at present proceeding on the electrification of the line from Ladysmith to Harrismith, a distance of 61 miles.

Cape Province.

During 1929, certain suburban sections were electrified around Cape Town totalling 21 route miles.

During 1933-34 a further 12½ route miles were electrified between Salt River and Bellville and 9½ route miles between Maitland and Diep River.

These sections now comprise a total of 43 route miles.

In both the above instances, the transmission lines, sub-stations and power stations are owned by the Electricity Supply Commission.

5. DEPARTMENT OF DEFENCE.

PIETERSBURG MUNICIPAL AERODROME.

The aerodrome was constructed in 1929-30 at a cost of £1,500. The work was done departmentally and paid for out of municipal revenue, with the exception of the marking out, which was done at the expense of the Shell Company.

The allocation of expenditure is estimated as follows :

	£
Materials.	500
Wages	1,000

CAPE TOWN MUNICIPAL AIRPORT.

I (a). — A landing-ground in form of a circle 600 yards in diameter with three runways 200 yards by 100 yards towards the north-east, north-west and south-east.

One hangar 150 feet in length by 110 feet span with an annex 150 feet by 20 feet throughout the whole length of one side, divided for use as offices, workshops, stores and garages.

A concrete apron 100 feet by 100 feet is provided at each end of the hangar to facilitate the entry and leaving of machines.

Passengers' waiting-room ; control room ; quarters for caretaker ; lavatory accommodation ; store for inflammables ; electrical equipment and apparatus for night-flying operations.

I (b). — Extension of landing-ground between runways to give a circle 800 yards in diameter.

Residence for superintendent.

I (c). — Labourers' cottages and entrance gates ; restaurant ; additional lavatory accommodation ; additional administrative buildings.

II. — The Cape Town Municipality were responsible for all the above works, the preparation of the landing-ground being undertaken departmentally and partly by relief labour, whilst the erection of the buildings and installation of the electrical

equipment and apparatus were put out to contract. In addition, the following works have been carried out by other bodies :

By the Union Government.

Meteorological station on the west side of the landing-ground ;
Wireless station on the south-east corner of the aerodrome site.

By private oil companies on land leased by the Cape Town Municipality.

One refuelling station ;
Petrol pumps and tanks.

The powers of the Cape Town Municipality for the establishment of the aerodrome are contained under Ordinance No. 4 of 1930.

III. — Principally by loan raised by the Cape Town Municipality secured by its revenue and assets and repayable over a period of thirty years. A portion of the total expenditure was also found from the general revenues of the municipality.

IV. — The works for which the Cape Town Municipality were responsible involved an expenditure up to December 31st, 1933, of £55,852, which can be subdivided as under :

	£	s.	d.
Materials.	16,606	12	11
Wages and salaries	17,144	8	3
Cartage	749	1	9
Electric light installation	749	0	3
Sundries	844	0	9
Contract work in connection with which no allocation can be given as between labour and materials :			
Erection of hangar	10,663	10	3
Erection of temporary hangar	669	16	0
Illumination equipment	7,159	15	2
Electric light installation	232	5	0
Erection of control room	988	13	7
	<u>£55,852</u>	<u>3</u>	<u>11</u>

PORT ELIZABETH MUNICIPAL AERODROME.

I. — An airport is now under consideration, consisting of an aerodrome 1,000 yards square. Hangars and equipment will be provided later, and arrangements are proceeding regarding the establishment of an aeradio station by the Government.

II. — The construction of the aerodrome is being carried out by the order of the local authority (Port Elizabeth City Council) in order to provide an airport with a view to stimulating air transport and communication. The work is being carried out by contract.

III. — The work is being financed by a loan of £16,000, which is being borrowed by the local authority. Stock is to be issued, interest to be paid at a rate not exceeding $4\frac{1}{2}$ per cent per annum, and a sinking fund instalment of $1\frac{3}{4}$ per cent will be set aside

each year, which, estimated to earn 4 per cent per annum at compound interest, should provide an amount to repay the loan in thirty years.

IV. — The contractors state that the allocation of expenditure is approximately as follows :

	£
Materials and equipment	2,500
Labour	<u>9,500</u>
	£12,000

The balance of the loan will be used on road construction, water and electricity services later.

DURBAN MUNICIPAL AERODROME.

I (a). — An area on a large swampy tract of ground known as the Eastern Vlei, situate on the seaward side of the town, was reclaimed and has been levelled to a size adequate for an aerodrome.

I (b). — This reclamation and levelling has been extended to meet the needs of the Union Airways' Service.

I (c). — Further levelling and extension is now taking place to accommodate the needs of the Department of Defence.

II. — The work is carried out by the local authority from the council's own funds.

III. — The cost of this work is financed from loan moneys and charged to capital account. Subsidies are received from the Central Government towards the employment of European instead of coloured labour. The policy of the council in employing European labour is purely a temporary measure to reduce unemployment. Loans are secured by the town estate and the right to levy a special rate assessment for repayment of principal and interest. The redemption of loans is based on the sinking-fund principle over a period of thirty years.

IV. — Labour constitutes the largest portion of the expenditure involved. Other expenditure consists of (a) stone, stores and sundry plant ; (b) transport costs ; (c) departmental work, and (d) administrative costs. Labour represents approximately three-fourths of the total expenditure involved. Materials and equipment are purchased locally and also imported, where necessary, from the United Kingdom.

JOHANNESBURG-GERMISTON MUNICIPAL AIRPORT.

I (a). — Land to the extent of 1,100 acres has been purchased by the joint municipal councils of Johannesburg and Germiston for use as a public airport. Offices, residences, hangars, aerial beacon and night-lighting equipment, roads, etc., have been constructed and erected at an approximate cost of £80,000.

I (b). — At present in course of erection, hangars and administration buildings to the value of £40,000.

I (c). — Further hangar and administration buildings are proposed to be erected in the immediate future at an estimated cost of £50,000.

II. — The above works have been and will be carried out on behalf of local authorities by contracts with ordinary commercial firms.

III. — The above works are financed by local authorities from internal loans.

IV. — Unable to estimate.

KIMBERLEY MUNICIPAL AIRPORT.

I (a). — At the end of the year 1930, because of the anticipated inauguration of the trans-African air service by Imperial Airways, Limited, the Kimberley Municipality was urged by the Union Government authorities to modernise the then existing aerodrome at Kimberley, which aerodrome belonged to a mining company. At that date the landing-ground was 1,000 yards (914 metres) square, and its only equipment was a wind-cone on a 25-foot. mast.

In 1931, the municipality acquired the old aerodrome and also adequate surrounding land for buildings, parking, etc., the total area being 464 acres (188 hectares).

The size of the landing-ground itself was increased to 1,200 yards (1,097 metres) by 1,000 yards (914 metres). A large, modern steel hangar was built. A three-inch main connecting with the town water supply was laid to the aerodrome. A residential superintendent was appointed with a small staff. A meteorological observatory was built and staffed by the Government. A good supply of electricity was brought to the site. The best fixed aviation lighting system was installed, which was the forerunner of two similar systems at important aviation centres on the trans-African air route in the Union. The whole area was fenced. Refuelling sites were allotted to oil companies. Boundary marking was completed. An additional wind-indicator was installed. A hard road was made to the aerodrome. A telephone was installed. A rest-house with electric kitchen was built, and lavatories with water-borne sewerage were installed. A control house containing a pilot's information office was built. Fire-fighting appliances were provided. Three runways were rolled by a 15-ton roller across the landing-ground. In 1932, the aerodrome received a first-class licence from the Union Government, and was officially designated " Airport ".

I (b). — Radio station. — The Union Government has decided to instal a modern wireless station on the airport in the near future. The site has been marked out and all the equipment placed on order.

I (c). — Depends on future assistance by the Union Government towards popularising the airport. In view of the costly pioneering work already carried out, the Government's practical assistance to date has been disappointing in the extreme.

II. — The supply and the erection of the hangar were carried out by municipal contract. The supply and installation of the lighting system were carried out by municipal contract. The remainder of the work was carried out departmentally by the municipality.

III. — Except for the proposed radio station, the whole of the improvements programme undertaken by the municipality in and since 1930 have been carried out to date with funds raised by a municipal loan of £25,000, and from revenue derived from the municipal airport fees and rentals. The security for this loan is the rates and general revenue of the municipality, and the provisions of the " Public Bodies Debts Act " of 1867 are applicable.

The method of payment of this loan is at par on March 30th, 1957, a sinking fund being accumulated for that purpose as per Ordinance 10 of 1912, Section 184. The State has not hitherto borne any of the expenditure.

IV.

Materials and equipment		Labour	
<i>Hangar.</i> — Fabricated at Durban, of	£	South African, for fabri-	£
British material	4,277	cation and erection . .	2,000
<i>Lighting equipment.</i> — Fabricated in			
Germany, but supplied through an			
English company with Cape Town agency	7,302	South African	600
		Laid by South African	
<i>Water main.</i> — British material	1,314	labour	600
		Laid by South African	
<i>Electricity supply cable.</i> — British material .	1,766	labour	150
<i>Fencing and levelling landing-ground.</i> —		Erected by South African	
British material	250	labour	250
<i>Buildings.</i> — British and South African			
materials	2,443	South African	1,600
<i>Miscellaneous.</i> — Mostly British material .	1,000	South African	454
<i>Road-making</i>	—	South African	690
<i>Apron.</i> — South African	150	South African	150
Total		£25,000.	

Radio station. — See particulars under I (b).

6. MEMORANDUM BY THE UNION DIRECTOR OF FORESTRY.

REAFFORESTATION.

I. — To secure due understanding of the position regarding afforestation in South Africa in so far as the latter has formed a State enterprise of major importance, it is necessary to go back a little further than the year mentioned.

Prior to the financial year 1916-17, the acreage annually afforested by the Union Government did not exceed in the aggregate about 2,000 acres, this total being composed of a few acres here and a few acres there at small centres dotted all over such portions of the Union as had been proved suitable for tree-growing, native labour being largely used in the work.

From the year just mentioned onwards, the Government's afforestation programme was definitely enlarged, and a policy under which white labour was to be used for most of the larger schemes was adopted.

In 1918-19, for the first time, Loan Fund moneys were made available in the present connection. Up to that time, the funds needed for forestry work were found from current taxation.

During the five-year period 1916-17 to 1921-22, the acreage afforested had risen steadily, till it stood in the last-mentioned year at 5,800 acres.

In 1922-23, measures in relief of unemployment had become pressing, and, as one of these, a larger afforestation programme—namely, 10,000 acres per annum—was entered upon. Since then, a further acceleration of the State's tree-planting operations

has been made, and at the present time the annual programme stands in the neighbourhood of 20,000 acres.

The larger schemes—one or more of which is commenced every year—are started in various parts of the Union, being naturally located in those areas where rainfall, soil and other conditions are suitable. Some of them will be completed, so far as actual planting goes, in ten to fifteen years from the date of inception, others will run for from twenty to twenty-five years, or even longer. Four new schemes of the kind are under consideration at the moment, and funds for the erection of the necessary building accommodation, etc., and for a start of operations are set down on the draft Loan Estimates for 1934-35.

For almost all the larger schemes just referred to, poor white labourers will be employed with a view to the relief of existing unemployment among that class, the centres being known as White Labour Forestry Settlements.

Over and above the afforestation carried out by the Central Government, it is known that municipalities, mining companies and even private individuals have in many instances gone extensively in for afforestation schemes; but particulars in regard to these of the nature referred to by the Secretary-General are not available to this department.

II. — The schemes in question are planned and executed entirely by the Union Government, acting through its Department of Forestry, which latter falls under the Minister of Agriculture.

The actual work is done under the direct supervision of officers of the Department of Forestry under the instructions of the Director of Forestry. Where supplies of building material, tools or implements, etc., become necessary, these are arranged, as the case may demand, by formal or informal tenders for the specific material or articles. At times, the needs are met through general contracts arranged by the Government Controller of Supplies.

The labour strength at the settlements and other plantations is utilised on the clearing, picking, felling, planting and other operations at a daily wage or at specified piecework rates, the latter being fixed so as, in general, to give a slight advantage to the hard worker. Ploughing is sometimes done departmentally; sometimes it is thrown open to public tender.

The work initiated, controlled or undertaken by the Department of Forestry of the Union is done under the provisions of the Forest Act No. 16 of 1913 and amending legislation.

III. — The Government's forestry schemes are financed from two sources :

(a) At the older and usually the smaller plantations all expenditure is met from the country's current revenue. In the case of these, the work consists, and has for some time consisted, almost entirely of maintenance. Small extensions in the planted area, however, take place here and there as found desirable and possible.

(b) The new or larger forestry schemes where extension on a considerable scale is going on or is in contemplation are financed from loan votes. No Central Government loan is raised specifically for afforestation; but the provision needed annually is made on the Estimates of Expenditure out of Loan Funds. Such Loan Funds are obtained from issues of loan (external or internal as the interests of the State may decide), the proceeds of gold-mining leases, etc.

IV. — Particulars have not been maintained such as would enable anything like accurate information on the point here raised to be supplied. It is, however, suggested

that, as a rough estimate, the total expenditure (exclusive of any disbursements on the purchase of land) would fall to be divided as follows :

	Per cent
Materials and equipment	25
Labour	75

V. — It is the opinion of the Government that the employment afforded in connection with the State forestry works referred to above has contributed materially to the resumption of economic and industrial activities, with corresponding relief on unemployment.

The following schedule, indicating the daily paid labour employed at the present time on the said forestry works, is subjoined in support of the foregoing statement :

	At white labour forestry settlements	At other forest stations	Total
(a) Europeans :			
(i) Foremen	66	162	228
(ii) Labourers	1,358	901	2,259
(b) Coloured :			
(i) Foremen	—	3	3
(ii) Labourers	11	262	273
(c) Native labourers.	169	4,049	4,218
(d) Asiatic labourers	—	13	13
Total	1,604	5,390	6,994

N.B. — 1. Approximately 1,800 families are accommodated permanently in dwellings situated on the forest estate.

2. In addition to the labour employed as above by Government on forestry works, the State forests afford employment to a large complement of labourers and supervisors in private service, engaged in connection with the exploitation of the forests on such operations as felling, preparation and extraction of timber and the transport thereof to rail.

3. As many of the younger plantations are now also entering the exploitation stage, employment of the nature referred to under 2 will increase rapidly in the near future.

7. MEMORANDUM BY THE UNION DEPARTMENT OF IRRIGATION.

	Cost £	Acres irrigable
I (a).		
Buchuberg Scheme, Orange River . .	600,000	10,000
N'Kwaleni	70,000	4,500
Marico-Bosveld	260,000	5,000
Bospoort	40,000	800
I (b).		
Olifants River	400,000	10,000
Rust-der-Winter	150,000	5,000
Pongola	170,000	12,000
Vaal-Hartz	3,500,000	100,000
I (c).		
Loskop, Transvaal	1,500,000	30,000

II. — The works in Group I (a), (b) and (c) above have been carried out by order of the Central Authority—*i.e.*, the Union Government. No large contracts have been let for any portions of these works, but petty contracts and piecework have been instituted wherever possible on works carried out by departmental organisation.

III. — The above works have been financed by the extraordinary or loan budget of the State, certain sums sufficient for carrying on the work for twelve months having been voted by Parliament at the commencement of each financial year. The loan programme of the Union Government has in the past been financed partly by external loans and partly by internal. The tendency at the present time is to endeavour to raise funds within the Union of South Africa.

IV. — Materials and equipment provided by national industries would amount to approximately 25 per cent of the above figures, and that having origin in foreign industries approximately 5 per cent. Labour and miscellaneous social expenditure will account for the remaining 70 per cent.

V. — The opinion of the Union Government is that the construction of irrigation works is a sound investment on which to spend money for the relief of unemployment, in that the conservation of water is of vital importance to the future of the Union territory, which suffers periodically from severe drought.

8. MANDATED TERRITORY OF SOUTH WEST AFRICA : MEMORANDUM BY THE DIRECTOR OF WORKS OF THE SOUTH WEST AFRICAN ADMINISTRATION.

(a) ROAD BUILDING AND MAINTENANCE.

Since 1931, the Administration of South West Africa has employed on an average between 200 and 300 European labourers on the building and improvement of main roads in the territory. This work has absorbed the major portion of our unemployed since the beginning of the depression. The expenditure of approximately £20,000 per annum has been met out of loan funds. The work is confined largely to drainage and surface improvement, and the placing of road metal is only done on special sections. The main roads are approximately 6,000 miles in extent.

(b) THE OMATJENNE IRRIGATION SCHEME.

This is a water-conservation scheme intended for irrigation settlement. It consists of an earthen dam constructed 12 miles from the village of Otjiwarongo in a region with an annual rainfall of 15 inches. The capacity of the dam is 248 million cubic feet. The scheme will probably accommodate twenty settlers, who will combine irrigation and other farming.

The work was carried out by the Administration with European relief labour. The scheme, with canal system, will be completed during this winter. The dam embankment was constructed with scrapers and oxen and donkeys. The facing of the dam was done in stone pitching and lime mortar, the lime being produced locally.

(c) WALVIS BAY FLOOD PROTECTION.

Walvis Bay, the main harbour for South West Africa, lies on low-lying ground in the locality where the Kuisib flows into the Atlantic. The Kuisib River comes down in flood only in abnormal rainy seasons, and breaks through a range of shifting sand-dunes east of the harbour. During the last rainy season (1933-34), the town was frequently inundated by flood water. It is intended to build an embankment round the town as a protection against the floods, and generally raise the ground level within the town. The scheme has still to be investigated and surveyed. No decision has yet been made regarding the methods of construction and finance.

9. MEMORANDUM BY THE UNION ELECTRICITY SUPPLY COMMISSION.

ELECTRICAL UNDERTAKINGS.

Since the beginning of 1929, the following new electricity schemes and extensions to existing schemes were undertaken in the areas of local authorities in the Union. The figures in parentheses are the estimated capital expenditures on the schemes.

New Schemes.

1929 : *The Cape.* — Douglas (£6,000), Heidelberg (£4,000), Wolseley (£5,000).
Transvaal. — Balfour (£1,600), Bethal (£22,000), Bloemhof (£9,000 and £4,000), Louis Trichardt (£22,000), Maquassi (£700), Ventersdorp (£8,000).
Orange Free State. — Clocolan (£14,000), Dewetsdorp (£7,500).
Natal. — Paulpietersburg (£8,000), Port Shepstone (£9,000).

1930 : *The Cape.* — Bredasdrop (£9,000), Gordon's Bay (£4,000), Kuruman (£11,000 and £2,000), Montague (£10,000), Port Alfred (£11,500), Victoria West (£6,000).

Orange Free State. — Koffiefontein (£2,000), Marquard (£8,000).

1931 : *The Cape.* — Hopefield (£1,850), Porterville (£6,000).

Transvaal. — Coligny (£500), Piet Retief (£8,000).

Orange Free State. — Bothaville (£7,000).

1932 : *Natal.* — Eshowe (£13,000).

1933 : *The Cape.* — Franschhoek (£11,000).

Grand Total £231,650.

Extensions.

1929 : *The Cape.* — Cradock (£15,500), Dordrecht (£1,800), Fort Beaufort (£4,900), Middelburg (£12,000), Port Elizabeth (£339,500).

Transvaal. — Mafeking (£12,650), Rustenburg (£2,500).

Orange Free State. — Ladybrand (£7,000).

South West Africa. — Windhoek (£3,000).

1930 : *The Cape*. — Heidelberg (£4,800), Kingwilliamstown (£22,000), Kokstad (£4,700), Queenstown (£30,000), Tarkastad (£2,600), Tulbagh (£1,750), Umtata (£17,000).

Transvaal. — Benoni (£32,000), Klerksdorp (£32,500), Lydenburg (£4,000), Pretoria (£350,000), Springs (£20,000).

Orange Free State. — Ficksburg (£2,750).

Natal. — Dundee (£6,000), Glencoe (£1,600).

1931 : *The Cape*. — Graaff Reinet (£30,000).

Transvaal. — Brakpan (£26,000), Breyten (S.A.R.) (£12,000), Johannesburg (£100,000), Nelspruit (£14,000).

Orange Free State. — Boshof (£400).

Natal. — Durban Corporation : South Coast Natal (£21,000), Vryheid (£35,000).

1932 : *The Cape*. — Alice (£13,000), Beaufort West (£2,000), Bedford (£1,500), Caledon (£2,000), Grahamstown (£44,000), Montagu (£1,250), Mossel Bay (£8,000), Riversdale (£2,825), Worcester (£16,750).

Transvaal. — Randfontein (£2,500).

Orange Free State. — Senekal (£4,000), Winburg (£10,000).

Natal. — Port Shepstone (£2,500).

1933 : *The Cape*. — Colesberg (£2,000), Fauresmith (£2,000), George (£11,800), Humansdorp (£2,000), Robertson (£10,500).

Orange Free State. — Kroonstad (£80,000), Parys (£25,000).

South West Africa. — Upington (£6,300).

Grand Total : £1,408,875.

Under consideration.

1934 : *The Cape*. — Oudtshoorn (£31,000), Villiersdorp (£2,000).

Natal. — Harding (£6,000).

Grand Total : £39,000.

The method generally employed for financing these works is by means of external loans from the Public Debt Commissioners, insurance companies, building societies and the like.

ELECTRICITY SUPPLY COMMISSION UNDERTAKINGS.

The extensions to the Commission's undertakings in the Cape, Natal and Transvaal provinces since the beginning of 1929 are as follows :

Additional Generating Plant in Kilowatts provided since 1929.

Undertaking	In service		Under construction		On order		Total
	Number of sets	Capacity Kw.	Number of sets	Capacity Kw.	Number of sets	Capacity Kw.	
Witbank (Transvaal)....	1	20,000	—	—	—	—	20,000
Salt River (Cape Town) ..	1	20,000	1	20,000	1	20,000	60,000
Congella {	1	12,000	}	—	—	—	32,000
(Durban)..... {	1	20,000					

The work of erecting the plant has, almost in every case, been done by the overseas contractor supplying the equipment, or his local agent.

In connection with new works, the Commission has made application to the Electricity Control Board to establish a new power station near Vereeniging, in the Transvaal, with an initial installation of 106,000 kw. but designed for an ultimate capacity of 300,000 kw.

As regards finance, the Commission originally received advances from the Treasury, which were subsequently consolidated into two loans of £3,000,000 and £5,000,000 in 1930. To finance the extensions to its undertakings, the Commission, in 1933, raised a loan of £500,000 by the issue of local registered stock at par, redeemable 1953-63 with interest at $4\frac{3}{4}$ per cent. Later in the year another loan of £2,500,000 was raised by the issue of local registered stock at 101, redeemable 1953, bearing interest at the rate of $4\frac{1}{2}$ per cent, for the purpose of repaying £2,250,000 of the original Treasury loans, the balance of £250,000 being required to finance extensions to its undertakings. In March of this year, a third loan of £6,750,000, bearing interest at $3\frac{3}{4}$ per cent, redeemable 1954-64, was issued at 98 to repay the balance of the loans from the Treasury and to finance further extensions to the undertakings to the extent of £1,000,000.

10. MEMORANDUM BY THE UNION DEPARTMENT OF POSTS AND TELEGRAPHS.

I. — During the period April 1st, 1929, to March 31st, 1934, the internal long-distance telephone system of the Union has been modernised by the installation of additional " repeater " stations, " carrier-current " systems, and improvements to existing or provision of new trunk lines. Intercommunication between practically all parts of the Union is now possible.

Simultaneously, telephone communication with Northern and Southern Rhodesia and Portuguese East Africa, by means of land lines, has been provided, while, by the aid of the " beam " wireless stations at Cape Town and in England, similar facilities are now available between the Union and Egypt, most of the Continental countries, the United Kingdom, North America, Mexico, Cuba, India and Australia.

The wireless telegraph stations at Slangkop, Algoa Bay, and Jacobs have been modernised by the installation of up-to-date equipment.

Three new wireless stations have been established at Germiston, Maitland and Victoria West, in connection with the operation of the England-South Africa mail and passenger air service.

The departmental " teleprinter " high-speed telegraph service was considerably extended during the period under review, and private persons have been enabled to acquire installations under rental conditions.

It was decided, in November 1928, to instal automatic telephone switching equipment throughout the Witwatersrand and Cape Peninsula telephone systems, and to provide similar equipment in approved cases at other points when the existing plant became inadequate or worn out. In pursuance of this policy, large portions of the Witwatersrand and Cape Peninsula systems, and also the East London exchange, have been converted to automatic working, and the Port Elizabeth automatic system has been extended, the change-over involving seventeen exchanges with a total initial capacity of approximately 44,000 subscribers' lines.

A schedule is attached which reflects the expansion of the telegraph-telephone system of the Union between April 1st, 1929, and March 31st, 1934.

The number of public broadcasting stations increased from three to five during the period under review. These stations are owned and operated by a private company.

I (b) and (c). — The policy of introducing automatic exchange equipment is being actively pursued. Internal long-distance telephone facilities will be extended by the provision of additional " repeater " stations and a comprehensive network of " carrier-current " systems, while " teleprinter " telegraph services will also be developed.

In connection with the expansion of mail and passenger air services, it is intended to establish at an early date five new wireless telegraph stations and five direction-finding stations. A new wireless telegraph station for general purposes will be erected at Pretoria.

An additional public broadcasting station will be provided in the near future.

II. — The Postmaster-General is invested by law with a monopoly in respect of the establishment and operation of telegraph and telephone services, including wireless services.

III. — All works are financed by means of Loan Funds provided through and included in the ordinary State budget.

Licences have been granted by the Postmaster-General to private companies for the provision and operation of the public broadcasting stations, and the overseas " beam " wireless telegraph and telephone station. The companies concerned bear all capital and other charges incurred in respect of these services.

IV. — All material and equipment is obtained from overseas sources, principally from the United Kingdom.

The allocation of expenditure between April 1st, 1929, and March 31st, 1934, was roughly £1,425,000 to material and equipment and £1,133,000 to labour, transport, etc.

V. — As far as the Department of Posts and Telegraphs is concerned, the effect of the works referred to above is the general development of its telegraph and telephone system to an extent which will enable it to cope adequately with the increasing demands occasioned by industrial, agricultural and social expansion.

Statement showing Increase in Numbers of Telephone and Telegraph Stations, etc.

Date	Exchanges	Public call offices	Subscribers' exchange lines	Total telephone stations	Farmers' lines		Total mileage of wire used for telephones	Telegraph offices	Total mileage of wire used for telegraphs
					Mileage	Stations			
I.IV.1929	1,323	5,390	61,946	94,408	24,976	12,180	342,462	2,955	31,943
I.IV.1930	1,377	5,610	65,336	100,437	28,435	13,846	370,826	2,801	36,507
I.IV.1931	1,410	5,743	66,771	104,050	33,090	15,644	406,933	2,849	36,075
I.IV.1932	1,405	5,859	66,772	104,122	34,661	15,716	438,646	2,942	36,652
I.IV.1933	1,404	5,937	71,125	107,360	36,348	14,503	452,450	2,936	36,445
I.IV.1934	1,406	6,004	77,531	117,451	36,938	14,647	465,400	2,944	36,533

AUSTRALIA.

New South Wales.

REPORT FURNISHED BY THE SECRETARY AND EXECUTIVE OFFICER OF THE UNEMPLOYMENT RELIEF COUNCIL OF NEW SOUTH WALES.

In addition to the allocations mentioned in the report, a sum of £200,000 is being made available from the Wages Tax Revenue to enable homes to be constructed for unemployed persons and their families, who are already being provided with food and other relief.

I. — So far as the Unemployment Relief Council is concerned, since the date of constitution in, say, June 1930, allocations have been made for various works, under the classification adopted by the Treasury, as set out in the schedule on page 43, which shows a total approximate allocation of £12,023,694.

II. — Practically speaking, the whole of the expenditures under the Unemployment Relief Council are carried out through the various public departments, including the Public Works Department, the Metropolitan Water, Sewerage and Drainage Board, the Water Conservation and Irrigation Commission, the Mines Department, Forestry Commissioners, the Department of Labour and Industry, the Department of Local Government, etc., and the organisation of the shire and municipal councils is also fully utilised.

In three cases the Unemployment Relief Council set up special conditions—viz.:

(a) The Advances to Settlers Co-ordination Board, which deals with loans for permanent improvements ;

(b) The Dairy Promotion Board, which acts similarly in regard to loans to persons engaged in the dairying industry ; and

(c) The Building Relief Committee, which controls the making of advances to the owners of private property for the purpose of carrying out repairs, renovation, painting or additions.

Advances under (a) and (b) may be expended on approved works, at the discretion of the borrower, except that labour must be engaged through the State Labour Exchanges. In the case of (c), tenders must be invited and the work done by contract.

The Unemployment Relief Council is a statutory body, comprising three Ministers of the Crown, and they have the voluntary assistance of four representatives of outside interests—viz., employees, grazing, primary producers and manufacturers—and the moneys at their disposal are provided by the Government from loan funds. In earlier stages revenue moneys, specially raised through an unemployment relief tax, were utilised, but latterly these revenues have been taken into consolidated revenue and used for social services generally.

The Council generally controls the expenditures, but the conditions of employment are determined by the Government through the Minister for Labour and Industry ; and the unemployment relief legislation gives power to declare any work approved

by the Council as an "Unemployment Relief Work" and to fix the hours of work, rates of pay, etc., in connection therewith.

All works gazetted as relief works are carried out by day labour. Where loans are made to municipal and shire councils, the work is frequently let by contract; and in such cases the works are not gazetted, although a provision is invariably included in the agreement that 90 per cent of the labour required shall be obtained through the nearest Labour Exchange.

Unemployment relief works are carried out under various conditions, as applicable to the particular work involved. Some jobs lend themselves to block working in large gangs which can be worked for short periods and changed from time to time; others—where the works are away from populated centres—call for a longer period of working and perhaps for establishment of camps.

Then there is the Emergency Relief Work Scheme, under which the whole of the registered and eligible labour in a particular shire or municipality is absorbed on suitable work at rates of pay based on the family classification, which return to the employees wages running into from 13.9 per cent to 74.4 per cent over the value of food relief. It is under this scheme that some 58,000 men are working at present.

III. — In July 1930, an unemployment relief tax was introduced, and, prior to June 1932, the revenues from this tax were allocated by the Council, together with any additional loan moneys which the Governments were able to make available. Since then, however, the money utilised directly by the Council has been from loans.

Requirements are budgeted for annually in the usual way.

A considerable percentage of the total amount allocated has been by way of loan or advance to public bodies, semi-Government authorities and private individuals. Such moneys are repayable over varying periods, and interest, previously at higher rates, up to 5 per cent, is now being charged at 3 per cent.

IV. — Generally speaking, the percentage of labour and material used in a public works is about fifty-fifty; but, in unemployment relief works, endeavours have been made to direct the expenditure on suitable works where the percentage of labour is greater. On some country road works, and on drainage works, for instance, labour might absorb up to 85 per cent of the expenditure. Moreover, there is a further indirect employment of labour in the supply and manufacture of all material required.

By far the greatest percentage of expenditure for supplies and materials is expended locally. Just what the percentages are of local and imported material, the latter national or foreign, may be available upon enquiry of the various spending departments.

V. — Possibly the best opening answer to this question is the fact that the numbers of registered unemployed have become reduced during the past two years from approximately 200,000 to 80,000, and, of the latter, 58,000 are employed under the Emergency Relief Work Scheme, and about 18,000 are engaged on ordinary relief work.

Of the 120,000 which have found employment during the past two years, it is estimated that approximately 85,000 have been absorbed in industry, as apart from Government works, these showing a considerable improvement, which it is felt by the Government has been brought about as a result of the active policy of public works construction and unemployment relief works, combined with other factors affecting the position.

Allocations by Unemployment Relief Council, which was constituted in July 1930.

Classification	Bavin Government 4. XI. 30	Lang Government 4. XI. 30 to 13. V. 32	Stevens Government 13. V. 32 to date (30. IV. 34)	Total
	£	£	£	£
Country towns, water-supply schemes and stormwater channels	30,170	440,450	1,198,976	1,669,596
Metropolitan Water, Sewerage and Drainage Board	210,370	426,690	953,128	1,590,188
Drainage generally; Mental Hospital sewerage	217,190	—	462,135	679,325
Grants and loans to shires and municipalities	525,361	32,756	812,333	1,370,450
Main and other roads	141,500	288,984	506,371	936,855
Hospital buildings	53,000	400	602,616	656,016
School buildings	185,307	—	765,470	950,777
Mining and prospecting	25,000	9,000	73,250	107,250
Afforestation	—	2,800	252,500	255,300
Water Conservation and Water Trust works	14,500	4,200	75,938	94,638
Works in western division	37,500	4,000	110,920	152,420
Public buildings generally	187,672	—	24,998	212,670
Women, girls and boys' employment	25,000	750	57,581	83,331
Loans for additions, repairs and renovations to private property.	—	—	500,000	500,000
Encouragement of employment	—	80,500	—	80,500
Advances to settlers for permanent improvements, etc.	115,000	5,000	875,212	995,212
Emergency relief works ¹	—	—	981,302	981,302
Wheat silos	—	—	32,000	32,000
Miscellaneous	236,421	78,668	360,775	675,864
	£2,003,991	£1,374,198	£8,645,505	£12,023,694

DEPARTMENT OF PUBLIC WORKS : REPORT ON MAIN PUBLIC WORKS.

I (a).

1. *Provision of Water Supplies for Country Towns.*

Town	Details of work	Cost £
Tenterfield	Pumping scheme with filtration	83,139
Werris Creek	Gravitation scheme.	111,649
Grenfell	Pumping scheme	71,873
Scone	Pumping scheme (from drift)	23,364
Lismore	Amplification of existing services (pumping scheme with filtration)	21,871
Broken Hill	Amplification, including filtration of existing (gravitational and pumping) services	79,100

In addition to these works, the department has expended during the period January 1st, 1929, to June 30th, 1934, a sum of £50,000 on minor works commenced since January 1st, 1929, and additions to existing services.

¹ Expenditure under this item will reach about £2,500,000 at June 30th, 1934.

2. *Provision of Sewerage Facilities for Country Towns.*

Town	Details of work	Cost £
Forbes	Land treatment scheme	69,395
Lismore	Additions, land treatment scheme	110,361
Bathurst		27,419
Goulburn		20,678
Wagga		22,321

Minor works commenced since January 1st, 1929, were carried out by the Government at a cost of £30,000.

3. *Sea and River Ports.*

Provision of three additional dredgers and two hopper punts for dredging of river ports (not including Sydney Harbour), £151,419.

Since January 1st, 1929, in addition to this expenditure, the Government has expended a sum of £40,000 on minor works put in hand subsequent to that date.

4. *Additions to Public Buildings and Institutions.*

	Cost £
Orange Mental Hospital	151,926
Morisset Mental Hospital	77,098
Parramatta Mental Hospital	24,113
Gladesville Mental Hospital	92,742
Broughton Hall Mental Hospital	25,800
Callan Park Mental Hospital	20,000
Coast Hospital	47,713
Lidcombe State Hospital	36,218
Central police station : Transfer of land from State Government Railways for future additions	
	59,015

Minor works commenced since January 1st, 1929, were carried out by the Government in addition to the above at a cost of £260,000.

I (b).

1. *Provision of Water Supplies for Country Towns.*

District	Work	Expended to 30.VI.34
South-west Tablelands	Water supply	£ 393,335
Minor works totalling £50,000 are also in hand.		

2. *Provision of Sewerage Facilities for Country Towns.*

Town	Work	Estimate £	Expended to 30.VI.34 £
Carrington	Ocean outfall	76,000	72,242
Stockton		115,000	64,321

4. *Additions to Public Buildings and Institutions.*

Building	Work	Estimate £
Orange Mental Hospital.	Additions	33,057
Parramatta Mental Hospital		38,800
Gladesville Mental Hospital		21,700
Callan Park Mental Hospital		18,400
Stockton Mental Hospital		17,000
Jenolan Caves House		30,400
Coast Hospital		106,500
Liverpool State Hospital		22,400
Lidcombe State Hospital		35,100
Minor works : New buildings and additions		107,013

5. *Reclamation of Low-lying Land.*

	Estimate	Expended to 30. VI. 34
Reclamation of land adjacent to Parramatta River in metropolitan area within four miles of city proper .	£93,100	£16,116

I (c).

1. *Provision of Water Supplies for Country Towns.*

Town	Work	Estimated cost £
Forbes	Filtration provision for existing service	20,000
Wagga		22,000
Broken Hill	Amplification of reticulation	34,000
Blue Mountains villages water supply	Pumping scheme	60,000
	Minor works	20,000

2. *Provision of Sewerage Facilities for Country Towns.*

Town	Work	Estimate £
Taree	Land treatment	65,000
Nowra		45,000
Mittagong		40,000
Blackheath		50,000
Griffith		31,000
Leeton		43,000
Corowa		40,000
	Minor works	38,000

4. *Erection and Additions, Public Buildings and Institutions.*

Building	Work	Estimate £
Gladesville Mental Hospital	} Additions }	58,000
Stockton Mental Hospital		38,600
Coast Hospital		56,500

N.B. — Minor works are considered herein as those of less cost or estimate than £20,000.

II.

1 (a), (b) and (c). *Country Towns Water Supplies.*

Broken Hill Water Supply.

Supervised and carried out by Government. Scheme directly administered by Government.

South-west Tablelands Water Supply.

Administered by the Government and councils. The Government sells water in bulk to the councils, which retail the water to ratepayers and other consumers.

All Other Services.

Carried out or being carried out by Government on behalf of local authorities (municipal and shire councils), who are responsible for repayment of the capital cost.

The works policies in regard to these are varied. All are partly day labour and partly contract.

2. *Country Towns Sewerage Works.*

Carrington sewerage and Stockton sewerage are separate links in a regional scheme being carried out by day labour. When completed, they will be vested in a board created for the administration of the water supply and sewerage works of that region, known as the Hunter District Water Supply and Sewerage Board.

All other sewerage schemes were or are being carried out on behalf of the local authorities (municipal councils), who are responsible for repayment of the capital costs. Work is principally done by day labour with materials supplied by contract.

3, 4, 5. *Sea and River Ports: Public Buildings and Institutions: Reclamations.*

All these works are national services authorised by Parliament and carried out either direct by the Government per day labour with materials supplied by contract or under full contract conditions directly supervised by the Government.

IV.

Item	Materials and plant average Percentage	Wages average Percentage
Country towns water supplies	65	35
Country towns sewerage works	50	50
Sea and river ports	50	50
Public buildings and institutions	55	45
Reclamation	40	60

The Mines Department of the State of New South Wales reports that the only expenditure incurred by that department since 1929 on works which might possibly be classified as of a national character has been in the testing of the shale-oil deposits at Newnes-Capertee. A sum of £3,937, provided by the Unemployment Relief Council, has been spent to date on this work.

Queensland.

I (a) and (b). — No work of outstanding importance or magnitude has been undertaken in the State of Queensland since January 1st, 1929. The works undertaken and now in hand comprise ordinary developmental works of the State and semi-governmental bodies (cities, towns and shires, harbour boards, etc.). The works include the various categories of work mentioned in the list annexed to the circular, with the exception of (d), (h), (k) and (l).

With the object of stimulating expenditure on useful public works, the Government has initiated a scheme of subsidised loans to semi-governmental bodies for the purpose of enabling those bodies to put works in hand which the financial resources of those bodies would otherwise not enable them to undertake.

I (c). — Works now in contemplation which may be regarded as “ main ” public works are :

- (1) The erection of a bridge over the Brisbane River, at Brisbane ;
- (2) A scheme for the mitigation of the effect of floods in the Brisbane River ;
- (3) The installation of sewerage in certain cities in the State ;
- (4) The construction of a harbour at Mackay.

It is proposed that Nos. (1) and (2) will be carried out by a statutory body (the Bureau of Industry). These schemes are now in course of preparation.

No. (3) will be carried out by the respective cities concerned, and No. (4) by the Mackay Harbour Board.

II. — Certain works, such as railway construction, erection of Government buildings, etc., are executed by the Government (which owns the railway system of the State).

Semi-governmental bodies carry out works in pursuance of powers vested in them under statutory authority.

Railway construction (Government) is carried out directly by the Government under the day-labour method. Contract as well as direct construction is adopted with other works.

Semi-governmental bodies follow both the contract and direct methods.

III. — Expenditure on Government works is charged to annual Parliamentary appropriations. This expenditure is financed out of the proceeds of loans, supplemented by repayments of principal (by annual instalments) received on account of loans advanced by the Government to semi-governmental bodies and other borrowers from the Government. The latter include loans advanced for the erection of workers' dwellings and homes, agricultural settlement, etc.

Since January 1st, 1929, all loans raised by the Government (with the exception of loans for the conversion of maturing debt) have been issued internally (Australia).

Expenditure by semi-governmental bodies is financed by loans obtained from the Government, except in the case of a few of these bodies—notably, the Brisbane City Council—which finance the cost of capital works by loans obtained from financial institutions, as well as by loans obtained from the Government.

IV. — Practically the whole of the material and equipment is produced in Australia.

V. — The declared policy of the Government is that a judicious expenditure of funds in the execution of works for the purpose of providing employment and restoring the purchasing power of the people is an important and necessary factor in the endeavour to rehabilitate the financial position of the State.

Tasmania.

	I (a).	£
Roads and bridges		1,356,086
Railway lines.		30,218
Sea and river ports		34,041
	I (b).	
Roads and bridges		154,695
Sea and river ports		550
Land reclamation		13,800
	I (c).	
Roads and bridges		191,500
Sea and river ports		12,000

II. — The above-mentioned works have been carried out by three methods :

- (1) Contract ;
- (2) Departmental day labour ;
- (3) By local authority on behalf of the State.

III. — Maintenance and repairs charged to ordinary budget. Road reconstruction carried out by Federal grant. Road and bridge construction charged to loans.

The security of loans is the security of the State. Loans carry half per cent sinking fund.

IV. — Materials, 25 per cent ; labour, 75 per cent.

V. — The effect of public works on unemployment is beneficial to an appreciable extent, but a far-reaching resumption of industrial activities is dependent on the extension of private enterprise.

AUSTRIA.

[*Translation.*]

The Federal Government sends the documentation reproduced below and states that, as regards the electrification of Austria, it has not been possible to collect and classify all the data as completely as the circular letter requires. Nevertheless, a synoptic table is given providing particulars of the electric-power stations the construction of which has been begun and completed since 1929 and on the electrical installations still under construction (in so far as they are installations of a public character).

[*Translation from the German.*]

BRIDGE BUILDING.

On the Austrian Federal road system, road bridges with spans differing according to the width of the water-course to be traversed were constructed during the years 1929 to 1934 in the different Federal States to a total value of roughly 13¼ million schillings. The necessary funds were provided by the Federation in accordance with the ordinary legal procedure on the basis of a Federal budget estimate. The work is carried out by organs of the Federal Government.

All contracts for work and supplies in connection with the construction of the bridges were awarded on public tenders. Of the construction costs, approximately 60 per cent was spent on wages and 40 per cent on construction materials. The whole of the latter were ordered from home industries.

A large construction at present in progress is the Reich Bridge over the Danube at Vienna, the contract for which amounts to 24 million schillings. Funds will be provided by the Federal Government out of the extraordinary budget (Lottery Loan) and by the Vienna communal tramways as users of the bridge. Since among the construction materials used for the bridge are steel, cement, rubble and timber for scaffolding, the home industries in question have been given some stimulus. Unemployment will also be alleviated, since, in Vienna alone, some 500 men will find direct employment for three years on the construction of the Reich Bridge.

GOVERNMENT ADMINISTRATION.

Buildings.

1 (a). — The following Federal buildings have been begun since 1929 and have now been completed :

Nature of work	Years	Expenditure in schillings	Administrative department	Observations
<i>A. High Schools.</i>				
New buildings and transformations of the chemical institutes at Vienna University, district IX, Währingerstrasse, also transformations in the former Garrison Hospital No. 1, as well as miscellaneous work at university institutes	1929-1932	766,999	Federal Ministry of Education	In 1934 no large transformations.
Structural extension of the Vienna Technical High School, including the internal fittings (Karlsplatz, Gusshausstrasse and Getreide-markt)	1929-1933	7,244,286	Federal Ministry of Education	Will be continued in the next few years.
Structural work at the Veterinary High School, Vienna III	1929-1933	434,750	Federal Ministry of Education	No large constructions in 1934.
Structural extension works at the Agricultural High School, Vienna XVIII	1930-1933	532,488	Federal Ministry of Education	No large constructions in 1934.
New buildings and internal fittings as well as work in connection with the moving of the teachers' platform at the Technical High School at Graz, and minor work at Graz University (Physiological Institute)	1929-1933	2,718,743	Federal Ministry of Education	Will be carried on in the next few years on a reduced scale.
Structural extensions at Innsbruck University and its institutes . . .	1929-1932	1,594,352	Federal Ministry of Education	At present no large structural works.
Structural work at the Mining High School at Leoben	1929-1931	84,742	Federal Ministry of Trade and Communications	At present no large structural works.
Total for high-school buildings .	1929-1933	13,376,360		
<i>B. Other Schools.</i>				
New construction of the Research Library at Linz.	1930-1932	980,000	Federal Ministry of Education	Three-quarters of the costs are borne by the Federation, one-eighth by the Province of Upper Austria and one-eighth by the commune of Linz.
New construction, additional constructions and transformations at secondary schools in Vienna (V, Rainergasse, Federal "Realgymnasium" ; XIV, Grünbergstrasse, Federal "Realgymnasium" ; XV, Henriettenplatz,				

Nature of work	Years	Expenditure in schillings	Administrative department	Observations
Federal "Realschule"; XIII, Astgasse, Federal "Realschule"; XXI, Franklinstrasse, Federal "Realgymnasium"; XIII, Hütteldorferstrasse, Federal Educational Institute for Boys; XVII, Kalvarienberggasse, Federal Educational Institute for Girls; XIII, Fichtnergasse, Federal "Gymnasium"; III, Radetzkystrasse, Federal "Realschule"; VII, Kandlgasse, Federal "Realgymnasium",	1929-1933	818,765	Federal Ministry of Education	—
Structural extensions at the Technological Industrial Museum at Vienna, IX, Währingerstrasse .	1930-1933	251,501	Federal Ministry of Trade and Communications	Building work is continuing.
Transformations and additional buildings at the Federal Training Institute and Research Station for Wine-growing, Fruit-growing and Gardening at Klosterneuburg	1929-1932	399,813	Federal Ministry of Agriculture and Forestry	—
Structural Work at the Federal Educational Institute for Boys at Wiener Neustadt, additional buildings at the Federal Teachers' Training College at Krems, the Federal "Realgymnasium" at Linz and the Federal Educational Institute at Liebenau, near Graz (construction of new stories and water-conduits), also structural work at the Federal Commercial Academy at Graz	1929-1931	253,115	Federal Ministry of Education	—
Construction of a power station at the Federal Technical and Industrial Training Institute at Mödling, near Vienna	1929-1930	181,637	Federal Ministry of Trade and Communications	—
Purchase of a site for the Federal Training Institute for Iron and Steel Workmanship and Electro-technique at Steyr	1930-1931	300,000	Federal Ministry of Trade and Communications	—
Structural measures at the Federal "Realgymnasium" at Graz, Lichtenfelsgasse	1929-1931	438,288	Federal Ministry of Education	—
Structural extension and transformation of the building of the Federal Training Institute for Architecture and Applied Art at Graz . . .	1929-1932	903,770	Federal Ministry of Trade and Communications	Contributions to the costs of construction were paid by the commune of Graz, the Graz Chamber of Trade and Industry and the province of Styria.

Nature of work	Years	Expenditure in schillings	Administrative department	Observations
Extensions to the Federal "Gymnasium" at Klagenfurt	1929-1930	199,109	Federal Ministry of Education	—
Structural work at the Federal "Realgymnasium" at Eisenstadt	1931	49,910	Federal Ministry of Education	—
Total for buildings of other schools	1930-1933	4,775,908		

C. Official Buildings.

Construction of new stories at the police headquarters building at Vienna, IX, Rossauerlände; purchase of the police building at Vienna, III, Juchgasse, and transformation work; construction of police-dog kennels at Vienna, II, Wagramerstrasse; purchase of a site for a Police Commissariat building in Vienna, X, Gudrunstrasse; structural extensions to the police building at Vienna, III, Marokkanergasse; purchase of a house at Vienna, I, Bräunerstrasse, for police purposes (Electoral Land Register Office), and equipment of same; transformation works at the Security Police barracks at Vienna, VII, Hermannsgasse, and other small constructions	1929-1933	1,833,306	Federal Chancellor's Office, Security Department	—
Reconstruction of the Palace of Justice at Vienna (destroyed in July 1927).	1929-1932	9,864,269	Federal Ministry of Justice	Total costs, spent in the years 1928-1934, 10,801,107 schillings.
Construction of new divisional court building at Krems	1929-1932	4,698,520	Federal Ministry of Justice	The commune of Krems paid a contribution of 400,000 schillings.
Structural work at the Federal Police Commissariat at Steyr; construction of new police barracks at Salzburg; purchase of the Villa Roxane at Zell am See for official purposes; transformation of the Carmelite Monastery at Graz into police barracks; structural work at the former Federal Stud Office at Graz; remaining structural work in connection with the erection of the new offices at Villach; construction of annexes to the provincial law courts at Klagenfurt; purchase of site for the erection of new offices at				

Nature of work	Years	Expenditure in schillings	Administrative department	Observations
Spittal a.d. Drau; work for the completion of the law courts at Bludenz, and other minor structural work	1929-1932	2,480,010	Federal Chancellor's Office and Federal Ministry of Justice	—
Structural work at the Excise Offices at Völkermarkt, Innsbruck, Landeck, Feldkirch and Oberwart.	1929-1932	101,684	Federal Ministry of Trade and Communications	—
Construction of new Government building at Eisenstadt; completion of other works	1929-1932	753,583	Various offices	Begun in 1926, completed in 1932, total costs approximately 3,844,000 schillings.
Work for the completion of the official buildings at Güssing and Jennersdorf, also construction of new official building at Oberpullendorf and additional constructions at the district law courts at Neusiedl am See	1929-1932	599,698	Various offices	—
Construction of Customs houses at Mitterretzbach, Angern, Kautzen, Weikertschlag, Berg, Drasenhofen, Wielands, Pyhrabruck, Saming, Radkersburg, Schweigen, Prägraten, Niederndorf, Törl-Maglern, Lavamünd, Mauthen, Gärzellen, Sibratsgfall, Brand, Lustenau, Frankenau, Burg, Heiligenkreuz, Rechnitz, Baumgarten, Kittsee, Minihof-Liebau, Pamhagen, Zwerndorf, Laa a.d. Taya, Katzelsdorf, Drösing, Haselbach, Pfaffetschlag, Stift am Grenzbach, Wels; Customs supervision huts on the Plöckenpass and at Hinterriss, and other minor construction works	1929-1933	3,074,793	Federal Ministry of Finance	—
Gendarmerie buildings at Neunkirchen, Völkermarkt, Steyr, Warth, Kittsee, Innsbruck, Kitzbühel, Bludenz, Jennersdorf, Güssing, Vöcklabruck, Bruck a.d. Mur (castle barracks), Loibl, Pottendorf, Brennborg, Feldkirch, Uebelbach, Lackenbach and blockhouses on the Wurzenpass, the Seebergsattel and the Wolayerpass	1929-1933	1,775,550	Federal Chancellor's Office	—
Construction of new offices at Mürzzuschlag	1933	370,000	Federal Ministry of Justice	Now under construction.
Total for construction of official buildings	1929-1933	25,551,413		

Nature of work	Years	Expenditure in schillings	Administrative department	Observations
<i>D. Federal Institutions.</i>				
Federal Reformatory Institute at Kaiser Ebersdorf, Vienna, XI, transformation of the so-called "Clock-tower Wing"	1930-1933	879,941	Federal Ministry of Justice	—
Structural work at the Federal Institute for combating animal epidemics at Mödling (stables for small animals, pigs and cattle, halls for bleeding and other operations, laboratories, indoor riding-school, garage, disinfection and sanitation installations, manure dumps, etc.)	1929-1933	370,229	Federal Ministry of Agriculture and Forestry	—
Construction of a new gardener's house at the Federal Forestry Research Station at Mariabrunn .	1930	24,394	Federal Ministry of Agriculture and Forestry	—
Structural work at the Federal Re- search Establishment at Wieselburg, and at the Federal Stud at Wiesel- burg (Perwarth Federal Stud Farm), also at the Federal Training and Research Institute for dairy products at Wolfpassing, also at the Stadl Federal Stud Office and at the Piber Federal Stud Farm .	1929-1933	1,526,811	Federal Ministry of Agriculture and Forestry	—
Total for Federal institution buildings	1929-1933	2,801,375		
<i>E. Other Federal Buildings.</i>				
Construction of quarters for police officials at Vienna, III, Am Neumarkt	1929-1931	2,300,006	Federal Chancellor's Office	—
Transformations and minor structural work for police purposes and purchase of land at Vienna and Graz	1929-1930	580,058	Federal Chancellor's Office	—
Construction of quarters for warders at the penal institutes at Stein a.d. Donau, Suben, Garsten and Graz (Karlau)	1929-1930	213,473	Federal Ministry of Justice	—
Construction of quarters for officials at Eisenstadt and Oberwarth . .	1929-1931	1,847,037	For various Govern- ment departments	—
Total for other Federal build- ings	1929-1931	4,940,574		
Total Expenditure on A, B, C, D and E	1929-1933	51,445,630		

I (b). — The following large Federal buildings are now in course of execution :

- (1) Continuation of the new buildings, additions and transformations and of the internal equipment of the Technical High Schools at Vienna and Graz ;
- (2) Structural extensions at the Technological Industrial Museum at Vienna IX, Währingerstrasse ;
- (3) Conversion of Weinzierl Castle, near Wieselburg, into a Federal agricultural training institute ;
- (4) Completion of the new offices at Mürzzuschlag begun in 1933 (total cost of construction, 890,000 schillings) ;
- (5) Completion of the work of transforming the former Tobacco Monopoly building at Klagenfurt into police barracks ;
- (6) Start of work on the construction of new offices at Spittal a.d. Drau (total cost, approximately 790,000 schillings) ;
- (7) Completion of the new Customs inspection building at Ettenau on the Bavarian frontier (total cost, 280,000 schillings) ;
- (8) Construction of the boundary wall and path at the Federal Reformatory Institute at Vienna XI, Kaiser-Ebersdorf ;
- (9) Structural work at the Agricultural Institutes and studs at Perwarth, Wieselburg, Wolfpassing, Stadl, Admont and Piber.

I (c). — The following are the large Federal buildings the execution of which is at present in contemplation or in preparation plans for which have already been completed :

- (1) Further extensions at the high schools, especially at the technical high schools at Vienna and Graz ;
- (2) Beginning of the transformation of the so-called " Exnergassen " wing at the Technological Industrial Museum at Vienna IX, Währingerstrasse (estimated cost, 825,000 schillings) ;
- (3) Construction of a new gymnasium at the Federal Educational Institute for Boys at Vienna XIII, Hütteldorferstrasse, (probable cost, 450,000 schillings) ;
- (4) Construction of a new Federal " Realgymnasium " at Steyr (cost, according to the preliminary estimates, about 3,000,000 schillings) ;
- (5) Addition of workshops to the Federal Institute for Iron and Steel Craft and Electrotechnique at Steyr (cost, approximately 385,000 schillings) ;
- (6) Addition of a new story to the Anatomical Institute at Salzburg, with a view to the creation of a research library (total cost, 175,000 schillings) ;
- (7) Erection of a workshop wing at the Federal Training Institute for Architecture and Electrotechnique at Bregenz (total cost, 415,000 schillings) ;
- (8) Construction of a Police Commissariat at Vienna X, Gudrunstrasse (estimated at 2,200,000 schillings) ;
- (9) Construction of new law courts at Neunkirchen (estimated at 800,000 schillings) ;
- (10) Construction of new Excise offices at Krems a.d. Donau, Bruck a.d. Leitha, Ried im Innkreis, Wels, Zell am See and Dornbirn ;
- (11) Construction of a guard-house at Mattighofen (estimated at 212,000 schillings) ;

(12) Construction of new law courts at Hallein (estimated at 660,000 schillings) ;

(13) Construction of divisional law courts at Leoben (estimated at 5,000,000 schillings) ;

(14) Construction of a police guard-house at Klagenfurt (estimated at 300,000 schillings) ;

(15) Customs houses at Kalch, Klein Haugsdorf, Dürnkrut and Plöckenpass ;

(16) Construction of new offices and quarters for the gendarmerie at Kerschbaumer am Brenner, Saalfelden and Langen am Arlberg ;

(17) Constructional work at the Agricultural Institutes and studs at Mödling, Perwarth, Wieselburg, Wolfpassing, Piber and Neusiedl am See.

II. — Contracts for the Federal buildings referred to under I (a) and (b) were awarded as a result of public or limited tenders, and only a small number were given by private treaty. These contracts were carried out by private firms on behalf of the Federal Administration.

III. — In the case of the Federal buildings mentioned under I, building costs are provided for in the ordinary way in the Federal budget estimates for the current year (for Federal buildings).

IV. — It is estimated that, of the expenditure on the Federal buildings mentioned under I, on an average about 50 per cent was spent on materials and equipment, which with a few exceptions were provided by home industry, and about 50 per cent was spent on wages and labour.

V. — The work mentioned under I made it possible to give employment to the building industry and at the same time to a large number of associated undertakings and workers, and thus to administer a considerable stimulus to economic and industrial activities.

FEDERAL MINISTRY OF AGRICULTURE AND FORESTRY (SECTION III, HYDRAULIC).

HYDRAULIC PUBLIC WORKS DEPARTMENT.

I. — Hydraulic works carried out entirely with Federal (State) funds :
Conservancy works on the Danube and frontier waterways.

II. — Hydraulic works carried out with funds supplied by the Federation and other bodies (provinces, districts, communes, corporations) :

(1) Embankments on the Danube and frontier waterways ;

(2) Conservancy works on rivers not mentioned in No. I and on all other pieces of water (streams, lakes) ;

(3) Works for protection against torrents and avalanches ;

(4) Ground improvements (drainage and irrigation constructions) ;

(5) Local water-supply constructions.

For the above purposes, the following sums were spent out of Federal funds alone during the period under consideration :

Hydraulic Works.

	1929	1930	1931	1932	1933
	Austrian schillings				
River and stream conservancy, including Danube and frontier waterways.	21,341,493	31,852,812	18,386,164	11,418,612	15,191,171
Torrent and avalanche protection	3,851,345	4,169,990	3,921,500	2,149,860	4,247,200
Drainage and irrigation	1,975,946	2,799,997	1,602,955	1,088,390	1,930,831
Water supply	888,991	1,301,595	1,363,448	803,446	803,940
Total.	28,057,775	30,124,394	25,274,067	15,460,308	22,173,142

In the current year, the Federal expenditure on hydraulic works, in consequence of the allotment of a portion of the proceeds of the 1933 internal loan (Lottery Loan), will amount to about 27 million schillings.

The total expenditure on public hydraulic works, comprising both Federal expenditure and the contributions of the provinces and other bodies and interests, and including contributions from the funds for productive unemployment relief, may be estimated at the following figures :

Hydraulic Works.

	1929	1930	1931	1932	1933
	In millions of Austrian schillings				
River and stream conservancy, including Danube and frontier waterways.	35.5	36.3	30.7	18.0	21.7
Torrent and avalanche protection	5.9	6.5	6.3	3.3	5.8
Drainage and irrigation	5.6	8.0	4.6	2.4	4.2
Water supply	4.5	6.5	7.0	3.2	2.4
Total.	51.5	57.3	48.6	26.9	34.1

The costs of the building offices of the Federation and of the provinces are not included in the above figures ; they amount to about 4 per cent of the total expenditure indicated.

The wages of workers directly employed in construction may be estimated on an average at 60 per cent of the total costs, and those of labour indirectly employed (production of building materials and tools, transport) at 15 per cent, making a total of 75 per cent spent on wages.

The daily labour shifts of workers directly employed on hydraulic works may be estimated at the following annual figures :

1929	51,500,000 × 0.60 : 8.0 ¹ =	3,900,000
1930	57,300,000 × 0.60 : 8.0 ¹ =	4,300,000
1931	48,600,000 × 0.60 : 7.8 ¹ =	3,700,000
1932	26,900,000 × 0.60 : 7.6 ¹ =	2,100,000
1933	34,100,000 × 0.60 : 7.4 ¹ =	2,800,000

The number of workers employed is very variable throughout the year, the highest figure being reached in the autumn months (15,000 to 18,000 men) and the lowest during the period of frost in the winter.

As the hydraulic works are distributed throughout the whole Federal territory, as a considerable proportion of the expenditure consists of wages, and as a large part of the building materials (timber, stone, sand, etc.) is obtained in the vicinity of the building sites, the effect of the increased flow of money is felt in many parts of the country. Hence, unemployment and the shortage of money in the rural districts is alleviated. These advantages, which are of such importance at the present time, are additional to the actual value of the hydraulic works as productive investments, particularly from the point of view of security and improvement of the soil.

CHIEF PUBLIC WORKS RELATING TO COMMUNICATIONS.

Under this head fall the works carried out by the Austrian Federal Railways and certain private railways, together with those carried out at the various airports.

FEDERAL RAILWAYS.

In so far as they constitute a charge upon the operating account, the costs of new works and acquisitions already completed or still in progress are borne by the Austrian Federal Railways Company ; but, when they permanently enhance the value of the enterprise, the costs are borne by the Federal Government, on behalf of which the company operates. In the case of expenditure enhancing the value of the enterprise, funds are advanced by the Federal Government to the Federal Railways, which pay interest and amortisation until the loans are finally paid off. The costs of works constituting a charge upon the operating account are covered out of the railways' own resources. But, as since 1930 their accounts have always closed with a deficit, such costs also have had, in part, to be covered by the Federal Government. The loans for expenditure enhancing the value of the enterprise have been made available by the Federal Government out of the proceeds of the various Federal loans.

For the works carried out since 1929, the funds assigned to the Federal Railways have been as follows : Out of the International Federal Loan of the Republic of Austria, 271,834,080.88 schillings ; out of the International Guaranteed State Loan 1933-53, 54,000,000 schillings ; out of the loan contracted through the Company for Trustee Administration, 3,200,000 schillings ; and, out of the Austrian Lottery Loan of 1933, 37,600,000 schillings.

¹ Average daily wage, including tax.

PRIVATE RAILWAYS.

As regards what has been done by the private railways, the following work has been undertaken :

The extension of the Linz-Kleinmünchen light railway to Ebelsberg was opened on May 18th, 1929 (costs of construction, 120,000 schillings).

The Birkfeld-Ratten Factory Railway has been transformed into a local railway, which was opened on June 1st, 1930 (cost of construction, 3,350,000 schillings).

The Obervellach Teleferic has been constructed and was opened on January 21st, 1931 (cost of construction, 800,000 schillings).

The full-gauge electric local railway from Feldbach to Bad Gleichenberg was opened on June 17th, 1931 (cost of construction, 16,800,000 schillings).

On the Graz-Köflach private railway the relaying of the track, the Federal road and the Gradenbach is in progress over a distance of 2.5 kilometres between the Oberdorf and Köflach stations. This work will, it is expected, be completed by 1935 or 1936, the cost of construction being estimated at approximately 3 million schillings.

No other such major building operations are in contemplation for the immediate future.

In the case of the above-mentioned local and light railways which are already completed, the works were carried out by the concession-holders in virtue of their railway concessions, and it is they who defrayed the costs of construction out of their own resources or by the issue of shares. The Birkfeld-Ratten and Feldbach-Bad Gleichenberg local railways, however, received subsidies out of Federal and provincial funds in the form of subscriptions for shares. In the case of the Birkfeld-Ratten Local Railway and the Obervellach Teleferic, the loans raised by the concession-holders were guaranteed by the provinces of Styria and Carinthia respectively.

When shares are taken up or loans guaranteed, any funds which might be required have always come out of the ordinary finances of the Federation or provinces, as the case may be.

The works on the Graz-Köflach section were carried out by a private contractor for the account and at the expense of the proprietors (the Graz-Köflach Railway and Mining Company) and the Alpine Mining Company.

In the case of the works on the Birkfeld-Ratten and Feldbach-Bad Gleichenberg local lines and on the Graz-Köflach line, approximately one-third of the expenditure represented the cost of material and two-thirds wages. In the case of the two other lines mentioned above, the expenditure was more or less evenly divided between material and wages. In no case were supplies obtained from abroad.

The works on all four of the above-mentioned local and light railways have helped to stimulate both agricultural and industrial activity by improving facilities for obtaining and disposing of raw materials, manufactures and produce. The relaying of the Graz-Köflach line will facilitate the working of a coal deposit of more than six million tons and prolong operations at the Rosental mines by about ten years.

AIRPORTS.

As regards improvements to airports, and leaving out of account such minor and unimportant works as the maintenance and extension of existing buildings, taking-off grounds and roads, together with the water supply and the enclosure work of the Federal airports, building operations have been the following :

At the Vienna Airport. — The despatch building, the radio transmission building, the direction station, the rebuilding of the starting-tower, two extensions to the concrete despatch way, a concrete work platform, the approach road to the despatch building,

a run-up to the despatch way and extensive levelling and sowing operations on the taking-off ground.

At the Klagenfurt Airport. — Extensive levelling and sowing operations ; the direction station.

At the Graz Airport. — The direction station.

Major works carried out at the *Salzburg Municipal Airport* have included the despatch building and direction station ; while at the *Linz Municipal Airport* there has been extensive levelling and sowing of the taking-off ground.

At the present time no further works of this type are in progress or projected for the near future.

The works at the Federal airports and in connection with the direction station attached to the Salzburg Municipal Airport were commissioned by the Federal Treasury, as proprietor of the airport and Salzburg direction station, and were carried out by private contractors after the submission of tenders. Works on a smaller scale the total cost of which did not exceed 5,000 schillings were carried out by firms and small jobbers to whom the contracts were awarded by private treaty.

The above-mentioned works at the non-Federal airports were commissioned by the municipalities concerned.

The cost of the works commissioned by the Federal Ministry of Commerce and Communications has been covered out of the ordinary budget of the Federation, while those carried out for the municipalities have likewise been covered out of their respective budgets.

The building materials and equipment were obtained from home industries. As regards the buildings and work on the despatch-way and work platform, the cost of building materials and apparatus and labour cost generally balance ; whereas, in the case of levelling operations, for which no building materials were required, the entire costs represented wages and social charges, with the exception of an insignificant amount for seeds, overhead, wear and tear of implements.

The works in question were instrumental in stimulating the building trades —though, as the building costs were relatively low, to only a small extent—and in relieving unemployment. In this connection, as regards the works commissioned by the Federation it was stipulated, when tenders were invited, that, in taking on the necessary additional labour for the work in hand, the contractors should engage unemployed workers, who would be sent to them by the competent unemployment bureau.

Under the rules at present governing the award of public works contracts by the Federation, 80 per cent, and, in the case of buildings, 50 per cent, of any new labour engaged by the contractors must be obtained from the unemployment bureau.

In addition to the constructional work described above, a night-lighting system has been installed at the Vienna airport, consisting of one landing-beacon, boundary beacons round the taking-off ground, warning lights, illuminated wind-direction indicators, two landing-ground searchlights, luminous signals to permit or forbid landing, and warning lights on the two transmission masts of the airport radio station. The following equipment has also been installed :

An 800-watt transmitter, together with a trellis mast 60 metres high, at the Vienna airport radio station ;

A 30 h.p. Diesel engine as reserve power for the transmitting plant at the Vienna airport radio station ;

An 800-watt transmitter, together with two 45-metre masts, for the airport radio station at Klagenfurt ;

- A 60-watt long-wave transmitter for the airport radio station at Graz ;
- A 500-watt long-wave transmitter for the airport radio station at Salzburg.

In addition to the receiving equipment at the radio stations and the weather bureaus, at the Vienna, Klagenfurt and Innsbruck airports, the airport radio stations at Graz and Salzburg have been modernised, while the weather bureaus and emergency weather services have been equipped with additional meteorological apparatus. In addition, three 24-metre trellis masts for receiving have been set up at the radio station's weather bureau at Klagenfurt airport and six 11.5-metre iron masts for receiving at the Vienna airport radio station.

In the last place, the telephonic equipment at the Vienna airport has been modernised and is now completely automatic.

A tele-printing line between the Innsbruck and Salzburg airports is now in course of construction, and the organisation of a night air service from Vienna westward in connection with the Western European night air-line system is in contemplation.

The works at the Federal airports at Vienna, Graz and Klagenfurt, as well as those at the municipal airports at Salzburg and Innsbruck, were carried out for the account and on the instructions of the Federal Ministry of Commerce and Communications, by which the new works and facilities will be administered. According to their importance, works were awarded to firms with or without tenders, only a small proportion being carried out by the subordinate services of the authorities concerned.

The entire costs of the works commissioned by the Federal Ministry of Commerce and Communications were covered out of the ordinary finances of the Federation (Federal budget).

By far the greater part of the cost of the above-mentioned radio installations was represented by apparatus (material), the proportion spent on fitting and erection being much smaller. It was, indeed, only in the case of the erection of iron masts, etc., that the latter item was of any importance.

Radio-electric installations and other apparatus of the air safety service consisted, in the main, of foreign specialities, which had therefore to be obtained from abroad.

DIRECTORATE-GENERAL OF POSTS AND TELEGRAPHS.

I (a).

BUILDINGS.

Two telephone exchange buildings in Vienna, one telephone-operation building in Graz, twenty-three post-office buildings, sixteen post-office garages, together with the rebuilding and extension of several postal buildings.

TELEGRAPHS AND TELEPHONES (INDOOR INSTALLATIONS).

Change-over in the Vienna telephone area from the half-automatic to the completely automatic system ; substitution of a modern self-connecting exchange for the oldest automatic telephone exchange in Graz ; substitution of self-connecting exchanges for hand-worked exchanges in a number of provincial towns (Villach, Gmunden and Klosterneuburg). Completion of the amplifying stations at Vienna, St. Pölten, Amstetten, Linz, Salzburg, Vöklabruck, Wörgl, Innsbruck, Landeck, Bludenz and Halbthurn. Re-equipment of amplifying stations at Gloggnitz, Bruck a.d. Mur, Graz, Klagenfurt, Villach, Hofgastein, Wildon, Kirchdorf, Trieben, Judenburg and Treibach. Extension of the telephone exchanges in Vienna, St. Pölten, Wiener Neustadt, Gloggnitz, Bruck a.d. Mur, Graz, Hofgastein and Villach. Extension

of the telegraph offices at Salzburg, Innsbruck and St. Pölten. Tone-frequency telegraphy installations in Vienna, Linz and Innsbruck. Tele-printing installations in the telegraph offices at Vienna, Salzburg, Klagenfurt and Villach. Pictorial telegraphy installations in Vienna. Installations for the radio-observation service.

TELEGRAPHS AND TELEPHONES (OUTDOOR INSTALLATIONS).

Laying of long-distance cables between the following places : Graz-Wildon, Linz-Bruck a.d. Mur, Bruck a.d. Mur-Tarvis. Laying of local cables between the following places : Mallnitz-Villach, Bruck a.d. Mur-Villach, Selztal-Aussee, Villach-Arnoldstein, Vienna-Gloggnitz-Vienna-Göpfritz. Laying of several minor local cables. Reinsulation of the Arlberg cable. Strengthening of the insulation on the Linz-Bruck a.d. Mur long-distance cable. Relaying of cables and wires in connection with the electrification of the Lend-Salzburg line. Extension and reconstruction of the overhead wires and cable system in Vienna. Extension of smaller telephone systems and erection of various overland telephone wires.

I (b).

BUILDINGS.

Building of a new telephone exchange in Vienna XIII.

TELEGRAPHS AND TELEPHONES (INDOOR INSTALLATIONS).

In the main, the works still remaining to be completed are confined to the provision of a cheaper type of apparatus for inter-office telephones, the testing of the so-called transmission system which is to make telephonic communications in the provinces possible, even during such time as the exchanges are closed, and the extension of existing exchanges through the addition of further connections, in consequence of the campaign recently launched with a view to increasing the number of subscribers. Other developments still in progress are the provision of tele-printing, sunk telegraph installations, completion of the amplification stations at Linz and Bruck a.d. Mur, and the installation of high-frequency apparatus at the Wildon amplification station.

TELEGRAPHS AND TELEPHONES (OUTDOOR INSTALLATIONS).

Additional telephone connections, principally in Vienna, in connection with the above-mentioned campaign for increasing the number of subscribers.

I (c).

TELEGRAPHS AND TELEPHONES (INDOOR INSTALLATIONS).

Further additions to the existing telephone connections to provide for new subscribers, in connection with the above-mentioned campaign for increasing the number of subscribers, and extension of the technical equipment of all amplification stations in the event of the laying of the Linz-Passau long-distance cable.

TELEGRAPHS AND TELEPHONES (OUTDOOR INSTALLATIONS).

Further additions to the existing connections to provide for new subscribers, in connection with the above-mentioned campaign for increasing the number of subscribers, and the laying of a long-distance cable between Linz and Passau.

II.

BUILDINGS.

All such works have been and are being carried out under contract after the submission of tenders.

TELEGRAPHS AND TELEPHONES (INDOOR INSTALLATIONS).

As regards the technical execution of works of this type, the Directorate-General as a rule invites tenders from Austrian low-frequency concerns, and the contract is awarded accordingly. The delivery of material is always preceded by technical inspection through State officials. In all cases, the administration is entitled to supervise production. Buildings are examined and passed by the building police. As a general rule, the only work which the administration entrusts to its own services—that is, to its own specially equipped workshop—are repairs and all other works required on the existing system, and for the establishment of new connections. In the case of the amplification stations, tenders are not invited, the work being awarded to special firms, as the necessary apparatus is all patented.

TELEGRAPHS AND TELEPHONES (OUTDOOR INSTALLATIONS).

The laying of all long-distance cables and local cables, together with the strengthening of the insulation on the Linz-Bruck a.d. Mur long-distance cable, was carried out under contract after the submission of tenders. The other works were carried out by the public services concerned.

III.

The expenditure incurred up to the end of 1931 was met almost entirely out of credits assigned from the League of Nations Loan and the 1930 International Federal Loan; expenditure in 1932 and 1933 was met out of current resources, and expenditure in 1934 out of the proceeds of the Lottery Loan.

IV.

BUILDINGS.

All material was obtained within the country. Building costs were made up of 45 per cent material and 55 per cent wages, leaving out of account the fact that a large proportion of the cost of material also represents wages.

TELEGRAPHS AND TELEPHONES (INDOOR INSTALLATIONS).

As a general rule, all manufactured articles required for the equipment of exchanges and stations and the construction of subscribers' apparatus is produced in the country itself. The supplying firms also obtain the greater part of their raw materials from within the country. The only exception is the apparatus for

amplification stations, approximately 70 per cent of which is obtained from abroad. In the latter class of work, expenditure on material and wages may be assessed at 80 per cent and 20 per cent respectively ; whereas, in the case of the other indoor installations, the respective percentages are 40 per cent and 60 per cent.

TELEGRAPHS AND TELEPHONES (OUTDOOR INSTALLATIONS).

As regards the laying of long-distance and local cables, expenditure on wages and material may be estimated at 60 and 40 per cent respectively, while, in the case of the other works, this ratio is reversed.

ANNEX.

Yearly expenditure on the works enumerated under I :

Buildings :

	Schillings
1929	2,670,000
1930	3,960,000
1931	3,220,000
1932	1,650,000
1934	200,000
1935 (for the completion of the building in Vienna XIII)	250,000

Telegraphs and Telephones (Indoor Installations) :

	Schillings
1929	16,885,000
1930	15,798,000
1931	13,123,000
1932	3,310,000
1934	1,350,000
1935 (funds required if more subscribers are obtained and also in the event of the laying of the Linz-Passau cable)	6,450,000

Telegraphs and Telephones (Outdoor Installations) :

	Schillings
1929	25,514,000
1930	25,976,000
1931	10,360,000
1932	15,000,000
1934	1,950,000
1935 (funds required if more subscribers are obtained and also in the event of the laying of the Linz-Passau cable)	11,100,000

Description of work	Completed in				In progress	Already projected or plans in preparation	Total	Work executed by		Allocation of expenditure			
	1929	1930	1931	1932				1933	Company's own services	Under contract	Material and equipment		
											Supplied by home industries	From abroad	Wages, including social charges
Millions of schillings													
I. Electrification :													
(a) Second stage of progressive electrification :													
Power stations	4.4	0.7	0.3	—	—	—	5.4	—	5.4	1.2	—	4.2	
Electric locomotives. . . .	3.2	4.6	3.8	3.2	—	—	14.8	—	14.8	3.5	—	11.3	
Other plant	13.8	3.1	0.9	0.1	—	—	17.9	—	17.9	4.9	0.9	12.1	
(b) Capacity increases :													
Power stations	—	0.4	2.1	0.3	—	—	2.8	—	2.8	0.7	—	2.1	
Other plant	—	1.3	0.9	—	—	—	2.2	—	2.2	0.5	0.2	1.5	
(c) Tauern Railway : Cables	—	—	1.4	0.8	—	—	2.2	—	2.2	0.4	0.4	1.4	
(d) Tauern Railway, North Ramp : Electrification	—	—	—	—	2.3	0.7	3.0	—	3.0	0.8	0.1	2.1	
(e) Tauern Railway, South Ramp : Electrification	—	—	—	—	—	7.5	7.5	—	7.5	1.9	0.4	5.2	
Total I	21.4	10.1	9.4	4.4	2.3	8.2	55.8	—	55.8	13.9	2.0	39.9	
II. Construction :													
(a) Extensions of Stations and Lines :													
Rebuilding of the Graz Main Station	1.5	2.0	0.5	0.1	—	—	4.1	2.1	2.0	1.6	—	2.5	
Rebuilding of the Innsbruck Station	0.2	—	0.4	—	—	—	0.6	0.1	0.5	0.2	—	0.4	
Minor rebuilding operations	3.9	4.0	1.7	0.3	0.1	0.4	10.8	5.0	5.8	3.1	—	7.7	
Total (a)	5.6	6.0	2.6	0.4	0.1	0.4	15.5	7.2	8.3	4.9	—	10.6	

Description of work	Completed in					In progress	Already projected or plans in preparation	Total	Work executed by		Allocation of expenditure		
	1929	1930	1931	1932	1933				Company's own services	Under contract	Material and equipment		
											Supplied by home industries	From abroad	Wages, including social charges
Millions of schillings													
<i>Brought forward.</i>													
(b) Rebuilding of bridges and sub-structure	5.6	6.0	2.6	0.4	0.1	0.4	0.4	15.5	7.2	8.3	4.9	—	10.6
(c) Improvements to permanent way ¹	2.6	2.1	2.0	7.2	9.0	2.1	2.7	27.7	2.4	25.3	15.9	—	11.8
(d) Improvements to safety and signalling gear.	33.5	24.1	28.6	7.6	5.9	24.6	—	124.3	15.0	109.3	93.0	—	31.3
(e) Emergency equipment and track maintenance gear	1.5	1.3	1.0	0.5	0.2	1.2	1.2	6.9	2.3	4.6	5.2	—	1.7
	—	0.1	0.1	—	0.1	—	0.4	0.7	—	0.7	0.6	—	0.1
Total II	43.2	33.6	34.3	15.7	15.3	28.3	4.7	175.1	26.9	148.2	119.6	—	55.5
III. Workshops and marshalling yards, rollingstock :													
(a) Extensions to workshops and marshalling yards from both the constructional and mechanical points of view	1.5	2.5	0.4	—	—	—	0.9	5.3	0.8	4.5	0.7	0.3	4.3
(b) Rolling-stock :													
(1) Coaches	39.6	42.2	17.8	2.0	0.5	—	—	102.1	—	102.1	32.1	—	70.0
(2) Locomotives	21.3	6.5	13.7	6.4	5.0	0.3	0.8	54.0	0.2	53.8	10.8	2.7	40.5
Total III	62.4	51.2	31.9	8.4	5.5	0.3	1.7	161.4	1.0	160.4	43.6	3.0	114.8
<i>Recapitulation.</i>													
Total I. — Electrification	21.4	10.1	9.4	4.4	2.3	8.2	—	55.8	—	55.8	13.9	2.0	39.9
Total II. — Construction	43.2	33.6	34.3	15.7	15.3	28.3	4.7	175.1	26.9	148.2	119.6	—	55.5
Total III. — Workshops, marshalling yards and rollingstock	62.4	51.2	31.9	8.4	5.5	0.3	1.7	161.4	1.0	160.4	43.6	3.0	114.8
TOTAL	127.0	94.9	75.6	28.5	23.1	36.8	6.4	392.3	27.9	364.4	177.1	5.0	210.2

¹ As regards both construction and operation.

WORK ON FEDERAL ROADS.

Ad I. — In the year 1928, the systematic reconstruction of the Federal roads on modern lines was begun especially on the more important trunk roads from east to west and north to south.

This work was designed to improve the roads from the point of view both of direction and camber, with an average road width of 6 metres.

The sections dealt with have been covered with a modern road surface to meet the requirements of motor traffic, due regard being had, as far as possible, to the prevailing traffic conditions.

In all, some 800 kilometres out of the 4,437 kilometres comprised in the Federal road system have been reconditioned on modern lines in the manner described above.

These operations are still in progress and will be proceeded with in the next few years as far as funds permit.

Ad II. — The modernisation of the Federal roads has been carried out in the various provinces on uniform lines by the Federal road authorities attached to the provincial governorships, under the supervision of the Federal Ministry of Commerce and of Communications, which is responsible, in the last instance, for the management of the Federal roads.

The above-mentioned operations are paid for out of Federal funds, and are entrusted in the vast majority of cases to qualified contractors after the submission of public tenders.

Ad III. — The cost of the road work is met in principle by the provision of the necessary funds in the ordinary and extraordinary budgets.

In order, however, to provide credit facilities for urgent large-scale works, a Federal Law (*B.G. Bl.* No. 44) was passed on March 12th, 1933, which set up the Austrian Road Fund. This fund is invested with independent juridical personality, and was empowered to finance works either through the award of contracts on credit or by the issue of loans. In the present position of the money market, however, advantage has not been taken of the second possibility.

Ad IV. — In the case of current improvements, 70 per cent of the cost of the above-mentioned road works goes in wages, expenditure on material representing, in general, a very small item.

In the case of the laying of modern surfaces, however, wages may be assessed at approximately 40 per cent, the remainder being made up of expenditure on materials, overhead and contractors' profits.

Almost all the materials used are of national origin. Only in certain cases, where local considerations appeared to make this essential, were tarred roads given a dressing of asphalt, which, naturally, had to be obtained from abroad.

Ad V. — As far as may be judged from the figures for 1933 and 1934, the works undertaken in those two years at a total cost of 60 million schillings represent approximately 6,500,000 labour-days. Allowing for the fact that work is discontinued during the winter months, that means that, during the period from the beginning of March to the end of December, employment was provided for an average of approximately 20,000 workers.

It goes without saying that road works are of benefit to all other branches of economic activity.

FEDERAL MINISTRY OF COMMERCE AND COMMUNICATIONS

UNDERTAKINGS WITH POWER PLANT BROUGHT IN OPERATION SINCE 1929.

Serial number in 1933 Statistics	Place and name of undertaking <i>Power houses</i>			Percentage used of	(a) Driving machines			Power		Remarks
	Province	Operation begun (a) Extension (b) In course of construction	District		Number and type	Nominal performance Kw.	Maximum performance (a) Possible (b) Actually reached Kw.	Output in 1933 working year Kw. (ooo's)		
10 a	Bregenz	Vorarlberger Illwerke		(a) 4 Fst.	90,000	(a) 90,000	145,876	Fst. = Free beam turbines.		
	V.	Vermuniwerk (<i>Parthenen</i>)	Bludenz	(b) 4 Dr.	120,000	(b) 90,000		Dr. = Rotary current.		
	(a) 1931									
	Graz	Steweag		(a) 2 Ka.	16,000	(a) 16,000	85,413	Ka. = Kaplan turbines.		
31 b	St.	Mirnitz	Near Graz	(b) 2 Dr.	22,000	(b) 16,000		Dr. = Rotary current.		
	(a) 1932									
	St.	Packsperre	Near Graz	(a) 1 F.	600	(a) 600	1,158	F. = Francis turbines.		
	(a) 1932			(b) 1 Dr.	900	(b) 600		Dr. = Rotary current.		
128 d	Vienna	Austrian State Railways		(a) 7 Fst.	24,920	(a) 23,000	32,986	Fst. = Free beam turbines.		
	Sa.	Stubachwerk	Zell am See	(b) 2 Dr.	3,015	(b) 19,300		Dr. = Rotary current.		
	(a) 1929			4 Einph.	19,200			Einph. = Mono-phase current.		
				2 Gl.	370			Gl. = Continuous current.		

In course of construction.

10 b	Bregenz	Vorarlberger Illwerke	—	(a) —	(122,200)	(a) (122,200)	—	7 per cent completed.	
	V.	Lunzerseewerk	(262,000)	(b) —	—	(b) —			
	(c) 1930	Bludenz							
70 r	Linz a/d D.	O.K.A.	—	(a) —	(1,100)	(a) (1,100)	—	20 per cent completed.	
	O.O.	Gosau IV	(5,100)	(b) —	—	(b) —			
	(c) 1924	Gmunden							

BELGIUM.

ELECTRICITY.

I (a). — Electric power is produced in Belgium in the form of three-phase alternating current of 50 cycles. In addition to the electric power transmission lines, four new electric supply stations have been created, including one thermic station at Schelle and three hydro-electric stations at Butgenbach, Bévercé and Heid-de-Goreux. In addition, the thermic supply station at Brussels, which was burnt in 1932, has been rebuilt.

The following statement shows the number and power of the generating sets installed in the new stations mentioned above, and those established in the other Belgian supply stations since the beginning of 1929.

I. NORTHERN DISTRICT OF FLANDERS.

(a) *Langerbrugge supply station.*

Two turbo-alternator sets of 25,000 kilowatts fed at a pressure of 50 kilogrammes.

One Benson boiler capable of supplying 100 to 135 tons of steam per hour at a pressure of 225 kilogrammes.

Two turbo-alternator sets of 4,000 kilowatts reducing the steam pressure from 200 to 60 kilogrammes.

(b) *Ghent supply station.*

Two turbo-alternator sets of 15,000 kilowatts.

(c) *Zeebrugge supply station.*

One turbo-alternator set of 7,500 kilowatts.

2. DISTRICT OF MIDDLE BELGIUM.

(a) *Sweveghem supply station.*

One turbo-alternator set of 10,500 kilowatts coming from Malines supply station.

(b) *Moll supply station.*

One turbo-alternator set of 10,000 kilowatts

(c) *Schelle supply station.*

Three turbo-alternator sets of 30,000 kilowatts.

(d) *Antoing supply station.*

Two turbo-alternator sets, one of 6,000 kilowatts and the other of 10,000 kilowatts.

3. BRUSSELS DISTRICT.

(a) *Oisquercq supply station.*

One turbo-alternator set of 10,000 kilowatts.

(b) *Brussels supply station.*

Six turbo-alternator sets of 6,000 kilowatts and three turbo-alternator sets of 4,800 kilowatts.

(c) *Schaerbeek supply station.*

Two sets of 25,000 kilowatts.

4. HENNUYÈRE DISTRICT.

A. *Belgian Intercommunal Electricity System.*

Monceau-sur-Sambre supply station.

One turbo-alternator set of 10,000 kilowatts.

B. *Hainaut Gas and Electricity Company System.*

Farciennes supply station.

One turbo-alternator set of 12,000 kilowatts.

C. *Industrial Auto-producer System.*

Quaregnon supply station.

One turbo-alternator set of 50,000 kilowatts fed at a pressure of 67 kilogrammes

One turbo-alternator set of 4,000 kilowatts reducing the steam pressure from 67 to 20 kilogrammes.

5. LIÈGE DISTRICT.

"Scand" Electricity Supply Stations of Entre-Sambre-et-Meuse and the District of Malmédy.

Butgenbach hydro-electric supply station.

One turbo-alternator set of 1,850 kilowatts.

Bévercé hydro-electric supply station.

Three turbo-alternator sets of 3,850 kilowatts.

Heid-de-Goreux hydro-electric supply station.

Two turbo-alternator sets of 3,850 kilowatts.

I (b). — A 70,000-volt overhead line is under construction from Flémalle to Bressoux. This line completes the loop starting from the central post of Ougrée to the posts of Romsée, Bressoux, Flémalle-Grande and Neuville en Condroz and returning

to Ougrée. This line belongs to the " Union des Centrales Electriques de Liège-Namur-Luxembourg ".

The erection of a turbo-alternator set of 60,000 kilowatts is being completed at the Schelle station.

The erection of a turbo-alternator group of 25,000 kilowatts is being completed at the Schaerbeek station.

I (c). — A 70,000-volt overhead line is projected from Auvelais to Bois-de-Villers, doubling an existing line on a different route.

Underground conduits of 30,000 volts will join the Charbonnages supply stations to Trivières, Strépy and Maurage, forming part of the group of the supply station of the " Union des Centrales Electriques du Hainaut ".

II. — The Belgian Government intervenes :

(1) To authorise the use of land or water routes for establishing electric power lines. The authorisations are given in the form of a way-leave, the grant of which is regulated by the following provisions of the Belgian Law of March 10th, 1925, on the distribution of electric power :

" *Article 9.* — A way-leave may be granted to private persons or companies for establishing electric lines over or under the public roads. They are subject to conditions which the competent authorities think fit to impose at the time when they are granted or subsequently.

" *Article 10.* — In no case may the existence of a supply controlled by a commune or conceded by a commune in virtue of the present law prevent a way-leave from being granted with a view to achieving the following objects :

" (a) The transmission of electric power without distribution or sale in the territory of that commune ;

" (b) Permission for an industrial or agricultural undertaking to connect its various seats of operation to its electric power station for its own use ;

" (c) The distribution of electric power to consumers for supplies included in category B¹ ;

" (d) The connection with each other of supply stations of groups belonging to the State, provinces, communes and private persons, set up with the object of granting assistance or exchange with a view to ensuring the better utilisation of the driving engines.

" As regards supply stations belonging to private persons, the advantages of the present provision may only be enjoyed by those whose generating power installed and in working order is at least :

" 500 kilowatts for hydraulic supply stations, stations depending on blast-furnaces, coke-ovens or collieries and, in general, stations using regeneration products ;

" 1,000 kilowatts for any thermic supply stations fed with coal or liquid fuel which apply for connection with a group comprising installations of the preceding category ;

" 1,500 kilowatts for any thermic supply stations applying for connection with one or more stations not using any regeneration product.

¹ The Belgian stations for the production of electric power are divided into two groups, that of distributors and that of industrial enterprises producing their own power.

“ Moreover, this provision only applies provided the establishments of private persons on which the supply stations depend normally require for their use a maximum quarter-hour power of utilisation at least equal for each category to the generating power mentioned above for the supply station.

“ This last condition, however, shall not apply to the hydraulic supply stations.

“ (e) The feeding of an industrial or agricultural undertaking with electric power when the owner or concessionnaire refuses to supply it on the general subscribers' conditions and, in particular, within the period allowed them by the specifications for supplying the power ;

“ (f) The feeding of an undertaking the operation of which is stopped as the result of an accident during the time strictly required for making the necessary repairs.

“ *Article 11.* — A way-leave is granted by the communes when the lines do not extend beyond the limits of their territory, by the permanent deputation of the provincial council if the lines are established on the territory of several communes, the administrations concerned having been previously heard ; in any case, the decision only becomes valid after it has received the approval of the King, who may amend it.

“ When the lines to be established extend over the territory of more than one province or are prolonged beyond the frontiers of the country, the way-leave is granted by the King, the communal and provincial authorities concerned having previously been heard.

“ A way-leave may only be withdrawn by the authorities which have granted it and subject to the same consultations.

“ *Article 12.* — The right of the owners and concessionnaires shall not prevent the holders of a way-leave from using the electric power which they transmit in order to ensure the working of the auxiliary services in the substations and of lighting the premises allotted to them.”

(2) To authorise by an authoritative act the use of private property for the establishment of electric power lines. These authorisations are given in the form of decrees declaring the work to be one of public utility, the grant of which is regulated by the following provisions of the above-mentioned law of March 10th, 1925 :

“ *Article 15.* — The Government, after instituting an enquiry, may declare by a Royal decree, with an explanatory memorandum, that it is a matter of public utility to establish electric lines over or under private unbuilt land which is not shut in by walls or other equivalent means of enclosure.

“ This declaration confers on the undertaking concerned the right to instal these lines over or under such land, to supervise them and to carry out maintenance and repair work, all on conditions determined in the said decree.

“ The Government may, under the same conditions, authorise the holder of a way-leave to use the rights specified in Article 14.

“ *Article 16.* — Before exercising the rights conferred by Articles 14 and 15, the undertaking concerned must submit for the approval of the authority in charge of the public road a plan of the position and time-limits for installing the transmission lines.

“ This authority must reach a decision within three months of the date of sending the plan, and must notify its decision to the undertaking. After this

time-limit, the latter may transmit its request to the Government, which shall take a decision.

“ The work may only be commenced after the owners and tenants concerned have been directly notified.

“ The execution of this work does not involve any dispossession. The erection of props on the walls or fronts may not affect the owner's right to demolish, repair or increase the height of the buildings. The underground lines and supports placed in open and unbuilt land must be removed at the owner's request if he avails himself of his right to enclose or build upon the property; the cost of removing these lines and supports shall be borne by the party which placed them in position. The owner must, however, give the administration, the concessionnaire or the holder of the way-leave concerned warning in writing at least six months before undertaking the work of demolition, repair, raising the height of buildings, enclosing or building upon the property.

“ *Article 17.* — The undertakings concerned shall indemnify the owners and tenants for any damage which may result from the application of Articles 14 and 15 by an amount estimated either by a friendly agreement or by the competent judge. These indemnities may take the form of an annual amount payable in advance.

“ *Article 18.* — Indemnities for damage resulting from the establishment or operation of an electric power supply are borne entirely by the undertaking concerned, which remains responsible for all harmful consequences towards third parties.”

(3) From the point of view of the security of persons and objects, the installations must be in accordance with the provisions contained in general regulations applying the above-mentioned law, and the special conditions annexed to the decrees of authorisation. The installations erected are supervised by the Government in accordance with the general regulations.

III. — The Belgian State does not intervene in the financing of such installations.

IV. — In principle, the material used for the work is of Belgian manufacture.

V. — These installations are of a kind to exercise some influence on the resumption of economic and industrial activities and on unemployment, since their object is to increase the use of electricity and to supply it on more advantageous conditions, and they provide initial construction work. The direct influence on unemployment is, however, unimportant, since these installations do not call for any considerable supply of labour.

GAS.

I (a). — Three principal companies are engaged in the long-distance transport of coal gas :

A. The gas supply company “ Distrigaz ”, whose high-pressure supply systems (1 kilogramme on an average) total 250 kilometres and extend into the provinces of Brabant, Hainaut, Antwerp and Western Flanders.

This company obtains gas from :

- (a) Coke-works of Brabant with two factories, one at (Pont-Brûlé) Grimberghen and the other at Hoboken ;
- (b) Central carbonisation works at Tertre ;
- (c) Coke-works of Le Marly ; works at Neder-Over-Hembeek ;
- (d) La Providence ; works at Marchienne-au-Pont ;
- (e) Ougrée-Marihaye ; works at Monceau-sur-Sambre ;
- (f) Boël works ; works at La Louvière.

The maximum annual capacity of gas production available from coke-ovens is 400 million cubic metres.

B. The company for the purchase and sale of gas (Savgaz), whose high-pressure system (1 kilogramme on an average) totals 46 kilometres and extends into the Province of Liège.

This company obtains gas from :

- (a) Espérance et Londoiz ; works at Jemeppe ;
- (b) John Cockerill Company ; works at Seraing.

The maximum annual capacity of gas production available for distribution is 100 million cubic metres.

C. The General Gas and Electricity Company (Gazelec), whose high-pressure supply system (0.3 kilogramme on an average) totals 200 kilometres and extends into Western Flanders, Eastern Flanders and a part of the Province of Antwerp.

This company is supplied direct with gas by the " Union Chimique " works at Zandhoven, the Clabecq foundries, works at Vilvorde, and also by the Distrigaz.

The maximum annual capacity of gas production available from the two direct producers is 48 million cubic metres.

Apart from the long-distance gas supply system of the three companies mentioned there are :

- (a) A branch line connecting the gasworks of St. Trond to Hasselt ; the supply is 2 million cubic metres per year ;
- (b) A branch line connecting the coke-ovens of Zeebrugge to Bruges ; the maximum annual capacity of gas production available for distribution is 16 million cubic metres ;
- (c) A branch line Croix-Courtrai connecting the network of the District Supply Company at Croix in France with that of the Gas and Electricity Company of Courtrai ; the annual supply is 4 million cubic metres.

The new works are those of Pont-Brûlé, Tertre and Le Marly. In the works of Hoboken, a new set of coke-ovens with a capacity of 800 tons of coal per day has been installed.

I (b). — Nil.

I (c). — The establishment of a high-pressure main by Distrigaz is provided for between Leuze and Renaix.

II — (a). The various constituted authorities take steps to authorise the use of the roads under their administration.

There is no law providing for the use, by administrative act, of private property for laying down gas-mains.

The following clause is inserted in the authorisation decrees :

“ The Administration reserves the right to provide for the change, removal or suppression of works authorised and the re-establishment of the property in its original state, if it thinks this necessary for any reason, and particularly if the holder of the authorisation does not comply with the conditions imposed. The latter's attention is drawn to the fact that this provision may be applied if a law is published concerning the general statutes regulating the production, transmission and distribution of gas.”

In view of the growing importance of the questions raised by the development in the use of coal gas and the long-distance supply of gas, the Belgian Government considered that it should lay down special regulations for the gas industry.

In order to prepare the ground for the legislator, a Commission has been formed, which has submitted a report.

(b) From the point of view of the safety of persons and property, supervision is carried out in the public domain by the administrations responsible therefor.

III. — The Belgian State does not intervene in the financing of these installations.

IV. — As far as possible, the material is furnished by Belgian industry ; as regards certain parts and accessories, especially for gas-mains, recourse is had to foreign industry, either because it specialises in such manufactures or on account of international arrangements made between constructors.

V. — The installations are of a kind to exercise a certain effect on the resumption of economic and industrial activities and on unemployment, since their object is to increase the use of gas and to supply it on more advantageous conditions, and they provide initial construction work. The influence on unemployment is, however, in some cases offset by the dismissal of workmen in gasworks which are no longer used.

WORKS ON WATERWAYS.

I. — Works on waterways may be divided into two groups.

A. MAJOR WORKS.

These works were decreed by the Law of April 24th, 1928. This law instituted, under the title “ Special Major Works Fund ”, an autonomous public body for the purpose of carrying out the following works on behalf and for account of the State, on the authority and responsibility of the Minister for Public Works :

- (1) Completion of the Charleroi-Brussels canal ;
- (2) Meuse conservancy works ;
- (3) Lower Sambre conservancy works ;
- (4) Improvement of the canal from Liège to Maastricht ; of the canal from Maastricht to 's Hertogenbosch ; of the Meuse-Scheldt junction canal ; of the branches to Beverloo, Hasselt and Turnhout ; and of the canal Turnhout to Antwerp ; construction of a direct canal between Liège and Antwerp ;
- (5) Construction of quays, branches, ports, roads, railways, junctions, stations and other concomitant works.

For the execution of these works, the fund will possess, under the above Law of April 24th, 1928, a sum of 1 milliard 800 million francs, increased to 3 milliard 300 million francs by the Law of August 12th, 1933.

This sum will be placed by the State at the disposal of the fund, as follows :

During the year	Millions of francs
1928.	127
1929.	250
1930.	280
1931.	270
1932.	250
1933.	400
1934.	400
1935.	350
1936.	300
1937.	200
1938.	200
1939.	150
1940.	150
1941.	73

The sums made available for the fund are included each year in the extraordinary budget of the State and are paid into the budget for the sake of regularity.

(1) *Completion of the Charleroi-Brussels Canal.*

The object is to widen the Charleroi-Brussels canal between Clabecq and the Brussels docks, so as to make it accessible for vessels of 600 and even 1,350 tons, and to use it also for draining off the upper flood waters of the Senne.

The last section of this work between the new lock No. 54 at Molenbeek St. Jean and the Brussels docks is at present in hand.

Up to August 1st, 1934, the fund had expended about 333 million francs on this work ; another 50 million francs will still have to be spent to ensure its completion.

There is every reason to anticipate that the whole canal will be open for regular traffic in 1935.

(2) *Meuse Conservancy Works.*

The main object is to forestall the disastrous floods of the Liège Meuse and to improve Meuse shipping facilities in the Liège province. For this latter part of the programme, the plans had to be on an ambitious scale, seeing that the Liège industrial basin will very shortly be connected with the Rhine and the Scheldt at Antwerp by wide waterways accessible to deep-draught vessels.

This scheme involves a modification of the river profile by the substitution of three high barrages in place of seven low barrages and by dredging, the regularisation of the river and, in particular, its widening in many sections. Embankment and "heightening" works will also have to be undertaken. Quay-sides and several bridges will have to be reconstructed.

Numerous works have already been carried out :

(1) The Ile Monsin barrage at Liège, which is the key to the whole Meuse system, has been completed ;

(2) The Ramet-Yvoz barrage is nearing completion ;

(3) Dykes have been built along a distance of 35 kilometres ; according to circumstances, these dykes consist of gravel-clay puddling, quay-walls with or without parapets, or simple parapets added to existing walls.

Ten new highway bridges have been built in the Liège region.
Up to the present, the Meuse works have cost about 280 million francs.

(3) *Lower Sambre Conservancy Works.*

The object is to protect certain localities from flooding, to regulate flow and allow vessels of 600 tons to navigate with ease between Jambe-de-Bois, Monceau and Namur.

The method used has been to ensure a steady fall and regular cross-profile for the Lower Sambre, with new barrages, the entrances to which are on a level with the regular longitudinal profile to be established, and new locks, 110 by 12.50 metres, capable of taking 600-ton vessels.

The cross-profiles provided for should allow a uniform flow, at the 5 to 5.45 metres maxima levels of the heaviest spates.

Work is in progress on the Charleroi cut, at Mornimont and at Namur.

Up to August 1st, 1934, about 55 million francs have been expended.

(4) *Improvement of the Campine Canals and Excavation of a Direct Canal (the Albert Canal) between Liège and Antwerp.*

(a) *Campine Canals.*

The " Major Works Fund " is only concerned with a part of the canal from Liège to Maastricht, the Belgian part of the canal from Maastricht to 's Hertogenbosch and part of the Meuse-Scheldt junction canal situated between Bocholt and Hérenthals. The Liège-Petit-Lanaye sector of the Liège-Maastricht canal, and the last (Hérenthals-Antwerp) portion of the Meuse-Scheldt junction canal will be incorporated in the future Albert Canal.

The object of the proposed improvements is to allow 600-ton vessels to navigate freely and easily pending the completion of the direct waterway now in course of construction.

These improvement works, which mainly consist of widening, straightening out bends and deepening the bed, transforming moving bridges into fixed bridges, etc., should be completed by the end of 1934, by which time our northern neighbours will probably have opened the Juliana Canal now under construction.

The sums invested in these works amount to about 107 million francs.

(b) *Direct Canal from Liège to Antwerp (Albert Canal).*

This canal, passing through the Limburg mining basin, will connect up industrial Liège direct with Antwerp, will be situated entirely within Belgian territory and will be accessible for vessels of 1,350 and even of 2,000 tons.

From Liège to Lanaye, the new canal will follow the course of the Liège-Maastricht canal, which will be appreciably widened. The canal will join the Meuse at the Ile Monsin by means of a lock and sluice. From Lanaye to Hasselt the new canal will be dug in virgin soil ; from Hasselt to Quaedmechelen it will follow the branch canal duly widened and improved ; from Quaedmechelen to Hérenthals it will be dug in virgin soil, and, finally, from Hérenthals to Antwerp it will follow the course of the Meuse-Scheldt junction canal.

The new canal will have no summit-level reach and will only have six locks, its real length being 126 kilometres and its virtual length 156 kilometres.

Of the large undertakings already in hand, or completed, we should mention :

(a) The dyke walls and quay walls at Lixhe and Haccourt, at a cost of 35 millions ;

(b) The digging of the bed and the throwing up of the dykes between Haccourt and Briegden. This work, now terminated, involved the cutting of trenches 10 kilometres long and in some cases 64 metres deep and 200 metres wide at the top.

This undertaking will have cost about 480 millions.

(c) The cutting of the canal across the Meuse and Scheldt basins watershed at Eygenbilsen. Difficulties were caused by the very unfavourable geological strata that had to be cut through ; this strata consisted of sandy and very aquiferous and retentive clay.

Results up to date prove that the means employed have been successful.

For this work, 35 million francs have already been allotted.

(d) Finally, the Hérenthals-Antwerp sector is practically one line of continual work consisting of various undertakings, some completed and others well on the road to completion.

Up to August 1st, 1934, the sums expended on these two groups of works : (a) Campine Canals, (b) Albert Canal, amount to 968 millions.

B. ORDINARY AND EXTRAORDINARY WORKS ON WATERWAYS.

In addition to the major works referred to above, the Department of Public Works has caused other works of a hydraulic nature to be undertaken, the expenditure being as follows :

1. Canals, Rivers, etc.

	Ordinary	Budgets		Total
		Exceptional	Extraordinary	
		(In millions of francs)		
1929.	18.5	9.7	31.4	59.6
1930.	23.0	20.6	24.7	68.3
1931.	27.5	29.3	36.6	93.4
1932.	25.5	47.2	11.8	84.5
1933.	21.0	31.9	37.4	90.3
1934.	47.0	—	52.1	99.1
Total	162.5	138.7	194.0	495.2

2. Ports, Coastal Works, etc.

	Ordinary	Budgets		Total
		Exceptional	Extraordinary	
		(In millions of francs)		
1929.	8.2	1.1	23.2	32.5
1930.	12.8	46.2	45.6	104.6
1931.	23.1	8.9	30.1	62.1
1932.	21.6	5.6	5.0	32.2
1933.	18.1	1.0	4.2	23.3
1934.	19.6	—	9.6	29.2
Total	103.4	62.8	117.7	283.9

These works mainly consist of the reconstruction and restoration of works destroyed or damaged during the 1914-1918 war (bridges, locks, dykes, piles, etc.), the reparation of breaches caused in canals and rivers by floods, dyking, straightening, dredging to prevent flooding and improve navigability, etc. They also include new works, such as the fishing ports of Ostend and Zeebrugge.

II. — All the works are carried out for account of the State, and are paid for by the State. They are studied and managed by the Administration of Bridges and Highways, which submits them to public tender.

All plans, measurements and estimates of cost are prepared by the Administration.

III. — The works are carried out with money supplied by the State. The cost is entered, according to its nature, in the ordinary, exceptional or extraordinary budgets, which are submitted to the legislative Chambers each year for approval.

IV. — The equipment used is mainly of Belgian origin, except a few special machines not manufactured in the country which have had to be imported from abroad.

The labour employed is almost exclusively Belgian. In certain undertakings, however, there are a few specialised workers, whom the contractors have employed for several years and whom they continue to employ.

The labour employed *direct* by the contractor *on the spot* may be estimated at between 25 and 30 per cent.

As, however, the materials employed are almost exclusively of Belgian origin, their preparation and transport must have given employment to a large number of workmen.

V. — The execution of public works has had a satisfactory effect on the economic and industrial depression and on unemployment. Their influence is much greater than appears at first sight. Though labour employed *direct* on the works only represents a slight percentage (25 to 30 per cent) of the cost of the works, the labour employed *indirectly*, in manufacturing, preparing and transporting materials, is to be estimated at about 50 per cent, so that *direct* and *indirect* labour together would account for about 80 per cent of the cost of the work.

ROADS.

I and II. — In 1928, the Legislature voted a credit of 600 million Belgian francs for extraordinary repairs to State roads, the spending of this money to be spread over five years.

In 1933, it voted a further credit of 800 million francs to be spread over six years for the same purpose.

In addition to these extraordinary repairs, the Directorate of Roads spends large sums annually on the construction, straightening out or widening of State roads, the building and rebuilding of bridges, the abolition of level-crossings and the acquisition of the necessary land.

It also ensures the ordinary upkeep of the roads.

All this work is carried out direct for the State without the intervention of any concessionnaires.

The work is divided up according to roads, sections of roads or individual undertakings, and is submitted to public tender.

As the undertakings are very numerous and varied each year, a long and detailed list of them could hardly be of any interest to the League of Nations.

III. — Expenditure on State roads is charged, *as regards upkeep*, to the ordinary budget ; *as regards extraordinary repairs, new construction work, the acquisition of land, etc.*, to the extraordinary budget.

There is no special method of financing in the case of roads. All the resources utilised, either under the ordinary or the extraordinary budget, are derived from the same source as all the other State revenue.

IV and V. — I cannot reply adequately and in detail to these two questions. On the one hand, the work on our roads is extremely varied and the proportion of labour employed varies very considerably, not only as regards those actually engaged on the work, but in the industries which manufacture or prepare materials for the roads ; moreover, the Administration submits both the supply and the utilisation of the materials and all accessory work to public tender.

BUILDINGS.

I and II. — The principal undertakings carried through by this Directorate since the beginning of 1929 are the centralisation of museums in the Palais du Cinquantenaire, the termination of the right wing of the Royal Palace, the building of gendarmerie barracks, and buildings for the Department of Education.

We do not think that a list of these works with an indication of the resultant expenditure can be of any interest to the League of Nations.

III. — Expenditure is charged, for ordinary and special expenditure on the upkeep of buildings, to the ordinary budget ; for new constructional work, enlargement and the acquisition of land, to the extraordinary budget.

IV and V. — It is not possible to reply to the question concerning the allocation of expenditure (materials, plant, wages, etc.) without undertaking very long and minute statistical researches, which the Administration, indeed, would not be in a position to undertake, because it submits all works, including the supplying and utilisation of various materials, to public tender.

**UNITED KINGDOM OF GREAT BRITAIN
AND NORTHERN IRELAND.**

MEMORANDUM.

His Majesty's Government, in considering the request of the Council and Assembly of the League of Nations for information on the subject of public works, have noted that the present enquiry relates to important programmes of public works carried out by national means. His Majesty's Government have already indicated their views on this subject at various stages in the course of discussion on international works, and they have in no degree departed from those views.

2. His Majesty's Government feel some difficulty in answering the present request in any detail by reason of the large number and wide diversity of schemes carried out in this country falling under the categories set out in the Annex. Every year a considerable number of public works are carried out as part of the normal activities of central and local government, while, in addition, in the period before 1931, and especially in the years 1929 to 1931, special programmes were undertaken with a view to providing work for the unemployed.

Moreover, in limiting details to the period since 1929, they feel that a misleading impression would be created, as the schemes for that period would fail to disclose how much of the available field had already been covered by earlier activities, whether normal or in the form of earlier special programmes.

3. Some idea of the volume of public work carried out can be obtained from the following figures. The total capital expenditure since 1919 on subsidised housing is well over £700,000,000. About £130,000,000 has been spent in the same period on road schemes, and about £120,000,000 on telephone development. Further substantial expenditure on these services is still being incurred, and, in particular, as regards housing, a national effort is being made at considerable cost to ensure a speedy end to the evil of slums. Over the same period, schemes of a wide range of types to an estimated total cost of £190,000,000 and numbering 17,640 were assisted by grants made by a special Committee, the Unemployment Grants Committee. Power to make State grants in the case of this Committee has now expired.

4. These are merely the major items. Smaller sums have been spent by statutory companies with State aid on the development of their undertakings and by public authorities on land settlement, land drainage, assistance for colonial development, fishery harbours, rural water supply, etc. In addition, considerable sums have also been spent by local authorities and public and other bodies without State assistance, or, in some cases, with State assistance in the form, not of grants, but of guarantees of loans raised to finance the work.

5. His Majesty's Government find a similar difficulty, in view of the wide diversity of schemes, in answering questions II and III of the enquiry, though, in brief, it may be said that the works in question have been, in general, actually carried out by the authority normally responsible for the service in question by the methods (e.g., by contract or direct labour, from loan or revenue account, etc.) which they

would normally adopt. The vast majority of the works have been financed by borrowing, and the State assistance in most cases has taken the form of a direct continuing contribution, either specifically or indirectly, towards interest and in many cases towards sinking fund as well.

6. As regards question IV of the enquiry, here, again, it is difficult to generalise, since the amount of employment provided varies considerably as between different schemes ; but an examination of a number of individual schemes disclosed that an expenditure of £1,000,000 provided employment for about one year for 4,000 men, including not merely those engaged actually on the work, but also those engaged on the provision of materials, transport, etc., in connection therewith.

7. As regards question V, the principle of having regard to the state of employment in approving the execution of public works appears in an Act of Parliament as early as 1909. But the amount of employment provided cannot, in the view of His Majesty's Government, be the paramount consideration ; the ultimate test of each work must be its social or economic value. Experience in recent years in this country has shown that the stimulation of special works selected primarily in respect of their employment-providing capacity has an effect on the employment position which is small relative to the heavy expenditure incurred, and the works, when completed, leave burdens on national and local finances which impede the recovery of normal activity.

8. His Majesty's Government have on a number of occasions stated their view that the expansion of normal activity will most surely and rapidly be brought about by the creation of confidence by steady policy—in particular, financial confidence by a balanced budget, the lowering of rates of interest with resultant cheap and plentiful capital, and, in so far as Government action is possible, by the creation of facilities for and the removal of hindrances to trade.

9. Public works are part of the normal activities of the State and of local and public authorities, and they are continuing and will continue in this country subject to the test of their value to the community ; but the experiment of large-scale public works as a method of dealing with unemployment has been tried and has failed, and it is not intended to repeat it.

BULGARIA.

[*Translation.*]

MINISTRY OF NATIONAL ECONOMY (DIRECTORATE OF AGRICULTURE AND STATE DOMAINS).

In virtue of the law on land-ownership based on labour, the land at the disposal of the State is distributed to peasant families who have no land or insufficient land, with the object of giving them some means of livelihood and thus attenuating the effects of unemployment. An "Agrarian Fund" was constituted for this purpose, comprising a total of 4,289,000 decares.

Out of this special fund, the Bulgarian Government has placed 1,608,000 decares at the disposal of the refugee settlement scheme. A further 1,126,645 decares have been directly distributed by the organisation of the fund to 65,030 families.

The land thus distributed will be paid for by the settler families in the course of twenty years, in equal annual instalments fixed in accordance with the order laid down in the law on land-ownership based upon labour.

CONSTRUCTION OF TRAMWAYS.

The new tramways constructed by the Municipality of Sofia between 1929 and 1933 inclusive measure 15,000 metres in length. The total cost of these works amounts to 27,000,000 leva, made up as follows : 5,250,000 leva for wages ; 21,750,000 leva for material, the greater part of which (18,750,000 leva) was obtained from abroad.

The execution of these works was carried out directly by the authorities—that is, by the Tramways and Electric Light Department—with the funds provided for the purpose in the ordinary budgets of the Municipality of Sofia.

During the same period, the Tramways Department also erected various administrative buildings, depots and tramway stations, to the total value of 17,614,448 leva. These works were executed for the most part (16,261,376 leva) under contract, the remainder being executed by the authorities. The expenditure was charged to the ordinary budgets of the Municipality of Sofia.

MINISTRY OF COMMUNICATIONS (DIRECTORATE OF BRIDGES AND HIGHWAYS).

The following figures give a summary of the position as regards expenditure from 1929 to 1933 inclusive on road improvements (building, remaking, and repair of roads) and the building and repair of bridges :

Year	Total cost of works	Cost of material	Cost of labour employed	Contractor's percentage (10 per cent) and administrative expenses (5 per cent)
	Leva	Leva	Leva	Leva
1929. . . .	96,673,500	27,995,451	54,177,024	14,501,025
1930. . . .	64,172,980	20,942,481	33,604,552	9,625,947
1931. . . .	9,527,728	2,881,244	5,217,325	1,429,159
1932. . . .	7,320,000	1,592,100	4,629,900	1,098,000
1933. . . .	12,227,000	2,419,595	7,973,355	1,834,000
Works in contemplation				
1934. . . .	11,200,000	3,434,500	6,087,500	1,680,000
Total . .	201,121,208	59,263,371	111,689,656	30,168,181

The credits required for the execution of the above works, which were carried out either directly by the authorities or under contract, were included in the ordinary budgets of the State.

THE MINISTRY OF COMMUNICATIONS.

The following figures summarise the position as regards expenditure from 1929 to 1933 inclusive on works connected with water supplies in various parts of the Kingdom :

Year	Total cost of works	Cost of material	Cost of labour employed
	Leva	Leva	Leva
1929.	400,357,653	267,607,123	132,750,530
1930.	187,872,337	132,054,407	55,817,930
1931.	71,135,324	46,100,280	25,035,044
1932.	67,241,777	50,939,652	16,302,125
1933.	54,936,431	37,113,959	28,822,472
Works in progress or in contemplation.			
1934.	83,126,271	64,501,901	18,624,370
Total	875,669,793	598,317,322	277,352,471

THE MINISTRY OF COMMUNICATIONS (ARCHITECTURE SECTION).

A. PUBLIC BUILDINGS BEGUN SINCE THE BEGINNING OF 1929 AND NOW COMPLETED.

These buildings, numbering 173, include schools, museums, homes, refuges, archbishops' palaces, churches, asylums, banks, markets, abattoirs, public baths, post offices, theatres, stock exchanges, sanatoria, hospitals, libraries, and the new buildings of the Ministry of Finance at Sofia.

The total cost of these works is 468,693,000 leva, of which 100 millions represent the cost of labour, the remainder being the cost of material and equipment supplied by national and foreign industries.

B. BUILDINGS UNDER CONSTRUCTION.

These buildings, numbering fifty, include hospitals, homes, archbishops' palaces, law courts, mineral baths, communal schools and other buildings, to a total value of 125,180,000 leva, made up as follows : 25 millions for wages and the remainder for material.

C. PUBLIC BUILDINGS THE CONSTRUCTION OF WHICH IS IN CONTEMPLATION FOR 1933-34.

New buildings and buildings under construction (technical schools, high schools, hospitals), to the value of 9,830,000 leva, of which 2 millions represent the cost of labour and the remainder the cost of material and equipment.

The construction of all public buildings without exception is carried out under contract, in conformity with the laws in force in the country. No loan is contemplated or granted for building purposes. The cost of construction of public buildings for State requirements is charged to the ordinary budgets of the State, the cost of other buildings being charged to the budgets and funds of the regional or local administrations or public corporations, such as professional organisations, associations, etc.

The State budget having been very much cut down on the expenditure side during the last few years, the construction of public buildings has been reduced to the indispensable minimum. The execution of the construction programme of the Ministry of Communications, which will cost 745,300,000 leva, has also been postponed. This programme includes the erection of buildings for the Ministries of Education, Justice, National Economy, and the Interior, and the completion of the Academy of Fine Arts at Sofia, the Ethnological Museum, and several high schools, hospitals and clinics.

The average wages in Bulgaria being 80 leva, the above-mentioned figures may be taken as showing that the construction of public buildings has furnished an average of 312,500 days' work per annum during the period 1929-1933. Such works will provide 25,000 days' employment during the current season.

If the Ministry had had at its disposal the funds necessary for carrying out its building programme within the space of two years, the execution of the works would have furnished, on an average, about one million days' employment per annum, and this would have considerably reduced unemployment in the country.

CANADA.

I. — The following table shows the capital expenditures of the Dominion Government for the years 1929-1934.

Table I. — Capital Expenditure.

	1929-30	1930-31	1931-32	1932-33	Estimated 1933-34	Total 1929 to 1934
			\$(000's)			
Canals	9,324	9,842	3,299	3,027	1,987	27,479
Railways	6,663	6,371	6,242	1,503	767	21,546
Public works	6,574	12,009	7,439	4,018	3,816	33,856
Total capital expenditure	22,561	28,222	16,980	8,548	6,570	82,881

To the above amounts must be added certain special expenditures on public works undertaken by the Dominion Government in connection with unemployment relief under various Relief Acts. These cover public buildings, harbour and river improvements, elimination of grade crossings, national parks, railways and canals, etc., and include grants to the Department of National Defence, under the supervision of which unemployment relief camps are operated. Expenditures of this type are as follows :

Table II. — Special Expenditure by Dominion Government under Relief Acts on Public Works.

Under Relief Act of	\$
1930	537,000
1931	5,170,000
1932	1,086,000
1933	7,619,000
1934	408,000
Total	14,820,000

In addition to the above direct expenditure, the Dominion Government, under various Relief Acts from September 1930 to April 1934, has made direct grants for public works carried out by provinces and municipalities amounting to about \$40,000,000. These direct grants for public works have been supplemented by loans to certain provinces for the same purpose, which, by March 31st, 1934, amounted to about \$10,000,000. This expenditure has been devoted chiefly to improvements on highways, the construction of public buildings, sewers, waterworks and various other projects.

On June 30th, 1934, the Dominion Government passed the Public Works Construction Act, which provides for expenditure up to \$40,000,000. This is to be distributed as follows in the suggested categories :

	\$
(a) Roads and bridges	1,276,000
(b) Railway lines, tramways	75,000
(c) Agricultural land reclamation	—
(d) Canals and other inland waterways	1,273,200
(e) Land improvement, reafforestation	—
(f) Drinking-water supplies, sewage disposal	16,500
(g) Work on sea and river (and lake) ports	11,298,100
(h) Airports	—
(i) Building and construction work	22,993,750
(j) Electric installations, hydro-electric, etc.	—
(k) Gasworks	—
(l) Telegraph and telephone	57,500
(m) Other work	2,700,000
Total	39,690,050

The following table summarises Dominion expenditure on public works provided for to date :

Table III. — Summary of National Public Works Expenditure March 1929 to June 1934.

	\$
I. Regular capital expenditure	82,881,000
II. Direct Dominion expenditure on public works under Relief Acts	14,820,000
III. Grants to provinces and municipalities	40,000,000
IV. Loans to provinces for public works	10,000,000
V. Public Works Construction Act, 1934	39,690,050
Total	187,391,050

II. — The direct expenditure of the Dominion Government on public works as shown above has been on the initiative and under the supervision of the Federal Government. Some of the works have been carried out directly by the Dominion authorities—as, for example, in the case of projects undertaken by the unemployment camp authorities—but, generally, they have been completed under contract.

Financial assistance is given to the provinces and municipalities on the basis of a general agreement under which the Dominion Government undertakes to provide for a certain proportion of the expenditure on projects submitted and approved by the Governor-in-Council.

III. — Item I of Table III, the summary of expenditure, is budgeted for as regular capital expenditure. Items II, III and IV are provided for under Relief Acts and are carried as special expenditure. Item V is authorised under the Public Works Construction Act, 1934. All expenditure on authorised public works is paid out of the Consolidated Revenue Fund, and no part of it has been financed from any designated source of revenue or by means of a particular loan.

IV. — No estimate available.

V. — It is believed that the execution of the public works has stimulated economic and industrial activity and has been an important factor in relieving unemployment in Canada.

The following table shows the classes of work which have been undertaken by the province from the Unemployment Relief Fund as at March 16th, 1931 :

Table A.

Emplacement	Chaussées, routes et trottoirs, non compris la grande route transcanadienne	Egouts, conduites d'eau principales, conduites de gaz principales, services de la police, de l'incendie et des téléphones	Dignes, barrages, amélioration des fleuves et des lacs, travaux de récupération de terrains, et quais	Ponts et ponceaux	Brossage, nettoyage, émondage des arbres et amélioration des parcs	Construction et réparation d'édifices publics, travaux d'excavation pour des édifices publics et travaux d'amélioration d'urbanisme
	Highways, roads and sidewalks, other than trans-Canada highway	Sewers, water-mains, gas-mains, police, fire, telephone systems	Breakwaters, dams, river and lake improvements, reclamation work and wharves	Bridges and culverts	Brushing, clearing, tree trimming and park improvements	Public building and repairs to public building, excavation for public building and civic improvements
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Ile du Prince-Edouard	94.000	—	10.000	54.000	—	42.000
Nouvelle-Ecosse	976.900	476.252	—	274.500	3.300	125.100
Nouveau-Brunswick	137.274	4.200	10.000	—	—	350.000
Québec	1.405.300	1.443.300	—	702.200	—	2.900.000
Ontario	4.241.281	9.665.493	882.850	53.850	374.671	—
Manitoba	881.770	83.015	5.625	1.333.000	36.500	625
Saskatchewan	1.014.160	1.130.801	12.500	257.400	169.652	253.550
Alberta	1.466.475	1.053.158	10.000	156.000	28.000	12.000
Colombie britannique	1.445.648	768.282	33.700	10.080	220.835	156.550
Yukon	—	—	—	—	—	—
Fonds des passages à niveau	—	—	—	—	—	—
« Canadian Pacific Railway »	—	—	—	—	—	—
« Canadian National Railways »	—	—	—	—	—	—
Parcs du Dominion	—	—	—	—	37.000	—
Totaux	11.662.808	14.624.501	964.675	2.841.030	869.958	3.839.825

ilities and railways, etc., with the aid of the contributions made by the Dominion Government

tion of Work.

	Grandes routes provinciales	Grandes routes transcanadiennes	Passages souterrains et suppression des passages à niveau	Construction de voies ferrées	Frais affrèments aux denrées alimentaires et au bétail	Totaux	Location
	Provincial highways	Trans-Canada highways	Subways and grade-crossing eliminations	Railway construction, etc.	Freight on feed and live-stock	Total	
Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	
—	—	—	—	—	—	200.000	Prince Edward Island.
10.00	—	305.645	157.939	—	—	2.469.636	Nova Scotia.
6.00	667.000	48.000	—	—	—	1.362.474	New Brunswick.
3.00	—	—	995.500	—	—	10.199.300	Quebec.
2.76	—	285.000	—	—	—	15.565.921	Ontario.
6.30	—	—	133.800	—	10.000	2.490.585	Manitoba.
—	—	—	—	—	—	2.838.063	Saskatchewan.
5.00	—	—	—	—	—	2.750.633	Alberta.
5.25	—	58.000	—	—	—	2.718.320	British Columbia.
0.00	—	—	—	—	—	20.000	Yukon.
—	—	—	2.445.312	—	—	2.445.312	Grade-crossing Fund.
—	—	—	—	14.119.403	—	25.633.403	Canadian Pacific Rly.
—	—	—	—	11.514.000	—	11.514.000	Canadian National Rlys.
—	—	—	—	—	—	37.000	Dominion parks.
88.21	667.000	696.645	3.732.551	25.633.403	10.000	68.730.647	Total.

Table B. — Volume of Employment created up to February 28th, 1931, by carrying out the Public Works and Undertakings enumerated in Table A.

Locality, etc.	Individuals given employment ¹	Number of man-days' work given
Nova Scotia.	30,462	403,260
Prince Edward Island	1,143	8,399
New Brunswick	24,941	161,179
Quebec ²	39,393	385,518
Ontario	43,000	1,590,000
Manitoba	21,574	182,681
Saskatchewan	19,554	379,174
Alberta	15,800	234,711
British Columbia.	24,509	414,649
Yukon	150	2,096
Canadian Pacific Railway	4,645	138,166
Canadian National Railways	3,180	75,522
Total	228,351	3,975,355

The above table takes no account of men engaged in the production and distribution of the materials of all kinds necessarily involved.

At the date of this report, March 1st, 1932, there had been approved under the agreements with the provinces the amounts shown in the following table as a Dominion contribution to municipal and provincial expenditures for public works.

Table C. — Dominion Contributions to Provincial and Municipal Expenditures as at March 1st, 1932.

Province	Travaux municipaux Municipal works	Travaux provinciaux Provincial works	Grandes routes provinciales Provincial highways	Grandes routes transcanadiennes Trans-Canada highways	Total
Ile du Prince-Edouard — Prince Edward Island	Dollars 11.125,—	Dollars 12.500,—	Dollars 101.375,—	Dollars —	Dollars 125.000,—
Nouvelle-Ecosse—Nova Scotia	193.508,32	7.500,—	399.778,71	399.136,35	999.923,38
Nouveau-Brunswick — New Brunswick . . .	117.400,—	146.222,50	412.070,—	74.000,—	749.692,50
Québec — Quebec . . .	3.992.107,50	342.700,—	309.000,—	—	4.643.807,50
Ontario	3.745.000,—	180.833,34	2.240.000,—	2.625.000,—	8.790.833,34
Manitoba	1.938.079,13	398.902,38	333.005,—	262.000,—	2.931.986,51
Saskatchewan.	1.600.922,53	475.000,—	683.999,14	—	2.759.921,67
Alberta	1.442.462,50	3.400,—	895.750,—	244.000,—	2.585.612,50
Colombie britannique — —British Columbia .	1.374.985,50	24.129,50	1.098.870,50	502.000,—	2.999.985,50
Total	14.415.590,48	1.591.187,72	6.473.848,35	4.106.136,35	26.586.762,90

¹ This figure does not include repeaters—i.e., no one individual is counted more than once, although he may have been laid off and re-employed.

² Incomplete figures.

The following table shows expenditure authorised by Order-in-Council for works and undertakings to relieve unemployment, the Dominion Government paying the entire cost.

Table D. — Federal Works and Undertakings as at March 1st, 1932.

Department, etc.	Cost of works approved \$	Amount expended \$
Department of Interior, including Yukon	885,100.—	794,196.91
Department of Public Works	2,588,077.—	1,509,893.88
Department of Agriculture.	7,000.—	6,999.79
Department of Railways and Canals	2,026,860.—	410,825.75
Board of Railway Commissioners	500,000.—	500,000.—
Department of National Defence	71,200.—	70,936.94
National Battlefields Commission	25,000.—	25,000.—
Department of Justice.	277,693.20	82,982.49
Saskatchewan drought area, medical aid .	100,000.—	—
Total	6,480,930.20	3,400,835.76

Table E. — Employment afforded to January 31st, 1932.

Province, etc.	Individuals given employment ¹	Number of man-days' work given
Prince Edward Island	6,158	68,895
Nova Scotia.	31,450	368,599
New Brunswick	27,500	396,100
Quebec	48,712	608,181
Ontario	89,500	2,940,892
Manitoba	40,815	374,501
Manitoba Farm Placement.	569	13,531
Saskatchewan	8,502	299,904
Saskatchewan Farm Placement.	5,459	181,292
Alberta	33,828	427,925
British Columbia.	32,721	856,839
Yukon	130	1,295
Department of Agriculture.	101	3,177
Department of National Defence	493	8,833
National Battlefields Commission	142	3,392
Department of Railways and Canals	2,325	27,738
Department of Public Works	6,083	131,384
Department of Interior, Parks Branch . .	4,519	204,888
Total	339,007	6,917,366

¹ These figures do not include repeaters—i.e., no one individual is counted more than once.

Table F. — Dominion Disbursements under the Unemployment Relief Act, 1930, as at March 31st, 1933.

Provinces, etc.	Public works \$
Prince Edward Island	90,000.—
Novia Scotia	699,022.09
New Brunswick	499,990.37
Quebec	2,765,102.11
Ontario	3,850,000.—
Manitoba	871,704.79
Saskatchewan	964,407.86
Saskatchewan Drought Area	500,000.—
Alberta	899,261.88
British Columbia.	1,090,076.52
Yukon	19,998.29
National parks	36,996.37
Banking Nova Scotia coal	41,718.22
Grade-crossing Fund	500,000.—
Canadian Pacific Railway Company	863,550.—
Canadian National Railways	882,412.35
Administration.	—
Total accounts paid	14,574,240.85

Table G. — Dominion Disbursements under the Unemployment and Farm Relief Act, 1931, and the Continuance Act, 1932, as at March 31st, 1933.

Provinces, etc.	Public works and undertakings \$
Prince Edward Island	132,130.36
Novia Scotia	959,814.81
New Brunswick	720,692.33
Quebec	4,242,891.—
Ontario	8,319,077.63
Manitoba	2,594,754.73
Saskatchewan	2,534,175.88
Alberta	2,539,014.96
British Columbia.	2,887,003.10
	24,929,554.80
Department of Public Works	1,724,074.67
Department of National Defence	70,936.20
Department of Interior.	876,125.73
Department of Railways and Canals	1,772,725.74
Department of Justice	83,175.69
Department of Agriculture	6,999.79
National Battlefields Commission	24,809.05
Board of Railway Commissioners	500,000.—
Canadian Pacific Railway.	209,196.98
Transportation of unemployed	45,065.90
Administration.	—
	30,242,664.55

Table H. — Dominion Disbursements under the Unemployment Relief Act, 1930, as at March 31st, 1934.

Provinces, etc.	Public works \$
Prince Edward Island	90,000.—
Nova Scotia.	699,022.—
New Brunswick	499,990.37
Quebec	2,763,529.65
Ontario	3,850,000.—
Manitoba	871,580.46
Saskatchewan	964,407.80
Saskatchewan Drought Area	500,000.—
Alberta	899,261.88
British Columbia.	1,089,504.02
Yukon	19,998.29
National parks	36,996.37
Banking Nova Scotia coal	41,718.22
Grade-crossing Fund	500,000.—
Canadian Pacific Railway Company	863,550.—
Canadian National Railways	882,412.35
Administration.	—
Total accounts paid	14,571,971.56

Table I. — Dominion Disbursements under the Unemployment and Farm Relief Act, 1931, and the Continuance Act, 1932, as at March 31st, 1934.

Provinces, etc.	Public works and undertakings \$
Prince Edward Island	132,130.36
Nova Scotia.	959,814.81
New Brunswick	720,692.33
Quebec	4,368,516.45
Ontario	8,619,184.66
Manitoba	2,608,737.75
Saskatchewan	2,688,060.80
Saskatchewan Relief Commission	1,689,216.64
Alberta	2,560,210.79
British Columbia.	2,883,704.48
	27,230,269.07
Department of Public Works	1,726,732.64
Department of National Defence	70,941.06
Department of Interior, including Yukon	876,125.73
Department of Railways and Canals.	1,772,725.74
Department of Justice	83,180.55
Department of Agriculture	6,999.79
National Battlefields Commission	24,809.05
Board of Railway Commissioners	500,000.—
Canadian Pacific Railway	209,196.98
Transportation of unemployed	45,065.90
Administration.	—
	32,546,046.51

DENMARK.

PROVISIONAL STATEMENT.

PRELIMINARY OBSERVATIONS.

Danish legislation contains provisions concerning subsidies for works undertaken to combat unemployment by the State, the communes and private institutions subsidised by the State where such works would not otherwise be carried out. The Unemployment Fund may, by special authority, grant subsidies for such works, the amount of which is fixed per days worked or number of workers employed, or, alternatively, at an aggregate sum for the whole of the works in question. The amount may not in any case exceed 30 per cent of the wage sum actually paid, or three kroner per day worked or worker employed. The State has not hitherto undertaken any work of this kind, and communes and private institutions have done very little. In the ten years during which the legislation with regard to public works of this character has been in force, only some two million kroner have been paid in subsidies.

Further, under provisional legislation dated May 20th, 1933, and March 27th, 1934, the State was authorised to grant subsidies during the period April 1st, 1933, to March 31st, 1935, for works undertaken under certain conditions, which were specified in detail, in order to find work for unemployed young persons.

Subsidies are, in general, subject to two conditions—viz., (1) that the occupation concerned provides for a reasonable amount of manual labour, training and physical exercise, and (2) that the work done, though useful, would admittedly not have been undertaken otherwise. The law indicates as work suitable for this purpose the following : forestry, agricultural and market-gardening work, the planting or erection of wind-screens and establishment of plantations, the regularisation of waterways, coast protection and the protection of natural sites, road improvements and the preparation of playing-grounds, camping-grounds, etc.

The State bears the cost of two-thirds of the subsidies granted to a total which may not exceed three million kroner ; the remaining third is distributed between the communes according to fixed rules. The subsidies may not in the ordinary way exceed two and a-half kroner per day for each unemployed person engaged on the work. A special subsidy may be given in addition towards the cost of initiating work of this kind. Up to the present, some 550,000 kroner have been paid in subsidies under the above legislation, representing some 250,000 days worked.

The latter measures in connection with unemployment of young people are designed less as a remedy for the unemployment itself than as a means of contending against loss of the aptitude and taste for work which long periods of unemployment involve in the case of young people.

The following information in regard to the State Railways relates to the points specified on page 2 of the circular of the League Secretariat :

I (a). — (1) Transformation of the railway from Sonderborg to Mommark, executed between 1932 and 1934. This is an old private narrow-gauge railway which was taken over in 1932 by the State Railways and converted to standard gauge. The line is some 19 kilometres long.

(2) Transformation and extension of wharves of the ferry-boats to Korsor and Nyborg. These works, which were executed between 1931 and 1934, include the transformation and improvement of two wharves and the construction of a new wharf.

I (b). — (1) Bridge across the Little Belt, the work on which was begun in 1926 and is to be completed in 1935. This is a joint bridge for road and rail, which is to replace the present service of ferry-boats between Strib and Fredericia. The length is some 1,200 metres, and the height of the spans, which allow of the passage of ships, is 33 metres. The structure is of steel, except in the case of the terminal spans, which consist of arches in reinforced concrete.

In connection with the work on the bridge, new stations are being constructed at Middelfart and Fredericia, and the necessary transformations and extensions of the road and railway system at the extremities of the bridge are under way.

(2) Extension of the station of Vejle, begun in 1929 and due to be finished in 1935.

The station and the railways leading to it are also to be raised so as to allow the latter to run above the streets of the town.

(3) Electrification of the suburban lines of Copenhagen, begun in 1930 and to be completed in 1935.

The lines to be electrified are the following : Valby-Copenhagen-Klampenborg, Copenhagen-Holte, and Frederiksberg-Hellerup. Their total length is some 47 kilometres. The work in this case includes the establishment of conversion posts, aerial cables, long-distance signalling installations and the construction of a number of new stations.

(4) Doubling of the line Holte-Hillerod, begun in 1930 and to be completed in 1935. The length of the line is approximately 17 kilometres.

(5) Transformation of the central workshops at Aarhus, begun in 1930 and to be completed in 1935.

These workshops, for the upkeep of a considerable part of the rolling-stock of the State Railways, are being transformed, extended and modernised.

(6) Doubling of the line Langaa-Randers, begun in 1931 and to be completed in 1938. The length of the line is approximately 13 kilometres. In connection with this work, the station of Randers, which has hitherto been a turntable station, is to be transformed into an ordinary station, and a number of bridges are to be thrown across the Gudena.

(7) Shunting station at Svanemollen, the construction of which was begun in 1931 and is to be completed in 1936. This station is intended to relieve the traffic of the central station at Copenhagen.

(8) Bridge at Storstrom, the construction of which was begun in 1933 and is to be completed in 1937.

This bridge, for road and rail traffic, is intended to replace the present service of ferry-boats between Masnedo and Orehoved. It will be some 3,200 metres long, and will be 26 metres high in its central portion in order to allow of the passage of ships. The superstructure is of steel.

The works entailed the moving of the station of Orehoved, and the amalgamation in a single station of the stations of Vordingborg and Masnedsund. They further entail the construction of a new bridge with drawbridge on the Masnedsund, and the transformation of the present railway and roadway in the neighbourhood of the stations in question and the railway tracks and roads connecting them.

(9) Bridge at Oddesund, the work on which was begun in 1934 and is to be completed in 1937.

This bridge, for road and rail traffic, is intended to replace the present service of ferry-boats over the Oddesund. The bridge is to be some 530 metres long. It will be a low bridge with a drawbridge of a width when open of 30 metres. The superstructure is of steel. In connection with the work on the bridge, the station at Oddesund North will be transformed and the necessary alterations will be made in the roads leading to the station, while Oddesund South Station will be abolished.

(10) Doubling of the line Aarhus-Laurebjerg, the work on which was begun in 1934 and is to be completed in 1938. The length of the line is some 42 kilometres.

I (c). — (1) Construction of a new bridge over the Limfjord between Aalborg and Norre Sundby to replace the present bridge, which is not strong enough to bear the continually increasing weight of the trains.

All these works can probably be classified under (b) of the questionnaire, though a more or less considerable number of those relating to the wharves of the ferry-boats (shown above under (a)(2)), the constructional works on bridges and roads (shown above under (b)(1), (b)(8) and (b)(9) and the electrification works (shown above under (b)(3)), possibly come under the categories (g), (a) and (j) of the questionnaire.

Acquisitions of rolling-stock, ferry-boats and ships are in principle excluded from the present statement.

II. — The contracts for all these works were for account of the State, and were, in general, awarded by public auction; but the State Railways do a certain amount of the work with their own staff—in particular, the work on railway tracks in operation.

III. — The expenditure is, in general, included in the ordinary budget of the State, except in the case of the work on the bridges over the Little Belt, the Storstrom and the Oddesund, in which case it is met partly out of the proceeds of a tax on petrol (since the bridges are intended equally for ordinary road traffic) and partly—in the case of the Storstrom—out of the proceeds of a loan of £1,000,000 contracted in England.

IV. — In the following table an attempt has been made to show as accurately as possible the distribution of the expenditure as between materials and equipment on the one hand and wages and social charges on the other. Wages are taken to include all expenditure incurred on this account by the State Railways and the contractors, but not the wages included in the manufacture of, or work on, such materials as cement or stone, purchased by the State Railways or the contractors for the purposes of the work.

PRINCIPAL WORKS ON THE DANISH STATE RAILWAYS EXECUTED SINCE THE BEGINNING
OF 1929.

	Period during which the works were executed	Total expenditure	Estimated distribution of the expenditure as between	
			Materials and equipment	Wages and social charges
(In millions of kroner)				
(a) <i>Works completed.</i>				
1. Transformation of the railway track from Sonderborg to Mommark	1932-34	1.5	1.0	0.5
2. Transformation and extension of wharves for the ferry-boats to Korsor and Nyborg	1931-34	3.0	2.0	1.0
(b) <i>Works in course of execution.</i>				
1. Bridge over the Little Belt	1926-35	40.0	26.7	13.3
2. Extension of Vejle Station	1929-35	3.7	2.5	1.2
3. Electrification of suburban railway system of Copenhagen	1930-35	14.4	9.6	4.8
4. Double-tracking the line from Holte to Hillerod.	1930-35	4.4	3.0	1.4
5. Transformation of central workshops at Aarhus	1930-35	3.0	2.0	1.0
6. Double-tracking the line from Langaa to Randers	1931-38	3.8	2.5	1.3
7. Shunting station at Svanemollen. . . .	1931-36	2.0	1.3	0.7
8. Bridge at Storstrom	1933-37	40.4	26.9	13.5
9. Bridge at Oddesund	1934-37	5.7	3.8	1.9
10. Double-tracking the line from Aarhus to Laurbjerg	1934-38	8.0	5.3	2.7
(c) <i>Works in preparation.</i>				
New bridge at Limfjord	1934-	2.0	1.3	0.7
Total		131.9	87.9	44.0

Note. — The expenditure incurred by the State Railways budget in respect
of the works indicated below is as follows :

	In millions of kroner
(b) 1. Bridge over Little Belt	32.8
(b) 8. Bridge over Storstrom	15.7
(b) 9. Bridge over Oddesund	1.9

ESTONIA.

PUBLIC WORKS.

INCEPTION AND ORGANISATION OF PUBLIC WORKS.

The Estonian Government was first called upon to deal with the unemployment problem in 1924. At the beginning of that year, the number of unemployed in the country had reached a rather high figure, so that public assistance had become essential. The assistance was organised, to start with, by the Ministry of Social Affairs, and the relief given only amounted to free distribution to the unemployed of foodstuffs, clothing and footwear. The same kind of assistance was partly continued in the two years following 1924. Public works as a means of alleviating unemployment were first introduced in 1925 and 1926 by a few rural self-governing bodies on their own initiative.

At the end of 1924, as unemployment, instead of diminishing, was increasing fast and becoming a permanent condition, the Government of the Republic found itself forced to deal with the question more thoroughly. In order to devise new methods of mitigating unemployment, an Inter-Ministerial Commission, consisting of the Ministers for Social Affairs, Economic Affairs, Communications and Agriculture, was set up by a Government decision of November 26th, 1924. This Commission ultimately came to the conclusion that the safest and most practical way of remedying unemployment was the regular organisation of public works in the parts of the country where unemployment was most acute. The Inter-Ministerial Commission also found it absolutely essential, for the organisation of the requisite public works and their remunerativeness, that all schemes for such works submitted by self-governing bodies should be checked by a specialist, who could alter them where necessary and have the public works of the various institutions executed on uniform lines.

PUBLIC WORKS THE PROVINCE OF THE MINISTRY OF COMMUNICATIONS.

On the suggestion of the Inter-Ministerial Commission, the Government of the Republic adopted, on October 6th, 1926, a decision under which the general organisation of public works and their technical supervision were placed under the Ministry of Communications. The necessary credits were divided up between the various departments. For instance, during the financial year 1926-27, the credits for public works appeared in the budgets of the Ministries of Economic Affairs, Social Affairs, War and Communications.

This decentralisation of credits soon proved impracticable, and, to obviate the difficulties that had arisen since the budgetary year 1927-28, all credits for public works were placed under the administration of the Ministry of Communications. This method of financing public works was applied up to the end of the financial year 1929-30.

The following year a new experiment was made. The Ministry of Communications was made responsible for organising and supervising public works, while the credits

for those works were included in the budget of the Ministry of Economic Affairs. This innovation having failed to give the administrative advantages expected of it, it was dropped at the beginning of the next financial year, since which date the whole responsibility for public works lies with the Ministry of Communications, and the necessary credits are again put at that Ministry's disposal.

The following were the chief administrative methods adopted by the Ministry of Communications up to 1933 in carrying out the works proposed. Every spring the Ministry asked the Government institutions and self-governing bodies to submit the public works schemes proposed for the following autumn. On the basis of these provisional proposals, the Ministry drew up a general scheme in which consideration was given to the following criteria : (1) the work proposed should be necessary, appropriate and useful ; (2) it should be work that could be done in winter ; (3) the cost of the necessary materials and equipment should not be too high. The general public works scheme drawn up by the Ministry of Communications was submitted by the Ministry of Economic Affairs to Parliament for approval. The final scheme of public works was modified by the Ministry of Communications to correspond with the amount of credits appropriated.

On January 13th, 1933, the Government of the Republic changed the existing system of organising public works. A special fund was constituted under the Ministry of Communications for remedying unemployment, and a committee set up to administer that fund.

This fund is derived from the following sources :

- (1) Special taxes for alleviating unemployment payable, under an Act of 1932, by commercial and industrial undertakings ;
- (2) Special taxes levied on the basis of the above Act on public amusements and entertainments, on restaurants, clubs, etc. ;
- (3) Sums allotted from the State budget ;
- (4) Sums loaned by the State to self-governing bodies and refunded by them ;
- (5) Gifts and donations.

The committee for administering the special fund consists of representatives of the Ministry of Communications (Chairman of the Committee) and of the Ministries of Social Affairs, Agriculture and War (members), appointed by the respective Ministers. A representative of the Government Audit Office also takes part in the Committee's proceedings.

The duties of the Committee are : (1) to consider public works schemes and decide whether they are sufficiently advantageous to be of help in alleviating unemployment ; (2) to calculate the amount of credits needed for the work to be done, for the purchase of materials and for the support of the indigent ; (3) to see whether, in certain cases, loans and subsidies should be granted from the capital of the special fund and to decide the conditions and the rate of repayment of such loans.

In conformity with the above duties, the Committee makes an annual allocation on general lines, and within the limits of the funds available, for public works, for the purchase of the necessary materials and for relief of the destitute. This allocation is later approved by the Government of the Republic, after which the Ministry of Communications draws up a scheme of public works based on the amount of the credits available. The Ministry's scheme is again examined in detail by the Special Fund Committee and then approved by the Ministry of Communications.

INSTRUCTIONS CONCERNING PUBLIC WORKS.

The general instructions concerning public works were given by the Government of the Republic on December 3rd, 1930.

Part 1 of the instructions (§§ 1-4) specifies the institutions through which public works are to be organised and the kind of data to be supplied by these institutions for drawing up a general scheme of works. Part 2 (§§ 5-17) deals in detail with the organisation of public works, the payment of labour, and the allocation of credits for the said works. Part 3 of the instructions (§§ 18-23) contains the rules for the inspection of the work done and the regulations for drawing up accounts of the sums expended.

The institutions engaged in the organisation of public works were divided into two categories—Government institutions and non-Government institutions. This division became necessary, as the regulations concerning certain works, the allocation of expenditure and the system of book-keeping are not identical for institutions in the first and second categories.

The whole cost of public works carried out by Government institutions is paid out of the special fund credits, whereas only 75 per cent of the value of the work done by self-governing bodies is paid out of the fund. An exception is made in the case of work on the construction and repair of roads, for which the Ministry of Communications may increase the credits granted to self-governing bodies up to 100 per cent of the actual expenditure. Non-Government institutions are also responsible for expenditure not directly connected with the execution of the public works, such as the cost of preliminary operations, of purchasing materials and equipment, of giving medical treatment to workers, etc.

The instructions issued on December 3rd, 1930, were amended on December 30th, 1932, to the extent that the Ministry of Communications was authorised, in the case of all institutions dealing with public works, to increase the credits needed up to 100 per cent, to provide for the execution of the following works of public utility from which no direct profit can accrue to local institutions.

These works are :

- (1) Construction and repair of roads ;
- (2) Excavation of main drains and improvement works ;
- (3) Construction and repair of bridges, streets and roads in towns and villages leading to harbours, stations and aerodromes ;
- (4) Construction of aerodromes and buildings connected therewith ;
- (5) Construction of gas shelters ;
- (6) Consolidation of the embankments of lakes and rivers of public concern ;
- (7) Restoration of historical monuments.

RATES OF PAY FOR PUBLIC WORKS.

The instructions concerning public works were modified by the Government on December 13th, 1933. No change was made in the underlying principles, but only in the rates of pay for labour.

Since public works are organised solely in order to relieve unemployment and provide for destitute unemployed lacking the means of existence, the pay of labourers engaged in public works obviously cannot be very high ; otherwise, workers engaged in industrial and other occupations might be tempted to transfer from factories to public works.

In 1924, the wages of workers engaged in public works were fixed by the Ministry of Social Affairs, for Tallinn, at 1.20 kroon for men, and 1 kroon for women per day; the figures for the country were 1 kroon and 90 sents respectively. In 1925, these wages were fixed, for Tallinn, at 1.60 kroon for men, and 1.30 kroon for women, and outside Tallinn at 1.50 kroon and 1.20 kroon per day respectively.

In 1924-25, unemployed persons were engaged in public works solely as day labourers, but, as time went on, it was noticed that this system did not tend to stimulate output. Instructions were therefore given in 1926 to change over, wherever possible, to the system of piece-work. Labourers engaged in public works who had finished their daily quota of work were also allowed to stop work earlier. In 1926, labourers on piece-work earned, at Tallinn, 1.60 kroon for men and 1.30 kroon for women per day, and, in the country, 1.50 kroon and 1.20 kroon respectively. Day labourers at the same time were earning, at Tallinn, 1.40 kroon (men) and 1.20 kroon (women), and, in the country, 1.30 kroon and 1.10 kroon respectively.

In 1927, the pay of public works labourers engaged on piece-work was increased in the towns to 2 kroon and in the country to 1.60 kroon per day. Day labourers received, in the towns, for eight hours' work, men, 1.40 kroon, and women, 1.20 kroon; and, in the rest of the country, men, 1.30 kroon, and women, 1.10 kroon. In order to give a larger number of unemployed a chance of working, shorter working-hours were introduced in the towns, so that the weekly earnings of public works labourers could not at Tallinn exceed 11 kroon and in other towns 9 kroon. In 1928-1930, the wage rates fixed by the Ministry of Social Affairs for public works remained unchanged—that is, at the 1927 level.

The rates of pay for unemployed persons engaged in public works were again changed on December 3rd, 1930, when the wages were fixed as follows: for labourers on piece-work, at Tallinn, 1.80 kroon, and, in the country, 2 kroon per day, while day labourers were paid, at Tallinn, 1.40 kroon for men and 1.20 kroon for women per day. The corresponding figures in the country were 1.30 kroon and 1.10 kroon. Some change was also made in the regulations regarding shorter hours of work, so that the maximum wage that an unemployed worker could earn in a week was fixed, for Tallinn, at 11 kroon for men and 9 kroon for women, the respective figures for other towns being 10 kroon and 8.10 kroon. This restriction was not applied to work done in the country.

The wage rates payable to unemployed persons engaged in public works and at present in force in Estonia were laid down recently in the instructions of the Government of the Republic, dated August 28th, 1933. Under these instructions, both day labourers and piece-workers are paid, in the district of Harju and in the towns in that district, 1.10 kroon (men) and 1 kroon (women), while labourers working with a horse earn 2.20 kroon; in the other districts, the corresponding figures are 1 kroon, 90 sents, and 2.10 kroon. Debilitated workers who have lost 40 to 60 per cent of their working capacity are paid 80 sents (men) and 60 sents (women) per day, while intellectual workers engaged in offices earn 1.30 kroon and 1.10 kroon per day respectively.

In order to give work to a larger number of unemployed, the working-day is so limited that, in the Harju district, the week's pay of piece-work labourers cannot exceed 7.20 kroon, and labourers with a horse 18 kroon; the respective figures of maximum wages in other districts are 6.60 kroon and 16 kroon.

The above instructions were supplemented by a decision of the Government of the Republic dated December 13th, 1933, under which the maximum weekly wage for work done in rural districts was fixed at 9.60 kroon for the Harju district and 9 kroon for other districts. Under the same decision, labourers on public works, except those working with a horse, receive a daily grant of 10 sents for each child under 16. This grant is not paid if the labourer has only one child, so that the wage of a workman, together with children's allowances, cannot exceed 2 kroon a day.



Number of Unemployed Persons registered at the Labour Exchange. (Figures as at the end of each month)

Month	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
January ...	971	894	2,476	3,684	3,543	4,841	4,421	6,329	5,608	5,246	10,131	18,673	8,43
February ..	1,021	1,000	4,153	3,757	2,444	4,734	4,113	4,624	4,580	4,070	10,137	17,038	7,43
March	1,303	761	5,085	2,867	1,916	4,405	3,134	4,165	3,575	2,765	9,497	18,466	7,10
April	1,280	812	3,657	2,209	2,249	2,970	2,162	3,014	2,216	2,424	7,462	13,006	—
May	1,319	817	2,074	1,783	1,839	2,337	1,470	2,169	1,515	1,368	4,946	4,730	—
June	1,278	865	1,463	1,771	1,051	1,907	883	1,110	910	931	3,497	2,821	—
July	677	528	1,372	1,260	793	729	486	780	762	634	2,016	1,543	—
August	505	507	1,183	941	731	809	467	609	1,039	933	3,200	2,059	—
September .	528	507	957	883	811	1,201	706	902	1,414	2,096	5,984	3,924	—
October ...	749	619	1,325	1,904	2,309	2,864	1,561	3,065	3,282	5,425	9,049	6,839	—
November .	915	926	1,974	4,607	4,157	4,526	4,369	5,250	5,675	7,857	11,398	10,544	—
December..	793	777	2,156	3,213	3,807	4,437	7,770	6,047	6,497	8,694	15,860	10,146	—
Average ...	945	751	2,323	2,407	2,138	2,980	2,629	3,172	3,089	3,537	7,765	9,149	—

Unemployed Persons engaged in Public Works. (Figures as at the end of each month.)

Month	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934
January ...	—	3,734	2,025	2,382	2,629	1,781	2,338	2,758	5,072	10,076	4,835
February ..	—	5,566	2,606	2,932	3,247	2,255	2,961	3,492	5,308	10,245	5,410
March	—	5,915	2,970	3,292	2,958	2,707	3,554	4,191	5,362	10,219	4,060
April	—	1,084	1,537	3,279	2,170	2,481	3,258	3,843	5,243	10,650	—
May	—	—	438	644	463	1,757	—	—	300	1,668	—
June	—	—	—	—	2	—	—	—	—	445	—
July	278	74	—	—	—	—	—	—	—	234	—
August	263	—	—	—	—	—	—	—	—	121	—
September .	165	19	—	—	—	—	—	—	—	98	—
October ...	157	—	—	—	—	—	—	18	52	138	—
November .	752	12	400	456	107	141	166	2,294	6,491	1,238	—
December .	2,059	1,253	1,229	1,632	651	855	1,008	3,376	7,941	3,425	—

Average Number of Workers engaged in Public Works and Total Number of Working-Days.

	Number of labourers (Average November-April)	Number of working- days (thousands)
1924-25	3,185	—
1925-26	1,734	—
1926-27	2,252	298
1927-28	2,182	290
1928-29	1,664	236
1929-30	2,185	270
1930-31	2,576	329
1931-32	4,443	643
1932-33	9,270	1,400 (approximately).
1933-34 (average November to March)	3,794	—

ENGAGEMENT OF UNEMPLOYED PERSONS FOR PUBLIC WORKS.

The engagement of unemployed persons for public works is governed by the regulations of the Ministry of Social Affairs. In this connection, the following rules are at present in force : the unemployed person must be of Estonian nationality and have resided at least twelve months in the locality where the Labour Exchange is situated through which he wishes to obtain employment. No public works job is given to labourers who have not been in ordinary employment for at least eight weeks in the course of the last twelve months, with the exception of disabled persons who have lost more than 60 per cent of their working capacity. The following are also not accepted for public works :

- (1) Persons who have themselves, or members of whose family have, an income sufficient to support the family ;
- (2) Property-owners ;
- (3) Unmarried persons whose father or mother owns property or a profit-making concern ;
- (4) Farmers cultivating rented land if they own at least one horse or one cow ;
- (5) Women whose husbands or men whose wives are in paid employment ;
- (6) Seasonal workers who have earned enough during the summer to be able to live during the winter ;
- (7) Labourers who have not worked at least eight weeks during the summer season, and who have not been prevented from working by the condition of their health.

Unemployed persons complying with the above conditions are divided into two classes :

- (1) Unemployed persons who have to support a child under age or a member of the family unable to work ;
- (2) All other unemployed persons.

Work is given first to persons in the first category, particularly to unemployed persons who have to support a large family. Persons in the second category are only engaged when all the unemployed in the first category have been found work.

It is the duty of the Labour Exchange to strike off the list of unemployed, persons who have refused the work offered to them.

PARTICULARS OF PUBLIC WORKS IN ESTONIA.

No.	Category of work and location	Value of work (Kroon)	To what credit charged	Number of working days	Season	Allocation of expenditure		Organisation executing the work
						Materials and equipment (Kroon)	Labour and social expenditure (Kroon)	
(a) Roads and Bridges.								
1. Executed between 1929 and 1934.								
1.	Construction of roads at Tallinn	684,125.— 281,497.—	Municipality State	409,776				Tallinn Municipality
2.	Construction of a landing- stage at Tartu	2,200.— 19,240.—	State Municipality	1,702	Summer	18,820.—	2,620.—	Tartu Municipality
3.	Repair and cleaning of roads at Tartu	5,384.— 521.—	State Municipality	3,460	Spring	38.—	5,867.—	Tartu Municipality
4.	Preparation of materials for constructing roads at Tartu	5,309.— 633.—	State Municipality	2,685	Winter	160.—	5,782.—	Tartu Municipality
5.	Screening of gravel for roads at Tartu	33,538.— 8,836.—	State Municipality	26,885	Winter	4,628.—	37,746.—	Tartu Municipality
6.	Construction and repair of roads in other towns	1,279,258.74 615,596.58 60,860.93	State State Municipality	481,914	Summer and winter	—	1,279,258.74 615,596.58 60,860.93	Roads Department
7.	Construction and repair of bridges in other towns	777,256.84 43,260.85	State State	170,632	Whole year	194,314.21 10,815.21	58,294.63 32,445.04	Roads Department
2. In course of execution.								
1.	Bridge across the Kulgu River at Narva	15,000.—	State	4,000	Whole year	—	—	Department of Navigable Waterways
2.	Construction and repair of roads in the towns and country	137,619.40 10,000.— 81,115.81	State Municipality State	81,912	Whole year	—	137,619.40 10,000.— 81,115.81	Roads Department
3.	Construction and repair of bridges in the towns and country	112,000.—	State	29,000	Whole year	28,000.—	84,000.—	Roads Department
3. In contemplation.								
1.	A bridge at Pärnu	70,000.—	State	5,000	Whole year	—	—	Department of Navigable Waterways
2.	A swing-bridge at Tallinn Harbour	70,000.—	State	3,000	Whole year	—	—	Department of Navigable Waterways
3.	Construction and repair of roads in the towns and country	354,880.— 239,840.— 100,000.—	State State Municipality	174,604	Whole year	—	354,880.— 239,840.— 100,000.—	Roads Department
4.	Construction and repair of bridges in the towns and country	—	—	—	—	—	—	—

Completed.

	Construction of the	6,656,080.—	State	1,518,556	I. XI-I. VI	3,211,793.—	Railways Department
1.	Tartu-Petseri line . . .		State			3,037,112.—	Railways Department
2.	Construction of the	2,997,474.—	State	628,719		1,472,769.—	Railways Department
3.	Rapla-Virtsu line . . .		State	No particulars		No particulars	Railways Department
4.	Rolling-stock for the	1,208,652.—	State	38,871		7,720.—	Railways Department
	Rapla-Virtsu line . . .	77,194.—	State			69,474.—	Railways Department
5.	Various works		State				
	Extension of lines at	23,360.—	State	7,008	I. IV-I. X	14,016.—	Railways Department
	stations, earth-works	364,605.—	State	109,381	I. IV-I. X	218,763.—	Railways Department
	and construction of	536,192.—	State	266,006	I. XI-I. VI	53,619.—	Railways Department
	depots		State			482,573.—	Railways Department
6.	Construction and recon-	209,482.—	State	52,370	I. IV-I. X	104,741.—	Railways Department
	struction of station	232,997.—	State	58,249	I. IV-I. X	116,498.—	Railways Department
	buildings	40,587.—	State	13,578	I. XI-I. VI	16,235.—	Railways Department
7.	Construction of aqueducts	38,912.—	State	9,728	I. IV-I. X	19,450.—	Railways Department
	and wells at stations	4,978.—	State	1,244	I. IV-I. X	2,489.—	Railways Department
		9,727.—	State	3,186	I. XI-I. VI	3,891.—	Railways Department
8.	Drainage works	22,232.—	State	5,558	I. IV-I. X	11,116.—	Railways Department
		17,743.—	State	5,285	I. XI-I. VI	8,800.—	Railways Department
9.	Reconstruction of rail-	115,487.—	State	28,871	I. IV-I. X	57,744.—	Railways Department
	way bridges	32,362.—	State	8,090	I. IV-I. X	16,181.—	Railways Department
10.	Construction of roads to	20,672.—	State	5,685	I. IV-I. XI	11,370.—	Railways Department
	railways	77,457.—	State	38,457	I. XI-I. VI	7,746.—	Railways Department

2. In course of execution.

None.

3. In contemplation.

	Construction of the	1,993,696.—	State	418,000	Whole year	979,104.—	Railways Department
1.	Abja-Valk line . . .		State			836,156.—	Railways Department
2.	Improvement of the	26,000.—	State	21,658	Whole year	—	Railways Department
	Tamsalu - Järve - Jaani		State			26,000.—	Railways Department
3.	Raising of the Tallinn-	930,000.—	State	422,100	Whole year	110,000.—	Railways Department
	Ylemiste and Tallinn-		State			630,000.—	Railways Department
	Nõmme lines, construc-	2,579,000.—	State	2,500,000	I. XI-I. VI	45,000.—	Railways Department
	tion of viaducts and		State			2,534,000.—	Railways Department
	tunnels		State	8,880	I. XI-I. VI	10,430.—	Railways Department
4.	Ballasting of lines		State			9,720.—	Railways Department
	(250,000 cubic metres)		State				
5.	Construction of three-way	21,150.—	State				
	line near Tapa Station		State				

PARTICULARS OF PUBLIC WORKS IN ESTONIA (continued).

No.	Category of work and location	Value of work (Kroon)	To what credit charged	Number of working days	Season	Allocation of expenditure		Organisation executing the work
						Materials and equipment (Kroon)	Labour and social expenditure (Kroon)	
6.	Construction of No. 1 warehouse at Tallinn	28,774.—	State	5,213	Whole year	18,702.—	10,072.—	Railways Department
7.	Construction of No. 2 warehouse at Tallinn	28,774.—	State	5,213	Whole year	18,702.—	10,072.—	Railways Department
8.	Construction of goods ramp at Tallinn . . .	17,500.—	State	4,870	I. XI-I. VI	10,270.—	7,230.—	Railways Department
9.	Construction of a ware- house at Tartu . . .	28,458.—	State	5,213	Whole year	18,702.—	9,756.—	Railways Department
10.	Construction of goods ramp at Tartu . . .	17,100.—	State	4,870	I. XI-I. VI	10,270.—	6,830.—	Railways Department
11.	Construction of repair- shop at Türi	65,000.—	State	27,489	Whole year	32,000.—	33,000.—	Railways Department
12.	Paving station platform at Tallinn-Kopli . . .	18,250.—	State	5,000	I. V-I. X	12,160.—	6,090.—	Railways Department
13.	Reconstruction projected at Tallinn-Kopli station	16,200.—	State	8,500	I. XI-I. VI	5,600.—	10,600.—	Railways Department
(c) <i>Agricultural Improvements.</i>								
1. Completed.								
1.	Construction of cattleshed at Tähtvere	19,000.—	State	—	Summer			Forestry Department
2.	Construction of stables at Vaeküla	5,338.—	State	9,600	Summer			Forestry Department
3.	Rebuilding of cattleshed at Tähtvere	2,000.—	State	1,112	Winter			Forestry Department
4.	Bringing new land under cultivation; con- struction of roads and buildings	6,000.— 103,000.— 544,000.—	State State State	224,000		190,000.—	463,000.—	Agricultural Department
5.	Improvement of meadow- lands at Tartu . . .	2,408.— 1,038.—	State Municipality	2,311	Winter	—	3,446.—	Tartu Municipality
2. In course of execution.								
1.	Lowering the level of Lake Peipsi	1,653,000.—	State	200,000	April-October			Department of Navigable Waterways
2.	Regulation of the Kasari River	450,000.—	State	25,000	April-October			Department of Navigable Waterways
3.	Regulation of the level of the							Department of Navigable Waterways

3. In contemplation.

1.	Regulation of the Pärnu River . . .	500,000.—	State	30,000	April-October	Department of Navigable Waterways
2.	Regulation of the Narva River . . .	700,000.—	State	50,000	April-October	Department of Navigable Waterways
3.	Lowering the level of Lake Võrtsjärv . . .	500,000.—	State	30,000	April-October	Department of Navigable Waterways
4.	Bringing new land under cultivation	10,000,000.—	State	600,000 (per annum)	Whole year	Agricultural Department

(5-year plan)

(d) *Inland Navigable Waterways.*

1. Completed.

1.	Canals and other inland navigable waterways.	180,088.13	State	145,797	Winter	Roads Department
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2. In course of execution.

1.	Construction of piers at Rannu-Jõesuu . . .	92,700.—	State	20,000	Whole year	Department of Navigable Waterways
2.	Construction of a pier at Andru	15,000.—	State	9,725	Winter	Forestry Department
3.	Consolidation of the left bank of the Emajõgi at Tartu	109,805.— 27,563.—	State Municipality	89,785	Winter	Tartu Municipality
4.	Filling up the right bank of the Emajõgi at Tartu	79,581.— 23,756.—	State Municipality	63,893	Winter	Tartu Municipality
5.	Canals and other inland navigable waterways .	72,625.23	State	31,566	Winter	Roads Department

3. In contemplation.

1.	Strengthening the bank of the Narva River	150,000.—	State	30,000	April-October	Department of Navigable Waterways
2.	Deviation of the Rosson River	300,000.—	State	60,000	April-October	Department of Navigable Waterways
3.	Construction of locks and electric power station at the Narva waterfall	40,000,000.—	State	8,000,000	Whole year	Department of Navigable Waterways
4.	Construction of piers at Narva-Jõesuu	300,000.—	State	60,000	Whole year	Department of Navigable Waterways

PARTICULARS OF PUBLIC WORKS IN ESTONIA (continued).

No.	Category of work and location	Value of work (Kroon)	To what credit charged	Number of working days	Season	Allocation of expenditure		Organisation executing the work
						Materials and equipment (Kroon)	Labour and social expenditure (Kroon)	
5.	Strengthening the left bank of the Emajõgi at Tartu	31,092.— 15,007.—	State Municipality	36,815	Winter	15,007.—	31,092.—	Tartu Municipality
6.	Strengthening the right bank of the Emajõgi at Tartu	18,142.— 4,536.—	State Municipality	16,480	Winter	4,536.—	18,142.—	Tartu Municipality
7.	Canals and other navigable waterways in the towns and country . .	20,500.— 261,435.94	State State	23,387	Whole year	—	20,500.— 261,435.94	Roads Department
(e) <i>Agricultural Reclamation Works.</i>								
1. Completed.								
1.	Agricultural improvements on Government estates	124,881.— 30,098.—	State State	50,000 19,733	Summer and winter	—	—	Forestry Department
2.	Draining of marshes . .	50,560.—	State	15,167	Summer and winter	—	—	Tallinn Municipality
3.	Excavating main drains and dredging rivers.	1,104,700.—	State	535,350	Whole year	17,000.—	1,087,700.—	Agricultural Department
4.	Other agricultural improvements	31,022.78 138,504.58 6,066.30	State State State	75,114	Winter	—	31,022.78 138,504.58 6,066.30	Roads Department
2. In course of execution.								
1.	Agricultural and forest drainage works . . .	716,300.—	State	353,600	Winter	9,000.—	707,300.—	Agricultural Department
2.	Dredging of the River Kasari	160,000.—	State	25,000	Summer	80,000.—	80,000.—	Agricultural Department
3.	Dredging of the River Võhandu	94,000.—	State	15,000	Summer	47,000.—	47,000.—	Agricultural Department
4.	Dredging of the River Paala	90,000.—	State	15,000	Summer	45,000.—	45,000.—	Agricultural Department
5.	Dredging of the River Navesti	186,000.—	State	62,000	Whole year	62,000.—	124,000.—	Agricultural Department
3. In contemplation.								
1.	River dredging works .	60,000.— + 100,000.— (per annum)	—	—	—	—	—	—

1.	Widening the water conduit at Tallinn . .	13,470.— 174,192.— 116,580.—	State State State	19,900	247,081.—	57,161.—	Tallinn Municipality
2.	Sewage works at Tartu	8,358.— 5,724.—	State Municipality	6,507	3,281.—	10,801.—	Tartu Municipality
2. In course of execution.							
1.	Widening the water conduit at Tallinn . .	86,200.— 29,365.—	State State	6,000	100,565.—	15,000.—	Tallinn Municipality
2.	Sewage works at Tallinn	64,280.— 179,262.—	State State	82,800			Tallinn Municipality
3. In contemplation.							
1.	Widening the water conduit at Tallinn . .	250,000.— 75,000.—	Municipality State	25,000			Tallinn Municipality
2.	Sewage works at Tartu	64,750.— 23,239.—	State Municipality	31,733	51,436.—	36,553.—	Tartu Municipality
(g) Harbours.							
1. Completed.							
1.	Construction of harbour at Orissaare	63,200.—	State	10,000			Department of Navigable Waterways
2.	Construction of harbour at Vergi	74,700.—	State	15,000			Department of Navigable Waterways
3.	Construction of harbour at Vormsi	12,100.—	State	3,000			Department of Navigable Waterways
4.	Harbour extensions at Pärnu	244,200.—	State	50,000			Department of Navigable Waterways
5.	Harbour extensions at Rohuküla	98,300.—	State	20,000			Department of Navigable Waterways
6.	Building new quays at Tallinn Harbour . . .	28,400.—	State	6,000			Department of Navigable Waterways
7.	Harbour extensions at Tartu	28,700.—	State	6,000			Department of Navigable Waterways
8.	Extension of fishing harbour at Tallinn . .	4,425.—	State	386			Tallinn Municipality

and pavilion at Tartu		10,101.—	Municipality	4,943.—	Whole year	265,000.—	297,377.92	Roads Department
town and country . .		18,000.— 133,000.— 464,000.—	State Municipality Loan	178,543	Whole year			
2. In course of execution.								
1.	Reconstruction of the building of the Ministry of Agriculture . . .	60,000.—	State		Summer			Ministry of Agriculture Tallinn Municipality
2.	Erection of buildings at Tallinn	190,000.—						
3. In contemplation.								
1.	Building works in town and country	165,000.— 10,000.— 138,000.— 250,000.—	State State Municipality Loan	101,500	Whole year	360,000.—	203,000.—	Roads Department
(j) Electrical Installations.								
1. Completed.								
1.	Erection of electric power station at Tallinn . .	268,000.—	The cost has been met from :			Whole year		Tallinn Municipality
2.	Equipment of the Tallinn electric power station	475,000.—	847,000	Internal loan	16,500	Whole year	55,710.—	Tallinn Municipality
3.	Special equipment for this station	321,800.—	803,000	Internal bank credit . .	13,250	Whole year	45,054.—	Tallinn Municipality
4.	Construction of boiler-houses at the Tallinn electric power station	359,000.—	1,681,930	Contributions of towns	46,500	Whole year	130,250.—	Tallinn Municipality
5.	Boilers for the Tallinn power station	1,078,000.—			33,270	Whole year	99,810.—	Tallinn Municipality
6.	Extension of the wiring system of the Tallinn electric power station	938,130.—			60,700	Whole year	170,000.—	Tallinn Municipality
7.	Other electric installations	2,000.— 5,000.— 24,000.—	State Municipality Loan	2,750	Whole year	25,500.—	5,500.—	Roads Department
2. In course of execution.								
1.	Electrical installations in town and country	50,000.— 7,000.—	State Municipality	1,400	Summer	30,000.— 5,000.—	20,000.— 2,000.—	Roads Department
3. In contemplation.								
1.	Electrical installations in town and country . .	7,000.— 38,000.—	Municipality Loan	8,700	Whole year	27,500.—	17,500.—	Roads Department

PARTICULARS OF PUBLIC WORKS IN ESTONIA (continued).

No.	Category of work and location	Value of work (Kroon)	To what credit charged	Number of working days	Season	Allocation of expenditure		Organisation executing the work
						Materials and equipment (Kroon)	Labour and social expenditure (Kroon)	
(k) Gasworks.								
1. Completed.								
1.	Extension of the Tallinn gasworks system . .	4,734.— 23,211.— 18,168.—	State State State	3,300		36,060.—	10,053.—	Tallinn Municipality
2. In course of execution.								
None.								
3. In contemplation.								
None.								
(l) Telegraph, Telephone, Wireless.								
1. Completed.								
1.	Repair works	186,258.—	State			50%	50%	General Post Office
2.	Construction and repair of buildings	354,929.—	State			50%	50%	General Post Office
3.	Repairs to and im- provements in the telegraph, telephone and wireless systems	4,483,201.—	State			50%	50%	General Post Office
4.	Erection of automatic telephone station at Tallinn	486,894.—	State			50%	50%	General Post Office
2. In course of execution.								
None.								
3. In contemplation.								
None.								
(m) Miscellaneous Works.								
1. Completed.								
1.	Crop improvements . . .	740,971.97	State					Forestry and Agricultural Departments
2.	Land improvements . . .	755,622.86	State					
3.	Forest roads	42,524.23	State					

Forestry and
Agricultural
Departments

Forestry and
Agricultural
Departments
Forestry and
Agricultural
Departments
Forestry and
Agricultural
Departments

State
State
State
State

188,441.41
180,411.20
5,240.75
36,427.53

1. Land improvements . .
2. Forest roads
3. Erection of new buildings

1.
2.
3.

3. In contemplation.

1. State forestry programme
for 1934-35:

(a) Preparation of build-
ing timber (460,000
cubic metres) . . .

(b) Preparation of fire-
wood (580,000 cubic
metres)

(c) Preparation of work-
ed wood (55,000 cubic
metres)

2. Land improvements . .

3. Forest roads

4. Erection of new buildings

5. Travellers' hostel at
Tallinn Harbour . . .

6. Cold-storage plant at
Tallinn Harbour . . .

7. Erection of lighthouse
at Hiiumäe

Whole
year

711,000

State

1,660,000.—

State Forests
Co.

1,660,000.—

Forestry and
Agricultural
Departments

State
State
State
State
State

226,000.—
250,000.—
7,000.—
40,000.—
50,000.—

Department
of Navigable
Waterways

April-October

7,000

State

45,000.—

Department
of Navigable
Waterways

April-October

150,000

State

1,000,000.—

Department
of Navigable
Waterways

April-October

25,000

State

180,000.—

UNITED STATES OF AMERICA.

A. REPORT FROM THE SECRETARY OF THE INTERIOR AND ADMINISTRATOR OF PUBLIC WORKS TO THE SECRETARY-GENERAL OF THE LEAGUE OF NATIONS ON PUBLIC WORKS IN THE UNITED STATES OF AMERICA, 1929-1934.

I. — A BRIEF DESCRIPTION OF THE MAIN PUBLIC WORKS, AND SUCH PRIVATE CONSTRUCTION AS WAS FINANCED BY FEDERAL GOVERNMENT FUNDS FROM JULY 1ST, 1929, THROUGH JUNE 1934.

Because of the complexities resulting from the Federal structure of the Government of the United States, it has seemed best to separate those public works which have been built by the Federal Government, or independent agencies directly under its authority, from those public works by States, counties, cities and other governmental bodies. Throughout this report, therefore, a distinction has been made between these two classifications. Because other important construction has been made possible by Federal loans to private agencies, a third category is included. This has been considered particularly important, as a good part of this private construction is of a type which in many countries would be public work.

Federal Construction.

It is estimated that, in the years 1925 to 1930, Federal construction amounted to only 10 per cent of all the public works in the country. In the fiscal year ending June 30th, 1930, the principal Federal expenditure for construction was for roads and bridges, but this money, instead of being spent directly, was given to the forty-eight States to match sums from them for building national highways. Other important items in this year were for work on rivers and harbours, flood control, naval yards and docks, reclamation and forest service. The total Federal expenditure for this year was \$269,913,474. The expenditure in the various classifications will be found in Appendix A, Table I.

Although the amount spent on roads and bridges decreased in the fiscal year 1931, it greatly increased in 1932, and was a major expenditure throughout. Because of serious flood conditions, the item for canals, irrigation and flood control was very high in 1931. The expenditure for public buildings was also important in all these years. These buildings were not only administrative buildings in Washington, but also post offices, Customs and Federal court houses throughout the country.

A good many of the roads and buildings that were started during these years have been completed, still others are in course of construction and even more are contemplated. The largest items from the standpoint of total outlay, as distinguished from yearly expenditure, are those of dams which are under construction for flood control, irrigation and hydro-electric power. The Boulder Dam on the Colorado River has been under way since 1931 and is not expected to be completed for several

years. Included in this project is not only the dam itself, but a power plant, the All-American Canal, and a city for 5,000 people. The total amount allotted by Congress was \$165,000,000.

The tremendous impetus that was given to public works by the passage of the National Industrial Recovery Act in 1933, which included an appropriation of \$3,300,000,000 for the Public Works Administration, caused an increase in practically every category of Federal construction. This increased support was especially effective in stimulating the building of dams and reclamation projects.

In accordance with an extensive plan for controlling flood waters and improving navigation as well as for the development of hydro-electric power, many dams and locks are being constructed in the upper Mississippi River and its tributaries. This whole magnificent water system is being developed at the cost of many millions of dollars for the permanent protection and use of the country.

A similar development is being made of the Columbia River system. Here, also, two great dams are being built. The Grand Coulee and Bonneville dams will contribute greatly to the prosperity of that section and will, while under construction, give work to thousands of people.

One of the most important ventures of the present Administration has been the Tennessee Valley Authority. This authority has been given by Congress the power to develop the possibilities of the vast Tennessee Valley. Already the authority has put into operation the Muscle Shoals Dam, which was built during the war, and has started the erection of Norris and Wheeler dams, which will be a part of the plan for the utilisation of the resources of this system. The authority also has power to develop and sell electricity and to manufacture nitrates. The fulfilment of this programme will call for a large expenditure and much construction.

The Public Works Emergency Housing Corporation and the Subsistence Homesteads Corporation have been established to improve housing conditions and to make available a better sort of life for people of low income. In addition to the usual amount of forest service, there has been established the Civilian Conservation Corps, which works to improve the Federal and State forests and parks. Much has been done by this corps to prevent forest fires and to replant burned and eroded areas. The Civil Works Administration, which was established primarily to furnish jobs to the unemployed, has nevertheless accomplished a great deal of miscellaneous but important construction work.

Non-Federal Public Construction.

In each year from 1930 through 1933, the amount spent on construction by the States, cities and other public bodies declined. According to the figures of the Federal Employment Stabilisation Board, \$2,910 million was spent by this group on construction in the calendar year 1930; this figure dropped to \$2,417 million in 1931, to \$1,485 million in 1932, and in 1933 was only \$800 million.

The chief types of construction work done by these State and local governments were roads, streets, bridges and educational buildings. In 1932, through the programme of lending by the Reconstruction Finance Corporation, several large projects were undertaken, notably in California. In this State, the San Francisco-Oakland Bridge was started and will be under construction for several years. Another long-time project started in California in 1932 is the Southern California metropolitan district water supply and aqueduct.

With the establishment of the Public Works Administration in 1933, the terms for loans to public bodies were made more lenient and much building resulted. A large part of the expenditure was for water supplies and sewerage systems in the cities. The outstanding example of this type of construction is the sewage-disposal works

of Chicago, which will be constructed over several years at a cost of more than \$40,000,000.

Another important project made possible by a loan from the Public Works Administration is the Tri-borough Bridge in New York. This bridge will cost about \$50,000,000 and will take several years to build. Also in New York, nearly \$40,000,000 has been allotted by the Public Works Administration for the Midtown-Hudson vehicular tunnel. This project will take about four years for completion.

Federal Loans for Private Construction.

This classification is important because of the large expenditures that have been made by the Public Works Administration in the form of loans to railroads and to limited-dividend housing projects. The major loan was to the Pennsylvania Railroad for the electrification of its line from Washington to New York. Although this is technically a repair and maintenance job, inasmuch as no new mileage is being constructed, it is in its effect on industry very much the same as new construction. This work is now under way and will last several years. Millions of dollars were also lent to the railroads by the Reconstruction Finance Corporation for the improvement of their rolling-stock.

Relatively few limited-dividend housing projects received loans from the Public Works Administration, but important among them is the one in Philadelphia being built by the Full-fashioned Hosiery Union. It is not contemplated to extend this programme, as it is thought that large-scale and low-cost housing construction can better be handled by the Public Works Emergency Housing Corporation.

A very important type of Federal lending for private construction will soon begin with the programme of the Federal Housing Administration. It is the intention of this agency to stimulate private renovation and building by insuring private financial institutions against losses made on certain renovation and modernisation construction work. It is thought that this will make possible a great deal of building that has been held back because of the lack of financing facilities.

Other sections of the Act creating the Federal Housing Administration provide for the insuring of home mortgages and mortgages on limited-dividend and similar low-cost housing projects, also the insurance of the shares and the certificates of building and loan associations. The insurance of the mortgage is designed to be entirely self-supporting. These provisions of the Act may be important in influencing construction work in the future.

Still another type of Federal financing of private construction is that of a subsidiary of the Tennessee Valley Authority called the Electric Home and Farm Authority, Incorporated. While this may not be considered as public works in the strictest sense, it will nevertheless influence both the employment of labour and use of materials. This agency will finance the long-time purchase of electrical appliances by the residents of the Tennessee Valley in order to encourage production as well as to make these appliances available at a low cost. This programme is just getting under way.

Of the \$3,300,000,000 first appropriated in the National Industrial Recovery Act, \$2,350,994,392, or 72 per cent, was allotted for construction projects. From the remaining \$923,330,666, allotments were made by Congress and by special executive order for the Farm Credit Administration (\$100,000,000), the Civil Works Administration (\$400,005,000), and for the Civilian Conservation Corps (\$323,362,315). As has been described above, a good part of the work of the Civil Works Administration and the Civilian Conservation Corps was really construction.

Out of the \$400,000,000 made available to the Public Works Administration under executive order from the \$500,000,000 emergency appropriation as authorised by the

last Congress, \$382,856,710 had been allotted by August 1st, 1934, to construction projects. The total amount allocated for construction projects by the Public Works Administration was, on August 1st, 1934, \$2,733,851,102, leaving an unallotted balance of \$33,718,232.

It will be seen from the above that any comprehensive description of public works in the United States is a very complicated undertaking. It has been possible to mention only the aspects of this multifold programme which seem to be of the greatest importance to the economic future of the United States and to other countries interested in the details of this resurgence of American activity.

II. — THE PRINCIPAL ADMINISTRATIVE METHODS AND LEGAL PROVISIONS PERTAINING TO THE MAIN PUBLIC WORKS UNDERTAKEN OR AUTHORISED BY THE UNITED STATES SINCE THE BEGINNING OF THE YEAR 1929.

Broadly speaking, the United States has carried out its public works programme :

- (1) Through direct Federal aid for Federal purposes ;
- (2) Through Federal loans and grants to other public bodies ; and
- (3) Through Federal loans to private enterprises.

Each of these methods will be considered in turn.

(1) *Direct Federal Aid for Federal Purposes.*

(i) *Public Works Administration.*

The National Industrial Recovery Act, which became law on June 16th, 1933, created a Federal Emergency Administration of Public Works, the powers of which were to be exercised by a Federal Emergency Administrator of Public Works. The Act provided that :

“ *Section 202.* — The Administrator, under the direction of the President, shall prepare a comprehensive programme of public works, which shall include, among other things, the following : (a) construction, repair, and improvement of public highways and parkways, public buildings and any publicly owned instrumentalities and facilities ; (b) conservation and development of natural resources, including control, utilisation, and purification of waters, prevention of soil or coastal erosion, development of water power, transmission of electrical energy, and construction of river and harbour improvements and flood control, and also the construction of any river or drainage improvement required to perform or satisfy any obligation incurred by the United States through a treaty with a foreign Government heretofore ratified, and to restore or develop for the use of any State or its citizens water taken from or denied to them by performance on the part of the United States of treaty obligations heretofore assumed . . . ; (c) any projects of the character heretofore constructed or carried on either directly by public authority or with public aid to serve the interests of the general public ; (d) construction, reconstruction, alteration, or repair under public regulation or control of low-cost housing and slum-clearance projects . . .

“ *Section 203.* — (a) With a view to increasing employment quickly (while reasonably securing any loans made by the United States) the President is authorised and empowered, through the Administrator or through such other agencies as he may designate or create, (1) to construct, finance, or aid in the construction or financing of any public works project included in the programme prepared pursuant to Section 202 . . . ”

Under this law, the Government has undertaken various public works projects through its several executive departments and independent agencies. In some cases the Government is constructing the projects itself; in some cases they are being constructed under contract with private construction firms.

All work is subject to the following provisions :

“ *Section 206.* — All contracts let for construction projects and all loans and grants pursuant to this title shall contain such provisions as are necessary to ensure (1) that no convict labour shall be employed on any such project; (2) that (except in executive, administrative, and supervisory positions), so far as practicable and feasible, no individual directly employed on any such project shall be permitted to work more than thirty hours in any one week; (3) that all employees shall be paid just and reasonable wages which shall be compensation sufficient to provide, for the hours of labour as limited, a standard of living in decency and comfort; (4) that, in the employment of labour in connection with any such project, preference shall be given, where they are qualified, to ex-service men with dependents, and then in the following order : (A) To citizens of the United States and aliens who have declared their intention of becoming citizens, who are bona-fide residents of the political sub-division and/or county in which the work is to be performed, and (B) to citizens of the United States and aliens who have declared their intention of becoming citizens who are bona-fide residents of the State, territory or district in which the work is to be performed : *Provided*, That these preferences shall apply only where such labour is available and qualified to perform the work to which the employment relates; and (5) that the maximum of human labour shall be used in lieu of machinery wherever practicable and consistent with sound economy and public advantage.”

(ii) *Civil Works Administration.*

As a public works project pursuant to the statutory authority above quoted, President Roosevelt, in the fall of 1933, created the Civil Works Administration. This functioned through a Civil Works Administrator. Unemployed people were hired by the Government and put to work on projects of local improvement. They were subject to the above labour provisions.

(iii) *Emergency Conservation Work.*

By Law of March 31st, 1933, the President was authorised to provide for employing unemployed persons :

“ . . . in the construction, maintenance and carrying-on of works of a public nature in connection with the forestation of lands belonging to the United States or to the several States which are suitable for timber production, the prevention of forest fires, floods and soil erosion, plant pest and disease control, the construction, maintenance or repair of paths, trails and fire-lanes in the national parks and national forests, and such other work on the public domain, national and State, and Government reservations incidental to or necessary in connection with any projects of the character enumerated, as the President may determine to be desirable . . . ”

Pursuant to this authority, a Director of Emergency Conservation Work was appointed and a Civilian Conservation Corps created. The work in connection with this corps is handled through the various executive departments of the Government.

(iv) *Tennessee Valley Authority.*

By Law passed on May 18th, 1933, known as the "Tennessee Valley Authority Act of 1933", a public corporation known as the "Tennessee Valley Authority" was created and given power, *inter alia* :

" . . . to construct dams, reservoirs, power houses, power structures, transmission lines, navigation projects, and incidental works in the Tennessee River and its tributaries, and to unite the various power installations into one or more systems by transmission lines."

The construction authorised by this Act is being carried out by the authority partly by contract, partly directly.

The law provides that :

" All contracts to which the corporation is a party and which require the employment of labourers and mechanics in the construction, alteration, maintenance or repair of buildings, dams, locks, or other projects shall contain a provision that not less than the prevailing rate of wages for work of a similar nature prevailing in the vicinity shall be paid to such labourers or mechanics."

(v) *Subsistence Homesteads.*¹

The National Industrial Recovery Act provided that :

" Section 208. — To provide for aiding the redistribution of the overbalance of population in industrial centres, \$25,000,000 is hereby made available to the President, to be used by him through such agencies as he may establish and under such regulations as he may make, for making loans for and otherwise aiding in the purchase of subsistence homesteads. The moneys collected as repayment of said loans shall constitute a revolving fund to be administered as directed by the President for the purpose of this section."

Pursuant to this authority, a Government corporation, "Subsistence Homesteads Corporation", has been set up and subsistence homestead projects have been undertaken partly directly by the Federal Government, partly by contract with private contractors.

(vi) *Low-cost Housing.*

Pursuant to the authority found in Section 202 (d) of the National Industrial Recovery Act, the "Public Works Emergency Housing Corporation" has been set up and slum-clearance and low-cost housing projects have been undertaken.

(2) *Federal Loans and Grants to Other Public Bodies.*

Section 201 (a) of the Emergency Relief and Construction Act of 1932, approved July 21st, 1932, as amended, authorised the Reconstruction Finance Corporation :

" (1) To make loans to, or contracts with, States, municipalities and political sub-divisions of States, public agencies of States, of municipalities, and of political sub-divisions of States, public corporations, boards and commissions, and public municipal instrumentalities of one or more States, to aid in financing projects

¹ The name "subsistence homesteads" denotes a home upon a plot of land on which can be grown a major portion of the foodstuffs required by the homestead family. The central motive of the subsistence homesteads programme is to demonstrate the economic and social value of a form of livelihood which combines part-time wage work and part-time gardening or farming.

authorised under Federal, State or municipal law which are self-liquidating in character, such loans or contracts to be made through the purchase of their securities, or otherwise, and for such purpose the Reconstruction Finance Corporation is authorised to bid for such securities . . .

“(5) To make loans to aid in financing the construction of any publicly owned bridge to be used for railroad, railway and highway uses, the construction cost of which will be returned in part by means of tolls, fees, rents or other charges, and the remainder by means of taxes imposed pursuant to State law enacted before the date of enactment of the Emergency Relief and Construction Act of 1932 ; and the Reconstruction Finance Corporation is further authorised and empowered to purchase bonds of any State, municipality or other public body or agency issue for the purpose of financing the construction of any such bridge irrespective of the dates of maturity of such bonds.”

The Act further provided that :

“ . . . a project shall be deemed to be self-liquidating if such project will be made self-supporting and financially solvent and if the construction cost thereof will be returned within a reasonable period by means of tolls, fees, rents or other charges, or by such other means (other than by taxation) as may be prescribed by the statutes which provide for the project . . . ”

The Act further provided that loans to be made :

“ . . . shall be subject to the conditions that no convict labour shall be directly employed on any such project, and that (except in executive, administrative and supervisory positions), so far as practicable, no individual directly employed on any such project shall be permitted to work more than thirty hours in any one week, and that, in the employment of labour in connection with any such project, preference shall be given, where they are qualified, to ex-service men with dependents.”

This Act was superseded by the National Industrial Recovery Act, the provisions of which have been quoted above. Section 203 (a) (2) of the National Industrial Recovery Act authorised the President, through the Administrator :

“ . . . upon such terms as the President shall prescribe, to make grants to States, municipalities or other public bodies for the construction, repair or improvement of any such project (of the kind described in Section 202, quoted above), but no such grant shall be in excess of 30 per cent of the cost of the labour and materials upon such project.”

Section 204 (a) of the National Industrial Recovery Act authorised the President to make grants to the highway departments of the several States in an amount not less than \$400,000,000, to be expended by such departments in road construction.

(3) *Federal Loans to Private Enterprises.*

Section 201 (a) of the Emergency Relief and Construction Act of 1932, as amended, authorised the Reconstruction Finance Corporation :

“(2) To make loans to corporations formed wholly for the purpose of providing housing for families of low income, or for reconstruction of slum areas, which are regulated by State or municipal law as to rents, charges, capital structure, rate of return, and areas and methods of operation, to aid in financing projects undertaken by such corporations which are self-liquidating in character ;

“(3) To make loans to private corporations to aid in carrying out the construction, replacement, or improvement of bridges, tunnels, docks, viaducts, waterworks, canals and markets devoted to public use and which are self-liquidating in character ;

“(4) To make loans to private limited dividend corporations to aid in financing projects for the protection and development of forests and other renewable natural resources, which are regulated by a State or political subdivision of a State and are self-liquidating in character . . .”

This Act was superseded by the National Industrial Recovery Act. Section 202 (c) of the latter Act provided that there be included in the programme of public works :

“ . . . any project . . . of any character heretofore eligible for loans under sub-section (a) of Section 201 of the Emergency Relief and Construction Act of 1932 as amended ; and paragraph (3) of such sub-section (a) shall for such purposes be held to include loans for the construction or completion of hospitals the operation of which is partly financed from public funds, and of reservoirs and pumping plants and for the construction of dry docks . . .”

Section 203 (a) (4) of the National Industrial Recovery Act authorised the President, through the Administrator of Public Works or through such other agencies as he may designate or create, “ . . . to aid in the financing of such railroad maintenance and equipment as may be approved by the Interstate Commerce Commission as desirable for the improvement of transportation facilities . . .”

Under the above provisions, loans (but not grants) have been made to private corporations for the purpose of constructing projects of the kind described in Section 202 of the Act, and loans have been made to railroads for the purpose of acquiring equipment and improving their facilities. All these loans are subject to the labour conditions described above.

The Electric Home and Farm Authority and the Federal Housing Administration deserve brief mention. These are not, strictly speaking, instrumentalities for the promotion of public works, but rather for the promotion of private construction. The former is a subsidiary of the Tennessee Valley Authority created for the purpose of financing and promoting the installation of electric appliances on homes and farms. The latter was organised by Act of June 27th, 1934. Its powers are exercised by an Administrator. Section 2 of the Act creating it provides :

“ The Administrator is authorised and empowered, upon such terms and conditions as he may prescribe, to insure banks, trust companies, personal finance companies, mortgage companies, building and loan associations, instalment lending companies and other such financial institutions, which are approved by him as eligible for credit insurance, against losses which they may sustain as a result of loans and advances of credit, and purchases of obligations representing loans and advances of credit, made by them subsequent to the date of enactment of this Act and prior to January 1st, 1936, or such earlier date as the President may fix by proclamation, for the purpose of financing alterations, repairs and improvements upon real property. In no case shall the insurance granted by the Administrator under this section to any such financial institution exceed 20 per cent of the total amount of the loans, advances of credit, and purchases made by such financial institution for such purpose ; and the total liability incurred by the Administrator for such insurance shall in no case exceed in the aggregate \$200,000,000. No insurance shall be granted under this section to any such financial institution with respect to any obligation representing any such loan, advance of credit, or purchase by it the face amount of which exceeds \$2,000 ; nor unless the obligation bears such interest, has such maturity, and contains such other terms, conditions and restrictions, as the Administrator shall prescribe.”

III. — THE PRINCIPAL METHODS EMPLOYED FOR FINANCING PUBLIC WORKS.

In the fiscal year ending 1930, the construction work of the Federal Government was financed out of the current revenue, as had been done in previous years. With the deepening of the depression and the consistent decline in tax returns, it was, however, necessary for the Government to meet the growing annual deficits by more and more borrowing. The first deficit in the Federal budget since 1919 occurred in 1931, and this deficit has increased every year since then. The borrowing to finance these deficits has been on both a short-term and a long-term basis. The loans which have been floated have, however, been internal and have been immediately over-subscribed.

A single budget is used by the Treasury to account for all the Government expenditures, both ordinary and emergency. Under the Roosevelt Administration, however, a distinction has been made in the classification of the two types of expenditures for the purpose of clearly setting forth the emergency appropriations.

With regard to the repayment of the borrowing which the Government has been doing, it must be realised, first, that a large part of these expenditures consists of loans on self-liquidating projects, and it is confidently expected that this money will return to the Treasury. In addition, there are other expenditures, such as that of the Tennessee Valley Authority for the development of hydro-electric power. It is specifically provided in the Act establishing the Tennessee Valley Authority that any surplus over expenses of operation, maintenance and amortisation must be turned in to the Treasury at the end of each calendar year.

Perhaps the most important item in regard to repayment is the general improvement of business activity since the inauguration of the Recovery Programme. We have seen that, during the early years of the depression, the decline in the ordinary revenues of the Government was precipitous and alarming. Any measures which would change this direction and once more establish an increased revenue would, of necessity, improve the credit of the Government. As the result of one year of President Roosevelt's Recovery Programme the revenue has already greatly increased.

In Section V of this report it is shown clearly that conditions have improved and that the ordinary revenues of the Government have considerably increased already. It is, therefore, reasonable to expect that, with the continuation of the present policies of the Government, the ordinary revenues will soon be sufficient to take care of the Government's expenditures and also the amortisation of the public debt.

The methods of financing public works of the States, counties, municipalities and other bodies have varied so much from place to place that it is difficult to give a reliable account of them. What may be said, however, is that, with the general decline of tax revenue in the depression, most of these governmental bodies financed their public works to an increasingly large extent through borrowing. In some instances, the inability of the cities to collect taxes sufficient to meet their expenses caused them to borrow to the full legal limit, and there were cases where the effects of the depression caused them to default on municipal bonds. As will be seen in Section V, the cities are once more getting sufficient revenue to enable them to carry on their normal expenditures. The increase in business activity generally will undoubtedly have its effect on the individual cities and become cumulative.

The financial condition of the non-Federal Government bodies was improved by the Reconstruction Finance Corporation in 1932. This improvement was greatly augmented by the adoption of a more lenient policy by the Public Works Administration in 1933. The Reconstruction Finance Corporation made loans for self-liquidating projects and also for relief work. The Public Works Administration made loans for self-liquidating projects, but required governmental bodies to repay only

70 per cent of the money advanced. Both the Reconstruction Finance Corporation and the Public Works Administration are Federal agencies. It will be seen, therefore, that the Federal Government has played a large part in the financing of the public works of the non-Federal Governments. The improved economic status of the country, as the result of this policy, is expected to increase the revenue of Federal and non-Federal Governments alike.

IV. — THE ALLOCATION OF EXPENDITURE ON THE EXECUTION OF PUBLIC WORKS AS BETWEEN MATERIALS AND EQUIPMENT, AND LABOUR.

There is no record of the allocation of the expenditure on public works before 1933 which distinguishes between the amounts for labour and the amounts for materials and equipment. Since August 1933, the Bureau of Labour Statistics has been keeping a close record of the use of money which has been paid out by the Public Works Administration. All contractors on projects financed with Public Works Administration appropriations are required to file with the Bureau of Labour Statistics a complete accounting of this expenditure. The same regulations have applied to the construction under loans from the Reconstruction Finance Corporation, but these records do not begin until April 1934. Other branches of the Government have, since the fiscal year ending June 1934, been ordered to submit similar reports for construction.

The records for the fiscal year ending in 1935 will, therefore, be complete for the first time. For this report it has been necessary to limit the figures to those from the Public Works Administration for the fiscal year ending 1934, and the Reconstruction Finance Corporation for the last three months of that year.

By referring to Table III of this report, it will be seen that, although the number of workers and the number of man-hours and the average earnings per hour increased every month after October 1933, the expenditures for material were in each month considerably more than the total amount of the pay-rolls. A somewhat larger proportion of pay-rolls is shown by the report on expenditures of three months of construction in projects financed by funds from the Reconstruction Finance Corporation. These figures are shown in Table IV.

Tables VI and VII give the value of the various types of material purchased by contractors on Public Works Administration and Reconstruction Finance Corporation projects respectively. This information shows the extent to which different industries have been directly stimulated by the programme of public works construction.

In Table V it is possible to see the number of men, in the fiscal year ending 1934, actually employed by the United States Government, not including the military and civil service employees.

The construction programme of the Public Works Administration is not yet one-third accomplished. The figures for the first year cannot be accepted as a fair sample for the total programme. It is contemplated that, when all the money is spent, about half will have gone directly for labour and about half for materials and equipment.

V. — THE EFFECTS OBTAINED AND EXPECTED FROM THE EXECUTION OF THE PUBLIC WORKS ON THE RESUMPTION OF ECONOMIC AND INDUSTRIAL ACTIVITIES AND ON UNEMPLOYMENT.

As the expenditure for public works declined steadily from 1930 through the summer of 1933, its effect during this period is problematical. Whereas it probably did have a certain retarding effect in the general decline of business activity, nevertheless both declined so swiftly that the effects, if any, are negligible.

On the other hand, although since October 1933 the expenditure for public works has increased enormously, this has only been one part of the programme of the Roosevelt Administration, and it is impossible to attribute any definite part of the general results to any single activity within the programme. It is clearly evident, nevertheless, that the general programme has had the effect of halting the downward sweep of the depression and has increased business activity and reduced the numbers of the unemployed.

It is possible to say quite definitely, moreover, that, during the fiscal year ending June 1934, the monthly average of men employed on construction projects financed by funds from the Public Works Administration (see Table III) was 270,756. It is also possible to state that, of the \$523,850,179 actually spent for this construction, \$159,205,512 went to workers on these projects and \$364,644,667 was spent by the contractors for material to be used on these projects.

If we then follow the accepted principle of estimating that the number of people who were employed in the manufacture and transportation of the material used was roughly equal to the number employed directly on the projects, we see that the immediate effect on employment is to bring about an average increase, in the fiscal year ending June 1934, of approximately half a million.

The secondary and later effects of this increase in the purchasing power of such a large number of people are undoubtedly being reflected in retail sales and other aspects of business activity. These effects are necessarily combined with the effects of other parts of the Recovery Programme and it is not possible to give statistical proof of them. We know that conditions have been improved in many industries and in the country as a whole. If, for instance, we look at the increase in the Federal revenue from tobacco in 1934, as against 1933, we see a reflection of this improvement.

The collections from tobacco taxes increased from \$402,739,059 in the fiscal year ending June 30th, 1933, to \$425,162,129 in the fiscal year ending June 30th, 1934. The rate of the tax was the same for both years.

The effect of the Recovery Programme is again illustrated by the figures for income-tax collections in the two years. As tax collections largely apply to incomes made in the previous calendar year, it is necessary to compare the collections of the first six months of each year. The figures of corporation and individual income-tax collections during the first six months of the calendar years 1933 and 1934 were as follows :

	1933 \$	1934 \$	Increase \$	Increase Per cent
Corporation . . .	180,931,460	233,272,958	52,341,498	28.9
Individual . . .	222,692,485	266,917,668	44,225,183	19.0

The large increase in both categories of income-tax collections is particularly significant when it is realised that President Roosevelt's programme was started only in March 1933. The figures given for 1934 above refer to tax collections from incomes made in 1933, whereas the figures given for 1933 refer to tax collections from incomes made in 1932.

The figures concerning increased revenue need not be confined to the Federal Government. Reports from municipalities all over the country indicate the same trend. An article by the Associated Press in the *New York Times* of August 13th, 1934, describes the change which has come over the finances of the various municipalities. Only the first few paragraphs will be quoted here, but the article carried numerous specific examples of the improvement :

“ The books of the nation's municipalities are being written in black ink once more. From all sections of the country to-day came reports of the brightest outlook for city financial affairs in the last few years.

“The new state of affairs reveals generally lowered interest rates on both renewed and new bond issues, with some even selling at premiums; lowered outstanding indebtedness, repayment of back salaries and, in numerous cases, restoration of salary cuts.

“Back of the intensive struggle to effect the transfer on the municipal books from red into black stand in bold relief balanced budgets, strict economies rigidly enforced and, more recently, increased tax collections.”

Because of the swiftness with which the public works programme was undertaken and the lack of preparation for it by the States and other governmental bodies, there have been many delays in getting the programme under way. As this situation is overcome, and increasing amounts of Federal money are used for construction purposes, there is every reason to expect that the immediate effects which are already in evidence will be increased and, indeed, become cumulative in their stimulation of the economic system of the country.

Men have been put to work more promptly through allotments to the Bureau of Public Roads and to the railroads than through allotments for any other purpose. This may be accounted for by the fact that both the railroads and the Bureau of Public Roads had organisations ready to start work immediately.

By August 1st, 1934, only 30 per cent of the \$2,733,851,102 allotted for construction by the Public Works Administration had been spent. The effects of expenditures from these allotments will therefore continue to be felt for some time.

Another effect of the Public Works Administration that should perhaps be mentioned is the money raised elsewhere by applicants for non-Federal loans. By August 1st, 1934, \$252,037,985 had been raised by such applicants. This amount must be added to the total appropriations in a full account of the investment in public works.

Although it is impossible to attribute general results to any one feature of the President's programme, it is possible to show that, since this Administration took power, there has been a steady decline in unemployment in the country. The figures given by the American Federation of Labour and given here in Table VIII show that their estimate of unemployment increased consistently from January 1930 until it reached the peak of 13,689,000 in March 1933. Since that time, it has been declining just as consistently.

In addition to the intention of the Roosevelt Administration to achieve (a) immediate relief for the people from the suffering of unemployment and of the reduced standards of living, and (b) the reinvigoration of our economic life and an intensified business activity, has been the desire to use Federal funds for planning and co-ordinating the development and conservation of the resources of the country. The establishment of the National Resources Board and the Mississippi Valley Committee are steps toward a more efficient use, and a better-planned control, of the resources of the country. The declaration by President Roosevelt that the Government-built hydro-electric power plants will be used as “yardsticks” for rates to consumers in that industry is an instance of the new responsibility which the Government has taken. Not only will power be more carefully planned for, but also the exploitation of petroleum and other mineral resources will be carefully regulated. This work is already under way, and there is good reason to expect that it will have a powerful influence on the future of the country, not only by increasing the standard of living, but also by integrating the people themselves into a more harmonious and enlightened culture.

Table I.¹ — Construction financed by the Federal Government

Fiscal years ending June 30

(In millions of dollars)

	Routes, ponts et tunnels Roads, bridges and tunnels A	Chemins de fer, voies souterraines Railways, subways B	Récupération complète de terres agricoles Complete agricultural land reclamation C	Canaux, irrigation, lutte contre les inondations Canals, irrigation, flood control D	Amélioration du sol, reboisement Land improvements, reforestation E	Travaux d'adduction et de distribution d'eau, égouts Waterworks, sewers F	Ports maritimes et fluviaux Sea and river ports G
Dépenses effectives, 1930	93.555.324	264.271	9.398.603	26.605.804	1.134.949	693.154	46.978.47
Dépenses effectives, 1931	44.842.856	197.697	9.422.289	39.262.392	1.596.262	117.166	52.861.96
Dépenses effectives, 1932	217.033.005	255.369	24.779.932	38.977.651	3.252.078	104.996	46.964.25
Dépenses effectives, 1933	185.094.819	157.030	24.077.279	36.117.062	6.823.075	54.509	48.563.48
Dépenses effectives, 1934	149.833.747	352.919	14.607.828	91.691.662	228.196.643	1.022.974	84.247.86
Dépenses ; crédits réguliers des dé- partements, 1934	5.421.726	218.893		31.636.580	1.016.137	789.999	49.096.60
Crédits d'urgence, dépenses, 1934 (N.I.R.A.-C.C.C.) .	144.412.021	134.026	14.607.828	60.055.082	227.180.506	232.975	35.151.26
Total des projets fédéraux de 1930 à 1934 inclus . .	690.359.751	1.227.286	82.305.931	232.654.571	241.003.007	1.992.799	279.616.04
Crédits pour l'exer- cice 1935	483.527.494	210.008		316.726.995	23.575.522		158.482.80
<i>Non-Federal Projects: States, Municipalities</i>							
Dépenses effectives, crédits d'urgence, 1934	18.643.960			1.817.000		57.912.438	
Affectation de crédits d'urgence (N.I.R.A. 1935)	187.757.783	35.060.000		52.981.894		382.839.149	12.409.40
<i>Non-Federal Private</i>							
Dépenses effectives, crédits d'urgence, 1934		91.770.300					
Affectation de crédits d'urgence, 1935 . .		199.607.800					
Totaux généraux des crédits pour 1935	671.285.277	234.877.808		369.708.889	23.575.522	382.839.149	170.892.20
Dépenses effectives, crédits d'urgence, 1934	163.055.981	91.904.326	14.607.828	61.872.082	227.180.506	58.145.413	35.151.26
Dépenses effectives sur les crédits d'ur- gence et les crédits des départements de 1930 à 1934 inclusivement . .	709.003.711	92.997.586	82.305.931	234.471.571	241.003.007	59.905.237	279.611.04

¹ Each category is treated in detail in Appendix B.

Annex A.
 financed by Federal Funds.
 ending June 30th.
 (In millions of dollars)

Aéroports Airports	Construction (édifices administratifs, mai- sons d'habitation, etc.) Building and construction (administrative buildings, dwelling- houses, etc.)	Installations électriques, usines hydroélectriques, centres thermiques, transmission d'énergie Electric installations, hydro-electric plants, heating centres, power transmission	Usines à gaz Gasworks	Télégraphe et téléphone Telegraph and telephone	Divers Miscellaneous	Totaux annuels Yearly totals	
H	I	J	K	L	M		
Projects.							Actual expenditures, 1930.
3,601.090	88.035.309	198.094		48.400		270.513.476	Actual expenditures, 1931.
7,948.829	288.259.254	222.138		86.918		436.837.765	Actual expenditures, 1932.
2,656.941	185.427.703	190.428		18.914		519.661.269	Actual expenditures, 1933.
2,567.526	178.399.819	15.582				481.870.186	Actual expenditures, 1934.
1,241.716	585.736.819	11.698.000			23.572.405	1,192.202.576	Expenditures, regu- lar departmental appropriations, 1934.
113.432	96.104.320					184.397.688	Emergency appro- priation expendi- tures, 1934.
1,128.284	489.632.499	11.698.000			23.572.405	1,007.804.888	(N.I.R.—A.C.C.C.).
18,016.102	1,317.858.904	12,324.243		154.232	23.572.405	2,901.085.272	Total Federal pro- jects 1930-1934 inclusive.
18,356.187	799.039.034	51,700.000			298.000.000	2,089.618.048	Allocations for fiscal year 1935.
Municipalities, Other Public Bodies.							Actual expenditures, emergency funds, 1934.
29.580	7,389.756	1,125.292			130.195	87.048.221	Allocations, emer- gency funds (N.I.R.A.—1935).
376.500	168.631.590	25,224.813	867.600		134.700	866.283.429	
Private Projects (R.R., etc.).							Actual expenditures, emergency funds, 1934.
	2,634.667					94.404.967	Allocations, emer- gency funds, 1935.
	35.881.087					235.488.887	Grand Totals : Allo- cations, 1935.
18,732.687	1,003.551.711	76,924.813	867.600		238,134.700	3,191.390.364	Actual expenditures, emergency funds, 1934.
1,157.864	499.656.922	12,823.292			23,702.600	1,189.258.076	
18,045.682	1,327.883.327	13,449.535		154.232	23,702.600	3,082.538.460	Actual expenditures, emergency and departmental, 1930-1934 inclusive.

Table II. — *Estimated Construction in the United States, 1929-1933.*
(In millions of dollars.)

	1929	1930	1931	1932	1933	
Maisons d'habitation . . .	2,127	1,222	900	311	222	Residential.
Maisons de commerce . . .	1,031	684	345	135	89	Commercial.
Usines	606	285	129	48	100	Factories.
Théâtres, clubs, loges, bâ- timents religieux et com- mémoratifs	224	188	129	47	34	Theatres, clubs, lodges, religious and memorial.
Constructions agricoles . . .	463	367	258	192	135	Farm construction.
Total.	4,451	2,746	1,761	734	580	Total.
Chemins de fer (catégorie I)	1,364	1,227	804	471	401	Railways (Class I).
Tramways	194	189	155	98	82	Street railways.
Energie électrique	964	1,036	697	373	230	Electric power.
Téléphone.	818	824	600	422	340	Telephones.
Télégraphe		73	37	21	16	Telegraph.
Gaz		221	144	85	53	Gas.
Pipe-lines.		515	469	31	52	Pipe-lines.
Travaux d'adduction et de distribution d'eau . . .		44	25	15	8	Waterworks.
Total.	3,340	4,173	2,972	1,552	1,213	Total.
Total des constructions privées	7,791	6,919	4,733	2,286	1,793	Total private.
Villes.	1,339	1,495	1,302	797	400	Cities.
Comtés	556	709	329	137	100	Counties.
Etats (non compris les sub- ventions fédérales) . . .	576	706	786	551	300	States (excluding Federal aid).
Total des constructions publiques non fédérales . .	2,471	2,910	2,417	1,485	800	Total non-Federal public.
Constructions fédérales (y compris les subventions fédérales, non compris D.C.)	305	390	510	580	500	Federal (including Federal aid, excluding D.C.).
Total des constructions fédérales publiques. . .	305	390	510	580	500	Total Federal public.

(Based on reports to the F. W. Dodge Corporation, to the Department of Agriculture, the Bureau of the Census and the Federal Employment Stabilisation Board.)

(Compiled by the Federal Employment Stabilisation Board.)

Table III. — Employment, Pay-Rolls and Man-Hours worked during August 1933 to June 1934 on Projects financed from Public Works Funds, by Month.

(Subject to revision.)

Mois Month	Nombre des salariés Number of wage-earners	Nombre des heures d'ouvriers effectuées Number of man- hours worked	Salaire moyen par heure Average earnings per hour	Montant des feuilles de paie Amount of pay-rolls	Valeur des commandes de matériel passées Value of material orders placed
1933					
Août — August	4.699	539.454	0,519	280.040	202.100
Septembre — September	33.836	3.920.009	0,500	1.961.496	1.622.365
Octobre — October . . .	114.098	14.077.752	0,498	7.006.680	22.005.920 ¹
Novembre — November	254.784	28.168.280	0,513	14.458.364	24.605.055
Décembre — December	270.808	29.866.297	0,527	15.724.700	24.839.098
1934					
Janvier — January . .	273.583	27.658.591	0,527	14.574.960	23.522.929
Février — February . .	295.722	28.938.177	0,527	15.245.381	24.562.311
Mars — March	292.696	29.171.634	0,536	15.636.545	69.334.754
Avril — April	369.234	31.247.248	0,567	17.732.234	66.639.862
Mai — May	486.166	44.130.618	0,558	24.637.889	49.720.378
Juin — June	582.690	57.825.214	0,553	31.947.223	57.589.895
Total	—	295.543.274	—	159.205.512	364.644.667

(Prepared in the Bureau of Labour Statistics, Division of Building Statistics and Public Employment.)

Table IV. — Employment, Pay-Rolls and Man-Hours worked during April, May and June 1934 on Projects Financed by the Self-Liquidating Loans Division of the Reconstruction Finance Corporation.

(Subject to revision.)

Mois Month	Sommes décaissées Amount disbursed	Nombre des salariés Number of wage-earners	Nombre des heures d'ouvrier effectuées Number of man-hours worked	Salaire moyen par heure Average earnings per hour	Montant des feuilles de paie Amount of pay-roll	Valeur des matériaux achetés Value of materials purchased
Dollars						
Avril — April	2.525.044,88	18.638	2.302.479	0,659	1.518.479	2.297.479
Mai — May	6.399.212,56	19.274	2.334.060	0,701	1.636.503	2.120.498
Juin — June	4.603.597,88	19.218	2.412.342	0,723	1.743.318	2.189.538

(Prepared in the Bureau of Labour Statistics, Division of Building Statistics and Public Employment.)

¹ Includes orders placed for naval vessels prior to October.

Table V. — *Numbers of Workers hired from Funds of the United States Government, not including Military and Civil Service, in the Fiscal Year ending June 30th, 1934.*

Mois Month	Travaux financés par la P. W. A. Construction projects financed by P. W. A.	Constructions de routes (autres que par la P. W. A.) Road building (other than P. W. A.)	C. C. C.	Projets financés par la C. W. A. Projects financed by C. W. A.	Programme de travaux d'urgence Emergency work programme	Travaux financés par la R. F. C. Construction projects financed by R. F. C.
1933		128,801	316,109			
Août — August	4,699	106,907	307,100			
Septembre — September	33,836	79,980	242,968			
Octobre — October	114,098	56,872	294,861			
Novembre — November	254,784	38,112	344,273	1,471,200		
Décembre — December	270,808	21,345	321,701	2,884,919		
1934						
Janvier — January	273,583	7,633	331,594	3,928,130		
Février — February	295,722	2,382	321,829	3,492,947		
Mars — March	292,696	1,396	247,591	2,284,897	22,934	
Avril — April	369,234	1,932	314,664	65,512	786,829	18,638 ¹
Mai — May	486,166	3,941	335,871	11,117	866,779	19,274
Juin — June	582,690	4,678	280,271	6,503	969,466	19,218

(Prepared in the Bureau of Labour Statistics, Division of Building Statistics and Public Employment.)

Table VI. — *Materials purchased from August 1933 to June 1934 inclusive for Public Works Projects, by Type of Material.*

(Subject to revision.)

Type of material	Value of material orders placed \$
Aircraft (new)	1,562,840
Aeroplane parts	4,198,705
Aluminium manufactures	34,925
Ammunition and related products.	57,919
Asbestos	39,919
Awnings, tents, canvas, etc.	128,489
Belting, miscellaneous.	11,824
Boat-building, steel and wooden (small)	463,174
Bolts, nuts, washers, etc.	1,483,787
Carpets and rugs	19,447
Carriages and wagons	15,142
Cast-iron pipe and fittings	4,104,006
Cement	26,257,475 ²
Chemicals	134,248
Clay products	3,310,857 ²
Coal	370,146
Compressed and liquefied gases	103,421

¹ Previous figures not available.

² Estimated.

Type of material	Value of material orders placed \$
Concrete products	14,493,215 ¹
Copper products	203,355
Cordage and twine	149,688
Cork products	20,371
Cotton goods	41,454
Creosote	444,988
Crushed stone	3,076,584 ¹
Doors, shutters, and window sash and frames, moulding and trim (metal)	1,621,901
Electrical machinery, apparatus and supplies	15,046,451
Engines, turbines, tractors, waterwheels and windmills	2,362,477
Explosives	2,744,343 ¹
Felt goods	58,734
Firearms	306,637
Forgings, iron and steel	2,362,392
Foundry and machine-shop products, not elsewhere classified	27,574,218 ¹
Furniture, including store and office fixtures	308,578
Glass	213,352
Hardware, miscellaneous	1,392,335
Instruments, professional and scientific	931,580
Jute goods	22,215
Lighting equipment	883,124
Lime	62,165
Locomotives, oil-electric	330,400
Locomotives, steam	5,707,095
Lumber and timber products	24,264,983 ¹
Machine tools	2,080,531
Marble, granite, slate, and other stone products	4,920,049
Meters (gas, water, etc.) and gas generators	35,390
Minerals and earths, ground or otherwise treated	56,947
Motor vehicles, passenger	134,298
Motor vehicles, trucks	310,924
Nails and spikes	447,638
Non-ferrous-metal alloys, non-ferrous-metal products, except aluminium, not elsewhere classified	664,766
Paints and varnishes	798,424
Paper products	11,474
Paving mixtures	24,584,035 ¹
Petroleum products	10,727,178 ¹
Planing-mill products	1,521,770
Plumbing supplies	2,508,205
Pumps and pumping equipment	1,734,784
Radio apparatus and supplies	182,951
Rail fastenings, excluding spikes	4,671,208
Rails, steel	17,285,403
Railway cars, freight	34,286,587
Railway cars, mail and express	219,157
Railway cars, passenger	5,093,773
Refrigerators and refrigerator cabinets, including mechanical refrigerators	353,069
Roofing, built-up and roll; asphalt shingles; roof coatings, other than paint	826,769
Rubber goods	139,037
Sacks and bags	10,719
Sand and gravel	11,899,758 ¹
Sheet-metal work	1,281,860
Smelting and refining lead	76,937
Springs, steel	429,871
Steam and hot-water heating apparatus	1,879,870

¹ Estimated.

Type of material	Value of material orders placed \$
Steam and other packing, pipe and boiler covering, and gaskets	185,311
Steel-works and rolling-mill products, other than steel rails, including structural and ornamental metal work.	57,247,013 ¹
Stoves and ranges (other than electric) and warm-air furnaces	58,810
Switches, railway.	748,629
Theatrical scenery and stage equipment	23,621
Tools, other than machine tools	647,163
Upholstering materials, not elsewhere classified	65,569
Wall-plaster, wall-board, insulating board, and floor composition	523,347
Waste	15,243
Window and door screens and weather strip.	22,095
Window shades and fixtures	15,785
Wire, drawn from purchased rods	2,071,080
Wirework, not elsewhere classified.	286,555
Wrought pipe, welded and heavy riveted	138,905
Other.	26,503,200 ¹
Total	364,644,667

(Prepared in the Bureau of Labour Statistics, Division of Building Statistics, and Public Employment.)

Table VII. — *Materials purchased during April, May and June 1931, for Projects financed by the Self-Liquidating Division of the Reconstruction Finance Corporation, by Type of Material.*

(Subject to revision.)

Type of material	Value of material purchased \$
Cast-iron pipe and fittings	173,762
Cement	509,719
Clay products	160,269
Coal	17,339
Compressed and liquefied gas	13,122
Concrete products	588,094
Copper products	102,059
Cordage and twine	1,506
Crushed stone	36,469
Doors, shutters, window sash and frames, etc.	6,422
Electrical machinery and supplies	389,808
Explosives	302,032
Felt goods, etc.	1,082
Foundry and machine-shop products, not elsewhere classified	560,409
Fuel oil	44,451
Gasoline	68,517
Glass	2,151
Hardware, miscellaneous	321,121
Lime	3,249
Lubricating oil and greases.	18,456
Lumber and timber products	465,037
Marble, granite, slate and other stone products	18,312
Motor vehicles (auto trucks)	74,848

¹ Estimated.

Type of material	Value of material purchased \$
Nails and spikes	3,573
Paints and varnishes	4,710
Plumbing supplies	76,124
Pumps, etc.	1,576
Roofing, built-up and roll; asphalt shingles, roof coatings other than paint.	3,075
Rubber goods	7,943
Sand and gravel	158,593
Sheet-metal work.	10,275
Steam and hot-water heating apparatus	5,012
Steel-works and rolling-mill products, including structural and ornamental metal work	2,190,330
Tools, other than machine tools	44,623
Wall-plaster, wall-board, insulating board and floor compo- sition	5,738
Wire, drawn from purchased rods	78,636
Wirework, not elsewhere classified.	17,978
Other.	121,095
Total	6,607,515

(Prepared in the Bureau of Labour Statistics, Division of Building Statistics, and Public Employment.)

Table VIII. — American Federation of Labour Estimate of Total Number unemployed in the United States.

	1930	1931	1932
January.	3,216,000	7,160,000	10,197,000
February	3,565,000	7,345,000	10,486,000
March	3,543,000	7,098,000	10,739,000
April	3,188,000	6,739,000	10,990,000
May	3,090,000	6,750,000	11,470,000
June	3,250,000	6,841,000	11,853,000
July	3,714,000	7,198,000	12,300,000
August	4,101,000	7,357,000	12,344,000
September.	4,150,000	7,303,000	11,767,000
October	4,639,000	7,778,000	11,580,000
November.	5,364,000	8,699,000	12,008,000
December	5,541,000	8,908,000	12,124,000
1933			
January.		13,100,000	Same figures corrected by subtracting number employed by C.C.C., C.W.A., E.W.P.
February		13,294,000	
March		13,689,000	
April		13,256,000	
May		12,896,000	12,704,620
June		12,204,000	11,920,519
July		11,793,000	11,476,891
August		10,960,000	10,652,900
September.		10,108,000	9,865,032
October		10,122,000	9,827,139
November.		10,651,000	8,835,527
December		10,769,000	7,562,380
1934			
January.		11,755,000	7,495,276
February		11,443,000	7,628,224
March		10,849,000	8,293,578
April		10,551,000	9,383,995
May		10,248,000	9,034,233
June		10,312,000	9,055,760

Appendix B.

DETAILED ACCOUNT OF EXPENDITURES SUMMARISED IN TABLE I.

Expenditures for Public Works in the United States of America and Possessions.

Fiscal Years 1930 to 1934 inclusive.

Summary 1. — Federal Departments.

Classification of projects	Total \$	Ordinary appropriations \$	Emergency funds, fiscal year 1934 \$	Allocated for fiscal year 1935 \$
A	690,359,751	545,947,730	144,412,021	483,527,494
B	6,595,586	1,093,260	134,026	210,008
C	82,305,931	67,698,103	14,607,828	—
D	232,654,571	172,599,489	60,055,082	316,726,995
E	241,003,007	13,822,501	227,180,506	23,575,522
F	1,992,799	1,759,824	232,975	—
G	279,616,041	244,464,779	35,151,262	158,482,808
H	18,016,102	16,887,818	1,128,284	18,356,187
I	1,317,858,904	828,226,405	489,632,499	799,039,034
J	12,324,243	626,243	11,698,000	51,700,000
K	—	—	—	—
L	154,232	154,232	—	—
M	23,572,405	—	23,572,405	238,000,000
Total	2,906,453,572	1,893,280,383	1,007,804,888	2,089,618,048

Summary 2. — Non-Federal Projects: States, Municipalities and Other Public Bodies

Classification of projects	Emergency funds only	
	Allocated for fiscal year 1934 \$	Expenditures for fiscal year 1934 \$
A	187,757,783	18,643,960
B	35,060,000	—
C	—	—
D	52,981,894	1,817,000
E	—	—
F	382,839,149	57,912,438
G	12,409,400	—
H	376,500	29,580
I	168,631,590	7,389,756
J	25,224,813	1,125,292
K	867,600	—
L	—	—
M	134,700	130,195
Total	866,283,429	87,048,221

Summary 3. — Non-Federal Projects: Private Projects.

Classification of projects	Allocated for fiscal year 1935	Expenditures for fiscal year 1934
	\$	\$
A	—	—
B	199,607,800	91,770,300
C	—	—
D	—	—
E	—	—
F	—	—
G	—	—
H	—	—
I	35,881,087	2,634,667
J	—	—
K	—	—
L	—	—
M	—	—
Total	235,488,887	94,404,967

Summary 4.

	Total expenditures	Expenditures		Allocated for fiscal year 1935
		Regular appropriations, 1930-1934	Emergency funds	
	\$	\$	\$	\$
Total: Federal departments . .	2,901,085,272	1,893,280,383	1,013,173,188	2,089,618,048
Total: Non-Federal projects:				
States, municipalities, and				
other public bodies	87,048,221	—	87,048,221	866,283,429
Total: Non-Federal projects:				
private projects	94,404,967	—	89,036,667	235,488,887

Grand total of expenditures for public works . . \$3,082,538,460

Note. — All allocated emergency sums should be reduced by the emergency fund already expended in order to arrive at the net allocations still available.

Emergency appropriations include the National Industrial Recovery Administration funds totaling \$3,700,000,000, both expended and allocated, a loan to various railroads by the Reconstruction Finance Corporation of \$5,368,300, and an expenditure by the Civilian Conservation Corps of \$226,091,490.

The emergency fund expended on Federal projects includes expenditures up to July 31st, while the emergency fund expended on non-Federal projects includes expenditures up to June 30th.

The National Industrial Recovery funds were advanced on a 30 per cent grant, 70 per cent loan basis.

The Reconstruction Finance Corporation funds were advanced on a loan basis only.

The Civilian Conservation Corps funds were a 90 per cent grant for labour on reforestation projects.

Federal Projects.

Totals of expenditures by all Governmental departments .

Classification A. — This account includes expenditures for State highways, forest roads and trails, paving city streets, erection of bridges and construction of vehicle and pedestrian tunnels (exclusive of railroads). \$

Expenditures out of the emergency appropriations. 144,412,021

Expenditures out of ordinary departmental appropriations 545,947,730

Total 690,359,751

Allocated for fiscal year 1935 \$483,527,494

Non-Federal Projects.

States, municipalities and other public bodies.

<i>Classification A.</i> — Expenditures out of the emergency appropriations	\$18,643,960
Allocated for fiscal year 1935	\$187,757,783

Federal Projects.

Totals of expenditures by all Governmental departments.

Classification B. — This account includes expenditures for all railway lines, including tramways, metropolitan railways, etc. The great majority of this expenditure has been and will be spent for rails and fastenings, new rolling equipment, and electrification.

Expenditures out of the emergency appropriations.	\$134,026
Expenditures out of ordinary departmental appropriations	<u>1,093,260</u>
Total	1,227,286
Allocated for fiscal year 1935	\$210,008

Non-Federal Projects.

States, municipalities and other public bodies.

Classification B. — Nothing expended to date.

Allocated for fiscal year 1935	\$35,060,000
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Private projects.

<i>Classification B.</i> — Expenditures out of the emergency appropriations	\$91,770,300
Allocated for fiscal year 1935	\$199,607,800

Federal Projects.

Totals of expenditures by all Governmental departments.

Classification C. — This account includes expenditures for all agricultural and land reclamation (drainage, irrigation, construction of dwelling-houses and various new buildings, or establishment of entire new settlements, country roads and other works connected with land settlement).

Expenditures out of the emergency appropriations.	\$14,607,828
Expenditures out of ordinary departmental appropriations	<u>67,698,103</u>
Total	82,305,931

Classification D. — This account includes expenditures for all canals and other inland waterways (including improvement work on rivers, defensive work against floods, etc.).

Expenditures out of the emergency appropriations.	\$60,055,082
Expenditures out of ordinary departmental appropriations	<u>172,599,489</u>
Total	232,654,571
Allocated for fiscal year 1935	\$316,726,995

Non-Federal Projects.

States, municipalities and other public bodies.

<i>Classification D.</i> — Expenditures out of the emergency appropriations	\$1,817,000
Allocated for fiscal year 1935	\$52,981,894

Federal Projects.

Totals of expenditures by all Governmental departments.

<i>Classification E.</i> — This account includes expenditures for all land improvement work, bringing of new land under cultivation, reforestation, etc.	
Expenditures out of the emergency appropriations	\$ 227,180,506
Expenditures out of ordinary departmental appropriations	<u>13,822,501</u>
Total	241,003,007
Allocated for fiscal year 1935	\$23,575,522

<i>Classification F.</i> — This account includes expenditures for all waterworks, water-mains, reservoirs, sewer-mains and sewage-disposal plants.	
Expenditures out of the emergency appropriations	\$ 232,975
Expenditures out of ordinary departmental appropriations	<u>1,759,824</u>
Total	1,992,799

Non-Federal Projects.

States, municipalities and other public bodies.

<i>Classification F.</i> — Expenditures out of the emergency appropriations	\$57,912,438
Allocated for fiscal year 1935	\$382,839,149

Federal Projects.

Totals of expenditures by all Governmental departments.

<i>Classification G.</i> — This account includes expenditures on all work carried out in sea and river ports, including mechanical equipment of such ports.	
Expenditures out of the emergency appropriations	\$ 35,151,262
Expenditures out of ordinary departmental appropriations	<u>244,464,779</u>
Total	279,616,041
Allocated for fiscal year 1935	\$158,482,808

Non-Federal Projects.

States, municipalities and other public bodies.

<i>Classification G.</i> — Nothing expended to date.	
Allocated for fiscal year 1935	\$12,409,400

Federal Projects.

Totals of expenditures by all Governmental departments.

<i>Classification H.</i> — This account includes expenditures for all work pertaining to the establishment of airports.	
Expenditures out of the emergency appropriations	\$ 1,128,284
Expenditures out of ordinary departmental appropriations	<u>16,887,818</u>
Total	18,016,102
Allocated for fiscal year 1935	\$18,356,187

Non-Federal Projects.

States, municipalities and other public bodies.

<i>Classification H.</i> — Expenditures out of the emergency appropriations	\$29,580
Allocated for fiscal year 1935	\$376,500

Federal Projects.

Totals of expenditures by all Governmental departments.

Classification I. — This account includes expenditures for all building and construction work forming a part of a general plan and carried out with the participation or approval of public authorities. This includes dwelling-houses under a nation-wide housing plan, Governmental administration buildings, etc. This total includes over \$399 million expended on "made work" projects to relieve unemployment. Of this sum, approximately 90 per cent was expended for labour and 10 per cent for material on thousands of small construction jobs.

Expenditures out of the emergency appropriations.	489,632,499
Expenditures out of ordinary departmental appropriations	828,226,405
Total	1,317,858,904

Allocated for fiscal year 1935 \$799,039,034

Non-Federal Projects.

States, municipalities and other public bodies.

<i>Classification I.</i> — Expenditures out of the emergency appropriations .	\$7,389,756
Allocated for fiscal year 1935	\$168,631,590

Private projects.

<i>Classification I.</i> — Expenditures out of the emergency appropriations .	\$2,634,667
Allocated for fiscal year 1935	\$35,881,087

Federal Projects.

Totals of expenditures by all Governmental departments.

Classification J. — This account includes expenditures for electric installations, hydro-electric plants, heating-power centres and motive-power transmission.

Expenditures out of the emergency appropriations.	11,698,000
Expenditures out of ordinary departmental appropriations	626,243
Total	12,324,243

Allocated for fiscal year 1935 \$51,700,000

Non-Federal Projects.

States, municipalities and other public bodies.

<i>Classification J.</i> — Expenditures out of the emergency appropriations .	\$1,125,292
Allocated for fiscal year 1935	\$25,224,813

Classification K. — This account includes expenditures for gasworks and long-distance gas supply.

Nothing expended to date.

Allocated for fiscal year 1935 \$867,600

Federal Projects.

Totals of expenditures by all Governmental departments.

Classification L. — This account includes expenditures for telegraph and telephone installations, wireless broadcasting stations, etc.

Expenditures out of the emergency appropriations	None
Expenditures out of ordinary departmental appropriations	154,232
Total	154,232

Classification M. — This account includes those types of projects not included in the foregoing. This account includes over \$23 million expended on the construction of ships for the Navy Department.

Expenditures out of the emergency appropriations	23,572,405
Expenditures out of ordinary departmental appropriations. . . .	None
Total	23,572,405

Allocated for fiscal year 1935 \$238,000,000

Non-Federal Projects.

States, municipalities and other public bodies.

<i>Classification M.</i> — Expenditures out of the emergency appropriations .	\$130,195
Allocated for fiscal year 1935	\$134,700

B. — REPORT OF THE FEDERAL EMERGENCY ADMINISTRATION OF PUBLIC WORKS.

PART I. — GENERAL SURVEY.

On June 16th, 1933, the National Industrial Recovery Act was put into force as a means of using the public programme for the improvement of business. The summer of 1933 was occupied in building up an organisation of experienced technicians in engineering, law and finance and the necessary complement of clerical employees. The available Federal projects were rushed through as fast as possible. Since the Federal agencies had completed their plans, these projects offered the quickest means of getting the construction programme started. Private and local projects were slow in making their appearance, because some little time was required for the local authorities to determine on desirable forms of work and adapt them to the administrative requirements of the Act. State organisations were set up to examine proposed projects and give the Central Administration the benefit of local knowledge of conditions.

While awaiting the development of new local projects, the Administration examined 526 projects turned over to it by the Reconstruction Finance Corporation. Owing to the severe financial restrictions imposed on the Reconstruction Finance Corporation by the Emergency Relief and Construction Act of 1932, there were many projects that could not be carried forward by that organisation, but which could be allowed to proceed under the more liberal terms of the National Industrial Recovery Act. These projects were re-examined by the Administration in the light of the requirements of the present Act.

It may be interesting for those who have not followed in detail the operations of the Public Works Administration to know the methods of procedure adopted for handling proposed projects.

In Washington, all local projects are examined by the Engineering, Legal, and Financial Divisions, where they are given a thorough study as to the physical soundness and adequacy of the proposed work, the question whether it comes within the Act and whether the applicant has legal authority to undertake such work, and the question whether the applicant can stand the financial strain consequent upon borrowing for the purpose intended. The personnel of these divisions has been carefully selected to include specialists in many lines. In some cases where the technical questions involved are simple, a project can be quickly passed or rejected; in other cases, elaborate study and lengthy correspondence are required before one or another of the divisions can arrive at a conclusion. In all cases the number and character of the technicians who check the final decision is such that the chance of illegitimate influence is remote. The decisions are made in accordance with the best judgment of competent technical men on technical grounds under the provisions of the Act.

Selecting Projects.

If favourable reports are rendered by the three examining divisions, the project is referred to the Deputy Administrator and to the Administrator, and the latter, if it meets with his approval, submits it to the Special Board for Public Works. This Special Board consists of the Secretary of the Interior (Chairman), the Attorney-General, the Secretaries of War, Agriculture, Commerce, and Labour, the Director of the Budget, Henry M. Waite (the Deputy Administrator), and Assistant Secretary of the Treasury Robert (in charge of public buildings). The function of the Special

Board is to consider all projects in the light of general national policy. If a project is passed by the Special Board, it goes to the President for final consideration and approval or rejection. The Act does not establish the mandatory right of all technically eligible projects to receive Federal aid. The President and, under his authority, the Special Board may exercise discretion in choosing such projects as, in their judgment, are most beneficial under the circumstances at any particular time, rejecting others that are eligible under the Act.

Reviewing Rejected Projects.

In case a project is recommended for rejection by the examining divisions, it is referred to the Technical Board of Review, a body of engineers in private practice, who are called to Washington from time to time to sit as a court of appeal. The Board has a permanent chairman and a staff of regular examiners, who sort out the rejected projects and eliminate those which are hopelessly ineligible under the Act, leaving for the Board to consider in public hearings only those where there is reasonable question as to the facts or the policies involved. No member of the Board sits in any case in which he or any of his clients has an interest. Cases that have been recommended for approval but have been protested by other interests are also referred to the Board, as well as an occasional case of such unusual size or nature that the Deputy Administrator desires the Board's opinion on its technical features. When public hearings are held, the members of the Board study the case in advance, and, after the hearing, question the examiners who have previously studied the case. Finally, a recommendation is prepared for the Deputy Administrator, who determines whether to carry the project further or let it drop.

Housing Projects.

Housing projects are examined by the Housing Division, which consists of technical men experienced in housing design and construction, and has its own staff of legal and financial advisers. Experience has unfortunately shown that many of the private housing projects submitted were conceived rather as means of utilising unsuccessful land subdivisions controlled by the applicants than as means of meeting a definite need for low-cost housing. The danger of involving the Federal Government in speculative building of a type that would quickly blight and render the housing situation worse instead of better has had to be constantly kept in mind. So few, indeed, were the desirable and eligible projects submitted that the Administration has formed the Emergency Public Works Housing Corporation, through which the Government can make a beginning by initiating suitable projects where they are most needed. At the present time, the possibility of a completely satisfactory solution of the housing problem is impeded by the fact that, in many places where new construction is desirable, the cost of land makes low rentals impossible. The present programme is therefore confined to exploratory work and to demonstration projects placed where a fortunate combination of need and low land costs makes immediate construction feasible. The ultimate solution of the problem of locating and building low-cost housing in accordance with national, city and regional planning awaits the development of means for dealing with the question of land values.

Miscellaneous Projects.

Co-ordinate with the other examining divisions are special divisions for the consideration of Federal projects initiated by other departments of the Government, and of transportation loans made to railroads under Section 203 (a) (4) of the Act.

The Division of Subsistence Homesteads, to handle projects provided for in Section 208 of the Act, was detached from the Public Works Administration and established as a bureau of the Department of the Interior.

Making Loans.

After a project has received final approval by the President, the sum required is definitely allocated, and the project is returned to the Legal Division for the preparation of an agreement covering the loan, or grant, or loan and grant provided for in the allocation. In the case where the applicant is a private corporation, the proceedings are relatively simple, as the legal formalities involved in the issuance of corporate bonds do not, as a rule, involve a necessarily long lapse of time; but, where the applicant is a public body, considerable delay is generally to be expected. The States have established a definite procedure that must be followed whenever a political unit of the State issues bonds or financial obligations of any kind. This procedure includes giving public notice of intention to act. In some cases, the notice requires a period as long as ninety days between one step of the process and the next. No attempt to shorten the required time is permissible, since the courts have held that, if any legally prescribed act is omitted in the issuance of public bonds, the lender is deprived of any right to collect on the bonds.

Another difficulty has appeared in certain States where the legal powers of the municipalities and other local bodies were not such as to permit of their conforming to the requirements of the Act. In such cases, the Administration has endeavoured to co-operate with the State legislatures in formulating new enabling legislation that would permit public works loans in States where they would otherwise be impossible. The clearing away of obstacles of this kind is necessarily a slow process, which persists as a source of delay up to the present time. This feature will naturally be of less importance from now on, as more and more of the local projects complete the necessary processes and become actual employers of labour.

Inspecting Construction.

When contracts have been let and work begins in the field, the Inspection Division assigns the necessary inspectors to see that the work is well and honestly carried on, and that the specifications and the provisions of the National Industrial Recovery Act are faithfully observed. As the non-Federal projects come into action in larger numbers, the size and importance of the Inspection Division will necessarily be greatly increased. The same is true of the Accounting Section, which will have to keep track of loans made and securities taken, and also to examine in detail the expenditures on local projects.

National Planning.

While the major portion of the effort of the Administration has been devoted to the immediate problem of getting money into action and men into jobs, the larger problems of national planning have been considered, as provided by the Act. The National Planning Board has begun a series of long-range studies into the relation of public works to the many other factors in social and economic life. A Mississippi Valley Committee has been established to pass upon the immediate projects having to do with the control and utilisation of that river, and also to formulate a general long-range programme of action covering such questions as flood control, power,

irrigation, soil erosion and navigation. The development of a national programme of adequate size to utilise and recirculate the surplus national income, and to provide long-time employment for the permanent surplus of labour, will be greatly stimulated by the findings of this Committee. In addition, the various working parts of the Administration have gathered a considerable fund of experience in the limitations and possibilities of Federal public works.

PART II. — THE ORGANISATION, FUNCTIONS AND PROCEDURE OF THE PUBLIC WORKS ADMINISTRATION.

The Public Works Administration was established on June 16th, 1933, in accordance with "an Act to encourage national industrial recovery, to foster fair competition, and to provide for the construction of certain useful public works, and for other purposes", approved June 16th, 1933.

By executive order of that date, the President of the United States appointed a Special Board for Public Works.

Functions of the Special Board for Public Works.

The Special Board for Public Works has had three main functions : (a) to advise the President upon all major matters of policy arising in connection with the administration and interpretation of those portions of the National Recovery Act that relate to public works ; (b) to advise and confer with the Administrator on major appointments in the Public Works Administration and other major matters of administration and procedure ; and (c) to pass upon all recommendations for allotments to applicants of public works funds, either as loans or grants. The actual allotments are made by the President of the United States upon the recommendation of the Special Board for Public Works, of which the Secretary of the Interior, who is also Public Works Administrator, is Chairman.

PART III. — POLICY OF THE PUBLIC WORKS ADMINISTRATION.

The fundamental purpose of the Public Works Administration is to relieve unemployment and to increase purchasing power through the construction of useful public works, thereby increasing the consumption of goods and also providing employment in the capital goods industries. All public works projects, therefore, have had certain tests applied to them :

- (1) Are the projects socially desirable and do they contribute something of value to the community ?
- (2) Will additional outlay by the Federal Government for maintenance and operation be required after the project has been completed ?
- (3) Can the project be commenced at once and completed quickly ?
- (4) Is the project located in or near a centre of unemployment, which would entitle it to special consideration ?
- (5) Is the project integrated with other projects in a significant plan, which give it a preferred status ?

The following policies were adopted by the Special Board for Public Works in the interest of labour :

(1) Opportunity for employment should be equally distributed among qualified workers who are unemployed, as it is not intended that the public works programme should merely provide a change from one job to another.

(2) Opportunities for employment should be distributed geographically as widely and as equitably as practicable.

(3) Workers who are qualified should be entitled to whatever legal preference they may have—as, for instance, ex-service men with dependents, citizens of the area or State within which the work is to be done, etc.

(4) Excessive migration of labour in quest of work should be avoided.

(5) Local labour should, so far as possible, be selected from lists of qualified workers submitted by local employment agencies designated by the United States Employment Service.

The Act provides that, so far as practicable and feasible, no individual directly employed on any public work covered by the Act should be permitted to work more than thirty hours in any one week, and that all employees should be paid just and reasonable wages sufficient to provide, for the hours of labour as limited, a standard of living in decency and comfort.

FINLAND.

The public works in question have been organised in Finland in accordance with the "emergency public works" programme. Before giving an account of these works, we propose to indicate briefly what provision is made for the relief of the unemployed.

Before the present worldwide depression, unemployment as a public calamity was unknown in Finland, except during the winter. It occurred chiefly in the largest towns of the country, and the municipalities sought to deal with it by improvising programmes of work. It was only during the depression which Finland passed through in 1917-18, at the time of the liberation of the country, that there was a critical period of unemployment. This situation the State helped to remedy by organising public works on a large scale.

For the above-mentioned reason, unemployment insurance, which is not compulsory, has not assumed any special importance. When the unemployment resulting from the world depression of 1929 extended to Finland, it was thought undesirable to make money grants direct, and the municipalities followed the example of Sweden. The measures adopted in that country were designed to find work for those who were idle through no fault of their own, and also for the unemployed requiring public relief. The assistance was, however, given in such a way as to ensure that the unemployed should desire to return to the free labour market as soon as there was a fresh demand for labour.

The organisation of these public works is primarily in the hands of the communes. The State confines itself to facilitating and co-ordinating the various schemes. According to the financial situation of the commune and the proportion of unemployed in the district, the State organises relief work on its own account and confines itself to contributing towards the financing of communal works. In the poorest communes, the State has made itself entirely responsible for the support of the unemployed. The commune has granted poor-law relief to those unemployed for whom it has not been possible to find work. In the poorer communes, the State has also given certain grants in aid.

Public works were, therefore, organised only in that part of the country where there was so much unemployment that the State found it necessary to assist the commune. Hence these public works for the purpose of reducing unemployment—they are also known as relief works—were, in the main, of relatively small importance. No attempt was made to deal with the crisis itself, the sole object being to find work for the unemployed until such time as the reorganisation of production necessitated by the crisis was completed. Such works are therefore not included in the public works dealt with in the questionnaire. For the sake of completeness, mention, however, is made of the credits used for these purposes during the years 1930-1933, allocated according to the purpose for which they were used.

Employment of Credits during the Years 1930-1933.

	1930	1931	1932	1933
		Finnish marks		
Roads and bridges	22,643,000.—	33,442,170.—	43,416,830.—	25,568,548.40
Communal and local roads . . .	5,967,700.—	2,831,670.—	4,704,500.—	2,823,000.—
Railways, canals and bridges . .	11,665,000.—	12,053,000.—	13,776,000.—	14,744,850.—
Drainage of arable land	923,691.50	3,903,364.—	5,256,287.—	4,037,067.—
Drainage of forests	—	—	1,785,330.—	1,003,730.—
Improvement work on rivers . .	1,358,183.—	1,500,000.—	2,711,000.—	579,000.—
Building and construction work.	1,447,000.—	3,356,000.—	4,338,500.—	7,791,000.—
Timber-felling	—	3,365,000.—	2,500,000.—	1,200,000.—
Suburban allotments for town dwellers and unemployed .	820,000.—	—	—	1,000,000.—
Loans to communes.	—	400,000.—	3,948,800.—	257,000.—
Vocational and other training courses and communal workshops.	1,832,050.—	1,990,158.75	6,571,200.—	4,731,000.—
Miscellaneous works	3,074,300.—	1,023,300.—	802,000.—	310,237.90
Administration expenses. . . .	255,430.25	355,850.65	538,450.80	945,080.90
Total	49,992,404.75	64,820,513.40	105,808,797.80	69,990,514.20

At the time of the year when their number was highest, the unemployed requiring social relief amounted to about 35,000 in 1930, to about 55,000 in 1931, to about 90,000 in 1932 and to about 80,000 in 1933. At present, the number of unemployed is constantly decreasing, so that, in May 1934, there were only 23,695, of whom 15,626 were employed on relief work and 8,069 were without work.

Among public works of the kind mentioned in the Circular Letter, attention should be drawn to the "emergency public works", for which Parliament voted a credit of 350 million Finnish marks in the autumn of 1932. These works were wholly financed by national short-term loans, whereas the cost of the works enumerated above was met entirely out of the ordinary budget of the State. The programme of emergency public works is as follows :

A.

Designation of works by categories	Estimate	Credits granted in the programme of emergency works	Present condition of works
<i>I. Construction of New Roads and Improvement of Roads already existing.</i>			
	Finnish marks		
Straightening of the Tuomarinkylä- Hyrylä road	3,400,000	3,400,000	Completed
Construction of the first section of the Helsinki-Turku road	20,000,000	5,000,000	Now in progress
Improvement of the Piikkiö-Paimio road.	2,050,000	2,050,000	Completed
Improvement of the Paimio-Halikko road.	9,350,000	2,000,000	Not yet begun
Straightening of the Juupajoki-Ruovesi road	1,000,000	1,000,000	Completed
Improvement of a section of the Tampere- Teisko road	—	1,000,000	Now in progress
Improvement of the Jämsä-Korpilahti road	—	1,000,000	Now in progress
Improvement of the Viipuri-Antrea- Kaukola-Kurkijoki-Sortavala road .	—	3,000,000	Now in progress
Construction of the Anttola-Puumala road	3,300,000	2,400,000	Now in progress

Designation of works by categories	Estimate	Credits granted in the programme of emergency works	Present condition of works
Finnish marks			
Straightening of the Kyröalmi-Savonlinna road	—	1,000,000	Now in progress
Improvement of the Pieksämäki-Jäppilä road	1,180,000	1,180,000	Now in progress
Construction of the Koivu-Tossava road	6,600,000	3,480,000	Now in progress
Construction of the Luusua (Kemijärvi)-Pekkala (Rovaniemi) road	5,665,000	425,000	Now in progress
Construction of the Vuolijoki-Säräisniemi road	3,000,000	1,700,000	Now in progress
Construction of a bridge to replace the ferry at Vuonteensalmi (Laukaa)	2,100,000	2,100,000	Completed
Construction of the Saarivaara-Kuivajärvi road	285,000	685,000	Now in progress
Construction of the Sovijärvi-Liikasaara-Käylänkoski road	3,300,000	2,000,000	Now in progress
Improvement of the Tornio-Kemi road	—	2,000,000	Now in progress
At the disposal of the Ministry of Communications and Public Works	—	8,200,000	
Total credits granted for the service of roads and bridges		42,720,000	
<i>II. Construction of Railways and Improvement of Railways already existing.</i>			
Construction of the Pori-Haapamäki line	—	7,000,000	Now in progress
Construction of the line serving the port of Pitkäranta-Uuksu	4,745,000	3,445,000	Now in progress
Construction of the Varkaus-Viinijärvi section	—	9,800,000	Now in progress
Bridges on the same	—	6,456,000	Now in progress
Straightening of the Helsinki-Turku line along the coast	11,000,000	1,500,000	Now in progress
Construction of a road tunnel passing under the railway at Tampere	7,250,000	7,250,000	Now in progress
Construction of the station at Lahti	3,000,000	2,000,000	Now in progress
New station at Kuopio and the traffic tunnel	7,000,000	4,000,000	Completed
Total credits granted for railway works		41,454,000	
<i>III. Construction Works.</i>			
Landing quay for the pilot post at Reposaari	500,000	500,000	Completed
Establishment of a stud farm	5,886,165	1,500,000	Now in progress
Construction of the record office of the Province of Viipuri	3,7000,00	750,000	Completed
Construction of houses for the district medical officers and of hospitals on the Island of Lavansaari, and at Kuhmoniemi, Suomussalmi, Taivalkoski and Petsamo	2,925,000	2,925,000	Now in progress
Construction and fitting up of depots of the National Defence Service	16,612,000	15,000,000	Now in progress
Construction of the departmental hospital of Mikkeli	5,000,000	1,400,000	Completed
Installation of central heating at the hospital of Niuvanniemi	2,500,000	1,500,000	Completed

Designation of works by categories	Estimate	Credits granted in the programme of emergency works	Present condition of works
Finnish marks			
Construction of the Technical Institute at Tampere	4,000,000	4,000,000	Completed
Construction of a maternity home and a gynæcological annex at the municipal hospital of Helsinki . . .	—	<u>5,000,000</u>	Completed
Total credits granted for construc- tion works		32,575,000	
<i>IV. Works for the Purpose of improving Conditions of Navigation.</i>			
Dredging the sandbank of Lehtinen on the line of navigation between Lovisa and Kotka	900,000	900,000	Now in progress
Repairs to the system of locks at Suur- Mustola	16,700,000	5,000,000	Now in progress
Repairs to lighthouses and beacons . . .	2,200,000	1,200,000	Completed
Extension of the port of Kotka	6,700,000	4,000,000	Now in progress
Extension of the port of Viipuri	9,232,000	<u>4,000,000</u>	Now in progress
Total credits granted for works for the purpose of improving condi- tions of navigation		15,100,000	
<i>V. Orders placed with Industry and Communal Workshops.</i>			
Order for a steamship intended for coastal navigation at Petsamo	4,000,000	4,000,000	Completed
Orders for clothing and equipment for the National Defence Force	—	5,000,000	
Orders for material forming the basis of the National Defence Force	—	<u>25,000,000</u>	
Total credits granted for the above- mentioned orders		34,000,000	
<i>VI. River Conservancy Work.</i>			
Conservancy on the Kymi and building a dam	32,548,000	4,000,000	Now in progress
Conservancy work on the Kilpee at Viipuri	—	385,000	Now in progress
Lowering the level of the lakes of Kirkko, Punnus and Vuot in the communes of Muola and Kivennapa.	—	500,000	Now in progress
Conservancy work on the Saija, in the communes of Sakkola, Valkjärvi and Rautu	1,200,000	1,200,000	Now in progress
Conservancy work on the Perho	13,500,000	2,700,000	Now in progress
Conservancy work on the Lapua	12,800,000	1,000,000	Now in progress
Regulation of the rapids between the lakes of Oulainen and of Meri	2,000,000	2,000,000	Now in progress
Lowering the level of the lake of Pyhä and conservancy work on the river of the same name	1,067,000	1,047,000	Now in progress
Conservancy work on the Malis	1,310,000	499,000	Now in progress
Conservancy work on the Vihanti	2,000,000	2,000,000	Now in progress
Partial correction work on the Kokemäki. Partial correction work on the Kokemäki.	—	<u>2,000,000</u>	Now in progress
Total credits granted for river conser- vancy work		18,851,000	

Designation of works by categories	Estimate	Credits granted in the programme of emergency works	Present condition of works
		Finnish marks	
<i>VII. Work not falling under any of the Above Categories.</i>			
Establishment of an aerodrome at Turku .	2,600,000	2,000,000	Now in progress
Aerodrome and other works connected with national defence	—	10,000,000	Now in progress
Establishment of a fish-breeding centre at Vuohensalo in the commune of Käkisalmi	548,000	548,000	Now in progress
Financing of work in the autumn of 1932 .	—	<u>2,755,000</u>	
Total credits granted for various works		15,303,000	
At the disposal of the Council of State . .	—	4,000,000	
Total credits granted for works coming under Group A :		205,000,000	Finnish marks

B. Credits granted for Certain Agricultural and Forest Improvement Work.

	Finnish marks
Land improvement work	40,000,000
Forest improvement and other works :	
(a) In State forests	14,000,000
(b) In forests belonging to private persons.	14,000,000
Bonuses for bringing new land under cultivation and formation of pasture land granted to smallholders	33,000,000
Other bonuses for bringing new land under cultivation	15,000,000
Centres of agricultural production (dairies, slaughter-houses, etc.)	8,000,000
Communal and local roads	14,000,000
Settlement and other work of the Settlement Directorate	7,000,000
	<hr/>
	145,000,000
	Finnish marks
Works under Group A	205,000,000
Works under Group B	145,000,000
	<hr/>
Total	350,000,000

The credits used for emergency public works in 1933 were divided as follows between the various categories :

Designation of work	Credits used Finnish marks
Bridges and roads	28,000,000
Communal and local roads	6,700,000
Railways, canals and ports	63,000,000
Land improvement	29,000,000
Improvement work on forest land belonging :	
(a) To communes and to private persons	5,700,000
(b) To the State	7,800,000
River conservancy work	10,300,000
Construction works (including aerodromes)	33,800,000
Orders placed with industry	25,500,000
Orders placed with communal workshops	3,600,000
Bonuses for bringing new land under cultivation and formation of pasture land	27,000,000
Settlement work	3,700,000
Loans to agricultural production centres (dairies, slaughter- houses, etc.)	5,300,000
Lands granted to unemployed for vegetable gardens, and loan of seed	1,000,000
Miscellaneous	2,100,000
Total	<u>232,400,000</u>

A sum of 95,600,000 Finnish marks therefore remains available for 1934. The above-mentioned works are generally organised and financed by the State. In all cases the State organises them, even if those who profit by the work pay a share of the expenses in the form of redeemable loans, as in the case of the drainage of agricultural land and forest marshland.

The following works have, however, been carried out as a result of private initiative, coming either from communes or from private persons :

- (1) Construction of a settlement centre of the Society for the Evangelisation of Industrial Districts ;
- (2) Extension of the port of Kotka ;
- (3) Extension of the port of Viipuri ;
- (4) Establishment of an aerodrome at Turku ;
- (5) Agricultural production centres (dairies, slaughter-houses, etc.) ;
- (6) Communal and local roads ;
- (7) Pasture land and bringing new land under cultivation.

There has been no need of special legislation to carry out the programme of public works, unless the law authorising the commencement of the construction of roads although the legal expropriation of the necessary land for that purpose has not yet been completed can be regarded as such. It must be said, however, that this law has been promulgated in order to expedite the execution of the additional work which is contemplated.

In this work, very little use has been made of raw material coming from foreign countries, save for the execution of orders placed with industrial concerns. The expenditure is divided between wages and other costs, so that wages amount, in building work, to about 48 per cent of the costs, whereas in all other work the amount of wages is more than half the total expenditure. In the case of orders placed with industrial concerns, it is impossible to estimate even approximately the percentage of the total expenditure represented by wages.

Lastly, it is very difficult to estimate exactly the part that the works carried out in accordance with the above programme have played, or are likely to play, in the re-establishment of economic and industrial conditions and in the lessening of unemployment. It may, however, reasonably be maintained that the works in question have both directly and indirectly contributed largely towards lessening the hardships of the unemployed during the critical period.

Nevertheless, the general improvement of the economic situation which is being felt in Finland—at least, for the moment—should be primarily ascribed to other factors, and mainly to the fact that the production of the country, which is free from any State regulations and control, has been able to adapt itself readily to the new economic conditions.

FRANCE.

[*Translation.*]

The French Government has sent a note on the public works undertaken in France for the relief of unemployment, together with information concerning points (a) Roads and bridges, and (b) Telegraph and telephone installations, wireless broadcasting stations.

Information relating to the other points of the questionnaire will be transmitted later.

NOTE ON THE WORK UNDERTAKEN FOR THE RELIEF OF UNEMPLOYMENT.

The French Government has, since the beginning of the depression, devoted its attention to the problem of finding work for the unemployed.

With that aim in view, it secured Parliament's approval of the Law dated December 28th, 1931, providing, on the one hand, for the immediate execution of certain work for the improvement of national technical equipment and, on the other hand, for the formation of a fund for granting credits to departments and communes for the improvement of national, departmental and communal technical equipment.

The above-mentioned law authorised, in particular, payments up to 3,476 million francs in respect of work for the improvement of national technical equipment.

Under that law these credits were allocated as follows :

	Francs
Ministry of the Interior	205,000,000
Ministry of Education and Fine Arts	701,000,000
Ministry of Health and Social Assistance	400,000,000
Ministry of Agriculture	708,000,000
Ministry of Public Works	1,165,000,000
Ministry of the Mercantile Marine	25,000,000
Ministry of Marine	95,000,000
Air Ministry	177,000,000
	<hr/> 3,476,000,000

The Ministry of Labour, moreover, has urged other Government departments to expedite the carrying out of work or the placing of contracts for supplies, expenditure for which would be covered by normal budget appropriations. Finally, the Government departments whose budgets cover grants to departments, public undertakings or other bodies for the execution of works have expedited the allocation of those grants.

All the above is normal work carried out under normal conditions by workers who are engaged without any discrimination being made between the unemployed and others.

In addition to the above, certain departments and communes have undertaken other work solely for the purpose of relieving unemployment.

Further, certain measures have been taken in order to assist departments and communes which are having work carried out by the unemployed.

A circular dated January 19th, 1932, for instance, stated that departments and communes which undertake work for the purpose of occupying the unemployed during a part of the week might, on certain conditions, receive Government grants under the Decree on partial unemployment, dated March 10th, 1931.

By a Law dated April 23rd, 1932, rebates of interest may be granted to departments and communes which contracted loans in 1932 for the purpose of undertaking work for the relief of the unemployed in their areas.

By a Decree dated September 16th, 1932, Government grants may, on certain conditions, be made in respect of wages paid to the unemployed engaged by the communes for municipal work.

A fairly large number of communes have taken measures to occupy the unemployed to whom they grant relief on small-scale road work in return for the relief granted. The circulars dated March 20th and August 8th, 1933, accordingly laid down the conditions under which relief granted to the unemployed thus engaged might continue to be counted for the purpose of calculating the Government grant.

The information supplied by the prefects shows that the work undertaken by public bodies in order to combat unemployment may be classified as follows :

(1) *Work carried out by the Departments.*

This includes chiefly :

(a) Work connected with the erection, adaptation, extension and upkeep of departmental buildings (particularly hospitals) ;

(b) Road work undertaken by the local authorities (main and local roads—*chemins de grande communication et d'intérêt commun*)—i.e., all work connected with the construction, improvement, adaptation and maintenance of roads and highways forming part of the departmental system.

Some prefects also mention work which is connected with national roads, navigable waterways, national forests, historic buildings, etc., but which is covered by the State budget.

(2) *Work carried out by Communes or by Intercommunal Syndicates.*

(a) School buildings ;

(b) Other communal buildings, particularly hospitals, dispensaries, town halls, public halls, social centres, post offices, slaughter-houses, etc. ;

(c) All work connected with minor local roads (ordinary secondary roads, rural roads, farm roads) and urban roads, including, for instance, the digging and breaking of stones, the construction, improvement and upkeep of roads, the construction and upkeep of streets, the cleaning of ditches, etc. ;

(d) Sanitation work, the construction or extension of sewers, the cleaning of river beds, drainage, etc. ;

(e) The location of drinking-water supplies and laying down of pipes ;

(f) Various works connected with town-planning, the laying out of squares and public gardens, the construction of shower-baths, public wash-houses, etc., the extension and upkeep of cemeteries and their removal to new sites, the improvement of public lighting, etc. ;

(g) Rural electrification and various other works planned by the rural engineers ;

(h) Work connected with physical training (the laying out of sports grounds, etc.) ;

(i) Work coming under the Water and Forestry Department (pastoral and forest improvements, afforestation, tree-felling, lopping, etc.).

(3) *Work carried out by Public Undertakings.*

Apart from the construction of cheap dwellings by the Public Offices for the Construction of Cheap Dwellings, little work is reported to have been put in hand by public undertakings for the purpose of giving work to the unemployed.

(4) *Statistical Information.*

(a) Amount of expenditure under the heading of national technical equipment authorised by the Law dated December 28th, 1931 : 3,476,000,000 francs.

(b) Amount of credits appropriated under the Decree dated September 16th, 1932—which authorised Government grants in respect of wages paid to the unemployed engaged in municipal work for the relief of unemployment—between the date on which the Decree came into force and April 1st, 1934 : 22,947,918.04 francs, of which 15,472,180.47 francs represents the amount of the wages paid to unemployed workers.

(c) Number of departments and communes giving work to the unemployed in return for the relief granted to them from municipal and departmental unemployment relief funds : 317.

(d) Amount of credits appropriated in 1932 and 1933 as payment for work carried out by public undertakings in respect of which no grant is made by the Ministry of Labour : more than 3,500,000,000 francs.

This work represents more than 20 million working-days.

* * *

Finally, the French Government is now considering the execution of a plan for large-scale works for the relief of unemployment by the utilisation of the sums available in the general guarantee fund and in the capitalisation funds provided for by the Law on Social Insurance.

The resources which may thus be utilised between now and December 31st, 1940, may be estimated at a total of from 9,000 to 10,000 million francs—i.e., 1,500 million francs a year. These resources will be centralised in a common fund, the management of which will be entrusted to the deposit bank (*caisse des dépôts et consignations*) under the supervision of a National Committee. This Committee is also required to draw up the general programme and the detailed list of the works to be carried out, regard being had to the nature and urgency of the requirements and the utility and remunerative character of the work proposed. This will be concentrated in districts where unemployment is most widespread.

The work will be carried out solely by local bodies (departments, communes, syndicates of communes), public undertakings, colonies, main-line railways, certain specially approved holders of concessions for the execution of public works and any other duly constituted bodies which have secured the guarantee of a department or commune.

A Decree dated May 15th, 1934, accordingly made the necessary amendments in the Social Insurance Law, and by another Decree of the same date the National Committee on Large-scale Works for Unemployment Relief was set up. This Committee, which comprises two sub-committees (a technical sub-committee and a financial sub-committee), set to work as soon as it was constituted, and it will doubtless be possible for the first large-scale works to be put in hand in July.

MINISTRY OF PUBLIC WORKS (CENTRAL ROADS DEPARTMENT).

In order to make quite clear what is the scope of the following information, we would state that it concerns primarily work carried out under the direct supervision of the Ministry of Public Works by the Department of Roads and Bridges on the French national road system, of which the total length is 80,000 kilometres. Thus the following information does not generally relate to departmental, urban or communal roads, which are all placed under the Ministry of the Interior.

I (a). — The main work done for several years on the national road system has been repair and readaptation as regards width, camber and banking for the purpose of adjusting the system to motor traffic.

Since 1929, much has been possible, thanks to the voting of sums for national equipment to supplement the normal credits, of which the greater part necessarily corresponds to maintenance expenditure. From 1929 to 1934—*i.e.*, in six years—these credits have enabled about 30,000 kilometres of road to be remade, thus doubling the length of roads having a coated surface.

These works involved an outlay about 1,600 million francs, of which half, or 800 millions, may be considered to have been spent on wages. If this sum is translated into man-years, it will be seen that for the past six years the Ministry of Public Works has, apart from its road-mending staff, employed each year an average of 16,000 to 17,000 workmen on new construction. In this figure, no account is taken of wages paid for maintenance, which may amount to about 3,000 man-years. The total labour employed during the last six years would therefore be about 20,000 workmen, excluding the road-mending staff, which is paid separately and numbers about 10,000.

Besides this work on roads, a certain amount of constructional work on new bridges or readaptation of old bridges has been undertaken. Amongst these may be mentioned the bridge at Vichy over the Allier, the Madeleine bridge over the Lot, the bridges at Cavaillon and Mirabeau over the Durance, the Mulatière bridge over the Rhône, the bridge at Marmande over the Garonne, the Concorde bridge over the Seine, and the bridge at Sarrières over the Rhone.

I (b). — The work at present in progress is less considerable, owing to the smaller appropriation for 1934. On the roads, repairs and readaptation are being continued, but the sums at the disposal of the Ministry will not enable more than 2,000 kilometres of repairs, instead of the average of 5,000 undertaken during the period 1929-1934.

Amongst the roads that are being constructed or readapted, the following are chiefly worthy of mention :

- The Corniche des Maures and Esterel road ;
- The Pratz de Mollo road in the Pyrenees ;
- The Route des Alpes in the neighbourhood of the Col de l'Iseran and the Col de Vars.

As regards construction works, the principal have been :

- The replacement of the Pascau suspension bridge by a metal bridge with three continuous beams ;
- The readaptation of the Martrou aerial ferry-bridge at Rouen ;
- The reconstruction of the Gluges bridge ;
- The widening of the Arche bridge over the Seine ;
- The reconstruction of the Illkirch bridge.

To this river-bridge work may be added the bridges for crossing railways, which will enable inconvenient or dangerous level-crossings to be suppressed. The chief of these are at Epone on Route Nationale 190, at Montluçon on R.N.145, at Virelade on R.N.10, at Myennes on R.N.7, at Compiègne on R.N.32, at St. Martin-Belleroche on R.N.6.

I (c). — A complete readaptation of the national road system would require more than 6 milliards. There are at present 20,000 kilometres of roads whose surfaces are in bad condition and must be remade as early as possible, and about 60,000 kilometres whose widths are, or will very soon be, insufficient.

By far the most urgent readaptation work concerns the facilitation of exit from the large towns.

In Paris, the readaptation programme includes :

- (1) Widening and deviation of roads at a cost of 100 million francs ;
- (2) Construction or readaptation work at a total cost of about 120 million francs ;
- (3) Building of three motor-roads, which would involve an expenditure of at least 400 million francs by the State.

For the various other towns like Lyons, Marseilles, Bordeaux, Rouen, Le Havre, Lille and Nancy, the proposed programmes amount to a total of 250 million francs.

Besides the readaptation work in the neighbourhood of large centres, it is proposed to strengthen or build a certain number of bridges (120 million francs, of which 80 millions to be borne by the State), to construct or rectify certain tourist roads (Route des Alpes, Aldudes, Pratz de Mollo and Corniche des Maures roads) (50 million francs), and, lastly, to abolish level-crossings (90 million francs, of which 60 millions is to be borne by the State).

II. — The work in question is generally carried out by the State. Only in a few exceptional cases does the State consent to hand over the direction of the work to independent bodies and content itself with a supervision which is, moreover, the lawful and necessary counterpart of its share in the expenditure. The bodies which the State considers capable of properly carrying out such work are, furthermore, few in number—namely, the railway companies and the municipalities of important towns.

In the great majority of cases, the work is entrusted to firms chosen by tender. The different forms of tender are varied enough to admit of the greatest elasticity, from the simple acceptance of the lowest tender to the more restricted invitation to tender, of the second category, generally called competition ; midway between these two there come the restricted invitation to tender, where the lowest tender is accepted, and the form where a price is offered.

These various methods of awarding contracts enable the Administration to leave a larger or smaller share of initiative to contractors, and to limit, in so far as necessary, the invitation to compete.

Direct control is reserved for accessory work of completion, or work which, relating to upkeep and requiring constant supervision, renders necessary the permanent organisation of a staff specially employed for the purpose.

The expenditure on works is covered in principle by the ordinary budget of the State, which allots each year a part of its normal revenue from taxation to the maintenance and adaptation of the national road system.

But this principle has undergone important modifications in recent years. In the first place, the Laws of March 19th, 1931, and December 28th, 1931, with regard to the perfecting of national equipment, provided respectively 100 and 480 million francs for the adaptation of the national road system.

In the second place, the Decree of May 15th, 1934, by establishing a common works fund under the social insurance system, for the realisation of a plan of important works to remedy unemployment, enables the State to borrow from the social insurance common fund and thus to finance a large-scale programme of works, of which the chief have been mentioned in the previous paragraph.

Apart from these resources, the State may, in certain cases, benefit by grants or assistance from local bodies or companies. Thus, for the suppression of level-crossings, about one-third of the expenditure is borne by the railway companies and municipalities concerned. But, as compared with the total expenditure borne by the State, the amount of such grants or assistance is extremely small and negligible. The work normally undertaken by the State being of general interest, it is understandable that, in most cases, private and local interests are not obliged to contribute to the expenditure.

IV and V. — The division of expenditure into material and equipment on the one hand and labour on the other is somewhat variable, according to the nature of the work undertaken.

Out of every 100 francs spent, a sum of about 30 francs must be put aside as representing general expenses, taxation and contractor's profits. Of the remaining 70 francs, depreciation of plant and purchase of materials represent from 20 to 50 francs. Expenditure on labour thus constitutes from 20 to 50 per cent of the total sums spent on works.

In point of fact, the percentage of expenditure on labour to be considered from the point of view of the influence on unemployment is generally higher than these figures, because of the effect on the demand for labour brought about by purchases of material. It may be admitted that, in public works, from 35 to 65 per cent of the cost represents wages paid within a period of less than six months.

The average percentage is about 50. Out of one milliard devoted to works, there will thus be 500 millions spent on labour—*i.e.*, the equivalent of 60,000 man-years.

These figures show that important public works can only be regarded as a palliative—and a temporary palliative—for unemployment.

MINISTRY OF POSTS, TELEGRAPHS AND TELEPHONES.

I. BRIEF DESCRIPTION OF THE MAIN PUBLIC WORKS. OF THE ALLOCATION OF EXPENDITURE BETWEEN MATERIALS AND LABOUR.

Nature of work	Total expenditure on works			Proportion of expenditure relating to :		
	Undertaken since the beginning of 1929 and completed	Now in course of execution	Work in contemplation or for which schemes are in preparation	Materials or equipment	Labour	Miscellaneous interest on bankers' loans, general expenses, cost of plans, etc.
	Francs	Francs	Francs	Per cent	Per cent	Per cent
(i) <i>Building and construction work forming part of a general plan :</i>						
Construction or adaptation of buildings : post offices, station offices, telephone exchanges and wireless stations	303,773,000	181,085,000	822,580,000	45	45	10
(1) <i>Telegraph and telephone installations, wireless broadcasting stations :</i>						
Submarine cables	22,900,000	—	8,000,000	50	45	5
Underground telephone cables (manufacture and laying of cables, supply and installation of relay station equipment, making of conduits, etc.).	555,280,000	780,000,000	255,000,000	30	60	10
Installation of telephone exchanges (automatic or manual).	762,000,000	241,000,000	350,000,000	35	55	10
Adaptation of underground telephone installations (construction of telephone galleries, conduits and chambers, laying of cables in towns).	345,190,000	65,500,000	308,700,000	30	60	10
Installation of wireless telegraph stations (material)	45,250,000	12,565,000	—	40	50	10
Installation of broadcasting stations (material)	12,000,000	50,000,000	32,000,000	40	50	10
Modernisation and electrification of the Paris pneumatic message system.	5,900,000	700,000	5,600,000	55	35	10
(m) <i>Other work :</i>						
Building and improvement of rolling-stock (postal vans and tenders) . . .	141,200,000	1,800,000	47,800,000	30	62	8

Note. — Apart from the above extraordinary work, which appears in the schedules annexed to various Finance Acts, may be mentioned :

(1) *Further new construction work :* supply and installation of electric machinery, construction of electric lines of lesser importance ; purchase of furniture and postal or electrical equipment, etc. The whole of this additional work has, since 1929, involved *annual* expenditure of from 60 to 70 million francs. It may be foreseen that this expenditure, though steadily decreasing, will be from 40 to 50 million francs in each of the next financial years up to 1940.

(2) *Work* in respect of normal exploitation and to some extent of a *permanent* nature : general maintenance of post-office buildings and connection of new subscribers with the telephone system. Annual expenditure, about 150 million francs.

II. PRINCIPAL ADMINISTRATIVE METHODS FOLLOWED OR CONTEMPLATED FOR THE EXECUTION OF THE WORK.

All the work mentioned in the above table was carried out on account of the Post Office annex to the budget, after being authorised by the annual Finance Acts or by special laws.

Apart from work relating to the installation of secondary electric lines and the connection of new subscribers with the telephone, mentioned as permanent and carried out directly by the Post Office, this work gives rise to contracts concluded :

Either by mutual agreement, after advertisement and invitation to competitors ; this procedure is prescribed in the case of certain categories of supplies and work for the Post Office by Article 9 of the Regulations for Public Administration of December 18th, 1923, and is observed in regard to most contracts for electrical material—in particular, the laying of long-distance cables, the installation of telephone exchanges and the arrangement of underground telephone systems, etc., all of which work must be entrusted to firms that are specialists ;

Or by public tender ; this is essentially the method employed in the case of building work and the construction of postal vans.

III. PRINCIPAL METHODS EMPLOYED FOR FINANCING SUCH WORK.

The expenditure involved by the work referred to in paragraph (1) appears under the heading of “ Extraordinary expenditure ” in the Post Office annex to the budget, of which it forms a special section (No. 2).

In accordance with the provisions of Article 75 of the Law of June 30th, 1923, it is covered by the issue of redeemable bonds, which the Minister of Finance is authorised to make in virtue of the same law and of which the amount is fixed annually by the Finance Act.

Until such issues are made, the Minister of Finance grants the Post Office administration advances from the general Treasury account, when no funds are available from previous issues or when such funds are insufficient to cover expenditure.

The bonds issued on behalf of the Post Office are redeemable within a maximum period of thirty years. They are inscribed in the ledger of the public debt. The sums required for the payment of interest and redemption appear each year in the ordinary expenditure of the annex to the budget, which expenditure is itself covered by working receipts, and, if these sums are insufficient, from Treasury funds or from the general budget.

All the bonds issued since the annex to the budget was introduced have been subscribed for in France.

V. THE GOVERNMENT'S OPINION WITH REGARD TO THE EFFECTS OBTAINED OR EXPECTED FROM THE EXECUTION OF THE PUBLIC WORKS REFERRED TO IN SECTION I ON THE RESUMPTION OF ECONOMIC AND INDUSTRIAL ACTIVITIES AND ON UNEMPLOYMENT.

There is no doubt that the execution of the programmes of works carried out since 1929 by the Post Office administration has largely contributed to the maintenance of economic activity. More than one milliard of francs has been spent each year on various constructional work, if account be taken of expenditure on wages of permanent and auxiliary staff paid directly by the administration.

The re-equipment of telephone exchanges and the laying of main underground cables, in particular, have encouraged the development of the French telephone industry, which, during the period in question, has enjoyed exceptional prosperity. The fortunate influence of building work on economic activity, although less apparent owing to the wide dispersion of the building yards, is none the less certain, especially in large towns, in which many important buildings have been put up.

As regards construction, the many buildings still to be erected will maintain that influence for several years yet. On the other hand, the programmes of installation of telephone exchanges and cables are nearing completion, and already the slackening in the activity of the telephone construction workshops has obliged employers to discharge a considerable number of their workmen.

It may be seen from the above table (I) that the other electrical installation has also, for the most part, been completed, and no improvement in the economic situation can be expected from its continuance.

The *annual* volume of expenditure incurred or foreseen in respect of the constructional work as a whole (material and permanent staff), which exceeded one milliard francs from 1929 to 1934, will, from 1935 onwards, diminish steadily at the rate of about 100 to 200 million francs each year, and towards 1939 to 1940 will reach a figure of below 300 millions. At that period the important work undertaken to renew the equipment of the Post Office that has been going on since 1923 will be almost completed; only the large-scale maintenance work and the connection of subscribers with the telephone, mentioned above as being to some extent permanent, will give rise to annual expenditure, as already indicated.

GREECE.

[*Translation.*]

I. WORK COMMENCED AT THE BEGINNING OF 1929 AND NOW COMPLETED.

1. Construction of 68 kilometres of departmental and communal roads.
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II. WORK IN COURSE OF EXECUTION.

1. Completion of the construction of 1,700 kilometres of road by the "Prometheus" Company, the total cost amounting to 2,300 million drachmas.

The State had concluded an agreement with the "Prometheus" Company for the building, by direct concession, of roads to a value of 6 million drachmas.

This expenditure was to be covered by a foreign loan. Up to 1932, 1,650,000 drachmas had been expended.

But, since the world depression, work has been suspended, and the necessary expenditure for the completion of those roads the construction of which has already been begun will be met out of the State budget.

2. Hydraulic works in the Salonika Plain (by the American Foundation Company). This work will be completed at the end of April 1935.

Total value, \$19,000,000.

The above work has been undertaken as a direct concession by the Foundation Company, on the basis of an agreement signed in 1925 and duly endorsed by the Legislature.

The cost was to have been met by a foreign loan; but, as a result of the 1932 world depression, the cost will be met out of the budget.

3. Hydraulic works in the Struma Plain and the Philippi Marshes, in the Plain of Drama (Anglo-American Monks-Ulen Company).

The work will be completed in two years.

Total value, \$15,000,000.

III. WORK THE EXECUTION OF WHICH IS IN CONTEMPLATION OR SCHEMES FOR WHICH ARE IN PREPARATION.

1. Two hundred kilometres of roads.

The work will be submitted for public tender in the near future

2. Athens sewerage system.

Plans are being prepared. The first step will be the construction of the main collector, at a cost of 300 million drachmas, to be met by internal loan.

The total cost of the whole system will be 1,200 million drachmas.

3. Salonika harbour extension : cost, 150 million drachmas. The Salonika Harbour Board has already announced that tenders are to be invited for this work, the cost of which will be covered by internal loan.

As the plant for hydraulic works has been supplied by foreign industry, the expenditure will be allocated as follows : 30 per cent for materials and 70 per cent for labour.

In the matter of road-building, expenditure will be allocated as follows : 30 per cent for materials and plant, supplied by national industries, and 70 per cent for labour.

With regard to the Salonika harbour extension, it should be noted that the contractors have their own plant. Consequently, payment, etc., for plant and materials must be estimated at 60 per cent, and labour at 40 per cent.

The improvement of communications will stimulate agriculture by diminishing transport costs ; it will also have a beneficial influence on unemployment and on commerce and industry in general.

The same applies to the hydraulic works ; 500,000 hectares will be made available for agriculture.

It should also be noted that many refugee families have to be partly supported by the State owing to lack of land.

[Translation.]

HAITI.

The Directorate-General of Public Works has sent to the Secretary-General of the League of Nations its annual reports published since 1928.

STATEMENT OF EXPENDITURE AND BALANCES OF ALL THE FUNDS ENTRUSTED FOR EXPENDITURE TO THE DIRECTORATE-GENERAL OF PUBLIC WORKS.

Financial Year	Amount of credit	Expenditure previous to the financial year	Expenditure during the financial year	Balance available at September 30th	Surplus carried over during the financial year
	Gourdes	Gourdes	Gourdes	Gourdes	Gourdes
1927-28	26,897,315.41	10,714,804.78	11,555,981.72	4,447,687.58	178,841.33
1928-29	20,010,314.15	3,751,735.72	11,249,545.62	4,937,163.82	71,868.99
Surplus carried over from closed credits 1927-28 . . .	—	—	—	—	9,952.14
					81,821.13
1929-30	14,815,725.82	3,646,775.33	8,519,083.70	1,791,954.06	857,912.73
1930-31	9,977,922.51	2,703,066.69	6,104,295.03	971,403.57	199,157.22
1931-32	6,175,305.87	657,272.46	5,404,851.00	68,180.87	45,001.54

IRAQ.

LIST OF PUBLIC WORKS.

(a) ROADS AND BRIDGES (Works exceeding £50,000).

I (a). — *Mosul Bridge*: £60,000.

II. — Executed and completed directly by the Central Authority (the Public Works Department of Iraq) to the order of the Central Government of Iraq.

III. — Financed by the extraordinary budget of the State.

IV. — Materials and equipment, 60 per cent, and labour, 40 per cent of the total cost.

I (a). — *Fellujah Bridge*: £100,000.

II. — Executed and completed by contractors to the order of the Central Government of Iraq.

III. — Financed by the extraordinary budget of the State.

IV. — Materials and equipment (estimated), 65 per cent, and labour, 35 per cent of the total cost.

I (b). — *Rayat Road*: £238,000.

II. — Being executed directly by the Central Authority (the Public Works Department of Iraq), to the order of the Central Government of Iraq.

III. — Financed by the extraordinary budget of the State.

IV. — Materials and equipment, 20 per cent, and labour, 80 per cent of the total cost.

I (b). — *Amadia Road*: £66,000.

II. — Being executed directly by the Central Authority (the Public Works Department of Iraq) to the order of the Central Government of Iraq.

III. — Financed by the extraordinary budget of the State.

IV. — Materials and equipment, 15 per cent, and labour, 85 per cent of the total cost.

I (b). — *Baghdad-Ramadi Road*: £72,000.

II. — Being executed directly by the Central Authority, £47,000, and by contractor, £25,000, to the order of the Central Government of Iraq.

III. — Financed by the extraordinary budget of the State.

IV. — Materials and equipment, 15 per cent, and labour, 85 per cent of the total cost.

I (b). — *Shirwan Road*: £63,000.

II. — Being executed directly by the Central Authority (Public Works Department of Iraq) to the order of the Government of Iraq.

III. — Financed by the extraordinary budget of the State.

IV. — Materials and equipment, 15 per cent, and labour, 85 per cent of the total cost.

I (b). — *Kirkuk-Sulaimaniyah Road*: £53,000.

II. — Being executed directly by the Central Authority (Public Works Department of Iraq) to the order of the Central Government of Iraq.

III. — Financed by the extraordinary budget of the State.

IV. — Materials and equipment, 15 per cent, and labour, 85 per cent of the total cost.

(d) CANALS, ETC.

1. *Diwaniyah and Dagharrah Head Regulators.*

(a) Completed 1929 by local contractor on behalf of the Government.

(b) Cost, 42,800 Iraqi dinars, from State revenues.

(c) Ironwork provided partly from England at a cost of 2,920 Iraqi dinars.

(d) For the "control" and "improvement" of water-levels and the better distribution of water in a protected area of half a million acres in the Middle Euphrates.

2. *Badaa Regulator.*

(a) Completed in 1930 by local contractor on behalf of the Government.

(b) Cost 48,000 Iraqi dinars, from State revenues.

(c) Ironwork provided partly from England at a cost of 3,600 Iraqi dinars.

(d) For the protection of 150,000 acres of winter crops in the Muntafiq Liwa, Lower Euphrates.

3. *Latifiyah Canal.*

(a) Work carried out by local contractors for the Government on behalf of concessionaires, Latifiyah Estates, and canal opened in 1930 and under gradual development, which continues, and has reached a figure of 30,000 acres protected.

(b) Cost, about 54,000 Iraqi dinars, to be recovered from concessionaires.

(c) Ironwork provided from England at a cost of 1,300 Iraqi dinars.

(d) For the protection of 60,000 acres on the east of the Euphrates, 20 miles south of Baghdad. Development is under the control of the Latifiyah Estates Company.

4. *Iskandariyah Canal.*

(a) Completed and opened for irrigation in 1930, work done by local contractors on behalf of the Government.

- (b) Cost, 13,000 Iraqi dinars, from State revenues.
- (c) Ironwork partly provided from England at a cost of 260 Iraqi dinars.
- (d) Is a Euphrates Canal adjacent to (3) Latifiyah Canal, but farther south. It has converted an area of 20,000 acres from an inundation system to a perennial system of irrigation, improved water-levels and established control of water distribution by up-to-date method.

5. *New Hillah Head Regulator.*

- (a) Completed in 1933 (and opened in 1934) by local contractors on behalf of the Government.
- (b) Cost, 45,000 Iraqi dinars, from State revenues.
- (c) Ironwork provided from England at a cost of 6,000 Iraqi dinars.
- (d) For the better and safer control of the Hillah Canal head, which passes a discharge of about 6,300 cubic feet per second. Provided with a navigation lock and the latest regulation devices. It also forms part of a Euphrates River training work above the Hindiyyah Barrage.

6. *Abu Ghuraib Canal.*

- (a) Started in 1932 and still in progress. Work undertaken by local contractors on behalf of the Government.
- (b) Estimated cost, 150,000 Iraqi dinars ; cost to date, 20,000 Iraqi dinars, from State revenues.
- (c) Ironwork for head regulator to be provided from England at a cost of 1,200 Iraqi dinars.
- (d) For a protected area of 125,000 acres. Development to be gradual and irrigation for the first stage of development expected in 1935. A modern canal with up-to-date control and distribution equipment.

7. *Rapid for Western Jaarah Drainage Erosion.*

- (a) Practically completed in April 1934 by local contractors on behalf of Government.
- (b) Cost, 4,000 Iraqi dinars, from State revenues.
- (c) Work entirely of local material or purchased locally.
- (d) This work is designed to prevent scour in one of the largest natural drainage lines in the Middle Euphrates and to prevent deterioration of one of the richest rice areas in Iraq. It safeguards the continuance of the Shatt el Hindiyyah in its middle reaches where it is most unstable.

8. *Habbaniyah Flood Protection Scheme.*

- (a) At present under consideration, and tenders have been open to foreign engineering contractors for construction on behalf of the Iraqi Government.
- (b) Provision by Parliament, 500,000 Iraqi dinars over five years from State revenues.
- (c) Ironwork to be imported.

(d) For the permanent removal of flood menace below Ramadi on the Euphrates. Euphrates floods threaten large areas of irrigation and also main road and railway communications. This flood-protection scheme will give stability to the whole of the Euphrates irrigation area and the dense population which it supports.

9. *Kut Barrage Scheme.*

(a) Under consideration, and tenders for the work have been open to foreign engineering contractors to do the work on behalf of the Government.

(b) Provision by Parliament, the 1,200,000 Iraqi dinars in a period of five years from State revenues.

(c) Machinery and ironwork required will be imported as required.

(d) For the protection by canalisation of an area of approximately 200,000 acres. This area is at present under cultivation by uncertain and scanty rain and potentially dangerous floods, and crop maturity is very uncertain. The barrage will make winter cropping certain and may in future afford better opportunities for summer cultivation. The barrage is provided with a lock and the head of the canal offtake with a modern regulator.

10. *Flood Protection Works.*

Work has been steadily continued on the improvement and reconstruction of flood embankments on both the Euphrates and Tigris rivers. Diversions have been made on retired alignments at many points of weakness and the general standard of flood embankments throughout the country greatly improved.

An embankment 5 kilometres long was built to protect the Muadham suburbs of Baghdad from flooding from the landward side in the event of the Tigris river breaching its left bank above Muadham.

During the five years preceding April 1st, 1934, over 20,000 Iraqi dinars has been spent annually on improving the flood protection works of the country and increasing the security of the population against disaster from flooding.

About two-thirds of this work has been done by contract and one-third by direct labour.

(h) WORK FOR ESTABLISHMENT OF AIRPORTS.

I (a). — New airport, Baghdad, including provision of airport building and aerodrome. Cost, £19,721.874.

II. — Erected directly by the Central Authority (the Public Works Department of Iraq) and to the order of the Central Government of Iraq.

III. — Financed by the extraordinary budget of the State.

IV. — Materials and equipment, 75 per cent ; labour, 25 per cent.

(l) TELEGRAPH AND TELEPHONE INSTALLATIONS, WIRELESS BROADCASTING STATIONS.

1. Construction of telephone line from Erbil to Quwair.
2. Construction of telephone line from Sulaimaniyah to Halabja.
3. Construction of telephone line between Hillah, Tuerij and Kerbala.

4. Construction of telephone line from Hillah to Kifil.
5. Construction of telephone line from Falujah to Dhibban.
6. Construction of telephone line from Dhibban to Ramadi.
7. Construction of telephone line from Baghdad to Hillah and Yousifiyah.
8. Construction of telephone line from Hillah to Diwaniyah.
9. Construction of telephone line from Kirkuk to Mosul.
10. Completion of the Baghdad underground scheme, which includes a net mileage of 2,065.
11. Construction of Bagdad-Mahmudiyah telephone trunk line.
12. Construction of telephone trunk line between Kifil, Kufah, Najaf and Abu Sukhair.
13. Construction of telephone trunk line between Diwaniyah, Shamiyah, Abu Sukhair, Faisaliyah and Ghammas.
14. Laying of submarine telephone cables in river crossings in the Middle Euphrates area and at Diwaniyah.
15. Extension of the trunk service to Seeba and Fao.
16. Construction of telephone trunk line between Hillah and Dagharah.
17. Construction of telephone trunk line from Diwaniyah to Nasiriyah.
18. Construction of telephone trunk line from Diwaniyah to Basrah.
19. Conversion of the Baghdad telephone system from magneto to C.B. system.
20. Installation of a rural automatic exchange at Adhamiyah.
21. Installation of electric clock system at Basrah.
22. Installation of electric clock system at Mosul.
23. Reconstruction of the Zubair Jahara telegraph line.
24. Construction of telephone trunk line from Basrah to Nasiriyah.
25. Construction of telephone line between Hillah, Hindiyah and Mussayeb.
26. Construction of telephone trunk line between Basrah and Amarah.
27. Construction of telephone trunk line between Baghdad, Hadithah and Anah.
28. Construction of telephone line between Erbil and Rowanduz.
29. Construction of telephone line between Dohok and Amadia.
30. Construction of telephone line between Baghdad, Kut and Kut Na'maniyah.
31. Construction of telephone line between Rowanduz, Mergasur and Kanirash.
32. Construction of telephone line between Nasiriyah and Suk Esheyukh.
33. Installation of cord circuit, telephone repeaters at Baghdad, Diwaniyah and Basrah.
34. Installation of $1\frac{1}{2}$ kw. medium-wave and $\frac{1}{2}$ kw. short-wave transmitters in Baghdad, including masts and aerials.
35. Laying of underground telephone and telegraph cable for the new airport and wireless receiving stations and the installation of wireless receivers.
36. Reconstruction of Mosul-Dohuk-Zakho line.
37. Completion of Mosul underground scheme.
38. Installation of Marconi R.G.32.A receiver at the airport wireless receiving station.
39. Installation of Marconi Adcock direction finder at Rutbah.
40. Construction of a second telephone trunk between Baghdad and Mosul.
41. Laying of submarine cable across the river at South Gate.
42. Extension of the Baghdad underground cable system.
43. Laying of submarine cable across the river at Adhamiyah and underground cable from the Shamal exchange to the river bund, also laying underground and aerial cable from Shamal exchange to Sulaikh junction.
44. Construction of telephone line between Mosul, Kirkuk and Ain Sifni.
45. Construction of telephone line between Margasur and Shirwani Mazan.

(m) OTHER WORKS.

	£
I (a). — Gaol at Basrah	23,800
Hospital at Diwaniyah	6,300
Government offices at Ghammas	5,100
Hospital at Amarah	6,400
School at Diwaniyah	4,200
Post office, Mosul	2,700
Police offices and station, Hillah	3,600
Secondary School at Mosul	2,550
Law courts, Amarah	5,250
Post office, Baqubah	1,680
Post office, Hillah	900
Military barracks, Mosul	29,600
Military barracks, Sulaimani	17,800

II. — Above works erected directly by the Central Authority (the Public Works Department of Iraq) and to the order of the Government of Iraq.

III. — Financed by the ordinary budget of the State.

IV. — Materials and equipment, 75 per cent ; labour, 25 per cent.

	£
I (a). — Government offices at Penjwin	12,200
Government offices at Arbil	13,450
Medical school at Baghdad	16,150
Girls' school, Mosul	10,300
Government offices, Maidan	3,400
Schools at Baghdad	9,000

II. — Erected directly by the Central Authority (the Public Works Department of Iraq) and to the order of the Government of Iraq.

III. — Financed by the extraordinary budget of the State.

IV. — Materials and equipment, 75 per cent ; labour, 25 per cent.

	£
I (b). — Buildings now in course of erection :	
Hospital at Nejaf	3,000
Hospital at Kadhimain	6,500
Extension to hospital, Baghdad	30,000
Pathological Institute	10,000
Hospital, Sulaimaniyah	6,500
Law Courts, Hillah	5,500
Police barracks, Nasiriyah	5,000
Serum Institute, Baghdad	3,000
Government offices at Diwaniyah	11,000
Government guest house	50,000

II. — Erected directly by the Central Authority (the Public Works, Department of Iraq) and to the order of the Government of Iraq.

III. — Financed by the extraordinary budget of the State.

IV. — Materials and equipment, 75 per cent ; labour, 25 per cent.

I (c). — Buildings contemplated :

	£
Customs House, Basrah	10,000
Hospital, Mosul	60,000
Isolation hospital, Basrah	30,000
Museum, Baghdad	60,000
Secondary and training schools, Baghdad	60,000
Ministry for Foreign Affairs	20,000
Hospital at Kerbelah	5,000

ITALY.

[*Translation from the Italian.*]

The tables on pages 172-189 give information on public works executed as at December 31st, 1932.

With regard to the administrative methods followed in executing works, however, some general information may be desirable in order to illustrate the fundamental policy followed by the Administration.

The most important works, both from the technical and from the financial standpoint, are carried out by the State direct, with or without the financial participation of the local bodies concerned. The bodies responsible for the administrative part of the work are the various Directorates-General in the Ministry of Public Works and the Inspectorates (*Provveditorati*) of Public Works, which are decentralised services set up temporarily to facilitate and render more adaptable the State's action for the benefit of the southern provinces. An Autonomous State Road Board, managing its own finances, was created in 1928 for the State highway system.

Certain works are also carried out by local bodies (provinces, communes) with State participation. In most cases, the work is of special and direct interest to the bodies concerned. State aid may, however, if the public interest so demands, amount to the taking-over of the management of the work, subject to repayment of the proportionate contributions.

In a very small number of cases, work is allowed to be carried out by private enterprise, with the participation of the State or the repayment of a proportion of the cost by the State, particularly in the case of hydraulic works or reconstruction work after earthquakes. This is explained by the fact that, in such undertakings, private interests are more important than the public interest, though the latter is still considerable, and may lead to the direct management of works in certain serious cases or where absence of private action may be injurious to the community.

The legislative provisions governing the management of works are the fundamental provisions of the Law of March 20th, 1865, No. 2248, Annex F, on public works, and the consolidated text of February 8th, 1923, No. 422, amended by Royal Decrees Nos. 1396, of August 28th, 1924, and 646, of May 7th, 1925.

In order to guarantee technical regularity in the execution of such works, there has been set up a system of special advisory bodies, varying in size with the cost of the works. The whole of this system is regulated by Law No. 678, of June 1st, 1931, on the Supreme Council for Public Works.

It should also be mentioned that, in the management of works, legislative provisions are less important than the contractual clauses in the General Specification approved by Ministerial Decree of May 28th, 1895, to which slight modifications have been made subsequently.

The method of execution usually followed is by submission to private or public tender. Private tender is preferred, because it allows the authorities to make a careful preliminary selection of the competing firms with a view to ensuring the reliability of the offers and regularity of execution. In exceptional cases, private contracts are concluded, or the work is granted as a direct concession regulated by Royal Decree No. 350, of May 25th, 1895, concerning the management, accounts and general approval of all works. This method is mainly resorted to in very urgent cases, or when the competing firms do not offer sufficient guarantees of regular execution, or, normally,

for minor works regarding which the engineering services are allowed to use their discretion.

The manner in which works are to be carried out is governed, not merely by the above-mentioned legislative provisions, but also by the fundamental rules concerning the general accountancy of the State, contained in Royal Decrees No. 2440, of November 18th, 1923, and No. 827, of May 23rd, 1924.

A system which is becoming more and more frequent is that of granting concessions.

A concession may be granted either to public or to private bodies ; the State expenditure is divided up into not more than thirty annual payments, including both capital and interest.

The law governing these concessions is Law No. 1137, of June 24th, 1929. Generally speaking, public works are financed according to the method adopted for their execution.

PUBLIC WORKS CARRIED OUT DIRECT BY THE STATE AND AT ITS OWN EXPENSE.

In this case, the State provides for the cost by means of items in the budget estimates of the Ministries concerned.

Payment for ordinary works is made under special chapters according to the nature of the work ; these are entered in the above-mentioned estimates under the items referring to ordinary expenditure.

In the case of extraordinary works, the estimates include chapters, not only for the various kinds of work, but also for the methods of payment.

We have therefore :

- (1) Chapters for expenditure on extraordinary works payable in a lump sum ;
- (2) Chapters for the payment of annual sums in connection with work carried out under concession, the payment being deferred or in connection with subsidies and grants provided under special laws.

WORKS CARRIED OUT BY LOCAL AUTHORITIES OR PRIVATE ENTERPRISE.

Expenditure on public works carried out by local authorities is borne on the budgets of these authorities.

Nevertheless, as stated above, the State sometimes assists local authorities in carrying out these works by according subsidies or grants to the extent provided under special laws.

This occurs, in particular, when the works are such as will improve public health or social conditions.

In special cases, the State even grants subsidies to individuals ; for instance, for the rebuilding or repairing of houses in earthquake zones.

If the local authorities do not possess sufficient funds to meet exceptional requirements in the matter of public works (improvement works, construction of aqueducts, etc.), they may float loans repayable in accordance with a specific plan.

It should also be mentioned that works connected with "countryside regeneration" have, since 1929, come within the sphere of the Ministry of Agriculture.

Question No. V enquires as to the effect of public works in stimulating trade and industry and diminishing unemployment. It is now known that the policy pursued in this respect by Italy, as reflected in the general programmes of public works provided specially with a view to diminishing seasonal unemployment, has greatly attenuated the effects of the world depression in Italy.

The increase in the number of man-days worked, from 29 millions in 1926 to 51 millions in 1933, gives a good idea of these effects.

It seems, therefore, unnecessary to say that the development of public works has improved and is still improving the economic position of the subsidiary industries which provide materials, implements, etc., and of the transport industry, or that the national economy is benefiting appreciably thereby.

DEVELOPMENT OF PUBLIC WORKS CARRIED OUT DIRECTLY BY, UNDER CONCESSION
STATE ROAD UNDERTAKING (A. A. S. S.) AND THE DEPARTMENT

(Amounts in

Travaux pour le compte de :	Année Year	Etat au 1 ^{er} janvier Situation as at January 1st		Travaux commencés pendant l'année Work started during the year	
		Travaux Work schemes	Coût Cost	Travaux Work schemes	Coût Cost
Ministère des Travaux publics		1.543	1.920.290	2.771	830.901
Office national autonome de la route		381	786.409	434	271.932
Sous-Secrétariat de la Bonification intégrale		521	2.000.695	621	584.833
Ministère des Travaux publics; Office national autonome de la route, Sous-Secrétariat de la Bonification intégrale	1932	2.445	4.707.394	3.826	1.687.666
	1931	2.579	5.006.126	2.768	1.338.064
	1930	3.072	4.682.136	2.862	1.872.222
	1929	3.237	4.123.405	4.132	1.878.254
Ministère des Travaux publics, Office national autonome de la route	1928	2.908	3.749.320	4.297	1.866.925
Ministère des Travaux publics seul	1927	3.409	3.697.746	3.402	1.345.346
	1926	2.937	3.332.517	3.743	1.773.987
	1925 ¹	2.896 ²	3.269.475 ²	2.392 ³	732.405 ³
Organisations locales et privées entretenues ou subven- tionnées par le Ministère des Travaux publics . . .	1932	(7) 23.637	978.375	16.337	570.868
	1931	(6) 12.157	901.107	13.353	396.585
	1930	2.293	650.103	10.667	353.337
Organisations locales seules	1929	2.244	508.993	874	333.918
	1928	2.381	560.571	1.047	165.680
	1927	2.137	552.192	917	186.918
	1926	1.603	497.690	1.384	199.893
	1925 ¹	1.379 ²	593.630 ²	1.001 ³	100.718 ³

¹ Neuf derniers mois. — Last nine months.

² Au 31 mars. — To March 31st.

³ En neuf mois. — In nine months.

FROM, OR SUBSIDISED BY, THE MINISTRY OF PUBLIC WORKS, THE AUTONOMOUS
OF THE UNDER-SECRETARY FOR COMPLETE RECLAMATION.

(Thousands of lire.)

Travaux achevés pendant l'année		Etat au 31 décembre		Work for account of
Work completed during the year		Situation as at December 31st		
Travaux	Coût	Travaux	Coût	
Work schemes	Cost	Work schemes	Cost	
1.946	671.941	2.368	2.079.250	Ministry of Public Works
460	538.292	355	520.049	Autonomous State Road Undertaking
566	554.410	576	2.031.118	Department of the Under-Secretary for Complete Reclamation
2.972	1.764.643	3.299	4.630.417	{ Ministry of Public Works, Autonomous State Road Undertaking, Department of Under-Secretary for Complete Reclamation
2.902	1.636.796	2.445	4.707.394	
3.355	1.548.232	2.579	5.006.126	
4.297	1.319.523	3.072	4.682.136	{ Ministry of Public Works, Autonomous State Road Undertaking
3.968	1.492.840	3.237	4.123.405	
3.903	1.293.772	2.908	3.749.320	{ Ministry of Public Works alone
3.271	1.408.758	3.409	3.697.746	
2.351 ³	669.363 ³	2.937	3.332.517	
6.966	306.245	(8) 33.008	(8) 1.242.998	{ Local and private organisations financed or subsidised by the Ministry of Public Works
1.873	319.317	(7) 23.637	(7) 978.375	
803	102.333	(6) 12.157	(6) 901.107	
825	192.808	2.293	650.103	{ Local organisations alone
1.184	217.258	2.244	508.993	
673	178.539	2.381	560.571	
850	145.391	2.137	552.192	
777 ³	196.658 ³	1.603	497.690	

CHAPTER I. — WORK FOR WHICH THE MINISTRY OF PUBLIC WORKS OR THE
AVERAGE FIGURES FOR CONTRACTS GIVEN BY THE MINISTRY OF PUBLIC WORKS IN
(Amounts in

Districts administratifs	Nature des travaux Nature of work							
	Travaux ordinaires de voirie Ordinary road work		Travaux hydrauliques et de navigation intérieure Hydraulic work and work on inland waterways		Travaux maritimes Maritime work		Construction de bâtiments Building	
	Travaux Work schemes	Coût Cost	Travaux Work schemes	Coût Cost	Travaux Work schemes	Coût Cost	Travaux Work schemes	Coût Cost
Piémont	13	8.270	10	1.236	—	—	9	2.638
Ligurie	3	13.060	2	740	15	5.805	4	4.130
Lombardie	14	5.058	96	38.348	—	—	5	2.271
Vénétie Tridentine. . .	7	1.323	12	6.575	—	—	5	5.489
Vénétie	23	6.115	170	61.484	11	16.568	8	3.076
Vénétie Julienne et Zara	17	6.389	18	3.614	31	27.556	18	6.539
Emilie	33	14.178	131	70.851	15	6.583	6	3.036
Toscane	24	17.386	31	7.441	17	8.025	10	6.350
Marches	1	210	4	1.267	15	21.082	4	345
Ombrie	2	504	7	643	—	—	3	153
Latium	4	1.516	13	5.652	11	19.336	12	14.776
Abruzzes et Molise . . .	34	20.904	6	2.112	5	5.374	1	187
Campanie	19	7.169	4	238	32	140.412	8	14.199
Pouilles	13	3.479	6	12.147	47	23.772	5	8.897
Lucanie	19	9.480	1	73	—	—	2	104
Calabre	83	45.959	10	2.183	9	24.085	2	7.735
Sicile	40	23.213	11	4.753	31	120.579	5	1.676
Sardaigne	1	50	4	945	15	18.608	16	15.224
Total pour le Royaume	350	184.263	536	220.302	254	437.785	123	96.825

AUTONOMOUS STATE ROAD UNDERTAKING IS DIRECTLY RESPONSIBLE.

1932, CLASSIFIED BY DISTRICTS AND ACCORDING TO THE NATURE OF THE WORK.

(Thousands of lire.)

Nature des travaux Nature of work									Administrative District
Nouveaux chemins de fer New railway construction		Travaux en raison de tremblements de terre Work necessitated by earthquakes		Travaux divers Miscellaneous work		Total			
Travaux Work schemes	Coût Cost	Travaux Work schemes	Coût Cost	Travaux Work schemes	Coût Cost	Travaux Work schemes	Coût Cost		
10	20.499	—	—	1	127	43	32.770	Piedmont	
2	970	—	—	1	73	27	24.778	Liguria	
—	—	—	—	1	219	116	45.896	Lombardy	
—	—	—	—	—	—	24	13.387	Venezia Tridentina	
10	7.711	—	—	—	—	222	94.954	Veneto	
—	—	—	—	—	—	84	44.098	Venezia Giulia e Zara	
19	25.144	26	1.813	14	3.746	244	125.351	Emilia	
13	10.099	12	6.632	2	209	109	56.142	Tuscany	
1	376	—	—	11	1.722	30	25.002	Marches	
—	—	—	—	3	439	15	1.739	Umbria	
3	2.945	1	162	9	1.684	53	46.071	Latium	
—	—	9	629	23	2.342	78	31.548	Abruzzi e Molise	
3	1.436	33	7.880	13	5.440	112	176.774	Campania	
—	—	—	—	23	12.955	94	61.250	Apulia	
—	—	4	822	38	3.772	64	14.251	Lucania	
—	—	26	12.159	21	5.537	151	97.658	Calabria	
9	33.110	12	8.672	26	8.935	134	200.938	Sicily	
—	—	—	—	91	52.535	127	87.362	Sardinia	
70	102.290	123	38.769	277	99.735	1.733	1.179.969	Total for Kingdom	

AVERAGE FIGURES FOR CONTRACTS IN COURSE OF EXECUTION FOR ACCOUNT
OF THE AUTONOMOUS STATE ROAD UNDERTAKING IN 1932, CLASSIFIED
BY ADMINISTRATIVE DISTRICTS.

(Amounts in thousands of lire.)

District administratif	Travaux Work schemes	Coût Cost	Coût moyen Average cost	%	Administrative District
Piémont	22	57.308	2.605	9,0	Piedmont
Ligurie.	9	16.517	1.835	2,6	Liguria
Lombardie	25	92.384	3.695	14,5	Lombardy
Vénétie Tridentine. . .	24	15.897	662	2,5	Venezia Tridentina
Vénétie	23	36.523	1.588	5,7	Veneto
Vénétie Julienne et Zara	23	42.906	1.865	6,7	Venezia Giulia e Zara
Emilie	22	32.397	1.473	5,1	Emilia
Toscane	19	33.590	1.768	5,3	Tuscany
Marches	18	43.476	2.415	6,8	Marches
Ombrie	6	11.701	1.950	1,8	Umbria
Latium.	16	26.911	1.682	4,2	Latium
Abruzzes et Molise . .	11	9.735	885	1,5	Abruzzi e Molise
Campanie	21	44.676	2.127	7,0	Campania
Pouilles	17	58.837	3.461	9,2	Apulia
Lucanie	8	10.645	1.331	1,7	Lucania
Calabre	31	39.582	1.277	6,2	Calabria
Sicile	30	46.172	1.539	7,2	Sicily
Sardaigne	15	19.156	1.277	3,0	Sardinia
Total pour le Royaume	340	638.413	1.878	100	Total for Kingdom

MINISTRY OF PUBLIC WORKS AND AUTONOMOUS STATE ROAD UNDERTAKING.
Average Figures for Contracts from 1926 to 1932, classified according to the Nature of the Work.
(Amounts in thousands of lire.)

Nature des travaux effectués par adjudication Nature of work covered by the contracts	Période de trois années 1926-1928 Three years 1926-1928				Période de trois années 1929-1931 Three years 1929-1931				1932			
	Travaux Work schemes	Coût Cost	Coût moyen Average cost	%	Travaux Work schemes	Coût Cost	Coût moyen Average cost	%	Travaux Work schemes	Coût Cost	Coût moyen Average cost	%
Construction de nouvelles routes — Construction of new roads	944	496.313	526	24,5	373	274.370	736	12,6	350	184.263	526	10,1
Aménagement de routes nationales — Improvement of State roads					502	680.400	1.355	31,1	340	638.413	1.878	35,1
Aménagements hydrauliques et travaux de navigation intérieure — Hydraulic improvements and work on inland waterways	453	160.763	355	8,0	514	193.038	376	9,0	536	220.302	411	12,1
Travaux maritimes — Maritime work. .	339	413.528	1.220	20,4	266	483.458	1.818	22,2	254	437.785	1.724	24,1
Construction de bâtiments nationaux et scolaires — Buildings, State and schools	213	132.444	622	6,5	106	113.325	1.069	5,2	123	96.825	787	5,3
Nouveaux chemins de fer de l'Etat — New State railways	126	470.941	3.738	23,2	91	175.254	1.926	8,0	70	102.290	1.461	5,6
Travaux exécutés en raison de tremblements de terre et d'éruptions volcaniques — Work necessitated by earthquakes and volcanic eruptions . . .	279	256.450	919	12,6	184	165.447	899	7,6	123	38.769	315	2,1
Travaux exécutés en raison d'inondations et d'éboulements, aqueducs et travaux d'hygiène et sanitaires — Work necessitated by floods and landslides, aqueducts, and public health and sanitary work	233	95.080	408	4,8	205	96.375	470	4,3	277	99.735	360	5,6
Total	2.587	2.025.519	783	100	2.241	2.181.667	973	100	2.073	1.818.382	877	100

Average Figures for Contracts from 1926 to 1932, classified by Districts.

(Amounts in thousands of lire.)

District administratif	Période de trois années 1926-1928 Three years 1926-1928				Période de trois années 1929-1931 Three years 1929-1931				1932				Administrative District
	Travaux Work schemes	Coût Cost	Coût moyen Average cost	%	Travaux Work schemes	Coût Cost	Coût moyen Average cost	%	Travaux Work schemes	Coût Cost	Coût moyen Average cost	%	
Piémont	55	69,805	1,269	3,4	72	77,256	1,073	3,5	65	90,078	1,386	4,9	Piedmont
Ligurie	49	39,182	800	1,9	50	82,790	1,656	3,8	36	41,295	1,147	2,3	Liguria
Lombardie	111	26,641	240	1,3	144	121,259	842	5,6	141	138,280	980	7,6	Lombardy
Vénétie Tridentine	64	21,237	331	1,0	60	46,461	774	2,1	48	29,284	610	1,6	Venezia Tridentina
Vénétie	250	195,863	783	9,7	255	187,744	736	8,6	245	131,477	536	7,2	Veneto
Vénétie Julienne et Zara	101	56,425	559	2,8	108	63,940	59	2,9	107	87,004	813	4,8	Venezia Giulia e Zara
Emilie	155	107,003	690	5,3	227	174,732	770	8,0	266	157,748	593	8,7	Emilia
Toscane	171	177,412	1,037	8,8	172	141,169	821	6,4	128	89,732	701	4,9	Tuscany
Marches	54	23,404	433	1,1	52	37,045	712	1,7	54	68,478	1,268	3,7	Marches
Ombrie	16	2,792	174	0,1	20	16,356	818	0,7	21	13,440	640	0,7	Umbria
Latium	132	110,420	836	5,6	87	112,925	1,298	5,2	69	72,982	1,058	4,0	Latium
Abruzzes et Molise	206	72,537	352	3,6	125	52,287	418	2,5	89	41,283	464	2,3	Abruzzi e Molise
Campanie	239	186,115	779	9,2	127	231,209	1,820	10,6	133	221,450	1,665	12,2	Campania
Pouilles	58	30,118	519	1,5	77	82,410	1,070	3,8	111	120,087	1,082	6,6	Apulia
Lucanie	121	66,621	551	3,3	96	50,766	529	2,3	72	24,896	346	1,4	Lucania
Calabre	364	340,082	934	16,8	244	299,619	1,228	13,7	182	137,240	754	7,5	Calabria
Sicile	338	413,427	1,223	20,4	211	295,791	1,402	13,5	164	247,110	1,507	13,6	Sicily
Sardaigne	103	86,435	839	4,2	114	107,908	946	5,1	142	106,518	750	6,0	Sardinia
Total pour le Royaume	2,587	2,025,519	783	100	2,241	2,181,667	973	100	2,073	1,818,382	873	100	Total for King- dom

CHAPTER II. — WORK FOR ACCOUNT OF THE MINISTRY OF PUBLIC WORKS CARRIED OUT BY ORGANISATIONS, COMPANIES AND SYNDICATES OF HOLDERS OF THE RELEVANT STATE CONCESSIONS.

GENERAL AVERAGE FIGURES FOR CONCESSIONS IN COURSE OF EXECUTION FROM JULY 1ST, 1925, TO DECEMBER 31ST, 1932, CLASSIFIED ACCORDING TO THE NATURE OF THE WORK.

(Amounts in thousands of lire.)

Nature des travaux	Période de trois ans 1926-1928		Période de trois ans 1929-1931		1932		Nature of work
	Three years 1926-1928		Three years 1929-1931				
	Travaux Work schemes	Montant des concessions Amounts of concessions	Travaux Work schemes	Montant des concessions Amounts of concessions	Travaux Work schemes	Montant des concessions Amounts of concessions	
Travaux routiers	14	75.450	9	41.824	2	10.953	Road work
Travaux hydrau- liques.	9	31.500	18	67.197	16	55.504	Hydraulic work
Travaux mariti- mes	4	472.078	4	564.955	4	606.709	Maritime work
Travaux d'adduc- tion d'eau . .	4	81.660	5	73.229	6	34.715	Work on water conduits

AVERAGE FIGURES FOR WORK CARRIED OUT UNDER CONCESSIONS IN COURSE OF EXECUTION FROM JANUARY 1ST, 1926, TO DECEMBER 31ST, 1932, CLASSIFIED BY ADMINISTRATIVE DISTRICTS.

(Amounts in thousands of lire.)

District	Période de trois années 1926-1928		Période de trois années 1929-1931		1932		District
	Three years 1926-1928		Three years 1929-1931				
	Travaux Work schemes	Montants des concessions Amounts of concessions	Travaux Work schemes	Montant des concessions Amounts of concessions	Travaux Work schemes	Montant des concessions Amounts of concessions	
Piémont	1	800	1	895	—	—	Piedmont
Lombardie	1	5.600	1	6.179	1	4.928	Lombardy
Vénétie Triden- tine	—	—	1	663	—	—	Venezia Triden- tina
Vénétie	2	119.978	4	189.061	4	186.229	Veneto
Vénétie Julienne et Zara	—	—	1	222	1	1.549	Venezia Giulia e Zara
Emilie	5	20.600	7	29.257	6	21.133	Emilia
Toscane	2	86.000	4	96.930	4	100.667	Tuscany
Marches	—	—	1	4.398	2	1.406	Marches
Lucanie	4	81.660	5	73.229	6	34.715	Lucania
Pouilles	1	95.600	1	129.547	1	167.301	Apulia
Sicile	15	250.450	10	216.824	3	185.953	Sicily
Total pour Royaume .	31	660.688	36	747.205	28	703.881	Total for Kingdom

CHAPTER III. — WORK CARRIED OUT BY QUASI-STATE ORGANISATIONS AND
UNDER ADMINISTRATIVE CONCESSIONS GRANTED BY

CONCESSIONS AND AUTHORISATIONS GRANTED BY THE MINISTRY OF PUBLIC WORKS

Année	Concessions					Renouvellements Renewals				
	Force Power		Irrigation			Force Power		Irrigation		
	Nombre Number	C. V. Hp.	Nombre Number	Modules Modulus	Hectares	Nombre Number	C. V. Hp.	Nombre Number	Modules Modulus	Hectares
1925	103	181.556,25	49	64,08	4.824,55	8	358,81	1	1,50	15,—
1926	157	474.664,45	72	61,45	5.215,15	12	477,51	11	2,98	395,45
1927	217	438.239,23	118	254,70	38.239,34	38	24.733,29	8	2,64	145,66
1928	225	324.171,33	198	305,24	28.489,38	35	6.696,17	23	45,70	324,15
1929	238	449.076,—	195	637,80	66.400,22	28	11.829,57	8	1,09	91,65
1930	184	229.418,—	274	471,74	38.638,22	31	21.132,19	6	2,05	226,82
1931	122	76.434,34	236	228,02	31.631,60	26	11.073,—	5	1,54	11,62
1932	140	203.950,06	285	416,15	46.842,61	10	1.381,85	—	—	—
Total pour la période 1925-1932	1.386	2.377.509,66	1.427	2.439,18	260.281,07	188	77.682,39	62	57,50	1.210,35

WORK CARRIED OUT BY PRIVATE UNDERTAKINGS OF GENERAL CONCERN
BY THE STATE AND SUBSIDISED BY THE STATE.
WORKS IN THE PERIOD 1925-1932 IN RESPECT OF PUBLIC WATER DERIVATION.

Concessions provisoires Provisional concessions					Autorisations Authorisations					Year
Force Power		Irrigation			Force Power		Irrigation			
Nombre Number	C. V. Hp.	Nombre Number	Modules Modulus	Hectares	Nombre Number	C. V. Hp.	Nombre Number	Modules Modulus	Hectares	
15,3	22.262,37	—	—	—	88	1.654,10	68	14,67	1.213,36	. . . . . 1925
95,43	423,04	—	—	—	316	6.660,23	310	45,66	3.013,61	. . . . . 1926
45,64	11.996,89	—	—	—	437	9.533,33	500	123,98	7.444,78	. . . . . 1927
24,18	9.309,40	2	22,10	6,44	375	11.365,08	365	152,05	7.369,77	. . . . . 1928
91,69	5.206,11	3	6,56	350,50	316	12.264,09	342	166,02	21.255,55	. . . . . 1929
26,84	8.032,37	7	103,72	277,50	448	10.303,80	320	85,79	7.980,45	. . . . . 1930
11,64	828,26	4	100,64	81,—	426	11.312,31	408	236,51	10.157,37	. . . . . 1931
—	1.295,22	2	100,05	5,—	516	23.079,67	769	811,50	11.337,91	. . . . . 1932
10,35	59.353,66	18	333,07	720,44	2.922	86.173,51	3.082	1.636,18	69.772,80	Total for the period 1925-1932

DAMS CONSTRUCTED AND UNDER CONSTRUCTION AS AT DECEMBER 31ST, 1932.

District administratif	Nombre de barrages Number of dams	Barrages achevés au 31 décembre 1932 Dams completed as at December 31st, 1932				Barrages encore en construction au 31 décembre 1932 Dams still under construction at December 31st, 1932				Administrative District
		Nombre Number	Capacité utile des réservoirs en millions de mètres cubes Volume of effective inflow of reservoirs in millions of cubic metres	Surfaces de drai- nage commandées par les réservoirs, en kilomètres carrés Catchment area of reservoirs in square kilometres	Nombre Number	Capacité utile des réservoirs en millions de mètres cubes Volume of effective inflow of reservoirs in millions of cubic metres	Surface de drai- nage commandées par les réservoirs, en kilomètres carrés Catchment area of reservoirs in square kilometres			
Piémont.	64	61	205,614	2.168,670	3	24,600	46,470	Piedmont		
Ligurie	9	9	21,526	108,100	—	—	—	Liguria		
Lombardie.	41	38	255,000	1.700,630	3	90,525	1.806,500	Lombardy		
Vénétie Tridentine	5	3	7,660	2.481,600	2	25,300	1.954,200	Venezia Tridentina		
Vénétie	6	5	7,020	1.167,000	1	0,040	25,000	Veneto		
Emilie	19	16	69,237	682,330	3	55,500	1.068,000	Emilia		
Toscane	8	6	8,464	435,750	2	0,325	83,380	Tuscany		
Marches	4	4	2,010	896,500	—	—	—	Marches		
Latium	10	10	20,423	8.777,500	—	—	—	Latium		
Abruzzes et Molise	4	4	3,130	977,000	—	—	—	Abruzzi e Molise		
Campanie	3	3	20,100	7.091,000	—	—	—	Campania		
Lucanie	1	1	5,700	35,000	—	—	—	Lucania		
Calabre	3	3	121,704	163,000	—	—	—	Calabria		
Sardaigne	13	9	626,246	4.025,500	4	52,400	93,000	Sardinia		
Sicile	3	2	24,992	67,000	1	11,800	238,000	Sicily		
Total pour le Royaume	193	174	1.398,826	30.776,580	19	260,490	5.314,550	Total for Kingdom		

CHAPTER IV. — PUBLIC WORKS CARRIED OUT FOR ACCOUNT OF LOCAL ORGANISATIONS AND WORK CARRIED OUT BY PRIVATE PERSONS WITH STATE ASSISTANCE FROM THE BUDGET OF THE MINISTRY OF PUBLIC WORKS.

AVERAGE FIGURES FOR PUBLIC WORKS CARRIED OUT BY LOCAL ORGANISATIONS AND BY PRIVATE PERSONS WITH SUBSIDIES FROM THE STATE, IN THE PERIOD 1925-1932, CLASSIFIED ACCORDING TO THE NATURE OF THE WORK.

(Amounts in thousands of lire.)

Nature des travaux	1925	1926	1927	1928	1929	1930	1931	1932	Nature of work
Travaux de voirie.	276.347	273.868	263.444	224.810	243.337	467.890	584.323	523.301	Road work
Travaux hydrauliques	127.884	120.608	90.261	69.882	29.419	16.581	15.711	18.071	Hydraulic work
Travaux exécutés en raison de dommages de guerre.	36.753	44.259	52.031	61.752	52.766	42.341	26.310	14.599	Work to repair war damage
Travaux exécutés en raison de tremblements de terre	17.652	16.947	20.073	15.781	14.184	30.196	145.103	234.877	Work necessitated by earthquakes
Travaux maritimes	2.867	2.126	2.104	1.374	1.760	705	—	—	Maritime work
Travaux de bonification	4.046	3.770	1.202	118	336	—	—	—	Reclamation work
Travaux d'hygiène, travaux sanitaires et travaux d'intérêt social.	49.338	81.321	118.710	170.883	167.269	171.857	207.096	275.531	Public health, sanitary and social work
Moyenne générale.	514.887	542.899	547.825	544.600	509.071	729.570	978.543	1.066.379	Total average figures

CHAPTER V. — EMPLOYMENT OF LABOUR IN PUBLIC WORKS.

WORKMEN EMPLOYED DAILY IN EACH YEAR OF THE PERIOD 1926-1932.

Année Year	Nombre d'ouvriers Number of workmen	Année Year	Nombre d'ouvriers Number of workmen
1926	81.452	1930	153.186
1927	99.599	1931	146.648
1928	101.845	1932	156.967
1929	125.224		

PROPORTION OF EXPENDITURE ON LABOUR IN THE VARIOUS CATEGORIES OF WORK FOR WHICH THE MINISTRY OF PUBLIC WORKS WAS DIRECTLY RESPONSIBLE IN THE FINANCIAL PERIOD 1931-32.

Nature des travaux	Paie- ments effectués pour les travaux (lires) Payments effected for work (lire)	Calcul des dépenses de main-d'œuvre Calculation of expenditure on labour			Rapport entre la dépense de main- d'œuvre et la dépense totale Relation of expenditure on labour to total expenditure	Nature of work
		Nombre de journées de salaire Number of days' wages	Montant présumé de la journée de salaire (lires) Rate estimated (lire)	Dépenses présumées de main-d'œuvre (lires) Estimated expenditure on labour (lire)		
Nouvelles routes . .	74.872.970	2.197.844	15,00	32.967.660	44,0	New roads
Aménagements hy- drauliques . . .	164.854.389	5.819.121	15,00	87.286.815	52,9	Hydraulic improve- ments
Travaux maritimes .	121.405.115	1.437.606	20,00	28.752.120	23,7	Maritime work
Construction de bâti- ments	60.327.911	707.044	20,00	14.140.880	23,4	State buildings
Travaux de consoli- dation, travaux sanitaires et tra- vaux d'intérêt so- cial	65.485.939	1.262.298	15,00	18.934.470	28,9	Consolidation work and public health and social work
Nouveaux chemins de fer	227.884.428	1.157.008	20,00	23.140.160	10,2	New railways
Total	714.830.752	12.580.921	16,31	205.222.105	28,7	Total

CHAPTER VI. — STUDY OF PLANS AND PRELIMINARY INVESTIGATIONS IN RESPECT OF CONTRACTS FOR NEW WORK SCHEMES.

AVERAGE FIGURES FOR PLANS UNDER CONSIDERATION IN 1932, CLASSIFIED ACCORDING
TO THE NATURE OF THE WORK.

(Amounts in thousands of lire.)

Nature des travaux	Projets Plans	Evaluation de la dépense Estimated cost	Coût moyen Average cost	Pourcentage du coût total Percentage of total amount	Nature of work
Travaux de voirie ordi- naires :					Ordinary road work :
Nouvelles constructions	196	163.501	834	12,7	New construction
Aménagement de routes nationales.	243	300.323	1.236	23,3	Improvement of State roads
Aménagements hydrau- liques et travaux de navigation intérieure . .	297	305.983	1.030	23,8	Hydraulic improvements and work on inland waterways
Travaux maritimes . . .	120	172.976	1.441	13,4	Maritime work
Construction de bâtiments nationaux.	103	72.596	705	5,6	State buildings
Nouvelles constructions de chemins de fer (projets de travaux)	37	117.601	3.178	9,2	New railway construc- tion (schemes propos- ed)
Travaux exécutés en rai- son de tremblements de terre	50	27.205	544	2,1	Work necessitated by earthquakes
Travaux exécutés en rai- son d'inondations, de crues et d'éboulements; travaux sanitaires et travaux divers	189	126.982	672	9,9	Work necessitated by inundations, floods and landslides; public health work and mis- cellaneous work
Total.	1.235	1.287.167	1.042	100	Total

AVERAGE FIGURES FOR PLANS UNDER STUDY IN 1932, CLASSIFIED ACCORDING TO THE
NATURE OF THE WORK.

(Amounts in thousands of lire.)

Nature des travaux	Projets Plans	Evaluation de la dépense Estimated cost	Coût moyen Average cost	Pourcentage du coût total Percentage of total amount	Nature of work
Travaux de voirie ordinaires :					Ordinary road work :
Nouvelles constructions	690	748.954	1.085	30,5	New construction
Aménagement de routes nationales.	303	273.818	904	11,2	Improvement of State roads
Aménagements hydrauliques et travaux de navigation intérieure .	529	280.237	530	11,4	Hydraulic improvements and work on inland waterways
Travaux maritimes	360	380.297	1.056	15,5	Maritime work
Construction de bâtiments nationaux.	252	219.773	872	9,0	State buildings
Nouvelles constructions de chemins de fer (projets de travaux)	64	322.573	5.040	13,2	New railway construction (schemes proposed)
Travaux exécutés en raison de tremblements de terre	105	71.751	683	2,9	Work necessitated by earthquakes
Travaux exécutés en raison d'inondations, de crues et d'éboulements; travaux divers.	380	155.600	409	6,3	Work necessitated by inundations, floods and landslides; miscellaneous work
Total.	2.683	2.453.003	914	100	Total

MINISTRY OF AGRICULTURE AND FORESTS.

WORK FOR ACCOUNT OF THE STATE, CARRIED OUT DIRECTLY OR BY CONCESSION-HOLDERS.

The Department of the Under-Secretary of State for Complete Reclamation, set up in the Ministry of Agriculture and Forests by Royal Decree No. 1726, dated September 27th, 1929, is entirely responsible for all work and all projects that come within the modern conception of complete reclamation, including the schemes transferred to it by the Ministry of Public Works in 1929. These schemes include work under State authority, carried out directly by the State or by the holders of concessions from the State under the control or supervision of the technical offices of the civil engineers, and also work carried out under private authority and subsidised by the State.

In respect of work coming within the first-named category, we give hereunder a comparative statement compiled from the information which the offices of the civil engineers continue to supply.

**PUBLIC WORKS CONNECTED WITH COMPLETE RECLAMATION FOR THE EXECUTION OF WHICH THE
STATE IS DIRECTLY RESPONSIBLE.**

(Amounts in thousands of lire.)

District administratif	Etat au 1 ^{er} janvier 1932 Situation as at January 1st, 1932		Travaux commencés pendant l'année Work started during the year		Travaux achevés pendant l'année Work completed during the year		Etat au 31 décembre 1932 Situation as at December 31st, 1932		Journées de travail Working days	Administrative District
	Travaux Work schemes	Coût Cost	Travaux Work schemes	Coût Cost	Travaux Work schemes	Coût Cost	Travaux Work schemes	Coût Cost		
Piémont	1	111	6	718	2	267	5	562	20.457	Piedmont
Ligurie.	1	15	1	140	2	155	—	—	5.901	Liguria
Lombardie	22	4.873	26	4.948	27	4.178	21	5.643	110.291	Lombardy
Vénétie Tridentine.	7	725	15	927	13	881	9	771	32.886	Venezia Tridentina
Vénétie	25	7.837	18	2.905	33	8.112	10	2.630	110.491	Veneto
Vénétie Julienne et Zara	2	200	3	369	2	118	3	451	6.365	Venezia Giulia e Zara
Emilie	29	7.566	34	3.818	31	6.000	32	5.384	128.776	Emilia
Toscane	22	9.896	47	5.407	41	6.979	28	8.324	243.230	Tuscany
Marches	9	1.063	9	1.136	8	1.091	10	1.108	20.634	Marches
Ombrie.	9	1.460	9	697	11	946	7	1.211	42.253	Umbria
Latium.	18	15.231	24	13.239	25	3.537	17	24.933	197.000	Latium
Abruzzes et Molise	8	889	16	1.057	15	719	9	1.227	27.019	Abruzzi e Molise
Campanie	22	1.973	37	2.867	39	2.438	20	2.402	92.364	Campania
Pouilles	38	4.046	81	4.097	76	5.506	43	2.637	192.332	Apulia
Lucanie	2	360	2	167	3	289	1	238	14.566	Lucania
Calabre	28	8.958	22	2.516	32	8.169	18	3.305	159.455	Calabria
Sicile	24	3.873	35	2.502	42	4.510	17	1.865	96.103	Sicily
Sardaigne	21	5.419	40	2.443	43	4.846	18	3.016	130.756	Sardinia
Total pour le Royaume	288	74.495	425	49.953	445	58.741	268	65.707	1.630.879	Total for Kingdom

PUBLIC WORKS CONNECTED WITH COMPLETE RECLAMATION FOR
ACCOUNT OF THE STATE, CARRIED OUT UNDER CONCESSIONS.
(Amounts in thousands of lire.)

District administratif	Etat au 1 ^{er} janvier 1932 Situation as at January 1st, 1932		Travaux commencés pendant l'année Work started during the year		Travaux achevés pendant l'année Work completed during the year		Etat au 31 décembre 1932 Situation as at December 31st, 1932		Journées de travail Working days	Administrative District
	Travaux Work schemes	Coût Cost	Travaux Work schemes	Coût Cost	Travaux Work schemes	Coût Cost	Travaux Work schemes	Coût Cost		
Piémont	1	125	2	311	3	436	—	—	4,019	Piedmont
Ligurie	—	—	1	1,200	—	—	1	1,200	14,532	Liguria
Lombardie	9	96,942	8	15,444	4	1,933	13	110,453	225,113	Lombardy
Vénétie Tridentine	4	3,826	5	799	7	4,042	2	583	15,487	Venezia Tridentina
Vénétie	54	259,871	38	72,720	27	75,339	65	257,252	1,423,263	Veneto
Vénétie Julienne et Zara	6	60,766	3	8,421	2	5,400	7	63,787	341,374	Venezia Giulia e Zara
Emilie	47	796,887	19	139,674	17	88,190	49	848,371	2,121,233	Emilia
Toscane	19	66,440	22	37,788	5	11,761	36	92,467	526,907	Tuscany
Marches	—	—	1	1,604	—	—	1	1,604	21,323	Marches
Ombrie	—	—	1	225	1	225	—	—	618	Umbria
Latium	12	125,240	8	17,447	4	20,222	16	122,465	2,322,255	Latium
Abruzzes et Molise	—	—	5	2,208	1	535	4	1,673	25,410	Abruzzi e Molise
Campanie	10	82,561	20	47,267	14	84,030	16	45,798	387,876	Campania
Pouilles	12	43,628	22	60,375	11	26,790	23	77,213	553,405	Apulia
Lucanie	—	—	1	26,859	—	—	1	26,859	165,750	Lucania
Calabre	38	316,400	22	68,003	24	175,261	36	209,142	1,641,134	Calabria
Sicile	3	19,958	6	14,455	—	—	9	34,413	271,887	Sicily
Sardaigne	18	53,556	30	50,190	19	31,615	29	72,131	770,375	Sardinia
Total pour le Royaume	233	1,926,200	214	564,990	139	525,779	308	1,965,411	10,831,961	Total for Kingdom

MINISTRY OF AGRICULTURE AND FORESTS : DEPARTMENT OF THE UNDER-SECRETARY
OF STATE FOR COMPLETE RECLAMATION.

COST OF SUBSIDISED WORK SCHEMES CARRIED OUT UNDER PRIVATE AUTHORITY, AUTHORISED DURING THE FINANCIAL
PERIOD 1931-32.

(Amounts in thousands of lire.)

District administratif	Travaux d'irrigation Irrigation schemes	Adduction d'eau d'intérêt rural Rural water conduits	Communication entre les fermes Roads between farms	Agglomérations et bâtiments ruraux dans le Midi et dans les Iles Villages and rural buildings in Southern Italy and the Islands	Petits travaux d'aménagements ruraux Small-scale agrarian improvements	Adduction d'eau potable Drinking- water supplies	Administrative District
Piémont	18,965	733	32	—	158	27	Piedmont
Ligurie	6,755	303	—	—	—	17	Liguria
Lombardie	23,005	11	192	—	—	12	Lombardy
Vénétie	2,600	256	26	—	13	—	Venezia
Vénétie Tridentine	29,899	2,853	526	—	—	—	Tridentina
Vénétie	57	45	—	—	—	—	Veneto
Vénétie Julienne et Zara	13,988	582	202	—	50	10	Venezia Giulia e Zara
Emilie	3,502	1,126	596	—	532	23	Emilia
Toscane	3,256	—	162	—	108	682	Tuscany
Marches	1,276	35	150	—	88	36	Marches
Ombrie	8,994	576	433	—	—	—	Umbria
Latium	3,384	457	139	—	—	41	Latium
Abruzzes et Molise	4,628	—	420	2,653	56	—	Abruzzi e Molise
Campanie	3,207	57	728	4,210	139	—	Campania
Pouilles	201	—	—	7,274	—	35	Apulia
Lucanie	3,238	—	249	2,489	—	—	Lucania
Calabre	10,676	—	1,472	2,222	54	—	Calabria
Sicile	4,815	—	52	2,731	255	—	Sicily
Sardaigne	—	—	—	2,245	—	—	Sardinia
Total pour le Royaume	142,446	7,034	5,388	23,824	1,453	883	Total for Kingdom

LATVIA.

[Translation.]

PUBLIC WORKS EXECUTED BETWEEN APRIL 1ST, 1929, AND APRIL 1ST, 1934.

(a) ROADS AND BRIDGES.

1. Execution of earthworks in connection with the building of roads and highways over a total distance of 321 kilometres (shifting of 1,286,000 cubic metres of earth).
2. Construction of a new road surface 93 kilometres in length ; complete repairing of highways over a distance of 7 kilometres and paving over a distance of 1 kilometre.
3. Excavation and supplying of 325,000 cubic metres of dolomite and crushing of 152,000 cubic metres of dolomite.
4. Excavation and supplying of 18,400 cubic metres of granite ; crushing of 91,000 cubic metres of granite.
5. Supplying of 134,000 cubic metres of gravel, sand and metal for road repairs.
6. Cutting and clearing of lateral ditches over a distance of 1,400 kilometres.
7. Construction of 247 wooden bridges totalling 3,700 metres in length ; repairing of 110 wooden bridges totalling 1,600 metres in length.
8. Construction of reinforced concrete drains (192 pieces of 30 centimetres to 1 metre).
9. Manufacture and placing in position of 12,150 protective stakes.
10. Clearing of roads in winter over an area of 73,000 square metres.

The following highways were constructed, partly as public works : Riga-Tukums, Riga-Bauska, Riga-Vecmuiža-Skaistkalne, Riga-Nereta, Riga-Ogre, Riga-Kalnciems, Riga-Saulkrasti, Riga-Lubane, Skrīveri-Madliena, Līgatne-Nītaure, Sigulda-Turaida, Skrīveri-Jaunjelgava, Tukums-Kuldīga, Liepāja-Rucava, Liepāja-Tāsē, Jelgava-Iecava, Jelgava-Bauska, Jelgava-Auce, Kuldīga-Skrunda, Daugavpils-Populanka, Valmiera-Strenči.

The cost of the execution of the works specified under (a) was as follows :

	Lats
1929-30	596,600
1930-31	595,000
1931-32	1,830,000
1932-33	2,320,400
1933-34	990,000

(b) RAILWAYS.

Construction of railways over a total distance of 350 kilometres : Liepāja Alsunga (750 mm. gauge) ; Rēzekne-Bērzpils (750 mm.) and part of the Riga-Rūjiena line (1,524 mm.) and Riga-Ergli (1,524 mm.).

Decauville lines, from Pakalnieči (1,524 mm.), distance, 27 kilometres ; from Inčukalna (600 mm.), distance, 26 kilometres ; from Silini-Elekšņi (600 mm.), distance, 33 kilometres ; from Ogre (600 mm.), distance, 40 kilometres ; from Ventspils-Dundaga (600 mm.), distance, 53 kilometres.

Apart from the above-mentioned works, works of upkeep, repair, transformation and demolition were carried out on the existing lines. Mention should also be made of the excavation of quarry gravel and the ballasting of roads, the construction, repair and demolition of railway bridges, drains and various buildings, and the renewal and repair of pumps and wells.

The following sums were expended on the above-mentioned works :

	Lats
1929-30	676,040
1930-31	525,000
1931-32	1,065,000
1932-33	830,424
1933-34	947,448

The tramways were not built with credits appropriated for public works.

(c) AGRICULTURAL LAND IMPROVEMENT.

Roads were built over a total distance of 210 kilometres on the outskirts of towns. This has helped to improve communications with the centre of the towns in question. It is proposed in the near future to erect about 1,000 dwelling-houses for unemployed agricultural workers, with the object of encouraging the migration of unemployed urban workers to the country. This measure will help to supply the lack of labour in the country and at the same time to reduce unemployment in the towns. Owing to the absence of suitable housing accommodation, it has been impossible up to the present to place unemployed workers with large families in the country.

(d) CANALS AND OTHER INLAND WATERWAYS (including Regulation of Rivers, Defensive Works against Floods, etc.).

The regulation of the Lubāna Lake has necessitated the boring of 2,113 holes, totalling 3,193 metres in length, in the sub-fluvial rock of the Aiviekste River and the blasting of 3,530 cubic metres of rock. The cost of these works amounted to 12,820 lats.

The regulation of the Dubna River required the boring and blasting of sub-fluvial rock for a distance of 25,230 metres. The cost was 66,500 lats.

Twenty-one thousand three hundred cubic metres of earth dredged on the banks of the Iecava River, and 20,900 cubic metres on the banks of the Misa River, were moved and levelled.

The partial construction of an embankment at Daugavpils and at Grīva for defence against floods necessitated an outlay, during the five years under review, of 534,000 lats. These works should be completed next year.

(e) IMPROVEMENT WORKS.

Improvement works are carried out in the State forests and also by improvement associations, which include the landowners concerned and the municipalities.

(1) *Works executed by Improvement Associations.*

Financial year	Cutting of ditches		Cost of works Lats
	Metres	Cubic metres	
1931-32	134.70	263,447	153,481
1932-33	737.40	1,639,860	767,545
1933-34	382.00	838,450	341,580

(2) *Works executed in the State Forests.*

Financial year	Cutting of ditches		Cost of works Lats
	Metres	Cubic metres	
1931-32	50.70	78,000	44,300
1932-33	222.50	310,500	130,000
1933-34	72.50	90,100	43,000

In 1932, the municipality of Riga undertook, in the vicinity of Riga, the consolidation of the moving dunes, the reclamation of the marshes and other drainage works. Among the works carried out in 1931, 1932, 1933 and 1934 should be mentioned also the cutting of various improvement ditches involving the excavation of 561,000 cubic metres of earth, the consolidation of 25,800 metres of ditches by fascine-work, the digging of drains over a distance of 32,000 metres, the consolidation of moving dunes by means of reeds, heath and brushwood over an area of 40 hectares, the clearing of undergrowth and stumps over an area of 190 hectares.

In 1932, the Forestry Department carried out forest thinning and clearing operations over an area of 600 hectares.

(f) PROVISION OF DRINKING-WATER SUPPLIES AND SEWAGE DISPOSAL.

Nil.

(g) WORK CARRIED OUT IN SEA AND RIVER PORTS, ETC.

Nil.

(h) WORK FOR THE ESTABLISHMENT OF AIRPORTS.

Construction of aerodromes at Riga and Liepāja.

(i) BUILDING AND CONSTRUCTION WORK, ETC.

The reconstruction of the castles of Jelgava and Rundale, which had suffered serious damage during the great war, necessitated the expenditure of 195,000 lats for labour. The sum of 296,800 lats was expended on the reconstruction, modification and reparation of the buildings of the Ministry of War, and on the installation of ranges and sports grounds at Riga, Daugavpils, Rēzekne and Sālaspils.

Turf pits were opened at Ploči, near Liepāja, and at Sālas pils and Livani, with an annual output of about 400,000 bundles of peat for litter and 25,000 to 35,000 tons for fuel.

Mention should also be made of the works for the repair of school buildings, homes, etc., executed either by Government institutions or by the municipalities out of public works credits.

(j) ELECTRIC INSTALLATIONS, ETC.

Nil.

(k) GASWORKS AND LONG-DISTANCE GAS SUPPLY.

Nil.

(l) TELEGRAPH AND TELEPHONE INSTALLATIONS, WIRELESS BROADCASTING STATIONS.

As there are no specialists in these branches among the unemployed, works of this kind are only very rarely carried out in the form of public works.

Out of the credit voted for public works, a sum of 23,000 lats was expended in 1932 on the extension of the telephone system in rural districts.

(m) OTHER WORKS.

The output of the forestry work carried out in 1932 by the Ministry of Social Welfare was as follows :

Financial year	Squared timber, logs	Pit props	Wood for pulping	Wood for fuel	Various materials	Sum expended in preparations
		Cubic metres				Lats
1932-33	113,050	32,230	50,730	219,900	4,660	3,200,000
1933-34	128,300	31,038	61,400	193,377	2,000	3,000,000

In Latvia, unemployment is, on the whole, seasonal in character ; it becomes more serious in the autumn, when building works and loading, and also agricultural works, cease, and improves rapidly in the spring on the resumption of those works. It is thus at its worst in January, February, March and April.

The unemployed are registered at the employment bureaux under the supervision of the Ministry of Social Welfare. They are divided into several categories, according to the size of the family that they have to support, and are classified according to their working capacity as follows : persons who are capable of working but have lost up to 30 per cent of their working capacity, and persons fit for light work who have lost 31 to 50 per cent of their working capacity. Unemployed persons who have lost more than 50 per cent of their working capacity or have reached the age-limit are excluded from the employment bureaux as persons in need of social assistance.

In drawing up the programme of works, account is taken of the qualifications of the unemployed. For unemployed persons capable of working, practically all the works are organised outside the towns. These works consist mainly of earthworks for the construction of railways, roadways and roads, the excavation and crushing of stones, improvement works, etc.

In 1932, the Ministry of Social Welfare had organised forestry work in regions at a distance from the railways and navigable waterways. In order to reduce the cost of transport, those regions have been connected up with the railway system by means of branch lines, extending over a total distance of 180 kilometres.

The extent and fluctuations of unemployment may be seen from the following figures :

Table showing the Number of Unemployed Persons during the Years 1929-1934.

Month	1929		1930		1931		1932		1933		1934	
	Reg.	Empl.	Reg.	Empl.	Reg.	Empl.	Reg.	Empl.	Reg.	Empl.	Reg.	Empl.
January ...	19,546	7,510	13,456	5,270	17,607	6,678	35,498	13,715	32,544	17,251	21,415	10,970
February ..	19,244	7,377	14,596	5,847	17,965	7,482	37,450	16,185	33,918	20,366	22,755	12,369
March	16,940	8,428	14,187	6,338	15,915	6,805	36,019	15,631	33,249	19,888	21,317	10,912
April	9,962	4,200	10,097	5,270	10,585	3,524	23,674	9,230	25,367	14,667	16,876	9,674
May	2,745	1,312	2,279	858	2,331	460	12,092	3,387	15,855	9,890	7,847	5,223
June	1,758	522	1,181	402	2,128	544	9,361	2,303	8,980	4,879	4,903	3,746
July	1,840	635	1,039	432	3,273	1,104	9,293	2,290	7,668	4,159	3,662	2,754
August	1,420	412	1,039	466	5,786	959	10,985	1,841	7,267	3,586		
September ..	2,029	447	2,075	605	8,335	1,149	12,448	3,424	5,983	2,752		
October ...	4,709	505	7,046	583	14,034	1,586	17,456	5,842	6,827	3,036		
November ..	10,546	2,067	11,903	2,262	22,310	5,769	25,090	8,537	14,867	5,838		
December ..	11,364	3,232	16,324	4,930	27,940	8,503	30,561	13,407	20,043	9,657		

This table shows that, in 1932, 1933 and 1934, there was a marked increase in the number of unemployed persons, during every month of the year, as compared with previous years. Owing to the shortage of funds, there was also an increase in the number of unemployed for whom no work was found.

The increase in unemployment, particularly among manual workers, led in 1931 to the promulgation of the law for the constitution of a special unemployment fund. This fund is made up of :

- (1) Deductions from the wages of State and municipal employees, and from those of members of sickness insurance funds (1 per cent of wages not exceeding 200 lats per month, and 2 per cent of wages above 200 lats per month).
- (2) Contributions representing 1 to 4 per cent of the income of persons belonging to the liberal professions.
- (3) Contributions by owners of immovable property.
- (4) Contributions by employers, who pay the same amount as their workers.

The sums at the disposal of the unemployment fund were as follows :

From January 1st, 1932, to April 1st, 1932	From April 1st, 1932, to April 1st, 1933	From April 1st, 1933, to April 1st, 1934
Lats	Lats	Lats
430,885.57	3,990,558.25	6,639,469.22

In addition to the unemployment fund, which forms the greater part of the moneys used for the organisation of public works, the budget of the State also includes a certain sum for that same object. On the application of the Ministry of Social Welfare, the necessary credits are granted each month by the Cabinet. The public works are carried

out either by the Government institutions, by the municipalities or by agricultural organisations. The necessary sums are allocated to the Government institutions and agricultural organisations in the form of non-repayable credits, while the municipalities receive one-half in the form of a subsidy and the balance as a loan for a period of ten years with interest at 1 per cent per annum.

The following table shows the sums used during the years 1929-1934 for the execution of public works, including miscellaneous expenditure :

Financial year	Government institutions	Municipalities	Private organisations	Total
	Lats	Lats	Lats	Lats
1929-30	1,681,950.—	355,700.—	2,210.—	2,039,860.—
1930-31	1,769,806.28	557,000.—	2,036.—	2,328,842.28
1931-32	4,617,957.39	1,226,800.—	42,835.50	5,887,592.89
1932-33	7,180,112.37	1,551,000.—	—	8,731,112.37
1933-34	7,506,187.23	922,950.—	6,360.—	8,435,497.23

About 10 per cent of the above-mentioned sums was employed for various social purposes, such as medical treatment and assistance to unemployed persons in case of sickness or accidents, subsistence allowances for families of the unemployed during the winter, payment of rent, transport of unemployed persons, etc. About 5 per cent was expended on the purchase of materials and on equipment, which is supplied almost exclusively by the national industries. The employment of intellectual workers accounted for about 10 per cent, the balance being expended on wages paid to manual workers.

The public works are carried out directly by the authorities, the greater part of these works being organised by the Department of Highways and Roads (Ministry of Roads and Communications).

LITHUANIA.

[*Translation.*]

Up to 1926, there was no unemployment question in Lithuania ; its appearance is of more recent date and may be attributed to the reduction of emigration and the contraction of agricultural exports.

In Lithuania, as in other countries, there are two means of dealing with unemployment :

- (1) The organisation of public works ; and
- (2) The dole.

The dole was soon abandoned on account of its demoralising effect on the recipients. The public funds, moreover, could no longer stand the strain. Attention may therefore be confined to public works. Under the system followed, remuneration is at piece rates and not at day rates. In this way, the work is more productive and the workers' earnings are increased.

Expenditure on public works for the reduction of unemployment has been as follows : 900,000 litas in 1931, 1,200,000 litas in 1932, and 1,500,000 litas in 1933. A third of these sums was provided by the State and the remainder by the municipalities.

The Public Works Fund was created on January 1st, 1934, for the purpose of organising public works to reduce unemployment. The works are, however, not centralised, but are distributed among the various municipalities, by which they are executed in accordance with a prearranged plan. The Public Works Fund defrays all labour costs, while the municipalities finance the organisation, supply of raw materials, etc.

The period of unemployment begins on October 15th and ends on May 15th. During the summer months, unemployment disappears, and there is even a shortage of labour for agricultural purposes. A scheme of public works is drawn up for a specified period.

The following is the expenditure incurred during the period October 15th, 1933, to May 15th, 1934 : 500,000 litas for road-building and street-paving ; 350,000 litas for the preparation of paving-stones and gravel ; 150,000 litas for strengthening the banks of navigable waterways.

The difficulty of the problem of using public works as a means of reducing unemployment resides in the fact that, in Lithuania, the intense cold makes agricultural work impossible during the winter months ; whereas, as has already been stated, it is precisely during these months only that unemployment occurs. As a remedy, an attempt has been made to devise new methods.

For the coming season, the following public works are in contemplation : preparation of paving-stones and gravel for streets and roads, production of shingles, road repairs and the strengthening of the banks of navigable waterways. Among these various classes of works attention will, it is expected, be concentrated, in the main, on the production of shingles for wooden roofs, as this industry continues in full activity during the winter months. Five camps are to be set up at which the making of shingles will be carried out by hand instead of by machinery ; in that way, work will be found for a greater number of unemployed. Furthermore, hand-made shingles are superior in quality to those made by machinery.

The shingles will be sold at low prices and purchasers will be allowed credit facilities.

The Public Works Fund is derived from three sources :

- (1) Employers' taxes ;
- (2) Contractors' taxes ;
- (3) State and municipal grants.

The Public Works Fund has an annual revenue of 2 million litas, which are used for the remuneration of labour. This sum is sufficient to provide work for all the unemployed.

In carrying out the above-mentioned public works, recourse has not been had to the assistance of any foreign industry.

The Lithuanian Government views the increase in the organisation of public works with satisfaction. Government support has been prompted partly by a desire to put an end to unemployment, and partly by the great value of certain works to the country.

LUXEMBURG.

[Translation.]

I (a).

No.	Description of works	Expenditure Francs
1.	Surfacing	68,730,000
2.	Widening	17,590,000
3.	Curve camber improvements	3,933,000
4.	Straightening	25,443,000
5.	Bridges	2,366,000
6.	Water supply	38,455,000
7.	Sewerage	6,987,000
8.	Abolition of level-crossings	—
Total		163,504,000

I (b).

No.	Description of works	Expenditure Francs
1.	Surfacing	7,407,000
2.	Widening	2,812,000
3.	Curve camber improvements	190,000
4.	Straightening	839,000
5.	Bridges	775,000
6.	Water supply	3,645,000
7.	Sewerage	450,000
8.	Abolition of level-crossings	—
Total		21,118,000

I (c).

No.	Description of works	Expenditure Francs
1.	Surfacing	8,605,000
2.	Widening	4,539,000
3.	Curve camber improvements	946,000
4.	Straightening :	
	(a) State roads	21,305,000
	(b) Communal roads	35,850,000
5.	Bridges	1,530,000
6.	Water supply	9,890,000
7.	Sewerage	1,337,000
8.	Abolition of level-crossings	4,950,000
9.	Major bridges	32,500,000
10.	Special motor roads	p.m.
Total		121,452,000

II (a). — The works have been carried out on behalf of the Government.

II (b). — The work on water supply and sewerage has been carried out at the expense of the communes concerned, with a State grant of approximately 10 per cent in the case of water supply and 25 per cent for sewerage. In respect of the water supply in the Ardennes, however, a special State grant of 20,000,000 francs has been made.

II (c). — The works are to be carried out by contract, with the exception, however, of the surfacing operations, the working-up of the materials for which is under direct public control.

III. — The expenditure on such works is covered :

- (a) By a loan ;
- (b) Out of the ordinary budget ;
- (c) Out of the budgets of the communes.

IV.

No.	Description of works	Allocation of expenditure as between	
		Materials and equipment	Labour
1.	Surfacing	$\frac{3}{4}$	$\frac{1}{4}$
2.	Widening	$\frac{2}{3}$	$\frac{1}{3}$
3.	Curve camber improvements	$\frac{2}{3}$	$\frac{1}{3}$
4.	Straightening	$\frac{2}{3}$	$\frac{1}{3}$
5.	Bridges	$\frac{2}{3}$	$\frac{1}{3}$
6.	Water supply	$\frac{2}{3}$	$\frac{1}{3}$
7.	Sewerage	$\frac{3}{4}$	$\frac{1}{4}$
8.	Abolition of level-crossings	$\frac{2}{3}$	$\frac{1}{3}$
9.	Major bridges	$\frac{2}{3}$	$\frac{1}{3}$
10.	Special motor roads	$\frac{2}{3}$	$\frac{1}{3}$

V. — These works provide employment for quarrymen and also for the industries concerned. The quarries have maintained their productive capacity, and the other industries have appreciated the orders which they have received. The works in question have greatly contributed to reducing unemployment.

NICARAGUA.

[Translation from the Spanish.]

NATIONAL PUBLIC WORKS CARRIED OUT SINCE THE BEGINNING OF 1929.

Sand and Clay Roads for Motor Traffic.

	Kilometres
Managua to San Isidro (Department of Managua)	8
Managua to Santo Domingo (Department of Managua)	10
Parque Colón to Ticomo (Department of Managua)	4
Las Conchitas to Masachapa	36
San Marcos to Masatepe	8
Masatepe to Laguna de Masaya	7
Granada to Nandaime	27
Granada to Villa Stimson	62
Arenal to Nindirí	10
Nindirí, branching off from the Villa Stimson road	2
Arenal to La Concepción	7
San Juan de Oriente to Granada, branching off at La Fuente . . .	18
Las Esquinas to San Marcos	7
Masatepe to Nandasmo	1 ½
Rivas to San Jorge	5
Chinandega to Nacascolo	33
Pocitos to San Juan	4
Villa Stimson to Rama, 214 kilometres, of which part only has been constructed—namely	60
Ocotol to Las Manos	35
Masaya, branching off from the Granada-Villa Stimson road . . .	25
Matagalpa to Muy Muy	60
León to Telica	7
Temoá to Arenal	24
Masaya to Masatepe	13
Junction San Juan-Granada-Diriá road	1
Diriá to Diriomo	1
La Concepción to San Juan del Dulce	1 ½
San Juan to Catarina	1
	<hr/> 478

Number of kilometres of roads remade :

Managua to Diriamba	44
Villa Stimson to Matagalpa	80
	<hr/> 124

Asphalted Roads.

Managua to Parque de Colón, 4 kilometres.

Managua: Roads paved by the Macadam Asphalt Penetration System.

Second Street South ;
Thirteenth Avenue East ;
Railway Station Square ;
Third Avenue East ;
Second Avenue West.

Managua.

Main sewer in Third Avenue West.

Railways built.

	Kilometres
Railway from León to El Sauce.	120
Railway from San Jorge to San Juan del Sur	35
	<hr/> 155

Dredging of the Laguna de Perlas Canal.

Twelve hundred feet, representing 600 cubic yards of matter.

National Buildings erected.

The Presidential residence at " Loma de Tiscapa ", at Managua, Moorish style, of reinforced concrete.

Ministry of Communications, a modern construction, at Managua.

Central part and southern wing of the National Palace, a modern building of masonry, at Managua.

A modern building of reinforced concrete occupied by the Sera and Vaccines Institute, attached to the Ministry of Public Health, at Managua.

A building of reinforced concrete occupied by the administrative and accountancy services of the railways, at Managua.

A building of reinforced concrete for the railway station, at León.

A building of reinforced concrete for the railway station, at Masaya.

A building of " taquezal " and concrete to replace the south-eastern part of the General Hospital destroyed during the earthquake, at Managua (erected with the help of funds received for the victims).

A building of " taquezal " for the Orphan Asylum, at Managua (erected with the help of funds received for the victims of the earthquake).

National Buildings in course of construction.

For the headquarters services of the National Guard, a two-story building, with flat roof, of reinforced concrete, situated on the inner eastern side of the " Campo de Marte " fort.

For Government services (Arms Command, etc.) in the recently opened port of Nacascoto, on the Gulf of Fonseca, a one-story building of " taquezal ".

Masonry Dam " El Salto ".

For the water supply of the Department of Carazo.

National Public Works now in progress.

Government Palace, a two-story building of reinforced concrete, with steel bracing, covering an area of 10,000 square metres. This building is on the site of the former Palace destroyed by the earthquake and fire on March 31st, 1931, at Managua.

Law Courts for the services of the Supreme Court of Justice, at Managua, a two-story building of reinforced concrete with steel bracing. This building will be on the site of the former Law Courts destroyed by the earthquake and fire referred to above.

A two-story building for the accommodation of the General Customs Administration, of reinforced concrete with steel bracing. This building will be on the site of the national building known as the "Casa Blanca", destroyed by the same catastrophe.

Ministry of Communications, a two-story building of reinforced concrete with steel bracing. This building will be on the site of the building of the same name destroyed by the same catastrophe.

Former Presidential residence at the "Campo de Marte". This building, which the earthquake and fire reduced to ruins and rendered uninhabitable, will be reconstructed and occupied by the higher Government services.

NORWAY.

[*Translation.*]

PUBLIC WORKS CARRIED OUT SINCE 1929.

I (a) and (b).

RAILROADS, ETC.

The railways completed or in course of construction since 1929 cover about 700 kilometres. The cost of this work is estimated at about 300 million crowns. Of this sum, about 160 million crowns have already been voted.

Of the work indicated, the most important is that in connection with the "Nordlandsbanen" Railway. This is a main line running parallel to the coast through the northern provinces. When the work in course of execution has been completed, this line will extend to Mosjøen, more than 200 kilometres to the north of Trondheim. It is expected that this point will be reached in 1942.

Another main line of about the same importance is that running from Oslo through the southern part of the country to Stavanger. The work at present in course of execution will carry this line as far as the Flekkefjord district. The line is remarkable for its numerous tunnels. Of the section of about 107 kilometres between Kristiansand and Trondviken, 45 kilometres consists of tunnels.

The reconstruction and enlargement of Oslo Station, estimated at about 35 million crowns, is also of great importance. The work in question should be completed in two or three years' time.

The other work in course of execution consists of secondary lines of local importance.

Mention should also be made of certain works of enlargement and reconstruction carried out on the present railway system, and also of work outside the scope of ordinary railway maintenance. The rolling-stock is also being renewed. Since July 1st, 1928, about 35 million crowns have been spent for this purpose.

ROADS AND BRIDGES.

In a country as extensive as Norway, the road system is of great importance and always necessitates considerable work in all parts of the country. In the last few years, the special object in view has been to join up the roads of the different provinces in order to obtain main roads of a national character.

In this connection, the road, over 2,000 kilometres in length, which crosses the whole of Northern Norway is remarkable. It constitutes an auxiliary to the railway line mentioned above. There still remains a section of about 500 kilometres of this main road to be constructed, the cost of which is estimated at 14 million crowns.

Special importance also attaches to the roads which are being constructed to connect Eastern Norway with certain parts of Western Norway, which hitherto have had no road connection with the other provinces. Thanks to the lines of communication which are now being constructed, the town of Bergen and its vicinity will be given

a connection with the other parts of Norway. In the same way, the districts round Haugesund and Hardanger, where there is great economic activity, will be connected with Eastern Norway.

Certain districts being as yet unprovided with railways, first-class roads suitable for motor traffic will be substituted for the railways previously planned.

Since 1929, the Directorate of State Roads has had about 70 million crowns at its disposal for the construction of public roads. Of this amount, about 50 million crowns represent the State's share and about 20 millions that of the communes.

In addition to the constructions indicated above, corresponding to a total expenditure of 70 million crowns, the communes, in order to alleviate unemployment, have undertaken the construction of various local roads. No details are available on this subject, however. Of the roads being constructed under the administration of the Directorate of State Roads, about one-fifth consist of special undertakings to diminish unemployment. The other work is of a regular character.

(c) and (d) INLAND WATERWAYS.

The Public Administration of Inland Waterways regularly carries out large-scale works for the improvement of watercourses. These works are undertaken in the interests of agriculture and are partly aimed at preventing or stopping overflows and partly at preventing floods.

Since 1929, about 6 million crowns have been voted and spent for this purpose.

(e) LAND IMPROVEMENT WORK.

The Norwegian State has devoted considerable sums to bringing new land under cultivation and to reafforestation, in the form of Government subsidies to private persons wishing to undertake such work. Subsidies of this kind have been granted for a long time past. In the last few years, the sums voted for this purpose have been specially increased as a result of unemployment. For the current financial period, this special increase amounts to 8 million crowns. Since 1929, public expenses in respect of this work have been considerable.

(m) OTHER WORK.

In addition to the credits voted by the State or communes for public works and included under the above headings, mention should be made of the subsidies granted in respect of various private activities not included in the sphere of public works.

Under this heading may be mentioned :

- Loans to fishermen for the improvement of their gear ;
- Subsidies with a view to improving the sales organisation of the products of fisheries, agriculture and domestic industry ;
- Bounties on wheat production.

In addition, the State subsidises certain private undertakings which are in financial difficulties and the failure of which might increase unemployment.

The sums placed at the disposal of various banking institutions of special importance to agriculture and the fishing industry, with a view to a reduction in the rate of interest, are probably outside the scope of the present investigation.

I (c). — A number of different authorities are responsible for discussing and preparing plans for public works, and it is therefore somewhat difficult to give a brief description of all such works.

As regards railways, however, plans have been adopted for a series of reconstruction and electrification works to a total amount of about 22 million crowns, including 6 million crowns for the current financial period. It is further proposed to continue the construction of the two main railway lines mentioned above—namely, the “Nordlandsbanen” and the “Sörlandsbanen”. Sections of over 200 kilometres are involved in each case.

As regards the road system, new and important roads are at present in preparation.

It is impossible to give a general estimate of the sums required for the work at present in contemplation as regards railways and roads. It is, however, to be anticipated that this category of public works will be of considerable importance in the next few years in Norway, for not only will the work begun be completed, but the large-scale new works in preparation will be set on foot.

In the last few years, not much work has been carried out in connection with the utilisation of hydraulic power by the State, but at present plans are in preparation for work on a larger scale, including the electrification of some of the State railways.

As regards the other categories of work dealt with above—namely, river rectification, the bringing of new land under cultivation, reafforestation, etc.—there can be no doubt that they will continue on the same scale as hitherto, and will even probably be increased. Generally speaking, the volume of public works in Norway in the next few years will depend on political developments, since certain political parties have placed on their programme a considerable increase in the work of this category to be undertaken by the State or the communes.

II. — The construction of railways and roads and the work in connection with inland waterways are generally carried out by the public administrations themselves, such as the Central State Railways Administration, the Directorate of State Roads and the Directorate of Inland Waterways. In certain cases, the communal authorities give their assistance to the State authorities. The system of awarding contracts to companies for the execution of public works is rarely employed.

As regards the works mentioned above in connection with the bringing of land under cultivation, reafforestation and the development of fisheries, the rule is that private individuals or undertakings are subsidised, the actual execution of the work remaining in their hands. The system of contracts by tender is almost unknown and is not employed by either the Railways Administrations or the Roads Directorate.

III. — The public works indicated above are financed partly by the State and partly by the communes. To some extent, public organisations have accumulated funds which are also used for the financing of their respective works. As regards the railways, the local districts co-operate with a view to financing, so that, when the Central Administration prepares a new railway line, it lays down the condition that the districts in question will pay a contribution, usually amounting to 15 per cent of the cost of constructing the line.

Even in the case of other public works mainly financed out of the public budget, a contribution from the local districts is required. In the case of contributions by private individuals, the latter may make payments in kind or supply a certain quantity of labour. Sometimes, too, the communes benefiting from the proposed constructions are invited to give a guarantee covering any expenditure in excess of estimates or a guarantee for maintenance expenses.

Financial resources are made available partly as an ordinary measure and partly as an extraordinary measure. The funds provided in the latter case are at present regarded as emergency expenditure specially voted to remedy unemployment.

In certain branches, the State and the communes co-operate with one another ; the State pays subsidies or grants loans on condition that the work is carried out by the communes. State allowances are granted at the rate of 1.50 or 2 crowns per day's work. The execution of the work in question is administered by the communes concerned. In certain cases, the latter may, however, invite the local State organs to supervise the execution of the work—for example, in connection with road-building.

The communal unemployment committees assist in the choice of the workers who are to be employed in the subsidised emergency works.

The subsidies paid by the public authorities for the purpose of bringing new land under cultivation, for reafforestation, etc., are calculated according to certain rules, the subsidy being in proportion to the work undertaken. Subsidies for bringing new land under cultivation are granted on the basis of so much per unit of cultivated land. In certain cases, the subsidy may also be granted in the form of a fixed amount per day's work. One-third of the wages paid by the contractor are then covered by the State up to a limit of 1.50 crown per day's work.

In Norway, public works have only rarely been financed by loans. In the last few years, the financial policy of the State and of the communes has been characterised by the efforts made to reduce the public debt. The loans issued have, as a rule, been conversion loans, and the State and the communes have latterly reduced their debts to a considerable extent.

IV. — Of the aggregate expenditure on the execution of the public works described above, 60 to 80 per cent takes the form of wages. In the case of works connected with waterways, the proportion spent on wages is considerable (80 per cent), for the materials employed in this category of work are of little importance. In the case of the construction of new railway lines, wages amount to about 60 per cent of the total expenditure. In the case of road construction, where materials and equipment are of less importance, wages amount to from 70 to 75 per cent of the aggregate cost.

In railway construction, the expenditure in connection with materials and equipment amounts to 20 per cent of the aggregate costs. In the case of the other public works described above, materials and equipment are of less importance, their share only amounting to 10 or 12 per cent. In railway construction, social expenditure amounts to 6 per cent.

Costs in connection with administration and preparatory work are comparatively heavy in the case of railway construction, amounting to about 15 per cent. In the case of other work connected with public communications, these overhead costs are smaller.

As regards the allocation of expenditure as between materials and labour, the estimates refer to work on new constructions. In the case of the reconstruction of existing means of communication, wages constitute a much smaller part of the aggregate expenditure, for the materials supplied are of much greater relative importance in work of this kind.

The materials employed are essentially of Norwegian origin.

V. — The labour employed on the construction of the State railways in the last few years has amounted to about 3,000 workers in the summer months and to about 2,000 in the winter. Road construction provided employment for about 9,000 workers during the summer and from 6,000 to 7,000 during the winter. Work on inland waterways employed about 1,000 men.

A considerable proportion of the labour mentioned above was engaged as an emergency measure in order to reduce unemployment. Hence, the work in question was, whenever possible, carried out during the seasons of the year when unemployment was greatest—*i.e.*, when in ordinary circumstances activity in connection with public works would generally have been at a low ebb.

In comparing the number of workers employed in the above-mentioned public works with the total volume of labour at the country's disposal, certain categories of public works have been left out of account regarding which no details are available, particularly work carried out in the ports and on the telegraph and telephone systems.

Nevertheless, the importance of public works does not consist solely in the decrease of unemployment brought about by the occupation of a certain quantity of labour. Their importance must also be measured by the indirect consequences brought about by increased employment.

In view of the large area covered by Norway, there still remain, both in the north and south, large tracts of country having no railway communications with the rest of the country. Thanks to the lines of communications at present under construction, these more or less isolated parts of Norway will be brought into economic and intellectual touch with the country at large and with abroad. This will in many cases involve an improvement in the economic conditions of the districts in question. The development of the road system will certainly result in a more intensive cultivation of land hitherto little exploited, and in the settling of districts which had hitherto been of no value. In many parts of the country, new and better roads will render agriculture and forestry more profitable. The works in connection with river improvement and protection against floods, etc., will serve to protect crops or render possible the cultivation of marshy and flooded ground. These measures will, therefore, provide work for the population of the districts in question, even after construction operations have been concluded.

NEW ZEALAND.

(a) ROADS AND BRIDGES.

I. — The main expenditure on roads during the past five years has been entrusted to the Public Works Department, a State department with a highly qualified technical and practical staff which specialises in this class of work. To a lesser extent, certain constructional activities are the responsibility of road boards, borough councils, city councils and county councils. These are really boards or councils in which certain authoritative powers have been vested to cope more readily with the various phases of local government. Their revenue, in the main, is derived from rates which they have the power to impose to cover all expenses incidental to the upkeep of the various social services provided. These services include road construction and maintenance, electric lighting, sanitation, drainage, etc. From the constructional point of view, however, their activities are not widespread. Moreover, though in a degree those constructional works which they do undertake are financed from revenue, it is the general practice for the Government to subsidise the cost of such works from loan funds. It might reasonably be said that their main function is in the upkeep of State-created assets.

III. — In New Zealand, money required for road-construction purposes is set aside out of loan funds borrowed overseas. Redemption is provided for by means of sinking-fund instalments over the period of the loan, and these instalments, in common with interest payments, are arranged for out of the revenues derived from all sources.

IV. — It is estimated that 50 per cent of the expenditure on works of a constructional character is absorbed by labour charges, and that 50 per cent covers the cost of materials and equipment.

On maintenance works, it is estimated that 75 per cent of the expenditure accounts for labour charges and 25 per cent for materials and equipment.

V. — Over the period covered by the League's enquiry, loan expenditure on roads has amounted to £4,374,870. It is questionable if any of this expenditure could be described as being incidental to any main public work. The underlying idea has been the gradual development of the Dominion's primary industries, and, naturally, those land areas responding most readily to improved access facilities have been brought in first. Working to this plan has not involved heavy expenditure in any particular locality. The result has been that numerous small development units are now actively engaged in production, and, in a measure, this has been responsible for the gradual closing of the gap between what might be referred to as the post-war inflationary period, when work was plentiful, and the recent worldwide period of economic stress, during which, unfortunately, large numbers of men have been out of employment.

The Main Highways Board exercises jurisdiction over such public roads as have been specially declared to be main highways. The Board is a national body established principally to control the most important roads. Its funds are derived from national taxation on the motorist road-user, and the greater portion of its expenditure is undertaken by district governing bodies under either grants or subsidies from the Board, although in some cases the actual works are carried out by the Board itself.

The following is a brief description of the main public works undertaken by the Board :

I (a). — Since 1929, the principal works on main highways have comprised the general improvement of various sections of road to meet the demands of increasing and modern traffic conditions, especially in the following directions :

- Construction and reconstruction of highways generally, including bridges ;
- Paving of lengths carrying heaviest traffic in proximity of the larger centres of population ;
- Deviations to eliminate bad country or to secure better alignment ;
- Maintenance of all main highways to a uniform and sufficient standard.

From 1929 to 1933, approximately £4,000,000 was expended on the construction and reconstruction of main highways, and approximately £5,000,000 was expended on maintenance works.

I (b). — Similar works to those described in (a) are at present in course of execution, but activities are on a more moderate scale, because of a temporary limitation of highways finance.

I (c). — Works in contemplation are those which have been deferred owing to postponement of approved programmes, the renewal of bridges which, through obsolescence or deterioration, are no longer capable of carrying traffic, and the extension of paving according to the traffic development which has taken place in recent years.

It is estimated that, during the ensuing twelve months, construction expenditure will reach approximately £600,000 and maintenance expenditure approximately £1,000,000.

II. — Although the Main Highways Board is the controlling authority for main highways, the actual construction and maintenance work is generally undertaken by local governing authorities under the direction of, and with financial assistance from, the Board. However, the Board itself sometimes assumes direct management in special cases.

The Board is empowered to fix the standard of construction, reconstruction and maintenance for any main highway and may require local authorities to comply with such standards. If a local authority fails to meet the stated requirements, the Board itself may complete the particular work and recover any contribution which may be payable by the local authority towards the cost.

With the exception of maintenance works, local authorities are required to obtain the approval of the Board to the detailed proposals in respect of each work prior to the work being commenced. This procedure is designed to secure uniformity throughout the local districts.

After the proposals have been approved by the Board, separate notification is given to the local authority involved, concerning the Board's grant or subsidy for the work, and, until monetary authority has been issued, a local authority may not proceed.

After the receipt of monetary authority relating to an item for which detailed proposals have been approved, the local authority is in a position to invite public tenders for the work concerned.

The general policy of the Board is that all highways works of a constructional nature must be carried out by contract, and only in exceptional cases, which require the Board's prior approval, is the work done by day-work.

Maintenance work does not lend itself to the preparation of detailed proposals ; but, wherever possible, maintenance operations and supplies must be subject to public tender.

The local supervision of highways works is entrusted to officers of the State Public Works Department, who, by arrangement, act as representatives of the Main Highways Board for the different districts. These representatives report from time to time on the various maintenance or construction works carried out by local authorities, so that the Board may be in a position to take necessary action if the approved proposals are not observed.

In cases where a work is not being executed by a local authority, the Public Works Department acts on behalf of the Board and takes charge of the operations.

III. — Works on main highways are financed by the Board and local authorities, and the Board provides approximately 75 per cent of the expenditure by grants and subsidies.

Local authorities possess rating powers and may provide their highways finance either from revenue or loan. If by loan, security is usually given by a special rate on the land. However, loans must be raised only for capital works and must be sanctioned, first, by a Local Government Loans Board and, secondly, by the ratepayers of the district affected.

As far as the Main Highways Board is concerned, most of the works are financed from revenue which is obtained by the Government taxation on road-users. Loan money may be provided for highways construction, in which case the Government allocates a portion of the moneys raised for the purposes of the Public Works Fund. Local authorities usually raise their loans within the country.

IV. — It is estimated that 60 per cent of the expenditure on works of a constructional character is absorbed by labour charges, and that 40 per cent covers the cost of materials and equipment.

On maintenance works, it is estimated that 75 per cent of the expenditure accounts for labour charges and 25 per cent for materials and equipment.

V. — The community is dependent very largely on internal transport facilities. Railway communication is limited to connections between certain areas or districts, but roads are available as feeders to the railways and also to link up those districts where railways have not been constructed. Amongst the services on which the people rely for their daily requirements, road transport is very prominent, and, therefore, the provision of reasonable roads and main highways has a relation to the activities of the people.

The improvement of existing routes, arising from increased traffic on those routes, and the eliminating of deterrent factors are a satisfactory indication that progress is not being retarded and that economic influences are under control.

The construction of better highways will aid in the direction of land settlement, and better production may be obtained through reduced costs in transport to and from market centres.

The prosecution of works of a developmental character also affords a direct avenue for employment of labour. Through the purchase of materials, equipment, etc., and the payment of wages, indirect benefits are enjoyed by the whole district concerned.

The works in contemplation are calculated to be of direct advantage and will stimulate the enterprises of agriculture, industry and commerce.

The continuation of highway improvement during the financial depression, with a view to its beneficial effect on the resumption of industrial activities, has considerably helped towards overcoming unemployment difficulties.

(b) RAILWAY CONSTRUCTION.

The following railways were under construction in 1929 :

Stratford main trunk railway ;
North Auckland main trunk railway ;
Dargaville branch ;
Auckland-Westfield deviation ;
Gisborne-Napier railway ;
Tawa Flat deviation ;
Midland railway (South Island) ;
Westport-Inangahua junction ;
South Island main trunk railway.

Of these, the Auckland-Westfield deviation, a double track deviation 8 miles 70 chains in length connecting the new Auckland Railway Station with the existing main trunk line at Westfield, was completed and handed over to the Railway Department for operation in 1930.

The Stratford main trunk railway connects the Taranaki Province with the main arterial railway between Auckland and Wellington. It is 90 miles in length and traverses very heavy country, which necessitated the construction of many tunnels and bridges.

This railway was completed in December 1932, and handed over to the Railway Department for operation of goods and passenger traffic.

Wellington-Tawa Flat deviation.—This railway, a total length of 7½ miles, was constructed to avoid the very excessive and unfavourable grades on the main trunk railway. It was commenced in 1927-28 and was completed in 1933. Its most important feature is the construction of two double-track tunnels, the first being 61 chains long, and the second, 2 miles 54 chains. Tenders were called for for this work in New Zealand and abroad ; but, as they were far in excess of the estimate, it was decided that the work was to be carried out by the Public Works Department.

On account of the economic conditions prevailing in the Dominion and the need for economy, construction on the remainder of the railways mentioned in the first paragraph was stopped and has not been restarted. There is, therefore, no new railway construction in hand at the present time.

The capital expenditure since 1929 was :

	£
1929-30	1,452,860
1930-31	1,478,689
1931-32	590,543
1932-33	69,603
1933-34	13,894

(c) IRRIGATION WORKS.

In the Dominion of New Zealand, insufficient rainfall does not cause a farming problem, except in a limited area in parts of Canterbury, North Otago and Central Otago. The explanation of the comparative dryness of these localities is that they are situated towards the east coast, thus lying in the rain shadows of the westerly winds, which prevail the world over in these latitudes. Irrigation has been resorted to, and the arid wastes are being changed into prosperous sheep and dairy farms and very

productive orchards. The irrigation works in Otago have brought into cultivation 38,255 acres from 1919 to 1929, and this area has been increased at March 31st, 1933, to 44,845 acres. The irrigation is carried out by the Public Works Department, and the works consist of diverting mountain streams and rivers and construction of huge storage dams. The Poolburn Dam, which was completed in 1931, is 107 feet high and will store 903,000,000 cubic feet of water, or a quantity equal to one-half of that of the Manorburn Reservoir, which it supplements. A concrete arch dam in the Manorburn Stream is under construction.

The annual rental charged for the land only, without water, is usually from 1s. 6d. to 2s. 6d. per acre. An additional rental is then charged for water supply to cover a moderate rate of interest on the cost of the irrigation works and their maintenance. The water rate is made very low at the outset to enable the settler to bring his farm into a state of productivity without heavy expense, but increases on a gradual annual scale.

(d) RIVER IMPROVEMENT WORKS.

Some of New Zealand's rivers present problems for the engineer, not only in the building of bridges for roads and railways, but in the provision of safeguards against the flooding and erosion of banks. An important activity of the Public Works Department is to restrain the destructive tendencies of certain rivers.

One of the largest operations of this kind has just been completed—the improvement of the Waihou and Ohinemuri Rivers in the Auckland Province. The work consisted of erecting stop-banks for many miles on both sides of these rivers and clearing of bars and snags to prevent the flood waters from overflowing the low-lying country. In addition to improving the land alongside the rivers, the works are designed to improve navigation. The capital cost to date is £735,000. The Taieri River improvement scheme in the Otago Province has been completed by the Department at a cost of £212,000 and handed over to the Taieri River Trust Board for maintenance. This Trust has to refund £79,800 to the Government, repayable in 36½ years at 5 per cent.

There are numerous smaller drainage and protective works in hand.

(e) IMPROVEMENT WORKS.

Development of Crown Land under Land Laws Amendment Act, 1929.

In 1929, legislation was passed which had for its objective the bringing into a state of productivity all areas of unoccupied Crown land capable of development at a reasonable cost in order that suitable holdings might be provided for persons with limited capital.

Operations were put in hand on twelve blocks of a total area of 70,000 acres, of which it was proposed to develop 33,000 acres. The work that has been carried out has consisted for the most part of the development and laying down in pasture of pumice lands and tea-tree wastes, the clearing and drainage of flax swamps and the conversion of this land into dairy farms, the construction of roads, and the provision of water supplies. Up to the present, approximately 21,600 acres of previously unproductive land has been laid down in grass. When the development work now in hand has been completed, some 300 new holdings will have been created, and, of these, sixty-five sections have already been allotted. The total expenditure to March 31st, 1934, was £340,000, which amount included the survey and roading of thirty-four blocks containing 265 sections, where the settlers themselves have attended to the development with assistance from the Government by way of loans. The amount of £340,000 which has been expended has been provided out of loan moneys.

Land Improvement under the Small Farms (Relief of Unemployment) Act, 1932-33.

In connection with the administration of the small farms scheme, which aims at alleviating the unemployment problem by placing unemployed workers on the land, development work has been undertaken and is in course of execution on various blocks of a total area of approximately 49,000 acres. There are already 321 holdings occupied out of this area, and a further 254 holdings will eventually be provided. Up to the present, the department has expended £80,000 on the development of this area, and a further £120,000 has been spent on farm buildings. In order to complete the development of the 49,000 acres in question, it is estimated that a further sum of £124,000 will be required for land improvement and an additional amount of £76,000 for farm buildings. In addition to the above operations, there is about to be put in hand the drainage of the Ahuriri Lagoon at Napier. This area consists of 7,595 acres, of which approximately 6,000 acres will be available for subdivision and will provide 300 sections. The cost of the drainage is estimated at £50,000, and a further £150,000 will be required for grassing, fencing, buildings and other improvements.

The expenditure on land improvement as set out herein has been provided by the Government out of loan moneys.

State Forest Service ; Reafforestation.

Administration. — State forests and State afforestation activities of New Zealand are administered by the State Forest Service under authority contained in the Forests Act, 1921-22, and amendments of 1925 and 1926.

Finance. — Section 5 of the Finance Act, 1930 (No. 2), authorised the borrowing of a maximum of £1,000,000 for the purposes of the Forests Act, 1921-22.

Receipts from the sales of timber on the State forests are also applied to the administration and management of State forests.

State Forests. — This heading includes two classes of reservations—viz., permanent State forests and provisional State forests.

The former, as its name implies, is a permanent reservation and can only be revoked by a resolution in that behalf by both Houses of Parliament, while the latter is a temporary reservation placing the control under the State Forest Service pending the milling of the timber on such areas as may be suitable and required for settlement and not necessary for forestry purposes.

At March 31st, 1934, the total areas reserved were as follows :

	Acres
Permanent State forests	3,025,789
Provisional State forests	4,855,785
Total	7,881,574

The examination of provisional State forests is carried on as opportunity permits, and, during the last year, 74,150 acres were set apart as permanent State forests, while 5,000 acres were made available for settlement.

Afforestation. — State afforestation commenced about 1896, while actual planting was started in 1898, when an area of 54 acres was established.

This activity has proceeded on organised lines since that date, and, at March 31st, 1934, a total area of 394,000 acres had been planted with exotic species, principally *Pinus radiata*, *P. laricio*, *Pseudotsuga*, *Taxifolia*, *P. ponderosa*, *Sequoia sempervirens*, etc.

(f) PROVISION OF DRINKING-WATER SUPPLIES AND SEWAGE DISPOSAL.

This class of work is carried out by the city corporations and is not financed by the general Government.

(g) HARBOUR WORKS.

I (b). — *Napier Harbour.* — Construction of a new wharf and carrying out of dredging operations. Estimated cost, £59,500. This work has been found essential to provide for better berthing facilities for lighters, fishing-boats and coastal craft. Since the earthquake of 1931, the facilities of the inner harbour, where these vessels formerly berthed, have been much impaired. The Harbour Board has in contemplation an extended scheme of harbour construction at the outer or breakwater harbour, referred to in (c) hereunder, and the preliminary work referred to above will, if the larger scheme is embarked upon, form part of the latter.

Wanganui Harbour. — Raising and extending training-walls, purchase of new dredge, and plant and materials. Estimated cost, £200,000. The object of this work is to improve the entrance and the depths in the fairway and at the wharves. The work on the training-walls is under way, but the purchase of the dredge has been deferred meanwhile.

Otago Harbour. — Purchase of new dredge, construction and renewal of wharves and sheds and railway connections, and renewal of training-wall at entrance. Estimated cost, £334,000. The dredge has been procured, and the execution of the other works is being carried out.

I (c). — *Napier Harbour.* — The extension of the outer or breakwater harbour for the accommodation of shipping, including the construction of new wharves, sheds, railway connections, dredging work, extension of existing mole and construction of a western mole. Estimated cost, £335,700. Authority for this work has been given by Parliament, but the raising of the necessary loan money may not be undertaken until the proposals are submitted to a poll of the ratepayers of the harbour district and authorised by them.

II. — All the works mentioned above are carried out under the administration of the local harbour authority, but the Harbours Act, 1923, expressly provides that harbour works must not be commenced until the plans are approved by the Governor-General in Council. As regards the carrying out of the works, some, such as dredging, are done by the Board's own staff and plant, while in other cases the work is done by contract.

III. — The works referred to in paragraph I are all being financed by loan. Such loans are authorised by special Acts of the General Assembly, subject to final consideration and approval in each case by the Local Government Loans Board, a body specially constituted by State for the purpose. The securities for the loans are

generally the revenues and assets of the Harbour Board, with, in some cases, a special rate over the rateable land in the harbour district. As to repayment, the local Government Loans Board, in authorising the raising of the loan, insists on the provision of a sinking fund by annual payments at a rate per cent per annum based on the estimated life of the works for which the loan was raised.

V. — The works mentioned have no direct effect on the resumption of economic and industrial activities. As regards unemployment, it is probable that the works have some effect. In respect of the works at Napier, it is anticipated that they will absorb some 200 unemployed for a period of about four years.

(h) DEVELOPMENT OF AIRPORTS AND AERODROMES.

I (a). — Included in the category of public works prior to 1929 was the development of the Air Force base at Hobsonville, Auckland. This work was finally completed subsequent to that date, the total cost being £57,000. This work was carried out by the Public Works Department, which engaged the labour and directly supervised the work. The cost was defrayed out of loan money charged through the Public Works Fund.

Owing to the work consisting mainly of building, the direct proportion of materials to labour would be approximately in the ratio of 2 to 1; but, as almost all materials other than metal-work and roofing were produced in New Zealand, approximately 75 per cent of the total expenditure could be estimated as eventually spent on labour in New Zealand. The work could not be regarded as having any ultimate effect on the solution of unemployment, as all the work involved is non-revenue-producing.

I (b). — Works at present in course of construction consist of small buildings at the two air-bases costing £3,000. These works have been carried out by contract from competitive tenders under the general supervision of the Public Works Department and financed out of revenue. As the works are again non-revenue-producing, they can have no permanent effect on the unemployment problem.

I (c). — Works contemplated consist of extensions to the buildings, etc., at the two air-bases of an estimated cost of £70,000. This work will be carried out by contract under the Public Works Department's supervisor and financed out of revenue. These works are non-revenue-producing, and, apart from the direct and indirect labour involved amounting to approximately £55,000, will have only a temporary effect on unemployment.

In addition to the work at the air-bases, the construction of a chain of civil aerodromes, estimated at not less than 150 in number and costing in the vicinity of £900,000 on a three-year programme, is now being undertaken. Apart from £90,000 which will be provided out of general revenue, and possibly £45,000 to be provided by local authorities for materials, the whole work will be financed from revenue from unemployment funds, the men receiving unemployment benefits working their ration of work on aerodromes instead of elsewhere. Apart from the £45,000 mentioned, all expenditure will be for labour. While the work will have no immediate effect on unemployment owing to the labour being merely diverted from unproductive channels, some ultimate employment must be created, as the establishment of such a chain of grounds will enable internal air services to operate. All personnel employed directly or indirectly through such services operating will have been found employment indirectly as the result of the scheme.

(i) BUILDINGS.

The Public Works Department erects all public buildings, such as general Government buildings, post offices, court-houses, police stations, gaols, mental hospitals, health institutions, defence buildings, and bath buildings and accommodation at the hostels at the several tourist resorts.

The building programme since 1929 has been curtailed owing to the economic conditions, but several important buildings have been erected, mostly under a special contract system.

The capital expenditure on public buildings since 1929 is as follows :

	£
1929-30	347,636
1930-31	423,021
1931-32	454,804
1932-33	90,568
1933-34	149,392

The most important works completed were an eight-storied post office for Wellington East ; a four-storied post office, High Street, Christchurch, and quite a number of mental hospital villas. These were all carried out by special contracts.

A contract is in progress for the erection of a nine-storied post-office building for Dunedin. All the expenditure on new buildings is charged to loan moneys, and the maintenance of buildings is a charge against the ordinary revenue of the Dominion.

(j) ELECTRIC INSTALLATIONS ; HYDRO-ELECTRIC AND HEATING POWER CENTRES.

The principal generating stations are owned and operated by the Government, utilising water for the prime movers. The main transmission lines are operated at 110,000 volts, and at selected points this voltage is stepped down to 11,000 volts for delivery to electric power boards, which purchase in bulk and undertake the retail distribution in their respective supply areas.

The Government of New Zealand has the following hydro-electric stations in operation or under construction :

North Island.

	Installed capacity kw.	Ultimate capacity kw.
Arapuni ¹	60,300	120,000
Horahora	10,300	10,300
Mangahao	19,200	19,200
Waikaremoana	32,800	105,000
Diesel standby at Penrose, 3,750 kw.		

The above power stations are all interconnected with 110,000-volt transmission system.

¹ Two additional 15,000-kw. units will be installed by 1936.

South Island.

Lake Coleridge : Installed capacity, 34,500 kw. ; ultimate capacity, 34,500 kw.

Diesel standby at Lyttelton, 5,760 kw.

Waitaki (under construction) : Installed capacity, 30,000 kw. ; ultimate capacity, 75,000 kw.

Waitaki Station will be in commission by the end of 1934 and interconnected with Lake Coleridge on 110,000-volt transmission system.

The Government sells in bulk to electric power boards and other local authorities at the following rates :

For first 200 KVA of quarterly maximum demand, £2 10s. per KVA ;

For next 4,800 KVA of maximum demand, £2 per KVA ;

For all over 5,000 KVA of maximum demand, £1 15s. per KVA.

Special rates are quoted for larger blocks of power if required.

The maximum demand is based on the half-hour during which the sustained KVA demand is highest during the quarter, and the quarters end on March 31st, June 30th, September 30th and December 31st respectively.

The following comparative statistics with explanatory notes show the general position in New Zealand in 1933, as compared with 1929.

Item	March 31st, 1929	March 31st, 1933	Increase
Government expenditure on hydro-electric undertakings	£8,367,735	£12,047,302	£3,579,567
Local authorities' expenditure on electric supply systems.	£18,609,170	£20,498,392	£1,889,222
Installed capacity in kw. (main generating plant).	174,964	203,422 ¹	28,458
Units generated	594,907,861	829,284,771	234,376,910
Number of consumers	266,306	322,997	56,691
Route miles of transmission and distribution lines	17,759	20,585	2,826

Notes. — 77 per cent of the installed capacity as at 1933 is owned and operated by the Government.

The increase in Government capital expenditure of £3,579,567 includes cost of Waitaki generating station, which is just about to be placed in commission.

The actual increase in Government hydro-electric installed capacity associated with the expenditure of £3,579,567 is 110,000 kw. The increase of 28,458 kw. shown above is smaller than is really the case, due to large steam generating plant classified in 1929 as "main" plant, being now classified as "standby" plant for Government hydro-electric stations.

A comprehensive paper has recently been submitted to the Institution of Electrical Engineers of the United Kingdom by the Chief Electrical Engineer of the Public Works Department, for publication in the journal of that Institution, and reference to the technical and other statistical details contained in that paper will probably supply any additional information which may be desired in connection with the electrical developments in New Zealand.

(k) GASWORKS AND LONG-DISTANCE GAS SUPPLY.

All gasworks installations are under the control of the various municipal authorities and are not paid for out of the budgetary system.

¹ Excludes standby plant aggregating 82,276 kw.

(l) TELEGRAPH AND TELEPHONE INSTALLATIONS.

I. — The following covers in very general terms the telegraph and telephone works since 1929. It is not possible to differentiate under the headings of (a), (b) and (c).

The construction and reconstruction of telephone exchange systems including (1) the provision of automatic and magneto telephone exchanges and the extension of existing switching equipment, and (2) the provision of underground telephone cables, aerial telephone cables and the erection of open aerial circuit.

The extension and development of toll trunk lines by construction and reconstruction of pole lines and the installation of carrier-current telephone equipment with associated amplifying equipment.

The extension and development of the telegraph system by the installation of machine-printing telegraph apparatus.

The modernising of existing radio equipment—*i.e.*, the substitution of continuous-wave equipment for spark-transmitting equipment. The installation of short-wave equipment and the provision of radio-telephone equipment for service between Australia and New Zealand.

II. — The work referred to in I was carried out wholly by the engineering staff of the New Zealand Post and Telegraph Department, which is under the jurisdiction of the Postmaster-General, who is a Minister of the Crown.

The engineering staff is controlled by the Chief Telegraph Engineer, who, subject to the administrative control of the Director-General of the Post and Telegraph Department, is responsible for the supply, construction, maintenance and operation of telephone exchange, toll trunk, telegraph and wireless plant.

None of the work was carried out by contract ; but, apart from the permanent staff of the New Zealand Post and Telegraph Department, a small number of temporary or casual workmen were employed at standard rates of pay.

III. — New works by loans raised by Treasury as part of the public works expenditure of New Zealand.

Renewals and replacement by reserves created by the department for such purposes out of ordinary revenue.

IV. — As the whole of the works referred to under I hereof were carried out by the permanent staff of the New Zealand Post and Telegraph Department, with the assistance of a small temporary or casual staff as required, it is assumed that an answer under this heading would not be of any value.

NETHERLANDS.

[*Translation.*]

I. — In the Netherlands, the public works which the Government undertakes in the ordinary course and which are not dependent upon economic circumstances are quite distinct from public works the principal aim of which is to provide work for the unemployed.

I (a). — The central, provincial and communal authorities spend hundreds of millions of florins annually on public works of the most diverse character—*e.g.*, the construction of roads, railway lines and bridges, the cutting of canals, etc.

I (b). — The public works carried out with a view to providing work for the unemployed cannot be specified. For four years an average of 50,000 unemployed workers have been engaged on works connected with the cutting of canals, the building of roads of all kinds, sports grounds, sewerage systems, land clearing and drainage.

A law has just been brought into force which places at the Government's disposal a special sum of 60 million florins, which will be used, partly for the execution of various public works, and partly for promoting industrial activity.

II. — In choosing the works to be undertaken, the authorities give preference to those which would not have been carried out had there been no unemployment. Direct responsibility devolves upon the organisation by which the works are undertaken—that is to say, the communal authority, the "Polder" or "Waterschap" Board, the private individual or land clearance company operating under the provisions of Section 7 of the Law governing expropriation on the ground of public utility and specially formed for the purpose.

The works may be carried out directly by the authorities or under contract on the responsibility of the authority concerned.

III. — Expenditure on works for relieving unemployment is partially met out of Government grants. A special item has been included in the State budget for the last seventeen years; such expenditure is covered in the ordinary way. The expenditure of the communes is covered, according to circumstances, either by their ordinary revenues or by loans. Recourse has never been had to foreign loans. In financing public works, the Government has not hitherto resorted to the creation of a fund. It is nevertheless intended to create a special fund in the budget for 1935. The above-mentioned 60 million florins will be procured by special measures.

IV. — The works undertaken are preferably those necessitating large expenditure on wages as compared with other items. National materials are used wherever possible so as to encourage home industries.

V. — It is impossible to calculate the exact extent to which public works designed to counteract unemployment have contributed to economic activity. All that can be said is that such works will be of permanent value in improving the nation's economic equipment. Thousands of hectares of waste land have been transformed into arable land on which hundreds of persons can find a livelihood. The metallurgical industry has also benefited by these activities, and the financial position of many farmers has been improved by the drainage works.

PORTUGAL.

[*Translation from the Portuguese.*]

WORK ON RAILWAYS, ROADS AND BRIDGES.

RAILWAY LINES.

I (a). — General renewal of track on the southern and south-eastern lines.

General renewal of track on the Minho and Douro lines.

Renewal of track between Pocinho and Moncorvo.

Doubling of track between Campanha and Ermezinde.

Doubling of track between Barreiro and Pinhal Novo.

Ballasting of the Sado line.

Ballasting of the line between Setúbal and Pinhal Novo.

Construction of overhead crossing at Pinhal Novo.

Construction of subways at point 132.776 kilometre on the Minho line, Landeiro, Gandra Silva ; point 44.584 kilometre on the Braga branch ; point 44.624 kilometre on the Braga branch, Monquim, Louro Vilar de Matos, Salgueiral, Barrimau, Bouças Laredo, Amadora Coval, S. Martinho, Avelêda, Campanha, Mourisca.

Bridges at : Monte Branco, Monte Novo, Carrascal No. 1, Carrascal No. 2, Padronito, Saboia, Foz Claros, Silveira, Gaviao, Vale do Barriga, Vale da Mata, Portuzelo, Fervença, Cocheca, Juncal, point 280.243 kilometre on the southern line, and on the line from Évora to Casa Branca.

Construction of the Arade bridge.

Construction of the southern wall at Barreiro.

Erection of sleeping-quarters for staff at Beja.

Erection of dwelling-houses for staff at Casa Branca.

Various improvements to stations, track, signal-system, etc.

I (b). — Renewal of track between Boliqueime and Faro.

Renewal of track between Marim and Tavira.

Renewal between Ermezinde and Braga.

Ballasting between Boliqueime and Faro.

Ballasting between Marim and Tavira.

Ballasting between Pinhal Novo and Funcheira (*via* Beja).

Ballasting between Ermezinde and Braga.

Bridges at Quinta Nova and Mouratos.

Erection of storehouse at Beja.

Erection of sleeping-quarters for staff at Chaves.

Enlargement of station at Pinhal Novo.

Enlargement of station at Rio Tinto.

Enlargement of station at Rêde.

Construction of station at Praias-Sado.

Construction of station at Setúbal-Mar.

Construction of retaining-wall at Campanha.

Various improvements to stations, track, signal system, etc.

I (c). — Renewal of track between Livração and Vila Caiz.

Renewal of track between Nine and Tamel.

Scheme for replacement of the bridges of Pavourra Vale de Mú and Sobralinho.

Bridges at : Magra, Padrona, Consulta, Mira, Vila Mea, Tamega, Pala, Odelouca, Jugueiros, Zézere, and Este.

Construction of offices and stores at Funcheira.

Various improvements to stations, track, signal system, etc.

II. — The works mentioned under I are carried out by order of the Track and Works Division of the Railway Department.

The works are carried out :

(a) Under administrative control ;

(b) Under contract ;

(c) In the case of railway undertakings, in accordance with estimates approved by the Railway Department.

III. — Expenditure on the works is covered by the ordinary and extraordinary estimates. It is met from the internal loan of 100,000 contos guaranteed by the receipts of the Special Railway Fund and repayable in twenty years as from 1935. This loan is governed by the terms of Decrees No. 20618, dated December 4th, 1931, and No. 20801, dated January 18th, 1932.

IV. — In the works mentioned under I, the proportion between material and labour is approximately the following : material, 70 per cent ; labour, 30 per cent.

The Construction Division was entrusted with the construction of new railway lines, the work on which was carried out under large and small contracts. This work was previously executed by the State Railways, which are now farmed out.

This division is now engaged in constructing about 90 kilometres of broad-gauge and 90 kilometres of narrow-gauge track, involving various engineering works, some of which are of considerable importance—*e.g.*, the bridges over the Rivers Douro, Varosa and Leça, and over the Fronteira stream. All these bridges are constructed of masonry and freestone, and they have respectively three main spans of 65 metres and seven of 12 metres ; one central span of 55 metres and four spans of 12 metres ; one span of 20 metres and three of 10 metres ; one span of 30 metres and two of 15 metres.

A sum of 15,000 contos has been appropriated each year by the Special Railway Fund for these works, all of which, on completion, is incorporated in the railway lines operated by the companies to which concessions or contracts have been granted.

ROADS AND BRIDGES.

The list of public works to be started by the Department of Construction and Large-scale Repairs in 1934-35 is as follows :

I. Road Construction.

	Metres
1. Levelling	170,550
2. Macadam surfacing of roads previously levelled	212,600
(Of these 212,600 metres, 4,100 metres will be asphalt-rolled.)	
3. Levelling and macadam surfacing	62,000

II. <i>Large-scale Repairs.</i>	Metres
1. Macadam on foundations.	85,500
2. Macadam on two layers	16,500
3. Macadam crushed with top-dressing	16,500
4. Asphalting of roads previously macadamised.	541,300
5. Reconstruction with macadam foundation and asphalt rolling	116,300
6. Asphalt rolling	316,100
7. Stone rolling	59,670

III. *Bridges.*

1. *Construction.*

Eleven bridges at a cost of 11,778,000 escudos.

2. *Large-scale repairs.*

Five bridges at a cost of 534,000 escudos.

GENERAL ADMINISTRATION OF HYDRAULIC AND ELECTRICAL SERVICES.

I (a).

(f) PROVISION OF DRINKING-WATER SUPPLIES AND SEWAGE DISPOSAL.

Water supplies at Vendas Novas, Linda-a-Velha and Vouzela.

Additional water supplies at Caldas da Rainha.

Location of water supplies at S. Joao da Madeira.

Reservoirs, fountains and washing-places at Lourinha, Azambuja, Paredes de Coura and Darque.

Completion of sewerage system at Évora.

Construction of collector sewers at Faro, Tomar and Barrancos.

(g) SEA AND RIVER PORTS.

Large contracts for the ports of Setúbal and Funchal and miscellaneous works in the ports of Viana do Castelo, Douro and Leixoes, Aveiro, Figueira da Foz, Setúbal, Vila do Conde, Lagos, Portimao, Faro-Olhao, Tavira, ports in the district of Angra do Heroismo, Ponta Delgada, and ports under the direct administration of the State.

(d) CANALS AND OTHER INLAND WATERWAYS.

Correction and regularisation of banks and beds of rivers and streams; construction of river quays, retaining walls and embankments; repairs to dykes, drainage trenches, roads, bridges, etc.

I (b).

(f) PROVISION OF DRINKING-WATER SUPPLIES AND SEWAGE DISPOSAL.

Water supplies for twenty-one sub-district centres and eight other townships.
Improvements in supplies for thirteen sub-district centres and three other townships.

Construction of washing-places and public fountains in two townships.

Construction of sewerage systems in six townships.

Construction of collector sewers in ten sub-district centres and three other townships.

Sanitation work in four sub-district centres.

Construction of a sewage-farm where the "activated sludge" process will be employed at Parede.

(g) SEA AND RIVER PORTS.

Large contracts for the ports of Viana do Castelo, Douro and Leixoes, Aveiro, Vila Real de Santo António and Funchal.

(d) CANALS AND OTHER INLAND WATERWAYS.

Miscellaneous work for the correction and regularisation of banks, etc.

I (c).

(f) PROVISION OF DRINKING-WATER SUPPLIES AND SEWAGE DISPOSAL.

Amongst the plans already approved and others in course of execution by the Department, there are seventeen schemes for water supplies and six for sewerage systems, work on most, if not all, of which will be started during the present year.

(g) SEA AND RIVER PORTS.

Schemes are under consideration for works to be carried out in the ports of Figueira da Foz, Faro-Olhao, Povoá do Varzim, Vila do Conde, Espinho, Peniche, Portimão, Sesimbra, Lagos, etc.

Contract No. 1 (clearing of rocks and dredging) for works in the port of Leixoes.

(d) CANALS AND OTHER INLAND WATERWAYS.

Miscellaneous work.

II.

(f) PROVISION OF DRINKING-WATER SUPPLIES AND SEWAGE DISPOSAL.

Decree No. 21698, dated September 19th, 1932, provides that the Department of Hydraulic and Electrical Services shall furnish technical guidance to the municipal authorities in works for the improvement of water supplies and for sanitation, and shall also prepare the plans and schemes to be carried out, revise existing schemes where necessary and supervise the works by means of its divisional organs.

Works connected with water supplies and distribution and with sewerage are always carried out under contract.

(g) SEA AND RIVER PORTS.

The " Law concerning Ports " was published in 1926 and approved by Decree No. 12757. It was followed by the " Organic Law concerning Autonomous Port Authorities " (Decree No. 14718, dated December 8th, 1927) and the " General Regulations for Autonomous Port Authorities " (Decree No. 14782, dated December 19th, 1927). At present, the ports of Viana do Castelo, Povoia de Varzim, Vila do Conde, Aveiro, Figueira da Foz, Setúbal, Lagos, Portimao, Faro-Olhao, Tavira, and Vila Real de Santo António, on the mainland, and Funchal, Angra do Heroísmo, and Ponta Delgada, in the islands, are administered by autonomous authorities, which, in accordance with the law, are responsible to the Ports Division of the Department of Hydraulic and Electrical Services.

Others, such as Horta, Sesimbra, Peniche, etc., are under direct State administration.

Since January 22nd, 1932, the ports of Douro and Leixoes have been only technically under the authority of the department.

Large-scale works in ports are carried out under contract, works of minor importance being executed directly by the administration.

(d) CANALS AND OTHER INLAND WATERWAYS.

Regulations of 1892 and 1893 ; Law concerning Water Supplies, approved by Decree No. 5787, and various subsequent laws.

The work is under the direction of the Fluvial and Maritime Services Division of the Department of Hydraulic and Electrical Services, and is carried out under contract and by direct administration.

III.

(f) PROVISION OF DRINKING-WATER SUPPLIES AND SEWAGE DISPOSAL.

The " Unemployment Fund " was created by Decree No. 20984, dated March 7th, 1932, and work connected with water supplies and sewerage is subsidised from this fund (Decree No. 21699) in respect of the labour covered by the various estimates.

The cost of material is borne by the administrative bodies concerned, either from their own resources or from the proceeds of loans, usually contracted with the General Deposit Bank and secured upon the earnings of the new services that are to be set up.

The Government's desire to intensify the execution of work for the improvement of water supplies and sanitation goes further, however. Decree No. 21698 provides for an enquiry into sanitary conditions in "district capitals, sub-district centres and the more important townships and villages in each sub-district", and also states that, in the light of the conclusions reached as a result of this enquiry, the Government shall lay down the programme of the improvements to be carried out by the municipal councils.

Should the Government recognise that the respective charges cannot be borne by the administrative bodies, the State will participate on terms to be laid down in a special order for each particular case. Such participation, however, may not exceed 50 per cent of the cost of the work.

(g) SEA AND RIVER PORTS.

Decree No. 17047, dated June 29th, 1929, provided that a loan up to 300,000 contos might be contracted for the construction of harbours. This was followed, in the ordinary course, by the publication of Decree No. 17421, allocating the sum of 250,000 contos, which the Government intended should be immediately employed on such works.

Harbour works are accordingly paid for by the State, except those at Funchal, for which a loan was contracted, the same course being followed by the autonomous Port Authority of Setúbal in order to supplement the grant allotted to it under Decree No. 17421.

(d) CANALS AND OTHER INLAND WATERWAYS.

The cost of these works is borne jointly by the Department of Hydraulic and Electrical Services, the administrative bodies concerned and the Unemployment Fund.

IV.

(f) PROVISION OF DRINKING-WATER SUPPLIES AND SEWAGE DISPOSAL.

Description of works	Townships concerned	Labour Escudos	Material Escudos
<i>Completed :</i>			
Provision of water supplies.	9	149,054.76	366,157.49
Sanitation.	4	248,960.89	252,746.88
<i>In course of execution :</i>			
Provision of water supplies.	35	2,411,534.00	9,506,199.78
Sanitation.	22	2,396,059.78	5,060,048.96
<i>To be executed :</i>			
Provision of water supplies.	17	2,288,442.33	5,930,830.84
Sanitation.	6	608,214.06	788,339.50
<i>Summary.</i>			Escudos
Total cost of works executed			1,016,920.02
Total cost of works in course of execution			19,373,842.52
Total cost of works to be executed			9,615,826.73

(g) SEA AND RIVER PORTS.

Port	Amounts expended		Amounts to be expended under large contracts
	On miscellaneous works	Under large contracts	
	Escudos	Escudos	Escudos
Viana do Castelo	1,938,624.85	5,862,252.05	8,589,381.95
Douro and Leixões	29,849,073.18	14,130,202.78	141,856,371.80
Aveiro	3,354,462.96	8,133,958.85	12,866,041.15
Figueira da Foz.	12,833,789.72		
Setúbal	573,104.17	27,000,000.00	
Vila Real de Santo António		5,880,875.38	3,445,000.00
Funchal.		5,004,168.64	28,950,000.00
Vila do Conde	1,707,949.52		
Lagos.	184,411.34		
Portimão	1,990,613.35		
Faro-Olhão	8,728,832.22		
Tavira	6,443,851.39		
Ports in the district of A. do Heroísmo	5,147,261.92		
Ponta Delgada	4,497,191.20		
Ports under direct State administration	332,701.69 ¹		

Summary.

	Escudos
Total cost of works completed	143,638,325.21
Total cost of works to be completed	195,706,794.90

(d) CANALS AND OTHER INLAND WATERWAYS.

Works carried out since 1928-29 : 21,951,782.15 escudos.

Of this total, about 16,463,836.61 escudos (75 per cent) was expended on labour, the Unemployment Fund having contributed 4,000,000 escudos, in round figures, in the years 1932-33 and 1933-34.

AGRICULTURAL HYDRAULIC WORKS.

I. — A summary description of the agricultural hydraulic works carried out, in course of execution and in preparation is given in the "Brief Summary of the Work carried out by the Autonomous Board for Agricultural Hydraulic Works (May 28th 1934)."

II. — The administrative methods followed for the execution of the work are governed by the provisions of the Decree of December 19th, 1892, and January 21st, 1897, Circular No. 7702, dated October 24th, 1933 (Instructions for the Placing of Contracts for Public Works), and the clauses and general conditions for contracts and supplies for public works, dated May 9th, 1906, and Decree No. 23226, dated November 15th, 1933.

¹ This amount was expended by the Hydraulic Division of the Tagus, there being a grant of 135,379.31 escudos from the Unemployment Fund.

III. — The funds for the execution of these works form part of the " Extraordinary expenditure " included in the general State estimates, under the heading " Proceeds of the loan to be contracted by the Government for agricultural hydraulic works ". Legislation on the financial collaboration of the State with the " beneficiaries " concerned, in respect of the payment of charges arising from the execution of these works, is under consideration.

IV. — It is not possible to reply to this question at present.

V. — Some work, such as the cleaning and regularisation of ditches or general agricultural collectors, the drainage of marshes, the cleaning of river-beds, etc., has been undertaken with the object of alleviating unemployment.

A special law (Decree No. 22449, dated March 25th, 1933) governs the co-operation of the Board's departments with the Commissioner for Unemployment in the execution of these works.

PROVISION OF DRINKING-WATER SUPPLIES FOR LISBON.

I (b). — Doubling of twenty-six syphons in the Alviela aqueduct, entailing the laying-down of cement piping 1 metre in diameter for a total distance of 8,600 metres.

I (c). — Daily catchment of 105,000 cubic metres of water from the Tagus (from alluvial deposits or from the surface) and conveyance thereof to Lisbon.

II. — All this work is carried out under contracts awarded after public competition.

III. — The work is financed by the issue of shares and bonds, for which public subscription is invited. The State takes up any shares that are not subscribed by the public, and also guarantees the interest on the bonds and their repayment. Shares cannot be held by foreigners.

IV. — There are two possibilities : If water from alluvial deposits is utilised, some 33 kilometres of aqueduct, of a diameter of 2.5 metres, will have to be constructed, and the cost will be 45,000,000 escudos ; if surface water is collected, the aqueduct will be 74 kilometres long, and the cost will be 100,000,000 escudos. Of the total cost, 40 per cent represents wages.

DEPARTMENT OF PUBLIC BUILDINGS AND HISTORICAL MONUMENTS.

(a) The more important public works which this department has carried out since 1929, and those with which it is at present occupied, are connected with the erection of school buildings, the preservation and restoration of historical monuments, the repair of public buildings and the erection of others to provide suitable accommodation for the various Government services, the erection of houses for the staff of the State railways and the construction of cheap dwellings for the less well-to-do classes.

(b) The administrative method followed for the execution of this work is that of general and partial contracts at standard wage rates to enable workmen to profit thereby, with a certain degree of autonomy.

(c) The cost of these works has been met from the sums included in the estimates of this department or granted by special legislation. In some cases, the cost is met from the sums included in the estimates relating to material, the cost of labour being borne by the Unemployment Fund. In other cases, the portion relating to labour costs is borne by the Unemployment Fund, whilst the cost of material is borne by the local authorities or, in other cases again, by local public utility corporations.

(d) The materials employed in the execution of these works are of national origin, in accordance with the provisions of Decree No. 22307.

(e) The works already completed or in course of execution have provided occupation for many hands, thus helping to relieve unemployment.

BUILDING AND CONSTRUCTION WORK.

I. — In the works to which the Board has devoted its studies, some of which have already been carried out, whilst others are still in course of execution, the walls are of ordinary or hydraulic masonry, stone- or brick-work ; the floors are of reinforced concrete, covered with wood or mosaic tiles, according to the purpose for which the building is intended, and the roofs are, in some secondary schools, of Marseilles tiles. In other schools, there are flat concrete roofs.

II. — All these works were or are being carried out under contract, under the general direction of the Board for administering the Loan for Secondary Education.

III. — All the works are financed by means of a loan contracted by the Government, repayable from the proceeds of the fees paid by the pupils at the schools.

IV. — The following percentages may be roughly estimated : material, 60 per cent ; wages and social expenses, 40 per cent.

All the materials employed, except the iron for the reinforced concrete, are national.

The percentages mentioned relate to the cost of the materials delivered at the place of work.

SEA AND RIVER PORTS, INCLUDING THE EQUIPMENT OF SUCH PORTS.

I (a). — Maritime works : Reconstruction of the northern wall of the Alcantara dock (about 1 kilometre of quays at which ships may berth) ; construction of floating wharves at Belem and Ribeira ; construction of dry docks Nos. 3 and 4.

Shore works : Construction of the reinforced concrete storehouse and of the offices of the Santa Apolonia depot, of the store building at Rocha do Conde d'Obidos, and of the station of Belem-Trafaria ; construction and paving of streets ; construction of tracks for railroads, cranes, and railway material ; mounting of 15-ton cranes between dry docks Nos. 1 and 2.

Mechanical equipment : Construction of a pair of davits for dock No. 2, acquisition and mounting of miscellaneous material, including a number of cranes, among these being three cantilever cranes for the handling of supplies for the roads and works.

I (b). — Construction of the first part of the third section, covering about 4 kilometres and including 910 metres of wharves with a useful depth of 8 metres below mean sea-level, 3,830 metres of stone embankments, two shelter docks, and three breakwaters.

Reconstruction of the western pier of the Santos dock. Construction of various tracks for cranes.

Paving and lighting of various wharves. Mounting of new electrical cranes.

I (c). — Extension of the wall at Alcantara and blocking of the channel.

Construction of floating landing-stage at Trafaria.

Fishing-harbour at Matinha.

Construction of the additional part of the first section from the Terreiro do Paço to the Cais do Sodré.

Construction of two marine stations, at Alcantara and at Rocha do Conde d'Obidos.

II. — The work is carried out by order and on behalf of the Port of Lisbon Authority, a Government organisation with some degree of autonomy, but under the immediate authority of the Minister of Public Works and Communications. Under Article 1 of Decree No. 6446, of March 6th, 1920, this body is responsible for the administration of the port of Lisbon and the execution of necessary works therein.

The work is carried out partly by the private technical staff direct and partly by award on public tenders, the construction and repair of buildings being carried out by contract.

III. — The expenditure on the work is normally charged to the private budget of the Port of Lisbon Authority, which in its turn forms part of the general (ordinary) budget of the State. The construction of the third section of the port of Lisbon, mentioned in No. I, paragraph (b), is, however, financed direct by the State out of the proceeds of the $6\frac{3}{4}\%$ Ports Loan, 1930, amounting to 100 million escudos (first series), intended for the construction and equipment of the national ports. The sums expended out of this loan on the port of Lisbon are, however, repayable in annual instalments by the authority.

IV. — The work carried out since 1929, and described in No. I, paragraph (a), may be estimated at 55,985,649.21 escudos.

Work in progress (paragraph (b)) is estimated in the budget at 51,800,323.82 escudos.

Lastly, work in contemplation, referred to in paragraph (c), is estimated at 95,700,000 escudos. Owing to the different systems of carrying out the work and the variety of administrative methods employed, as described in No. II, it is not possible to allocate the expenditure between material and labour.

I (b). — 1. Construction of an outer jetty to be connected with the existing north jetty at the port of Leixoes. — The work is the construction of a length of 1,000 metres, the Portuguese Government reserving the right to require the execution of a length of 904 metres only, if that length should prove sufficient for the purpose contemplated.

The charges falling on the State, including the amount already paid to the constructional undertaking on account of sums due, are not to exceed 57,961,012.50 escudos, plus 5 per cent to cover unforeseen expenditure—*i.e.*, a total of 60,859,063.12 gold escudos as defined in Article 1 of Decree No. 19869, dated June 9th, 1931, should the jetty be of the maximum length of 1,000 metres.

Should the length of the jetty be reduced to 904 metres, the maximum charge falling on the State will be 53,859,063.10, in gold escudos as defined in the above-mentioned Decree.

This work is to be completed four years after the date on which the final contract was signed—*i.e.*, by March 14th, 1938.

2. Construction of a dock (dock No. 1) with a width of 175 metres, a length of about 460 metres, measured along the axis of the dock, and a depth of 10 metres below

mean sea-level, with two parallel quays alongside which ships may berth, and which are to be 955.26 metres in length, together with other supplementary works. The contract was awarded by Cabinet decision of February 19th, 1932, in virtue of a public competition which was held on November 30th, 1931, and in conformity with the Cabinet decision of April 1st, 1933.

The charges falling on the State are not to exceed the total sum of 38,632,545.99 gold escudos as defined in Article 1 of Decree No. 19869, dated June 9th, 1931. This amount represents the cost estimated in the contract—viz., 33,593,518.25 escudos, plus 15 per cent thereof to cover unforeseen expenditure.

The work to be carried out comprises the complete execution of the works mentioned above, according to the scheme submitted by the contractor in public competition on November 30th, 1931, and amended in accordance with the Cabinet decision of April 1st, 1933.

This work is to be completed five years after the signature of the contract—i.e., by April 8th, 1938.

I (c). — In addition to the two work schemes in course of execution, two further schemes have been prepared for dredging and clearing of rocks :

(1) For dredging and clearing of rocks in the present outer harbour or anchorage at Leixoes ;

(2) For dredging and clearing of rocks at the mouth of the River Douro at Oporto (city).

This scheme is for the dredging of 619,420 cubic metres of sand, mud and shells within the basin or outer harbour, in order to increase the area available for the anchorage of vessels calling at the port of Leixoes and in the channel of approach to dock No. 1 from the present entrance, together with the clearing of rocks to the extent of 164,795.240 cubic metres in the same area.

The second scheme is for the cutting of a channel through the rock at the entrance to the bar of the Douro, over a total length of 1,250 metres. The proposed channel is to be 80 metres wide.

For the cutting of this channel, it will be necessary to dredge 42,057 cubic metres of coarse sand and to clear 82,249 cubic metres of rock by means of rock-crushing apparatus and dynamite.

The probable cost of these two schemes will be about 30,000 contos.

In addition to the cutting of this channel through the rock at the entrance to the bar of the Douro, the regularisation of the right bank of the River Douro at the same point is contemplated.

The study of this work is well advanced.

In general, it consists in guiding and straightening the course of the current by means of transverse groynes attached to the shore and longitudinal dykes running in the direction of the axis of the current.

II. — These works are to be carried out directly by the Portuguese Government through the Department of Hydraulic and Electrical Services.

Supervision is exercised by the Douro and Leixoes Port Authority, through its Technical Director, who is also the representative of the department.

The work is carried out under contract awarded in public competition.

The contracts are for certain amounts of work, and the contractors are paid for the work done on the basis of the unit prices embodied in the estimate submitted in the public competition.

III. — The port works are carried out with funds obtained by an internal loan, in accordance with the provisions of Decree No. 18090, dated March 14th, 1930.

IV. — All materials employed for construction — stone, cement and sand — are national.

All the equipment is foreign, being purchased by the contractors at their own cost from foreign firms, chiefly of their own nationality.

Part of the equipment is already the property of the contractor, having been brought from other similar works in other ports where it is no longer required.

The labour is all national, with the exception of a few foremen, who perform supervisory duties or are specialists in the work.

On this point, the relevant contracts state :

“ The contractors undertake to give preference in the work, both for technical and administrative duties and for labour, to Portuguese staff. Only in exceptional cases, and with the permission of the supervisory authorities, in accordance with the provisions of Decree No. 22827, of July 14th, 1933, may foreign specialised workers be employed in this work.”

The contractors undertake to employ three Portuguese engineers on this work in respect of each of the contracts.

DEPARTMENT OF POSTS AND TELEGRAPHS.

I (a). — The Department of Posts and Telegraphs has continued steadily to extend its interurban and urban telephone system, and has also extended its telegraph system in a smaller degree, chiefly by the linking-up of new stations. The number of kilometres constructed will be seen from the following tables :

Year	Kilometres of lines	Kilometres of wires
1929.	—	43.850
1930.	—	—
1931.	—	43.526
1932.	—	—
1933.	19.318	51.382
1934.	—	—

Interurban Telephone Lines.

Year	Kilometres of lines	Kilometres of circuit
1929.	887.216	2,811.340
1930.	900.840	2,750.384
1931.	227.759	3,034.486
1932.	772.814	4,474.132
1933.	935.372	3,073.900
1934.	27.796	33.766

Urban Telephone Systems (Lines).

Year	Kilometres of lines	Kilometres of circuit
1929.	137.090	395.451
1930.	136.917	1,260.525
1931.	167.715	1,281.478
1932.	174.836	1,692.115
1933.	227.460	1,184.224
1934.	—	—

A wireless broadcasting station having an aerial output (modulated) of 20 kw. has been constructed.

I (b). — The construction of new lines and systems has been almost completely discontinued for the reason indicated in the next paragraph.

I (c). — Arrangements in connection with the construction of a short-wave wireless broadcasting station having an aerial output (modulated) of 20 kw. are well advanced, tenders having already been invited and judged.

The construction of a 20-kw. long-wave broadcasting station for the north of the country and of a 10-kw. station for the south is contemplated.

A plan is under consideration for the completion of the work of extending the interurban and urban telephone system and making it automatic. This plan also involves an increase in the density of the lines in the case of long-distance telephone communications, and the modification of the telegraph system and installations.

Work is also being done on the buildings used for the offices and other services of the Department of Posts and Telegraphs.

II. — The works mentioned in the previous section are carried out on behalf and by order of the Government. They are executed directly by the authorities in the case of telephones and telegraphs, and by contract in the case of the broadcasting station.

III. — The expenditure in connection with the work mentioned above has been met from the relevant items in the ordinary budget of the Department of Posts and Telegraphs, and from the proceeds of loans made by the State.

IV. — The cost of the works indicated in Section I was as follows :

Construction of lines: 40,927,177.38 escudos, divided as follows : labour, 15 per cent ; material, 85 per cent.

The expenditure on material may in its turn be divided as follows : imported material, some of it in the form of raw material, 60 per cent ; home material, 40 per cent.

Installation of wireless stations: approximately 7,000,000 escudos, divided as follows : labour, 14.5 per cent ; material, 85.5 per cent.

SALVADOR.

[*Translation from the Spanish.*]

Owing to the smallness of its territory, the Republic of El Salvador has no large-scale public works, and, although constant attention is given to the improvement of its public services, these small undertakings have no marked influence on the problems of unemployment. In the classification of works by category which accompanies the request for the report, those under letters (a), (f), (h), (i) and (l) apply to this country.

(a) Work on roads has been intensified by the present Government so far as the national budget allows. The work has been divided into two classes : national trunk roads; national departmental roads and local roads. The national trunk roads are under the direct charge of the State, through the Secretariat for Home Affairs. The national departmental roads are under the direct charge of the departmental road boards and are provided for out of special duties, principally taxes on coffee, and a part of the public road tax. The local roads are under the charge of the municipalities.

All the remaining works, which are very small, included under letters (f), (h), (i) and (l) of the classification are carried out by different authorities, since they are divided, according to their importance, into national and municipal works. The first are covered by the national budget and the second by the municipal budget.

The country is essentially coffee-producing and lives by the cultivation of this crop, with which the employment or unemployment of the people is closely bound up. As long as coffee can be sold, the problem of unemployment will not worry us, as construction works are small in proportion.

Administrative and contractual methods are subject to the laws in force.

SWITZERLAND.

[*Translation.*]

The Federal Political Department has transmitted a report by the Office of Industry, Arts and Crafts and Labour of the Federal Department of Public Economy, together with a report by the Federal Department of Posts and Railways.

The Construction Directorate of the Federal Department of the Interior, on its side, has communicated information concerning more particularly the establishment of a central office for the co-ordination of public works. Set up a year and a half ago, this office, which works in collaboration with the Federal Office of Industry, Arts and Crafts and Labour and directs its efforts more particularly towards the seasonal allocation of labour, has carried out a preliminary enquiry making possible an approximate estimate of the value of the main public works now being executed. It has no information as to work carried out from 1929 to the present day. It is, however, possible for this office to provide a general statement in reply to the questions of the Secretariat of the League of Nations so far as concerns work undertaken in 1933. From the information received, including estimates for public works to amounting more than 40,000 francs and undertaken by cantons, administrations and private persons in the thirty-one communes of more than 10,000 inhabitants (the inhabitants of these communes number 1,237,776 out of a total population of 4,100,000), we find the following figures for 1933 :

	Millions of francs
Civil engineering works	238
Public buildings	77
Private buildings	<u>138</u>
Total	453

These sums include the 106 million francs spent on works for the relief of unemployment, thanks to which it has been possible to pay, over and above the wages of the workers in various trades, 31 million francs to the unemployed. The remainder represents the normal work provided for in ordinary budgets and special building. The sum received by labour, as compared with the total cost of the works, varies in amount according to the character of the buildings, the locality, the time of year and the condition of the labour market.

It should be pointed out that the Central Office for the Co-ordination of Public Works will very shortly be included in a new organisation, which the Federal Council, on August 4th, 1934, decided to set up. It will be known as the "Central Office for promoting Work". This office, which has not yet been organised, will be attached to the Federal Office of Industry, Arts and Crafts and Labour.

Every year the Confederation, cantons and communes normally offer for public tender construction works on a large scale and place the corresponding orders. The new organisation will see to it that the placing of orders in connection with such public works takes place at the proper time and on reasonable terms, so that the greatest possible number of Swiss nationals may participate therein. In agreement with associations of building contractors and architects, it will further endeavour to obtain the same results so far as concerns private building and to prevent too short periods being laid down for building. Construction work will be spread over as long a period of the year as possible. This will enable labourers to be occupied in a regular and

permanent manner. By continuing the activities of the Central Office for the Co-ordination of Public Works, it will be possible for the organisation which has just been set up to occupy a large number of workers who, but for its assistance, would be unemployed and become a charge on the public.

The central body, furthermore, will examine the proposals for relief work from communes and cantons and will take steps to ensure that only work which is productive shall receive a grant. It will also determine how the work can be carried out on sound lines without imposing an unjustifiable burden on the establishments controlled by the authorities and on the Confederation; it will take account of areas where unemployment is particularly serious. The said organisation will also be called upon to give its opinion when the question arises of building roads in the Alps and, in general, of establishing a comprehensive plan for public works intended to reduce unemployment, even if the said plan concerns the allocation of industrial orders. It will furthermore be charged with the organisation and control of the labour service.

The Federal Council is, moreover, examining the possibility of dealing with unemployment by promoting new public works. It will probably submit a scheme in this connection to the Legislative Councils at their session at the end of the year.

REPORT BY THE OFFICE OF INDUSTRY, ARTS AND CRAFTS AND LABOUR OF THE FEDERAL DEPARTMENT OF PUBLIC ECONOMY.

Switzerland has been affected at a relatively late date by the great economic crisis through which almost all the countries of the world are at present passing. She had, it is true, also suffered from the crisis which occurred immediately after the war; but, later, economic life in Switzerland soon became more or less normal. The number of the unemployed, which in 1922 rose to its maximum (66,995 applications for employment, yearly average) and had thereafter regularly fallen, was 8,131 in 1929 (lowest point of the curve), whereas the number of workers in factories amounted to 409,000, the highest figure ever reached in Swiss industry.

These figures show that, in 1929, Switzerland had no special need to resort to extraordinary public works to revive economic life or give relief to the unemployed. The need for such work was only really manifest in later years, when the economic depression was suddenly felt in Switzerland as well, and brought about, particularly in the case of the export industries, the tourist traffic and the transport industry, a crisis which became steadily worse. From the year 1930, the curve of unemployment once more began to rise, reaching in 1933 a point even higher than in 1932 (an average of 67,867 applications for employment).

I. — When preparing the table of public works carried out in Switzerland, account should be taken of the fact that, in accordance with the Constitution of the country, such works are divided between the Confederation, the cantons and the communes. Furthermore, in Switzerland, there are no available statistics which make it possible to reply separately to questions (a) to (c). We must therefore confine ourselves to indicating, as far as possible, the figures of the expenditure for the various years effected by the three groups of public authorities mentioned above. This will give, at all events, an idea of the extent of the work carried out.

The expenditure relates, in the first place, to work carried out by means of normal budgetary resources; this has generally no relation to the crisis and the measures taken to remedy unemployment. It should be said that the development of motor traffic in recent years has led to a constant increase in the budgets of the cantons and

communes for public works. Furthermore, by reason of the continuance of the crisis, there are here and there a tendency and a necessity to limit public expenditure, whereas an increase is required to cope with the crisis and create possibilities of employment.

The Confederation only undertakes public works on its own account to somewhat restricted extent ; such works consist in the construction and maintenance of buildings intended for occupation by the Federal Administration, the Federal taxation authorities and the Federal Polytechnic School. Nevertheless, the Confederation participates indirectly in other public works organised in the cantons and communes by means of the ordinary grants which it accords under Federal laws : improvement work on rivers and mountain streams, road work, land improvement and reafforestation, construction of rural and forest exploitation roads, etc. If the work carried out by the Federal Railway Administration—that is to say, the cost in material and wages of such work—is placed to the account of the Confederation, the total expenditure by the latter would appear to be much greater. The same applies to the Postal, Telegraph and Telephone Administration.

Since the commencement of the crisis, the so-called relief works have been added to the normal works. These relief works are exceptional and supplementary works undertaken mainly, if not exclusively, for the purpose of finding a remedy for unemployment—that is to say, for finding occupation for those who are out of work. Here, also, the main part is played by the cantons and communes. Up to the present, the Confederation has confined itself to encouraging such work by according extraordinary grants for the wages of unemployed persons engaged on this work, which is generally outside their proper trade.

This work consists mainly of the building and improvement of roads, drainage work, water supply, laying-out of grounds for games and sports, improvement of agricultural land, land rearrangement, building of roads for agricultural and forestry purposes, reafforestation, etc. The system of grants has not yet been extended to work on buildings, since, till quite recently, the private building industry has still been carrying on fairly well in Switzerland. There was, accordingly, hardly any unemployment among qualified workers in the building trade—a result which, it is true, is partly the outcome of systematic action exercised on the labour market.

The relief works are mainly undertaken by the communes ; they are therefore generally limited in duration. There are, however, some—e.g., junction roads, roads over mountain passes, river improvement work—which are of some magnitude and provide work for a fairly long period ; such work is generally undertaken by the cantons. Mention should further be made of the construction of barrages for the establishment of hydro-electric plant, work for the carrying out of which associations have sometimes been formed consisting of public bodies, but organised as limited liability companies.

The following data give full particulars of the expenditure :

I. *Construction Work carried out by the Confederation or under the Control of the Federal Government, and by the Swiss Federal Railways (in thousands of francs).*

	1930	1931	1932	1933	Budget 1934
Installation of cables	19,778	23,050	19,433	16,795	14,650
Construction works (superstructure) carried out by the Confederation .	14,706	17,732	13,699	11,512	14,252
Federal Railways :					
Laying the line and putting up fixed plant.	36,562	42,182	34,771	22,077	23,661
Electrification	6,118	2,237	6,699	5,742	8,430
Renewal and maintenance of line .	39,782	38,675	34,794	33,323	31,245
Total	116,946	123,876	109,396	89,449	92,418

2. *Expenditure of the Cantons and Communes on Constructional Public Works*
(in thousands of francs).

	1930	1931	1932	1933
Cantons (annual accounts)	109,857	131,874	137,266	135,324
Including, for roads	78,914	91,801	96,578	94,866
Communes (estimate) ¹			121,000	
Industrial undertakings of the cantons and communes (estimate) ¹			80,000	
Total			338,266	385,000 ²
Total of tables 1 and 2.			447,662	474,449

The expenditure of the cantons and communes as shown above also includes the ordinary and extraordinary grants (relief works).

A comparison of the various items of expenditure shown in 1 and 2 suggests that the increase in the total expenditure from 1932 to 1933 is, above all, due to the carrying out of a larger number of relief works, particularly road work.

3. *Ordinary Grants made by the Confederation to the Cantons, Communes and Land Improvement Organisations.*

(Amount of the estimates and grants guaranteed for the work yearly submitted)

	1929	1930	1931	1932	1933
	(in thousands of francs.)				
<i>Land improvement:</i>					
Total cost	26,482	19,149	24,199	17,711	17,166
Grant guaranteed.	9,142	5,671	7,247	4,715	4,265
<i>Forest roads:</i>					
Total cost	1,748	3,764	1,917	4,465	3,006
Grant guaranteed.	502	1,141	605	1,399	891
<i>Improvement work on rivers, mountain streams and roads:</i>					
(a) Improvement work on rivers and mountain streams:					
Total cost	12,700	8,700	21,300	15,800	15,300
Grant guaranteed.	5,600	3,600	9,100	5,700	5,100
(b) Construction of roads:					
Total cost	3	2,590	1,360	8,000	3,123
Grant guaranteed.	3	1,295	544	2,800	1,041

4. *Amount of Estimates and Grants guaranteed by the Confederation as Grants for Relief Work* (in thousands of francs).

	Amount of estimate	Federal grants
1930	—	—
1931	4	1,665.0
1932 to end of June 1934.	184,633	16,240.2

¹ Estimate made out only for 1932.

² Approximate estimate on the basis of the data for 1932.

³ No grant has been made.

⁴ Not communicated by the cantons.

5. *Amounts of the Estimates for Public Works begun or continued in 1933, including Relief Works (in thousands of francs).*

Confederation and Federal Railways.	47,000
Cantons and communes	268,000
Total	315,000

This sum may be divided according to the various categories of work as follows :

	Thousands of francs
Communication roads and sewers constructed at the same time	85,000
Improvement work on rivers and mountain streams	37,200
Land improvement work, rearrangement of agricultural land, farm roads	51,600
Forestry work : roads, reafforestation, haulage roads, defence work	5,900
Water supply and drainage.	13,700
Railway construction	28,200
Sports grounds and bathing beaches	3,500
Public buildings (superstructure)	76,300
Cables and miscellaneous	13,300
Total (approximate)	315,000

II. — The questions to which a reply is here demanded have already been touched on in the preceding remarks. It has been stated that public works are divided as between the Confederation, the cantons and the communes, extraordinary works being mainly dealt with by the two latter authorities. Hitherto, there has been no central Swiss service to ascertain the possibilities of work and to promote work ; the initiative has mainly been left to the cantons and the communes. These latter prepare and finance the schemes. The work is carried out after public tender or under direct official control. The Confederation, as has been said, meets the expenditure represented by the wages paid to the unemployed engaged on the said works. The unemployment of these persons must be a consequence of the crisis.

The grants were at first allocated as a lump sum to those cantons which had suffered most from the crisis, particularly to cantons affected by unemployment in the watch-making and embroidery industries ; but, later, they were paid for specific public works, an application having to be submitted in every case to the Federal Office of Industry, Arts and Crafts and Labour. This application had to indicate the date of commencement and duration of the work, the estimated cost, an estimate of the total wages to be paid to the unemployed drawn from other trades and engaged on the work, the number and trade classification of the said unemployed, and the amount of unemployment in the district where the public works in question were to be carried out. Furthermore, a declaration is required from the competent cantonal authority to the effect that the scheme has been verified from the technical point of view and that it is designed to find occupation for persons out of work. After a certain date, the applications had also to state whether the work was to be carried out under official direction or by public tender. In its capacity as the body making the money grant, the Confederation, as soon as the building industry began to show signs of slackness, took steps to ensure that public works should be allotted to contractors.

The Confederation further accords certain other extraordinary grants—viz., grants to offset reduced output, particularly for work regularly subsidised under Federal laws when persons out of work are employed on such work in a trade which is not their own (the employment of inexperienced persons naturally results in less than the normal output).

The Confederation does not subsidise works undertaken by private persons.

In this system of subsidies, which has been in force since the beginning of the year 1932, the number of works to which grants were made was 2,855 at the end of July 1934. In the case of relief works properly so called, the Federal grant, which was always fixed with reference to the amount of the wages paid to persons out of work employed on such works in a trade not their own, may amount to 60 per cent, particularly when there is a great deal of unemployment in the district in question or when the work involves considerable expenditure in respect of which there is no subsidy.

In practice, it has become an established rule that any undertaking is only subsidised if, in the commune or district where the labour to be employed thereon is to be recruited, the number of persons out of work amounts to at least 1 per cent of the population, no account being taken of habitual seasonal unemployment. The cantons, when the relief work is undertaken, not by themselves, but by communes or other public bodies or by public utility corporations, must contribute a subsidy equal to the Federal grant, but not exceeding 30 per cent. The grants to offset reduced output mentioned above are fixed at a rate which varies between 10 and 20 per cent.

Certain cantons and communes have organised relief work in an extremely systematic manner; others had no programme and based their action solely on the needs of the moment. It should be noted that, in certain cases, relief works have been undertaken and carried out without any application for a subsidy from the Confederation.

The Confederation has, naturally, the right to make its financial support dependent on certain conditions. It does not fail to exercise this right, in order to guarantee an economic and useful employment of public funds, but also—and more especially—to ensure that the work undertaken will really contribute to remedy unemployment. Further explanations will be given in part V.

The legal basis for subsidising relief work has been laid down in Federal decrees, which also contain provisions for the purpose of developing unemployment insurance by the institution of crisis allowances. These matters are particularly dealt with in the Decrees of December 23rd, 1931, and April 13th, 1933, which have been completed by the Decree of October 14th of last year. These decrees opened the credits necessary for the payment of extraordinary grants.

The relief works as planned up to the present time are essentially based on the idea that unemployment would be a passing phenomenon and that there would soon be a return to better times. The persistence of the crisis, which is becoming more and more evident and gives reason to suppose that we have still a number of difficult years before us, has recently led the Swiss authorities to study the problem of the resources of labour as a whole and in detail—that is to say, to consider what measures should be taken to deal with the unemployment problem more effectively.

This enquiry will probably result in the establishment of a service whose duty it will be to seek out and utilise all possibilities of labour which still exist in the country. Here the guiding principle must be to find work for the unemployed in their own trades and in the natural place for them to be employed. Such a service should, however, also undertake public works on a larger scale and should pay particular attention to the building trade, which is now beginning to feel the effects of the depression. Here we should mention the programme which has been laid before the Confederation for the development of the main Alpine roads—a programme which will certainly be taken into consideration in the general investigation referred to above.

III. — The expenses of construction work normally carried out by cantons and communes are generally provided out of the budget by means of the revenue derived from taxation. In the case of extraordinary work on a large scale, such as the building of roads to meet modern requirements, public loans are also floated for that purpose.

The special credits are then successively paid off out of the budget, and the service of the interest is also provided for in the same manner. Money for road-building service is obtained from various other sources, including the import duties levied on benzine.

Certain categories of work, particularly communal roads, drainage work and water supply, are subsidised in some cantons under cantonal laws. Reference has already been made to the work carried out by cantons, communes and bodies of public law standing and subsidised by the Confederation under ordinary legal provisions. The ordinary subsidies furnished by the Confederation and the cantons are generally fixed in relation to the total cost of the construction, with the exception of the expenditure necessary for acquiring the land and the rights. In accordance with the general economy programme applied by the Confederation, the rate of the ordinary subsidies has in principle been reduced since last year.

It has been necessary to increase the cantonal and communal taxation in order to meet the crisis expenditure, which also includes the subsidies given for relief works. Furthermore, on the principle that all fresh expenditure should be met by fresh revenue, the Confederation and certain cantons have decided to introduce a temporary crisis tax. One canton has even set up a lottery with prizes for a similar purpose.

IV. — We have no documentary material enabling us to reply to these questions. As regards relief works, the sum paid in wages to persons out of work employed in undertakings, for whom the Federal subsidy may be claimed, amounts, on an average, to 31.4 per cent of the total cost of the work as shown in the estimates. This proportion has been established without taking account of wages paid to workmen employed in their own trades and to workmen who, for other reasons, could not be included for the purposes of the subsidy.

Experience has shown that it is difficult to determine exactly the sum paid as wages to persons out of work employed in a trade other than their own, so that this sum can only be given with due reserve. Taking as a basis the permits granted up to the end of June 1934, we arrive at total estimated costs of 184,633,000 francs, whereas the total sum paid as wages to persons out of work employed in a trade other than their own amounts to 58,572,010 francs.

Unemployed persons who have learnt a trade but who are occupied in relief work as unskilled labourers receive a wage corresponding to the wages paid for such work in accordance with local customs. It is probable that the wages paid to unskilled workers employed in relief work outside their own trade are slightly less.

V. — At a time when unemployment is a widespread evil, the relief works which give employment to persons out of work are certainly an absolute necessity, and also a duty which the community owes to the unemployed. In Switzerland, there has been a strong movement of public opinion in favour of the view that persons out of work should be given employment rather than financial assistance, and a popular initiative is at present being prepared for this purpose. It is, however, a well-known fact that relief works are a comparatively burdensome means of remedying the unemployment problem, not only because of the considerable funds which are necessary to carry them on, but also through the burdens which they impose on the community for the future (expense of maintenance, interest and amortisation charges on the capital employed).

In spite of all their solicitude for the unemployed, the Federal authorities have always been cautious in this matter.

Care has been taken to see that the subsidies granted and the work carried out should have the greatest practical value. For instance, the conditions enforced exclude as a rule from the benefits of a subsidy persons belonging to occupations which, like farming or the building trade, have a shortage rather than a surplus of labour during the busy season. In the case of unskilled builders' labourers, an exception

has been made to this rule in certain cases where the slackness of the building trade justified such a measure.

In the mountain cantons it was possible, when necessary, to allow a subsidy to be granted to smallholders obliged to support themselves by an additional means of livelihood. In order not to interfere with the recruiting of labour for agriculture and the building trade during the busy season, persons out of work who were not supporting a family were further excluded in principle from the subsidy during the summer months. The admission of unemployed persons to relief works was carried out by agreement with the cantonal employment office and subject to proof being furnished that the unemployed person had himself endeavoured to obtain employment without success.

Another condition was that the unemployed person should have been without work for a fairly long time. Lastly, it was required that the same unemployed persons should only be admitted to relief works according to a certain rotation—that is to say, that from time to time they should be replaced by other unemployed. Compliance with the conditions laid down was verified by the above-mentioned Federal office by means of the wages-rolls which had to be submitted along with the accounts for the work before the subsidy was paid.

In round figures, about 9,000 unemployed persons were engaged on relief works during the first six months of 1934 (this is a monthly average ; figures for the month have only been kept since the end of 1933). It will be seen from this that the said works have only absorbed a small part of the unemployed ; it should be stated, however, that, thanks to the compulsory system of rotation, the effect of these works has been greater than appears at first sight. Furthermore, as we have already suggested, it will in all probability be necessary, in view of the expected depression in the building trade, to give subsidies on a wider basis, mainly by including therein the wages paid to persons out of work belonging to the category of skilled builders' labourers.

Furthermore, it should be pointed out that the relief works, which involve allocation of contracts for supplies and the payment of appropriate wages, have stimulated economic activity in general.

The measures which, as we have already stated, are being prepared with a view to ascertaining and systematically employing all labour resources existing in the country will, in conjunction with the relief works properly so called, contribute towards reducing unemployment.

REPORT BY THE FEDERAL DEPARTMENT OF POSTS AND RAILWAYS.

(b) RAILWAYS.

I (a). *Federal Railways.*

A. *Installation.*

Transformation of the Combe-Maran Viaduct near St. Ursanne and of the bridge over the Reuss near Mellingen, and transformation and strengthening of a large number of small bridges.

Doubling of the line on several routes, total length 112 kilometres.

Replacement of 113 level-crossings by subways or overhead passages or by parallel roads.

Improvement and facing of various tunnels for introducing electric traction.

Important embanking work, with the aid of a State subsidy, on the St. Barthélemy torrent between St. Maurice and Martigny.

Embanking work on several torrents and protection work against avalanches and falls of stones.

Conversion and enlarging of the following stations : Fribourg *, Chiasso *, Zurich *, Coire *, Berthoud, Waedenswil, Sargans, Schaffhausen, Les Hauts-Geneveys, Rivera-Bironico, Niederschönthal-Frenkendorf, Rapperswil, Zurich-Letten, Zurich-Wollishofen *, Dietikon *, Wallisellen *.

Completion of permanent way and signal installations at various stations and halts.

Making of a new marshalling station at Muttenszerfeld, near Basle *.

Erection of a building for staff and administration at Zurich *.

Construction of a new interlocking installation at Winterthur station.

Enlargement of storerooms at Meiringen station.

Installation of preliminary heating arrangements for carriages at various stations.

Creation of a halt at Zurich-Wipkingen and of various halts at places of small importance without a station.

B. *Electrification.*

Installation of electric traction over a distance of 252 kilometres.

For this purpose, or for the subsequent extension of electrified lines, the following work was or is necessary : Enlargement of power stations, installation of transmission lines of 66 and 33 kw., installation of new sub-stations and enlargement of existing sub-stations, installation of contact lines ; establishment of the free-space section and placing in cable of low-tension lines constructed in the open air.

C. *Purchase of Rolling-stock.*

From 1929 to 1933, the following were purchased : 137 electric locomotives, 2 rail motors, 330 carriages, 6 vans, 851 wagons, 65 tip-wagons for ballast, 22 tractors. Further, 254 carriages were converted.

Other Railways.

Electrification of the Rorschach-Heiden railway.

Electrification of the Lake Constance-Toggenburg railway.

Electrification of the Appenzell railways.

Electrification of the Emmenthal and Soleure-Moutier railway.

Protection work to enable the Viège-Zermatt railway to operate in winter.

I (b).

Federal Railways.

Replacement of level-crossings by overhead and underground passages.

Transformation and strengthening of bridges.

Displacement of the line in front of the League of Nations buildings at Geneva.

Transformation and enlargement of stations at Geneva, Neuchâtel, Brugg, Lugano and Olten-Hammer, and completion of permanent way and signals at several stations and halts.

* Work marked with an asterisk was begun before 1929 but carried out mainly between 1929 and 1933.

Installation of an interlocking-system cabin at the Zurich passenger station.
Displacement of the goods station at Berne.
Completion of electric, telephonic and telegraphic installations in and between stations.
Installation of the Drolshammer continuous brake on goods wagons.
Introduction of the "Signum" inductive system of automatic control of trains.
Further electrification of the system over a distance of 252 kilometres, of which 151 kilometres are to be completed in 1934 and 101 kilometres in 1935 and 1936.
Construction of the new Etzel power station.

Other Railways.

Nil.

I (c).

Federal Railways.

Transformation and strengthening of bridges.
Displacement of line and laying of four tracks between Wilerfeld and Berne.
Displacement and doubling of line between Emmenbrücke and Lucerne.
Bringing of the goods line of the Basle junction railway direct into the new goods station at Basle.
Doubling of the line on several routes.
Enlargement of stations and halts.

Other Railways.

Electrification of the Lausanne-Echallens-Bercher railway.
Protection work to enable the Bernina railway to be operated in winter.
Construction of the Cornavin-La Praille section (C.F.F.) of the Geneva-Cornavin-Eaux-Vives junction line.

II. — The necessary credits for work on Federal Railways are voted by the Federal Chambers. Expenditure appears in the Construction Account and must be written off within a hundred years.

The grant of contracts for work or deliveries is solely in the hands of the Federal Railways, which call for tenders or place orders direct.

III. — In so far as expenditure on work cannot be covered by the ordinary working surplus, it is met by internal loans guaranteed by the State.

IV. — The division of the cost of the work mentioned under No. I as regards purchases of material and labour may be estimated as follows :

- A. *Installation*: Purchase of material, 57 per cent ; wages, 43 per cent ;
- B. *Electrification*: Purchase of material, 45 per cent ; wages, 55 per cent ;
- C. *Rolling-stock*: Purchase of material, 55 per cent ; wages 45 per cent.

V. — By placing large orders, the Federal Railways help to a great extent to give work to the country. However, owing to the diminution in traffic caused by the crisis and the competition of motor traffic and the critical financial situation resulting therefrom, they will be obliged to limit their work during the coming years.

(d) CANALS AND OTHER INLAND WATERWAYS.

Regulation work on the Rhine between Strasbourg-Kehl and Istein.

Switzerland shares in the cost of this work up to 60 per cent of the total. But, as the section in question is situated on foreign territory and the execution of the work has been entrusted to the *Abteilung für Wasser- und Strassenbau des badischen Finanz- und Wirtschaftsministeriums*, it is that office which is competent to supply the information required.

(g) RIVER PORTS.

I (a). — The work begun in 1929 and now completed consists mainly in certain installations of secondary importance and in the improvement of existing installations in the port of Basle.

The railway station of the port has been extended and the lighting of the quays improved ; new roads of approach and a new quay have been built.

I (b). — Extension of lines, various purchases, construction of provisional offices.

I (c). — Construction of an administrative building, extension of lines, making of a second dock, construction of roads.

II. — Tenders are invited by the Canton of Basle-Town for each undertaking. The direction of the most important work is assumed by the Cantonal Department of Public Works or by an engineer's office in collaboration with the Navigation Office. The plans are drawn up on the basis of proposals made by the Navigation Office and approved by the authorities. The competent public authorities grant the credits and approve the proposed construction and installations.

III. — As owner of the Basle port installations, the Canton of Basle-Town bears the cost of all the work. The Confederation has hitherto made special grants to the Canton for the most important undertakings ; these grants amount to from 40 to 50 per cent of the expenditure incurred.

IV. — The expenditure may approximately be divided into three equal parts—wages, cost of material (about 10 per cent of which represents purchases abroad) and administrative expenses (overhead expenses properly so called, supervision, contractor's profits and social expenditure).

V. — As the traffic of the port of Basle is steadily increasing, it is constantly necessary to extend and improve the installations ; this enables work to be given, in particular, to building and engineering undertakings. A port well supplied with warehouses and transshipment installations stimulates traffic, especially by water. The cost of transport—in particular, as regards raw material of prime necessity—has diminished. This is of great advantage to the trade and industry of the country.

(h) WORK FOR THE ESTABLISHMENT OF AIRPORTS.

Basle Aerodrome.

I (a). — A. Enlargement of the administration building by construction of an antechamber.

B. Construction of an annex to the wireless station with accommodation for the Meteorological Service.

C. Enlargement of the landing-platform.

D. Levelling work and work in immediate neighbourhood of aerodrome (levelling, cutting of trees).

E. Completion of the wireless and meteorological stations.

I (b). — F. Installation of an Adcok direction-finding station.

G. Completion of safety appliances (searchlight for calculating height of clouds by the Meteorological Service for night flying ; electro-mechanical device for working from a distance the landing direction indicator ; signalling disc, with arrow showing direction ; placing of beacons on obstacles and in the neighbourhood).

I (c). — Nil.

II. — All the work has been or will be carried out to the order and on behalf of the "Aviatik beider Basel Co-operative Society", subsidised by the Cantons of Basle-Town and Basle-Country.

Work controlled by the authorities.

III. — Expenditure is covered by the working receipts of the aerodrome, by unemployment grants and by extraordinary grants from the Canton of Basle-Town.

IV. — Works A and B : Fixed sum payable to the contractor.

Work C : National industry, 60 per cent ; wages, 40 per cent.

Work D : National industry, 10 per cent ; wages, 90 per cent.

Work E : National industry, 70 per cent ; wages, 30 per cent.

Work F : National industry, 20 per cent ; foreign industry, 50 per cent ; wages, 30 per cent.

Work G : National industry, 70 per cent ; foreign industry, 10 per cent ; wages, 20 per cent.

Geneva Aerodrome.

I (a). — No work begun since 1929 and at present completed.

I (b). — Levelling of ground, draining.

I (c). — Erection of a building for shops, work-yard and warehouses.
Construction of a new administration building.

II. — The levelling and draining work are carried out by the canton. Unemployed are occupied, being engaged direct by the authorities. There is no subsidy from the Confederation other than the usual unemployment subsidy.

III. — Expenditure is covered by special vote apart from the budget.

IV. — Probable allocation : Wages, 70 per cent ; materials, 30 per cent.

V. — Apart from its actual utility, this work is intended to give occupation to the unemployed. It is not possible to say whether it may have an influence on the resumption of economic and industrial activity.

Zurich Aerodrome.

I (a). — The Zurich aerodrome was drained and levelled between 1929 and 1931.

I (b). — Levelling.

I (c). — Nil.

II. — The work is carried out in pursuance of decisions of the Grand Council. Tenders are called for in the case of the main works ; levelling work is entrusted direct to a contractor.

III. — Expenditure is covered by the ordinary budget of the canton, partly by the voting of special credits.

IV. — Materials, 20 per cent ; wages, 80 per cent.

V. — These works have been carried out during years of unemployment and have relieved the unemployment grant situation in some communes.

Berne Aerodrome.

I (a). — Preparatory work ; levelling, drainage, etc. ; construction of a building (office, hangar, workshops) ; enlargement of building and improvement of lighting ; completion of plant.

I (b). — Various installation work ; completion of workshops.

I (c). — Enlargement of the platform of the hangar and construction of a building for the office.

II. — The work has been carried out, under the direction of the competent authorities of the town of Berne, by private contractors.

III. — Expenditure has been covered by advances from the commune of Berne (these advances have been written off in the accounts) and by a subsidy from the Confederation.

IV. — All the materials used in construction are of Swiss origin.

V. — The work has given employment to industry and to labour.

Lausanne Aerodrome.

I (a). — No work begun since 1929 and now completed.

I (b). — Nil.

I (c). — Plans for transfer of aerodrome from La Blécherette.

Altenrhein Aerodrome.

I (a). — Levelling and drainage work ; complete lighting system for night landing ; construction of a hangar.

I (b). — Maintenance, levelling, drainage channels.

I (c). — Building of a hangar ; the work has been postponed owing to lack of funds.

II. — The aerodrome was constructed by the Dornier factory with subsidies from the Confederation, the Canton of St. Gall and certain communes. Tenders were called for before contracts were granted.

The lighting installation and the building of the hangar were entrusted direct to contractors.

III. — The Confederation, the Canton of St. Gall, the town of St. Gall and certain communes granted subsidies for the construction of the aerodrome, the lighting work, the signal installations and the building of the hangar.

IV. — Wages represent about 98 per cent of the expenditure incurred in making the aerodrome (drains, drainage, levelling, transport of materials and filling of depressions).

V. — The main work has, as far as possible, been carried out to occupy the unemployed and because of the great advantage accruing from the establishment of the Dornier factory at Altenrhein.

This landing-ground, which was originally intended for the factory, now serves as a Customs aerodrome for air traffic of the Ostschweizerische Aerogesellschaft, for which the Canton and town of St. Gall, the town of Rorschach and certain communes of Eastern Switzerland pay annual subsidies.

(i) ADMINISTRATIVE BUILDINGS.

I (a). — In 1930, construction of two new very large Post, Telegraph and Telephone buildings (Zurich-Sihlpost and Bienne), of an average-sized post office and of a postal garage.

In 1931, construction of four new Post, Telegraph and Telephone buildings, two of which are large (Baden and Montreux), and a telephone building at Zurich ; transformation of the Basle Post Office building for telephone purposes.

In 1932, erection of six new buildings (three for postal garages, one telegraph and telephone garage and shops, and two buildings for housing staff of the national wireless stations and one for a relay station) ; transformation of a post-office building in Zurich.

In 1933, construction of five new buildings (one for the post office, one for the Post, Telegraph and Telephone, two for postal garages and one for a national broadcasting station) ; enlargement of a postal building for the telephone, reconstruction and heightening of the telegraph and telephone building in Berne ; share paid to a building company for the construction of a new Post, Telegraph and Telephone building.

I (b). — Construction of a new Post, Telegraph and Telephone building in Rapperswil and transformation and heightening of the General Post Office building in Berne (for the telephone).

I (c). — Four new buildings (three for the Post, Telegraph and Telephone and one for telegraph and telephone workshops) ; transformation of a post-office building for the telephone.

II. — All the work in question has been, is or will be executed on behalf of the Swiss Confederation or of the Post, Telegraph and Telephone Administration, except for a building constructed in 1933 by a private firm of builders.

Work is, subject to supervision, carried out by private undertakings, to which contracts are granted after tenders have been called for.

III. — Expenditure appears in the ordinary Confederation budget under the special Post, Telegraph and Telephone Administration Account. A small portion is shown, according to the nature of the work, in the operation account and the rest as an increase in the establishment account of the Administration.

IV. — The allocation of expenditure between materials and equipment on the one hand and labour on the other may be estimated approximately at two-thirds to one-third, as regards new administrative buildings. In the case of transformation of buildings, this allocation is about one-half to one-half. Expenditure on transformation represents about 18 per cent of total expenditure incurred since 1929 or contemplated as regards administrative buildings in general.

V. — Orders for work on behalf of the Post, Telegraph and Telephone Administration are given in accordance with the needs and requirements of the traffic, and only when justified. However, an active campaign during recent years in favour of the development of the telephone has been the reason for a part of the considerable expenditure incurred in this field, and has no doubt helped to secure work for many who would otherwise have been victims of unemployment.

(f) ELECTRIC INSTALLATIONS.

I. — The work in this category has been done in accordance with normal programmes for extension of electric undertakings.

II. — The distribution of electric power in Switzerland is, as regards three-quarters, in the hands of the communes and cantons. As regards communal undertakings, the execution of the most important work is subject to a decision by the voters. Most of the cantonal enterprises are organised as juridically independent undertakings, whose board of directors is authorised to carry out work in the same way as in private undertakings. Constructional work undertaken by electric enterprises is generally put out for tender.

III. — Expenditure is covered partly by annual contributions to a sinking fund and partly, in the case of communal undertakings, by advances from the communes ; in the cantonal undertakings, by advances and by loans ; and, in private undertakings, by loans and only to a small extent by the direct issue of shares to the public.

Annual amortisation and annual payments to reserve funds have amounted in recent years to rather more than half the total of annual expenditure on construction.

IV. — The allocation of expenditure between materials and labour is not known.

(k) GASWORKS.

I. — In this category, the work is done in accordance with normal programmes for the extension of such undertakings.

II. — Save for exceptions of small importance, gasworks belong to communes. Decisions as to new construction are taken by the communal authorities.

III. — Expenditure is covered partly by annual amortisation and partly by advances made by the communes.

IV. — The allocation of expenditure between material and labour is not known.

1) TELEGRAPH AND TELEPHONE INSTALLATIONS, WIRELESS BROADCASTING STATIONS.

A. *Telephone Cables and Telephone Air-lines.*

I (a), (b) and (c). — Laying of inter-urban cables (in new or existing conduits), laying of cables in towns and rural telephone districts, erection of new air-lines, replacing of air-lines by underground cables, creation of new automatic exchanges and sub-exchanges, increase of the capacity of already existing automatic installations, bringing into use of new amplifying and relay stations, enlargement and improvement of manual exchanges.

B. *Broadcasting Stations.*

I (a). — In 1930, two local stations : Basle and Berne.

In 1931, two national stations : Sottens and Beromünster, and Geneva station.
In 1933, Monte Ceneri national station.

I (b). — Nil.

I (c). — Increase of the power of Beromünster and Sottens stations.

II. — All the work has been, is being or will be carried out on behalf of the Swiss Confederation, or the Post, Telegraph and Telephone Administration. It is mostly done, under supervision, by private firms, to whom the contract is awarded after tender. The work undertaken direct by the Administration represents in wages about one-twelfth of the total expenditure under this head.

III. — Until 1933, all expenditure was included in the special Post, Telegraph and Telephone Administration Account of the ordinary State budget, in which it appears, according to the nature of the work, for a small proportion in the operation account and, as regards the balance, as an increase in the establishment account of that Administration. This method will, as a rule, be continued ; but it is proposed in 1934 and 1935 to draw a certain part of the funds for laying and changing telephone cables from the credits set aside by the State for the relief of unemployment.

IV. — The allocation of expenditure between materials and equipment on the one hand and labour on the other may be estimated approximately as two-thirds to one-third.

V. — Cf. (i), No. V.

CZECHOSLOVAKIA.

[*Translation.*]

(a) ROADS AND BRIDGES.

I (a).

1. *State Roads and Bridges.*

Two hundred and four kilometres of national roads and 460 bridges were constructed at a total cost of 221 million Czech crowns.

At the same time 1,500 million Czech crowns were spent on the repair of national highways and the construction of 4,183 kilometres of highways.

2. *Other than State Roads and Bridges.*

New departmental roads were opened or repairs made at a total cost of 967 million Czech crowns.

I (b).

1. *State Roads and Bridges.*

National roads and bridges to the value of 86 million Czech crowns are now in course of construction.

2. *Other than State Roads and Bridges.*

Roads and bridges other than State at a cost of 363 million Czech crowns are in course of execution.

I (c).

1. *State Roads and Bridges.*

Programmes of future work are not yet fixed.

2. *Other than State Roads and Bridges.*

The programmes for the immediate future for the building of non-State roads and bridges will involve work costing 724 million Czech crowns.

II.

1. *State Roads and Bridges.*

The construction and reconstruction of national roads and bridges are carried out according to programmes framed by the Ministry of Public Works. Large-scale road-making, particularly new construction and the repair of main roads, is awarded to private contractors. Less important work is carried out directly by the State authorities.

2. *Other than State Roads and Bridges.*

The construction and repair of non-State roads are carried out by associations of self-governing bodies within the limits of the powers granted to them.

The work is done and supply contracts awarded on the initiative of the district offices themselves. The work is allotted to private concerns on the basis of tenders; less important works are executed by the district offices themselves.

III.

1. *State Roads and Bridges.*

The cost of repairing and constructing national roads and bridges is defrayed partly out of funds appropriated for the purpose in the State budget, and partly out of the proceeds of a fund constituted under the 1927 Act for the systematic improvement of roads. This road fund is financed by internal loans, the interest and sinking fund of which are met out of the current revenue of the fund derived from the taxes levied for the purpose on motorists.

2. *Other than State Roads and Bridges.*

New non-State roads are constructed partly with the help of a direct subsidy from the State and the province concerned, in which case the joint amount advanced by the State and province must not exceed 60 per cent of the construction costs. The balance is defrayed by the communes. The work is carried out through a so-called "Provincial Roads Fund", in which 15 to 20 per cent of the expenditure (eventually in kind) is supplied by the communes and the balance by the departments concerned in the form of a loan granted by the latter.

Where the purpose of the work is merely to improve or repair a road, a State grant from the road fund amounting to from 50 to 90 per cent of the actual cost is granted for such work to the departments or communes.

The State makes a grant covering on an average 40 per cent of the cost of building non-State bridges. A further 20 per cent is given by the province in the case of big structures. The balance is defrayed by the department or commune out of their extraordinary budgets.

IV. — About 60 per cent of the cost of making new roads represents the wages of the labourers directly employed on road-making, the remainder representing supplies of local road-making material.

In the case of repairs to road surfaces, the wages paid directly to local labour account for about 12 per cent of the cost.

As the materials and machinery are almost entirely of local origin, the bulk of the remaining expenditure also represents wages which are, naturally, not paid direct.

About 33 per cent of the cost of building bridges represents the wages paid direct to local labour, the remainder representing cost of materials (cement, iron, stone) supplied mainly by local industries.

V. — Road-making, particularly the building of new roads and the transformation of roads already in existence into main roads mostly paved and concreted, is regarded by the Government as the most important capital-investment problem in Czechoslovakia. These works are important, not only from the standpoint of national economy and public utility, but also as a factor in relieving unemployment. Preference is given to the building of concreted and paved roads, as this process gives

first-class roads which, although the initial cost is greater, are really cheaper since they last longer and cost less to keep up. The making of concreted and paved roads has also an important bearing on the relief of unemployment, as the operations entailed enable more labourers to be employed in the quarries and cement works, which industry, owing to the excellent quality of these materials, is highly developed in Czechoslovakia. Paving work in particular is looked upon as very useful to relieve unemployment, since the laying of setts entails mostly manual work on a very large scale.

For these reasons, the Ministry of Public Works has latterly been trying, as far as possible, to make roads of concrete and stone rather than of tar macadam, some of the materials for which have to be imported from abroad, apart from the fact that, in repairing tar-macadam roads, it is impossible to employ as many labourers as for the kinds of roads mentioned above and use is made only of machinery and gangs of expert workers.

(b) RAILWAYS, TRAMWAYS AND URBAN UNDERGROUND RAILWAYS.

I (a).

1. *Czechoslovak Railways.*

To amplify the reticulation of railways, 26 kilometres of new lines, 4.5 kilometres of tunnels and 0.4 kilometre of viaducts have been constructed together with the necessary bridges and stations. In addition, 81 kilometres of double track, 26 kilometres of lines, 4.36 kilometres of funicular railways and 96 stations have been built ; 533 stations and 59 warehouses have been rebuilt ; and 127 kilometres of telegraph lines and 2,283 kilometres of telephone lines have been freshly laid down. Fifty-five kilometres of new electric railways have been built. Several garages for motor-omnibus services have been erected and the number of vehicles in operation has been increased.

The total amount spent between 1929 and 1933 on the above operations is 2,762 million Czech crowns.

2. *Public Railways owned by Self-governing Bodies and Private Companies.*

Altogether, 31.5 kilometres of ordinary and 12.6 kilometres of narrow-gauge lines have been constructed. Municipal electric tramways have also been built : 28.4 kilometres at a cost of 48 million Czech crowns.

3. *Private Railway Systems of Public Concern.*

Altogether, 643 kilometres of private lines have been constructed (the total cost is unknown).

I (b).

1. *Czechoslovak Railways.*

Thirteen kilometres of new railways are under construction, including 2.3 kilometres of tunnels, 0.2 kilometre of viaducts, 29 kilometres of double track, and five stations. Thirty-seven stations are being rebuilt or extended, not counting the various safety installations.

The cost of the above work this year will amount to 402 million Czech crowns.

2. *Public Railways owned by Self-governing Bodies and Private Companies.*
Work to the total value of 4.5 million Czech crowns is in course of execution.

3. *Private Railway Systems of Public Concern.*
The Government possesses no information.

I (c).

1. *Czechoslovak Railways.*

Forty-three kilometres of new railways are to be built and 60 kilometres are under consideration.

2. *Public Railways owned by Self-governing Bodies and Private Companies.*

3. *Private Railway Systems of Public Concern.*

The Government possesses no information.

II. — All railway works, whether on State or private lines, must be approved by the Central Office. They are executed in accordance with current railway regulations.

Railway works on State railways and private lines operated by the State are usually carried out under contract on the basis of tenders submitted in accordance with the regulations in force. Only repairs and additions to the permanent way and certain works of minor importance are carried out by the railway authorities' own staff.

Work on private railways is let to contract and the work carried out by the contractors themselves.

The administration constructs private branch lines only at the request of the operating undertakings.

III. — So far as the invested capital is concerned, the cost of railway construction on State systems is met either out of the operating profits or out of advances contributed by the State Treasury or, when necessary, from the proceeds of credit operations. The cost of renewing these charges and the independent renewal of the various structural components of the systems are charged to operating receipts.

The cost of work done on private lines operated by the State is met out of the operating profits of these lines, the State authorities operating them giving them a time-limit for the payment of any operating losses and granting them advances for the service of capital.

The operating undertakings themselves defray construction costs on privately operated lines (local railways, branch lines, tramways, etc.).

IV. — The experience of the railway administration shows that roughly 60 per cent of building costs goes to pay the wages of labourers and employees, while the balance is allocated to materials, the manufacture of which includes items for wages and salaries.

V. — In view of the diversity of the circumstances, the locking-up of capital in railway concerns carries with it the same advantages and drawbacks as the relevant operations and the supplying of materials entail for the various branches of the building industry—viz., building, earthworks, machinery and miscellaneous plant. Capital investment, therefore, is one of the most important factors in the economic life of the

State, and, in view of the scope of the work, has a great bearing on the solution of the problem of the present economic depression.

In view, however, of the financial difficulties with which railway lines, even in our country, are now faced, it is necessary to be careful in investing capital and to undertake only such works as will in future prove profitable.

(c) AGRICULTURAL IMPROVEMENTS ; LAND RECLAMATION AND DEVELOPMENT ENTERPRISES.

I (a). — Improvement works have been carried out at a total cost of 497 million Czech crowns.

I (b). — Work to the value of 126 million Czech crowns is at present in course of execution.

I (c.) — Work to the value of 112 million Czech crowns is in preparation.

II. — The works are and must be carried out by the drainage associations, communes and departments on their own initiative, with the help of a grant from the State and the province. All such work is let on the basis of public tenders to officially licensed contractors and civil engineers, under the direction and supervision of the provincial office, "Zemský Úřad".

III. — The financial assistance given from public funds varies according to the material situation of the contractor. In the case of improvement undertakings, the maximum was 50 per cent and, in the case of development undertakings, 80 per cent of the actual cost of construction.

The part of the cost not defrayed by State or provincial grants is met by contractors partly from their own resources, partly out of long-term loans contracted in credit institutions having funds on deposit, in local agricultural credit institutions, and partly also out of short- or long-term loans guaranteed by the provisions of special laws, and the receipts accruing from the work done.

IV. — The materials and labour used in these works are almost entirely local. Wages paid directly on the spot may be calculated at 60 per cent and materials at 40 per cent of the total cost.

V. — The Government considers the execution of improvement and development works to be one of the best ways of combating unemployment, since it affects a large number of small concerns scattered throughout the country. In view of the comparatively small size of these concerns, the work cannot be rationalised and manual labour has to be employed. Hence its value.

The Government also sees another advantage in the increased revenue accruing to national economy from the fact that, as a result of the improvements and developments, the yield of the soil increases, floods are prevented, etc.

(f) PROVISION OF DRINKING-WATER SUPPLIES AND SEWAGE DISPOSAL.

I (a). — As far as large-scale undertakings are concerned, 680 million Czech crowns' worth of this kind of work has been completed since 1929.

I (b). — Large-scale works to the value of 128 million Czech crowns are in course of execution.

I (c). — Large-scale works will shortly be put in hand at a cost of 191 million Czech crowns.

II. — The works have been, are and must be executed for rural and urban communes or for groups of communes. The latter will carry them out on their own initiative and with the help of grants (Provincial Committee, Ministry of Agriculture and Public Health). Installations are carried out in accordance with plans, submitted by civil engineers, and revised and rearranged by the Administration. The work is always allotted as a result of public tender and is carried out under the supervision of the technical services of the State.

III. — The amount of grants from public funds varies with the financial situation of the contractor. It represents one-third of the cost. These grants are drawn from the current budget appropriations of the province or State.

The Ministry of Agriculture administers funds and, in the case of large buildings, defrays part of the interest service corresponding to a subsidy of a given percentage. The communes pay for the work out of their extraordinary budgets, these amounts being covered by loans contracted with banking establishments.

The remunerativeness of these works must be proved and the water rates are fixed accordingly. They must cover the annual expenditure.

IV. — Of the construction costs of these works, 34 per cent represents the wages paid to labourers on the spot and 66 per cent the cost of materials. The materials ordered are of Czechoslovak origin.

V. — This form of economic activity is at present regarded as one of the most effective ways of combating the evil effects of the depression, quite apart from the fact that it raises the cultural and hygienic standard of the inhabitants of towns and communes. The main advantage of these works is that the work is mostly carried out in the towns or the big communes where unemployment is most acute. Furthermore, these works give employment to a large number of craftsmen and the demand for material stimulates the metallurgical industry.

(d) CANALS AND OTHER INLAND WATERWAYS ; DEFENSIVE WORKS AGAINST FLOODS (DAMS).

I (a). — As part of the navigation and training works on the Elbe, Vltava and Oder and, along the frontier, on the Morava, Danube, Tisa and Vah, a length of 50 kilometres was regulated and made navigable at a cost of 170 million Czech crowns. The amount expended on the building of dams was 70 million Czech crowns.

I (b). — Work to improve navigation and training works on the same rivers, over a total length of 90 kilometres, are being carried out at a cost of 260 million Czech crowns. The dams in course of construction will cost 100 million Czech crowns.

I (c). — The completion of the regulation works and operations to make the above-mentioned rivers navigable over a total length of 210 kilometres will cost 800 million Czech crowns, and the construction of dams 250 million Czech crowns.

II. — The plans for these works are prepared in the Government offices. Tenders are invited and the work is allotted to contractors, who undertake to carry them out under the direction and supervision of the Government authorities.

III. — The various works are executed for the account of a State Waterworks Fund, instituted by Law No. 50/1931, Statute Book. This fund is financed by means of Government grants on the one hand, or contributions from the provinces, districts and parties concerned, and also from the direct profits accruing from the operation of the

waterworks themselves. Any balance is met out of a loan, the interest and sinking fund of which are a charge on the receipts of the fund.

IV. — Of the total expenditure incurred for the installations, 60 to 65 per cent goes to pay for labour, and the balance to buy the materials and equipment, which are supplied mainly by national industry.

V. — The Government considers these public waterworks systems a very effective way of stimulating economic and industrial activity and, by putting them into execution, endeavours to relieve unemployment as much as possible. The great advantage of these works is that they are planned for the whole country, thus making it possible to regulate the engagement of labour where the need is greatest.

(g) WORK CARRIED OUT IN SEA AND RIVER PORTS, INCLUDING MECHANICAL EQUIPMENT OF SUCH PORTS.

I (a). — The construction of ports on the rivers mentioned above represents an expenditure of 30 million Czech crowns.

I (b). — This represents an amount of 20 million Czech crowns.

I (c). — The cost of completing the works and equipping the ports may be estimated at 100 million Czech crowns.

II, III, IV and V. — Same reply as under (d).

(j) HYDRO-ELECTRIC POWER STATIONS.

I (a). — The hydro-electric power stations installed on the above rivers represent a value of 20 million Czech crowns.

I (b). — Other hydro-electric power stations are being installed at a cost of 180 million Czech crowns.

I (c). — Their completion will cost 240 million Czech crowns.

II, III, IV and V. — Same reply as under (d).

(h) CONSTRUCTION OF AERODROMES.

I (b). — A civil aviation aerodrome, costing 110 million Czech crowns, is under construction at Ruzyně, near Prague.

II. — The civil aviation aerodrome at Ruzyně is being constructed under the orders and for the account of the State by the Ministry of Public Works.

III. — The work is being defrayed out of the proceeds of the "Labour Loan".

IV. — Nearly 13 per cent of the total cost is absorbed by the contractor's profit and administrative expenditure, about 35 per cent goes to pay for materials and equipment and nearly 52 per cent for wages and social insurance.

V. — The Government regards this work as an effective means of relieving unemployment at Prague. For the earthworks, it is possible to use a large number of unskilled workers and at the same time to give work to the iron industry by placing orders for metal framework. In the case of earthworks, the thirty-six-hour week has been introduced for unskilled workers.

ad (j) ELECTRICAL INSTALLATIONS, STEAM-GENERATING STATIONS AND
MOTIVE-POWER TRANSMISSION.

I (a).

1. *General Electrification.* (Installation of steam-generating stations, transformer stations and high-tension distribution and auxiliary systems.)

A system covering about 500 kilometres and transmitting 160,000 kw. has been constructed at a cost of 470 million Czech crowns.

2. *Rural Electrification.* (Installation of secondary distribution systems in communes.)

Since 1929, altogether 3,100 of these installations have been effected, at a cost of 930 million Czech crowns. The Government grant amounted to 155 million Czech crowns.

I (b).

1. *General Electrification.*

A system extending over 32 kilometres and transmitting 24,000 kw. is at present being constructed at a cost of 50 million Czech crowns.

2. *Rural Electrification.*

Two hundred communes are now being electrified at a cost of 60 million Czech crowns, the Government contribution being 10 million Czech crowns.

I (c).

1. *General Electrification.*

A scheme is under consideration for installing a 200-kilometre system, transmitting 80,000 kw., at a cost of 120 million Czech crowns.

2. *Rural Electrification.*

Schemes for the electrification of 2,000 communes are now under preparation.

II.

1. *General Electrification.*

These installations are effected by mixed electric companies, in which the State, provinces, districts, communes and private capital are interested. The capital of the share companies amounts to 500 million Czech crowns, 132 million being held by the State.

Contracts are awarded in accordance with the rules in force for Government supplies.

2. *Rural Electrification.*

Contracts for installation work are awarded on the basis of tenders by the communes and eventually by the electric companies supplying these communes.

III.

1. *General Electrification.*

The necessary funds for the works are supplied partly by the companies' own share capital, partly by a debenture issue or by a long-term loan guaranteed by the State or the provinces. The balance is usually met out of the short-term credits of suppliers and banks.

2. *Rural Electrification.*

The funds needed for construction are supplied by communes either in cash or by means of loans contracted in local credit institutions. The State contributes grants up to 50 per cent of the total cost.

IV. — About 80 per cent of the value of the contracts awarded represents materials, 1 per cent equipment supplied from abroad and about 19 per cent salaries and wages. Of the orders, 99 per cent have been executed by national factories.

V. — Electrification work gives employment mainly to the industry manufacturing such articles. Obviously, it involves a large amount of capital expenditure in contrast to the construction of machinery and buildings, where more labour is required.

(i) CONSTRUCTION WORK ABOVE GROUND (ERECTION OF BUILDINGS).

I (a).

1. *Construction carried out by the State.*

(1) *Government Buildings.*

Since 1929, buildings have been erected at a total cost of 173 million Czech crowns.

(2) *Buildings for Public Education.*

School buildings, etc., have been erected at a cost of 146 million Czech crowns.

(3) *Buildings for Public Health and Physical Culture Purposes.*

Work to a value of 39 million Czech crowns has just been completed.

(4) *Dwelling-houses.*

Since 1929, Government houses for the accommodation of officials have been erected at a total cost of 93 million Czech crowns.

2. *Building carried out by Self-governing Bodies.*

(1) *Buildings for Public Education Purposes.*

Buildings have been erected to a value of 304 million Czech crowns.

(2) *Buildings for Public Health and Physical Culture Purposes.*

Work has been done for an amount of 217 million Czech crowns.

I (b).

1. *Construction carried out by the State.*

(1) *Government Buildings.*

Work to a total value of 193 million Czech crowns is now in course of execution.

(2) *Buildings for Public Education.*

Buildings to a value of 81 million Czech crowns are under construction.

(3) *Buildings for Public Health and Physical Culture Purposes.*

Work to a value of 34 million Czech crowns is now in course of execution.

(4) *Dwelling-houses.*

Houses to the value of 5 million Czech crowns are under construction.

2. *Building carried out by Self-governing Bodies.*

(1) *Buildings for Public Education Purposes.*

Work at a cost of 25 million Czech crowns is at present under construction.

(2) *Buildings for Public Health and Physical Culture Purposes.*

Work to the value 40 million Czech crowns is now under execution.

I (c).

1. *Construction carried out by the State.*

(1) *Government Buildings.*

Schemes are under consideration for work to a total cost of 122 million Czech crowns.

(2) *Buildings for Public Education.*

For the near future, work to a value of 164 million Czech crowns is under preparation.

(3) *Buildings for Public Health and Physical Culture Purposes.*

Work to the value of 15 million Czech crowns is under consideration.

(4) *Dwelling-houses.*

For the near future, work to a value of 4 million Czech crowns is under preparation.

2. *Building carried out by Self-governing Bodies.*

(1) *Buildings for Public Education Purposes.*

The programme of building work to be carried out in the near future provides for an expenditure of 104 million Czech crowns.

(2) *Buildings for Public Health and Physical Culture Purposes.*

Work to a value of 33 million Czech crowns will be undertaken in the near future.

II.

1. *Construction carried out by the State.*

Government buildings are built in accordance with plans drawn up by the competent department, and these are discussed from the economic standpoint with the Ministry of Finance and from the technical standpoint with the Ministry of Public Works.

The plans are entrusted to private architects, on the basis of public or limited tenders. The work is carried out by private contractors on the basis of private tenders.

As regards dwelling-houses, consideration is first given to the housing requirements of officials, who, in principle, are housed at the places where they work.

To conform with modern housing requirements, the plans provide for apartments with direct lighting and ventilation.

2. *Building carried out by Self-governing Bodies.*

(1) *Buildings for Public Education Purposes.*

The buildings are erected in accordance with the needs of the communes entitled to schools. Contracts are awarded on the basis of public tenders.

(2) *Buildings for Public Health and Physical Culture Purposes.*

The work is carried out in accordance with the requirements of the communes, with the help of subsidies from the State and the province, and on the basis of public tenders.

III. — The cost of these works is borne on the extraordinary budget of the State. In the case of the construction of district offices, the commune which is to be the seat of the office must pay for the site. The State and the department make a contribution not exceeding two-thirds of the cost.

In addition, urgent construction work is financed, after consideration by the Cabinet, out of the proceeds of the "Labour Loan".

The cost of State buildings designed for officials is defrayed either from appropriations in the State budget or from the proceeds of the "Lottery Loan", which has already supplied 640 million Czech crowns for this purpose.

The building work is carried out by the provinces, departments and communes, with the help of a subsidy from the State.

IV. — Wages account for 50 to 60 per cent of the building costs, the balance being expended on the purchase of material within the country.

V. — House-building is regarded as the best way of remedying the present economic crisis, since it gives employment to all the various trades. The full time worked in the building trade and industry since the war is, to a large extent, due to the extraordinary expansion in the building of apartment houses. From a technical standpoint, house-building operations give very satisfactory results.

As regards their economic importance, they may be divided into public buildings and dwelling-houses. In the case of the latter, while building should be encouraged, some caution should be observed, as an excessive supply of houses would cause a slump in property values and thus weaken the payment capacity of private persons, to the detriment of the State and communal treasuries. Accordingly, the public authorities are very particular on this point, and have recently been confining themselves to the building of the simplest apartments for the poorest classes.

In the case of public buildings, the authorities appreciate the importance of erecting buildings at the present time of depression and give it their support accordingly. Preference is given, first, to buildings to be used for health and physical culture purposes; in the second place, to buildings for public education purposes and, lastly, to buildings needed by the authorities.

(k) GASWORKS AND LONG-DISTANCE GAS SUPPLY.

I (a). — Work of this kind has been done at a total cost of 136 million Czech crowns.

II. — The execution of the work depends on the needs of the communes concerned.

III. — Building costs are borne by the communes concerned on their extraordinary budget.

V. — The construction of gasworks gives a great deal of employment to the iron industry.

(l) TELEGRAPH, TELEPHONE AND WIRELESS INSTALLATIONS.

I (a). — Up to the end of 1929, work had been done at a cost of 711 million Czech crowns.

I (b). — Work to a value of 69 million Czech crowns is at present under execution.

I (c). — In the near future, works to a value of 100 million Czech crowns are contemplated.

II. — Work of this kind is carried out by the Ministry of Public Works either direct or through private concerns on the basis of public tenders.

III. — It is the province of the Czechoslovak Post Office (State undertaking) and the Postal Cheque Office to supply funds for departmental works. The capital thus laid out is secured either by a part of the profits earmarked for the purpose or regarded as a further investment of State funds in the undertaking, or is derived from the resources of the enterprise itself. In 1933 and 1934, the work was partly financed out of the "Labour Loan".

IV. — The authorities have no basis on which to make such an allocation.

V. — The Government regards this way of utilising capital as valuable and important for increasing employment in the low-tension electrical industry.

TURKEY.

[*Translation.*]

Since the unemployment situation in Turkey is not particularly serious, the Government of the Republic has not up to the present felt the necessity of framing a plan for public works on a big scale with the object of improving the economic situation of the country, resulting from the depression.

Such being the case, the Ministry for Foreign Affairs regrets that it is not in a position to reply to the questionnaire which has been communicated to it.

YUGOSLAVIA.

[*Translation.*]

ROYAL MINISTRY OF COMMUNICATIONS.

THE DIRECTORATE OF MARITIME AFFAIRS AND RIVER COMMUNICATIONS.

I (a). — Since 1929, no work of any importance has been carried out, except the building of a reinforced concrete bridge in the port of Susak (building cost, 559,052.34 dinars) and of a mole in the same port (building cost, 1,406,307.32 dinars). The work has been carried out by the Ministry of Public Works, but charged to the credits of the above-mentioned directorate.

Since 1929, some large-scale works have been carried out in order to extend the ports of Zelenika, Gruz, Split, Sibenik and Aleksandrovo. The amounts spent for this purpose were 5,575,610 dinars.

I (b). — There is no work in course of execution, except the normal maintenance of the existing installations.

I (c). — The construction of ports is planned at Martinstica, Bakar, Preko, Biograd-on-the-Sea, Sibenik, Split, Gruz, Djenović, Kotor, Ulcinj, and at certain other points of the Adriatic coast. But none of these plans have as yet passed beyond the stage of preliminary study.

II. — All the work mentioned under I (a) has been carried out under contracts awarded after public tender.

III. — The expenditure on the above-mentioned work has been partly covered by budgetary appropriations and partly by credits from the 7% Investment Loan of 500 million dinars issued in 1921.

IV. — All the material used was supplied by national industry. The distribution of expenditure as between the material and equipment furnished by industry on the one hand and labour (wages and social expenditure) on the other may be estimated at 70 per cent for the first category of expenditure and 30 per cent for the second.

V. — The work carried out has tended to make maritime traffic more regular and to increase its volume. But, as the quantity of material used was small and consisted, moreover, of goods which were to a great extent unworked, the work could not have a very great influence on the resumption of industrial and economic activity. Similarly, in view of the small number of workmen engaged on this work, it may be stated that it has not resulted in any substantial decrease in unemployment.

As regards mechanical equipment in the ports, three travelling cranes have been built since 1929 in the port of Split, two with a capacity of 2 tons and the third with a capacity of 5 tons. These cranes were purchased in Poland by the Ministry of Communications.

Mention may also be made of the construction by the municipality of a large Customs warehouse in the port of Susak.

RAILWAYS.

The Ministry of Communications has started the construction of certain railway lines.

I (a). — In 1931 and 1932, the construction of the following railways was begun :

Railway line	Length Kilometres	Building cost Dinars
1. Pozarevac-Kucevo.	61	250,000,000
2. Veles-Prilep	86	230,000,000
3. Pristina-Peć	82	180,000,000
4. Belgrade-Pancevo	24	95,000,000
Total	253	755,000,000

All these lines are of standard gauge.

I (b). — The construction of the above-mentioned lines is not yet completed.

I (c). — The following railways are projected :

Railway line	Gauge	Length Kilometres	Building cost Dinars
1. Kursumlija-Pristina . . .	Standard	68	222,000,000
2. Bihać-Knin.	Standard	112	385,000,000
3. Sveti-Janz-Sevnica . . .	Standard	12	34,000,000
4. Varazdin-Koprivnica . .	Standard	42	53,000,000
5. Priboj-Ravna Reka . . .	Narrow	84	185,000,000
6. Pazarić-Tarcin	Narrow	6	9,000,000

II. — All the lines mentioned are built on behalf of and by order of the central State authority. Their construction is entrusted to private undertakings under a contract concluded with them by the State.

III. — As regards the construction of the railway lines mentioned under I (a), the State has contracted loans with foreign undertakings (Losinger et Cie, S.A., of Berne; Société Européenne d'Etudes et d'Entreprises, of Paris; and the Société de Construction des Batignolles, of Paris). These undertakings carry out the building work under their own management and finance all the expenditure necessitated by the work.

In order to refund the loans contracted, the State budget annually provides the amount necessary for amortisation. These amounts are entered in the budget as extraordinary expenditure. The State has not granted any special guarantee for these loans.

The amortisation plans for the loans in question are as follows : (1) The firm of Losinger et Cie (entrusted with the construction of the Pozarevac-Kucevo line) has received bills from the Yugoslav State for the total amount of the loan including interest ; the bills are payable every six months (January 1st and July 1st) as from 1933. (2) The Société Européenne (Veles-Prilep line) has received bonds from the State in proportion to the work executed. These bonds include the amortisation and interest ; their payment is due on January 1st and July 1st each year from 1935 to 1944. (3) the Yugoslav State has to pay the Société des Batignolles (Pristina-Peć line and the projected line from Bihać to Knin) on January 1st and June 1st every year from 1935 to 1944 the amount of 12 million French francs, to which is added the interest due. (4) The Land Credit State Bank must pay for account of the Yugoslav State to the Société des Batignolles (line begun from Belgrade to Pancevo and line projected from Kursumlija to Pristina) the amounts provided for in the contract for amortisation of the loan and interest due.

As regards the work carried out since 1931, it should be noted that the period of the large-scale building work on the Yugoslav railways was prior to 1929. In the first period—namely, from 1919 to 1926—the following lines were built : (a) standard-gauge lines of a total length of 410 kilometres at a cost of 665 million dinars ; (b) narrow-gauge lines (0.76 metre) of a total length of 172 kilometres and a value of 376 million dinars. In the second building period, from 1927 to 1930, the following lines were built : (a) standard-gauge lines with a total length of 305 kilometres and a value of 861 million dinars, and (b) narrow-gauge lines (0.76 metre) of a total length of 37 kilometres and a value of 36 million dinars.

No new line was begun in 1929 or 1930.

In addition to this general information, the Ministry of Communications has given a more detailed description of the work carried out.

New Lines built since January 1st, 1929, and opened to Traffic before 1933.

	Length in kilometres
1. Kragujevac-Kraljevo, standard gauge	55.828
2. Prokuplje-Pločnik, standard gauge.	20.391
3. Rogatec-Krapina, standard gauge	19.386
4. Pločnik-Kursumlija, standard gauge	13.176
5. Trebinje-Lastva, narrow gauge	11.877
6. Kosovska Mitrovica-Raska, standard gauge	64.350
7. Prilep-Bitolj, standard gauge	44.258
8. Rastelica-Bradina, narrow gauge.	7.764
9. Kraljevo-Lopatnica, standard gauge	16.637
10. Bakar-Skrbljevo, standard gauge	10.145
11. Lopatnica-Raska, standard gauge	51.417
12. Cukarica-Belgrade Sava, narrow gauge (0.76 metre)	2.960
13. Zidani Most new connecting-line	0.350
14. Lastva-Bilece, narrow gauge	24.387
15. Velika Plana-Lapovo, standard gauge	19.159

Principal Works for the Purpose of improving Existing Lines: New Bridges.

The railway bridges have been renewed :

- (1) On the Knin-Split line (total length, 68.30 metres) ;
- (2) On the Perković-Sibenik line (total length, 41.80 metres) ;
- (3) On the Dugo-Selo-Novska line (total length, 41.80 metres).
- (4) On the Belgrade-Brod line, thirteen iron bridges have been built and twelve existing bridges have been strengthened ;
- (5) At the Zidani Most Station, a new bridge of reinforced concrete has been built over the Save with three arches, each having a width of 34.89 metres ;
- (6) On the Senta-Coka line, an iron bridge over the Tissa River has been strengthened ;
- (7) On the Vinkovci-Brod line, fourteen iron bridges have been renewed.

In addition to the above work, a large number of iron constructions have been strengthened on several lines, various reconstruction and improvement work has been carried out, and weighbridges for wagons and points have been placed in position.

Renewal of Rails and Extension of Stations.

1. The replacing of old rails by rails of a new type on standard-gauge lines ; total length, 878 kilometres.
2. The replacing of old rails by rails of a new type on narrow-gauge lines ; total length, 65 kilometres.
3. The laying of old rails which can still be used on standard-gauge lines ; total length, 221 kilometres.
4. The laying of old rails which can still be used on narrow-gauge lines ; total length, 76 kilometres.

Total, 1,240 kilometres.

The stations of Vinkovci, Zemun, Belgrade-Sava, Karlovac, Caprag and Rakek, etc., have been extended.

Telegraph and Telephone Lines and Signals.

The following telegraph and telephone lines have been constructed :

1. Telephone line Belgrade-Novi Sad-Subotica.
2. Telephone line Belgrade-Sarajevo.
3. Telephone line Strizivoj-Vrpolje-Sabac.
4. New signalling-blocks in thirty-five stations.
5. Telegraph and telephone lines, signals, signal boxes, etc., have been reconstructed everywhere.

Railway Lines under Construction.

	Length in kilometres
1. Klenak-Sabac, standard gauge	4.467
2. Veles-Bogumilje-Prilep, standard gauge	86
3. Belgrade-Pancevo, standard gauge	24
4. Pristina-Kosovo Polje-Peć, standard gauge	88
5. Pozarevac-Kucevo, standard gauge	61
6. Belgrade-Resnik, laying down additional lines	14

Lines for which Plans are ready or Groundwork has been begun.

	Length in kilometres
1. Bihać-Knin, standard gauge	112
2. Kursumlija-Pristina, standard gauge	68
3. Koprivnica-Varazdin, standard gauge	42
4. Sveti-Janz-Sevnica, standard gauge	12
5. Kocevje-Vrbovsko, standard gauge	58.5
6. Priboj-Belo Polje, narrow gauge	84
7. Pazarić-Tarcin, narrow gauge	6
8. Improvement and extension of Belgrade station.	

II. — The Yugoslav railways are almost entirely owned and operated by the State (only 3 per cent of all the railways on Yugoslav territory are operated by private companies). All the construction work on the new lines is carried out by order of the central authorities—*i.e.*, the Ministry of Communications and on behalf of that Ministry.

The new lines are, for the most part, built by private firms in accordance with existing laws and under the control of the Ministry of Communications. The private firms are awarded the contract after public tender.

The work connected with the improvement of existing lines is carried out under the system of direct administration. The material required for such improvement is, however, also purchased after public tender.

III. — The cost of building new lines is partly covered by extraordinary credits entered in the State budget (in some cases a small part of such expenditure is covered by ordinary budget appropriations) and partly by means of external or internal loans.

IV. — The material required for the work mentioned under No. I is purchased in Yugoslavia in so far as national industries exist which are capable of supplying it. The labour is recruited from among Yugoslav workmen and artisans. The total cost also includes social expenditure (contributions to sickness funds, workmen's insurance funds, etc.). This social expenditure is paid in accordance with existing laws—*i.e.*, half is paid by the employer (the State) and half by the workmen themselves. Part of the material (rails, points, etc.) and special installations (telephones, signalling-blocks, etc.) are purchased abroad.

V. — The Ministry of Communications considers that this work has brought about a decrease in unemployment.

ROYAL MINISTRY OF MINES AND FORESTS.

STATE FORESTS DEVELOPMENT SECTION.

The information obtained by the State Forests Development Section shows that the public works under State administration have been financed, not by means of foreign loans, but by regular appropriations in the ordinary budget.

It has for a long time been recognised in Yugoslavia that the Administration of forests required improving from all points of view ; but, unfortunately, it has not been possible to carry out all the necessary works and undertakings, owing to inadequate financial resources. Only during the past five years have larger budgetary appropriations been made for the various forestry institutions.

When the necessary measures—which, thanks to this fact, are now in progress—have actually been completed, there will be every prospect that the programme initiated will be carried to a successful conclusion.

Thus, in the first place, the roads and railways required by the forestry industry have been constructed. They have greatly facilitated clearing operations, especially on the territory of the State Forestry Directorates of Zagreb, Susak and Vinkovci.

A road has been constructed on the territory of the Zagreb Directorate to facilitate the rational development of the Kalnik State Forest. The cost of constructing this road is estimated in round figures at 190,000 dinars.

From 1929 to 1933, an industrial forest railway 23.9 kilometres long was constructed, for the purpose of facilitating forestry operations, on the territory of the Directorate of Forests of Kostajnica, where the State exploits the forests on its own account. The cost of constructing this line and of purchasing the necessary material from Hungary was 7,247,574 dinars. If the cost of upkeep of the line from 1929 to 1933 (868,000 dinars) is added to this sum, the total expenditure on the development of State forests under State administration amounts to 8,115,574 dinars.

The work was performed by local labour. From 1929 to 1933, 1,757 workers did 73,000 days' work. When one considers the difficult economic situation of the population in those parts of the country in which the work has been executed, there is no doubt that the sum of 8,115,574 dinars has done much to relieve or do away with unemployment, particularly as the workers are not all regular wage-earners. For the most part, they are peasants who have very little cultivable land, and are obliged to look for subsidiary work to support themselves and their families.

In the sector of the Ljubljana Directorate, 12 kilometres of forest roads were constructed during the economic year 1931-32. The cost is estimated in round figures at 500,000 dinars.

Between 1929 and 1933, the Vinkovci Forestry Directorate constructed 28.941 kilometres of forest railways, at a total cost of 3,389,619 dinars, to facilitate the exploitation of the State forests under its management.

The material and rolling-stock were supplied by local undertakings. Between 300 and 400 local workers were employed. The whole of the work was carried out directly by the authorities and charged to the State budget ; it represented 42,000 wage-days in round figures.

Work in the sector of the Susak Directorate was concentrated on the construction of roads for clearing purposes under the system of direct administration by the authorities or under joint management.

In all, 25.74 kilometres of main roads for clearing purposes and 84.1 kilometres of secondary roads have been constructed at a cost of 2,132,204 dinars. Of this amount, 10 per cent was expended on materials, and the remainder—the major part—on labour, food supplies and the relief of that part of the population in the Adriatic coastal areas which is least favourably situated from an economic point of view.

These are the main lines of the work which is being carried out by means of regular appropriations in the State budget with a view to improving the lines of communications and thus making possible the rational development of the State forests.

WATERWAYS CONSERVANCY SECTION.

This section has communicated the following report :

Waterways conservancy works are of great importance for the material well-being of the population. Their object is the agricultural and economic recovery of the country. They consist in the drainage of marshland, the protection of the population and of communications from the destructive action of mountain torrents, the irrigation of the fields, the consequent land reclamation and the clearing of waste mountain land.

These works may be classified under items (c) and (e) of the questionnaire.

I (a). — From April 1st, 1929, to September 1st, 1933, fifty-four waterways conservancy schemes were carried out at a cost of 13,628,494 dinars. In 1931, the conservancy works on the Kalimanska Reka River, which were begun in 1927, were completed. The total cost amounted to about two and a-half million dinars.

I (b). — At the present time, additional current works are being charged to the regular annual budget.

I (c). — More important works—regulation of the waterways near Djet Station at a total cost of about three and a-half million dinars—are planned and other less important works are under consideration. All these works will be charged to the ordinary annual budgets.

II. — Under the law, waterways conservancy works are carried out, either under the system of direct administration or under joint management, in accordance with schemes approved by the Ministry of Mines and Forests and the Banate Administration and on the proposal of the competent bodies of the State and the banates.

III. — Generally speaking, the cost of these works is met from the regular budget appropriations of the Ministry of Mines and Forests and the Banates, and to a lesser extent from the special Reafforestation Fund and the special Public Works Fund.

IV. — The stone required is quarried near the site of the works by local labour ; consequently, the expenditure on material (cement and a small quantity of timber) is very low.

Material (supplied locally), about 15 per cent ; labour and insurance, about 85 per cent.

V. — Not only are river conservancy works useful in themselves (protection of the population and communications, drainage, etc.), they are also highly desirable to relieve unemployment, as for the most part they are carried out in the very areas that are economically least developed, and correspond to the primary requirements of the mountain population. Labour accounts for a great part of the expenditure ; the materials employed are of local origin. The demand for these materials is thereby increased and consequently also the demand for local labour.

STATEMENT OF PUBLIC WORKS CARRIED OUT DURING THE PERIOD 1929-1933.

(e) REAFFORESTATION.

I. — The reafforestation of denuded ground is carried out annually to the extent permitted by the funds available.

The annexed tables show the works carried out during the period 1929-1933.

II. — Reafforestation is carried out in accordance with the provisions of the Law on Forests, either directly by the State or by local means and labour, with the material help of the State.

III. — The cost of these works is defrayed out of :

- (1) The regular budget ;
- (2) The budgets of the banates ; or
- (3) The Reafforestation Fund, specially created for the purpose.

IV. — The expenditure shown in the annexed tables consists mainly of the wages paid to the labourers who carry out the works and, to a smaller degree, of the cost of growing the saplings needed for reafforestation and purchasing seeds and other supplies.

V. — Reafforestation serves the purpose of reclaiming, from the forestry standpoint, areas that have hitherto been barren and economically unproductive, to the benefit of the districts where they are situated. These works afford a livelihood to the inhabitants of districts that are specially handicapped from the economic standpoint.

TABLE OF SEEDS AND PLANTS USED FOR THE REAFFORESTATION OF DRY AND DENUDED GROUND AND QUICKSANDS, 1929-1933.

N° No.	Années Year	Reboisement par semences Reafforestation from seed			Reboisement par plants Reafforestation with saplings		
		Kilogrammes			Nombre de plants Number of saplings		
		Conifères Conifers	Feuillés Deciduous	Total	Conifères Conifers	Feuillés Deciduous	Total
1.	1929	2.831,00	7.870,00	10.701,00	7.178.923	1.444.059	8.622.982
2.	1930	2.775,00	44.681,00	47.456,00	9.492.703	6.415.690	15.908.393
3.	1931	2.240,00	6.827,00	9.067,00	15.051.364	4.592.563	19.643.927
4.	1932	1.354,00	31.633,00	32.987,00	8.029.917	11.820.647	19.850.564
5.	1933	1.851,60	4.572,00	6.423,60	10.635.036	9.029.191	19.664.227

TABLE OF REAFFORESTED GROUND AND OF THE AMOUNTS SPENT ON THE REAFFORESTATION OF DRY AND DENUDED GROUND AND QUICKSANDS AND IN TREE NURSERIES IN 1929-1933.

N° No.	Années Year	Surface reboisée Surface reafforested	Dépenses pour les travaux exécutés Expenditure on works executed			
			Reboisement Reafforestation	Pépinières Nurseries	Travaux auxiliaires Accessory operations	Dépense totale Total expenditure
		Hectares	Dinars	Dinars	Dinars	Dinars
1.	1929	1.988,00	3.954.360,00	1.252.701,00	1.059.401,00	6.266.462,00
2.	1930	6.230,00	6.025.339,00	1.845.142,00	1.109.135,00	8.979.616,00
3.	1931	3.187,00	3.877.615,00	1.755.146,00	532.999,00	5.965.760,00
4.	1932	3.722,00	3.610.978,00	1.684.621,00	1.186.859,00	6.482.458,00
5.	1933	3.846,50	3.192.697,37	1.314.312,89	666.685,66	5.173.695,92

ROYAL MINISTRY OF AGRICULTURE.

COMPLETE AGRICULTURAL LAND RECLAMATION.

I (a). — 1. Drainage of the Negotin marshes (Banate of Morava ; area, 2,000.061 hectares) by the canalisation of the three rivers Jasenicka, Srbovska and Dupljanska, and by digging drainage canals.

2. Protection against floods of the territory of Novi Sad (Banate of the Danube ; area, 4,438 hectares) by means of a dyke constructed to resist the highest flood recorded on the Danube.

3. Regulation of the Kičoser watercourse (Banate of the Danube) with a view to reclaiming land of an area of 961 hectares.

I (b). — 1. Protection against floods and drainage of the Pancevo marshes (Banate of the Danube ; area, 34,429.55 hectares) by means of a protection dyke, drainage canals and three pumping stations.

2. Protection against floods and drainage of the Godomin field near Smederevo (Banate of the Danube ; area, 5,812 hectares) by the construction of protection dykes and by conservancy measures on the river Jezava, by the digging of drainage canals and by the installation of a pumping station.

3. Irrigation of the Metohija (Banate of the Zéta) over an area of 42,065 hectares by means of catchment works and irrigation canals.

4. Protection against floods and drainage of the Skopsko polje (Banate of the Vardar ; area, 7,356 hectares).

5. Protection against floods and drainage of the Posavina, left bank, from Sl. Brod to Srem. Mitrovica (Banates of the Save and the Danube ; area, 240,003 hectares) by the construction of a protection dyke along the river Save, by the digging of overflow canals and by the installation of seven pumping stations.

II. — All these works have been and are being carried out in accordance with the existing laws regarding waterways.

The works mentioned under I (a), 1, 2 and 3, and (b) 2, 4 and 5 are being carried out by the syndicated hydraulic associations mainly out of their own resources.

The works mentioned under I (b), 3 are being carried out for account of the Ministry of Agriculture out of a special credit voted for the colonisation of the Metohija ; 8,084,507.22 dinars have hitherto been spent for this purpose.

The works mentioned under I (b), 1 are being carried out in accordance with the regulations on agricultural reclamation of the syndicated hydraulic associations Dunavsko-Tamiska K.M.F. No. 4087/27. They are being financed by the Société de Construction des Batignolles, Paris, in accordance with the financial agreement of April 28th, 1929, and the technical agreement of April 30th, 1929, on the basis of a lump sum of 254,290,937.10 dinars.

All the work has been or is being executed by contracts awarded after public tender. In respect of the works executed by the syndicated hydraulic associations, the State has granted a subsidy of 752,316.49 dinars, and the banates a subsidy of 954,438.70 dinars, charged to the ordinary budget.

III. — The works carried out by the syndicated hydraulic associations have been financed as follows :

Ad I (a), 1. — By a loan obtained from the privileged Agricultural Bank, which at the end of 1933 amounted to 3,449,750 dinars, and by the payments made by the Commune of Negotin as a member of the association.

Ad I (a), 2. — By a loan obtained from the City Savings Bank of Novi Sad, amounting to 7,000,000 dinars.

Ad I (a), 3. — By the allocation of the yield of the water rates among the members of the association.

Ad I (b), 2. — By a loan from the privileged Agricultural Bank, amounting at the end of the year 1933 to 11,487,864.08 dinars.

Ad I (b), 4. — By a State subsidy of 452,316.49 dinars and a subsidy from the banates of 225,438.70 dinars, and by the allocation of the yield of the water rates among the members of the association.

Ad I (b), 5. — By loans from the First Croat Savings Bank of 10,000,000 dinars, from the privileged Agricultural Bank of 2,500,000 dinars, by the allocation of the yield of the water rates and by the Jugoslovenski Ganz Company.

PUBLIC WORKS CARRIED OUT IN CONNECTION WITH COLONISATION AT THE EXPENSE
OF THE SPECIAL COLONISATION FUND OF THE MINISTRY.

	Dinars
I. — 1. Juzno-pećski Canal for the irrigation of the Metohija . . .	3,550,000
2. Erecki Canal for the irrigation of the Metohija	1,750,000
3. Ovce-poljski water conduit	682,000
4. Conservancy work on the Karasica waterway (D. Miholjac district)	250,000
5. Reclamation works in the banate (Novi Sad)	500,000
6. Livanjsko Polje reclamations (Split)	100,000
7. Reclamation works in the Nerodimski (Rasica) district . . .	30,000
8. Repairs to the protection dyke near Batka (Senta) . . .	25,000
Total	6,887,000

All these works are to be carried out under the system of direct administration and by the labour of the colonists concerned.

The works mentioned under 1 to 3 have been completed, and those under 4 to 8 were begun this year.

In addition, the following credits with a view to reclamation works have been granted to the syndicated hydraulic associations whose areas contain land suitable for agriculture :

	Dinars
9. To the syndicated hydraulic association for the reclamation of the Skopsko Polje	360,000
10. To the syndicated hydraulic association for the reclamation of the Gor. Lisicje	500,000
11. To the syndicated hydraulic association for the reclamation of the Aranka, Velika, Kikinda	100,000
Total	960,000

II. — The sum spent on the construction of wells and water conduits in fifteen agricultural colonies amounts to 736,000 dinars.

III. — Construction of schools and educational centres in twenty-two agricultural colonies, 809,000 dinars.

IV. — Construction of churches in thirteen colonies, 717,000 dinars.

V. — Construction of dwelling-houses and agricultural outhouses for the new colonists :

	Dinars
1. Paid through various associations	36,821,000
2. Spent under the system of direct administration	2,950,000
3. Supplies of worked timber from the State forests	<u>21,840,000</u>
Total	61,611,000

Grand total, 71,720,000 dinars.

CONSTRUCTION OF IRRIGATION CANALS IN THE METOHİJA DISTRICT : WORK CARRIED OUT AT THE EXPENSE OF THE STATE BY CONTRACT AWARDED ON PUBLIC TENDER AND BY MEANS OF LABOUR SUPPLIED BY THE COLONISTS.

	Dinars
1. Distribution canal of the Decansko-Lumbartski system for the irrigation of the " Lumbartski area " in the Metohija	1,520,781.89
2. Lug-bunarski Canal	<u>1,913,958.78</u>
3. Completion of the Lug-bunarski Canal and digging of the Cerimski Canal	723,518.18
4. Completion of the Juzno-Pećski Canal	<u>312,409.00</u>
Total	4,470,667.85

Projected Canals.

	Dinars
1. Preko-Luski Canal	556,109.58
2. Istinićski and Papračanski Canals	845,982.54
3. Maznicki and Crmljanski Canals	<u>1,508,857.90</u>

ROYAL MINISTRY OF PUBLIC WORKS.

(See following tables.)

OBSERVATIONS REGARDING THE FINANCING AND EXECUTION OF PUBLIC WORKS.

I. — The works are financed as follows :

- (a) State budget ;
- (b) Budgets of the banates ;
- (c) Budgets of the district road committees ;
- (d) State subsidies ;
- (e) Receipts in accordance with the regulations on the execution of public works ;
- (f) Contributions of interested parties ;
- (g) Road funds of the banates ;
- (h) Loans (internal and external).

II. — The allocation of expenditure as between materials and labour is approximately as follows in percentages :

	Materials	Labour
1. Roads and bridges	30 to 40	70 to 60
2. Culverts, reinforcements and buildings. .	50	50
3. Installations	70 to 75	30 to 25
4. Hydro-technical works	20 to 40	80 to 60

The greater part of the work is carried out by local labour and with local material in order to relieve unemployment and the economic depression to some extent.

Certain important material is obtained from abroad, such as asphalt for the surfacing of roads, big metal bridges, machinery and parts of machinery.

GENERAL TABLE OF PUBLIC WORKS EXECUTED DURING THE YEAR 1929.

	Dinars	Total	Per cent
Roads	313,318,589.73		53.31
Buildings	209,702,884.78		35.68
Bridges	32,970,822.31		5.61
Installations ¹	10,716,588.68		1.82
Culverts.	8,762,922.89		1.49
Protection and maintenance works . . .	12,246,184.71		2.09
Total	587,717,993.10		100.—

¹ This item covers the works mentioned in paragraphs f, j, k and l of the questionnaire.

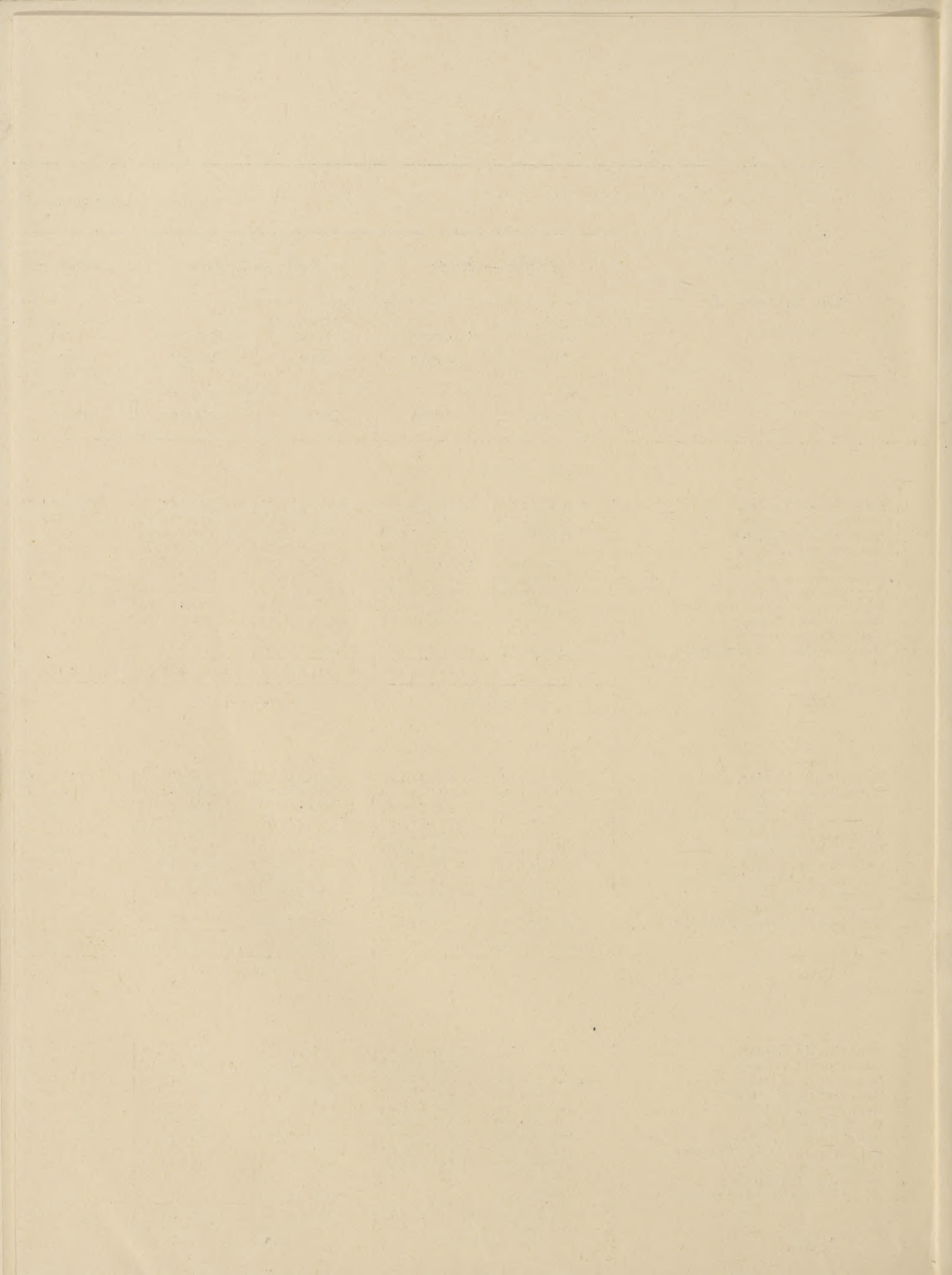
GENERAL TABLE

DÉPENSES RÉPARTIES SELON L'ESPÈCE DES TRAVAUX — AMOUNTS SPENT ON THE VARIOUS KINDS OF WORKS																	DÉPENSES TOTALES EXPENDITURE ON ALL KINDS OF WORK			
Routes — Roads		Ponts — Bridges		Ponceaux — Culverts		Travaux de protection et de consolidation Protection and consolidation works		Edifices — Buildings		Installations comprenant les travaux mentionnés sous les § f, j, k et l du questionnaire Installations comprising works mentioned under §§ f, j, k, and l of the questionnaire		Travaux hydrotechniques Hydro-technical works		Construction des voies ferrées Railway construction	Constructions neuves New constructions	Réparations Repairs	TOTAL	Under the authority of		
Constructions neuves New constructions	Réparations Repairs	Constructions neuves New constructions	Réparations Repairs	Constructions neuves New constructions	Réparations Repairs	Constructions neuves New constructions	Réparations Repairs	Constructions neuves New constructions	Réparations Repairs	Constructions neuves New constructions	Réparations Repairs	Constructions neuves New constructions	Réparations Repairs							
Dinars	Dinars	Dinars	Dinars	Dinars	Dinars	Dinars	Dinars	Dinars	Dinars	Dinars	Dinars	Dinars	Dinars	Dinars	Dinars	Dinars	Dinars	Dinars		
Sous les ordres de																				
Total Works in 1930																				
1. Banovine du Vardar.	1.499.797,67	14.462.381,63	4.607.331,25	747.144,33	2.996.344,74	184.803,89	693.621,19	68.105,31	9.095.225,81	2.215.041,81	169.137,07	—	868.837,20	8.813,40	—	19.930.294,93	17.686.290,37	37.616.585,30	1. Banate of the Vardar.	
2. Banovine du Vrbasse.	11.002,06	4.302.750,71	769.787,13	1.558.054,10	378.739,71	291.144,36	400.782,12	134.560,03	4.165.530,19	517.092,50	55.054,32	38.326,46	77.545,—	31.815,—	—	5.858.431,53	6.874.343,16	12.732.774,69	2. Banate of the Vrbasse.	
3. Banovine de la Drava.	959.360,46	3.954.714,08	1.603.196,—	254.574,69	—	120.435,29	102.660,64	97.297,51	—	158.280,98	—	—	73.578,93	158.194,89	—	2.738.796,03	4.743.497,44	7.482.293,47	3. Banate of the Drava.	
4. Banovine de la Drina.	—	11.711.803,90	5.320.773,52	1.249.761,98	831.957,33	274.488,85	745.333,70	253.964,77	8.664.468,92	1.939.082,85	306.263,55	121.862,62	660.375,44	4.125,02	—	16.529.172,46	15.555.089,99	32.084.262,45	4. Banate of the Drina.	
5. Banovine du Danube.	255.434,99	33.093.261,06	1.036.424,24	1.451.060,42	662.628,19	106.708,45	265.931,27	110.312,47	4.778.782,60	1.004.383,87	312.580,44	15.202.342,28	956.286,17	—	—	30.489.937,81	52.088.799,94	82.578.737,75	5. Banate of the Danube.	
6. Banovine de la Zeta.	6.851.609,34	8.268.570,31	2.316.829,67	1.031.438,16	649.128,35	187.046,96	1.949.284,83	1.498.962,05	2.992.728,83	808.217,53	72.514,95	90.954,20	638.305,39	—	—	15.839.487,32	12.667.893,76	28.507.381,08	6. Banate of the Zeta.	
7. Banovine de la Morava.	6.291.338,06	9.138.722,31	4.841.190,33	865.020,—	1.344.131,51	312.137,37	125.416,34	5.145,10	—	494.183,27	125.775,87	360,—	2.062.025,91	—	—	3.070.218,07	13.535.130,31	35.873.705,27	7. Banate of the Morava.	
8. Banovine du littoral adriatique.	134.485,51	21.474.434,83	72.890,19	120.187,39	137.906,11	148.727,12	537.134,48	178.238,28	4.138.743,72	2.144.430,94	123.707,06	1.448.542,50	—	—	—	16.824.426,05	28.180.838,03	45.005.264,08	8. Banate of the Adriatic Coast.	
9. Banovine de la Sava.	—	—	1.305.149,54	730.583,40	351.637,21	174.950,42	160.632,30	89.876,10	—	95.766,18	947.575,26	57.612,61	1.923.527,30	—	—	153.378,79	1.063.010,76	1.216.389,55	9. Banate of the Save.	
10. Préfecture de Beograd.	—	—	—	—	—	—	—	—	—	19.534.122,85	6.723.614,24	5.119.449,83	233.222,43	—	—	221.636.197,67	271.482.981,07	284.735.078,42	10. Prefecture of Belgrade.	
11. Ministère des Travaux publics.	9.732.097,87	6.295.260,68	15.461.112,85	—	—	—	—	—	—	—	—	—	—	—	—	405.255.699,02	171.144.428,57	—	11. Ministry of Public Works.	
Total	25.735.125,96	117.257.649,91	37.934.675,72	8.008.424,47	7.352.464,15	1.800.442,71	4.980.796,87	2.436.461,62	75.290.774,49	26.496.048,14	9.862.840,54	1.257.825,41	22.462.823,62	13.887.585,31	221.636.197,67	405.255.699,02	171.144.428,57	576.400.127,59	. . . . . Total.
Total Works in 1931																				
1. Banovine du Vardar.	957.846,14	21.408.419,80	3.878.348,26	966.568,—	3.474.823,56	368.901,12	1.432.801,06	41.882,23	2.305.298,38	6.634,74	97.223,43	—	60.662,10	—	—	12.207.002,93	22.792.405,89	34.999.408,82	1. Banate of the Vardar.	
2. Banovine du Vrbasse.	119.955,29	11.167.247,02	3.767.462,18	3.866.684,47	1.324.942,75	1.300.734,30	1.135.777,81	305.110,27	2.686.334,40	1.137.198,35	155.808,04	2.268.001,92	322.863,70	—	—	22.374.648,45	19.744.782,20	42.119.430,65	2. Banate of the Vrbasse.	
3. Banovine de la Drava.	—	5.593.566,47	889.129,75	378.342,43	8.287,—	41.601,99	124.977,67	174.930,16	4.155.261,21	4.477.745,43	285.601,25	249.169,70	303.044,02	—	—	20.016.026,70	10.932.437,53	30.948.464,23	3. Banate of the Drava.	
4. Banovine de la Drina.	2.770.452,08	17.761.012,31	5.007.334,55	2.502.452,65	2.152.881,09	803.072,21	1.662.484,90	437.083,04	7.079.003,93	3.797.409,11	1.021.298,33	602.668,92	798.177,55	—	—	20.765.149,42	26.701.875,79	47.407.025,21	4. Banate of the Drina.	
5. Banovine du Danube.	4.177.088,09	42.800.828,52	862.759,84	888.656,07	1.294.705,02	176.001,83	421.137,68	77.903,55	9.914.920,34	5.218.530,54	4.937.638,03	934.937,83	8.600,—	—	—	25.713.591,95	52.955.920,29	78.669.422,24	5. Banate of the Danube.	
6. Banovine de la Zeta.	5.887.428,98	12.158.743,61	741.994,19	501.089,70	1.419.309,44	176.364,39	2.833.919,55	1.070.490,64	797.038,87	1.044.695,67	337.777,94	8.600,—	2.346.002,48	1.568.659,58	—	43.120.704,33	21.323.639,11	64.444.343,44	6. Banate of the Zeta.	
7. Banovine de la Morava.	567.942,55	14.289.070,46	10.946.798,90	1.962.046,37	4.486.142,82	270.483,47	1.697.558,92	59.762,03	5.587.052,49	4.396.383,76	8.819.120,05	276.093,11	11.016.088,60	69.199,91	—	21.982.065,49	13.488.914,75	26.258.677,71	7. Banate of the Morava.	
8. Banovine du littoral adriatique.	5.303.252,42	10.908.100,07	2.170.709,57	33.597,99	218.864,07	59.618,36	828.932,34	478.287,19	1.395.635,99	6.000.425,42	202.810,67	268.190,84	4.409.386,93	558.754,69	—	12.769.762,96	13.888.914,75	26.258.677,71	8. Banate of the Adriatic Coast.	
9. Banovine de la Sava.	691.597,64	18.061.031,66	1.631.139,10	960.326,60	120.659,22	314.931,94	208.144,39	98.494,39	13.885.449,33	1.186.597,88	193.849,57	2.265.973,82	558.754,69	—	—	307.445,62	4.108.088,43	4.415.534,05	9. Banate of the Save.	
10. Préfecture de Beograd.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10. Prefecture of Belgrade.	
11. Ministère des Travaux publics.	4.756.901,11	12.149,—	11.802.541,08	—	—	—	47.313,50	—	40.572.028,71	5.368.023,12	12.685.846,39	2.265.973,82	—	—	—	69.864.030,79	7.646.145,94	77.510.776,73	11. Ministry of Public Works.	
Total	25.292.464,30	154.161.268,92	41.698.208,42	11.999.764,28	14.500.614,97	3.511.709,61	10.493.739,82	2.749.949,50	108.478.472,64	37.617.590,21	35.235.992,82	5.519.778,70	28.685.817,12	6.797.112,57	—	264.385.310,99	222.357.173,79	486.742.483,88	. . . . . Total.
Total Works in 1932																				
1. Banovine du Vardar.	—	9.352.264,06	821.771,82	246.318,92	14.066,44	85.751,63	56.700,75	167.003,54	660.911,50	319.644,94	311.365,12	—	5.683.513,56	275.351,26	—	7.548.329,19	10.446.334,35	17.994.663,54	1. Banate of the Vardar.	
2. Banovine du Vrbasse.	—	19.376.495,28	1.933.247,08	1.445.263,92	991.762,84	383.634,06	1.272.103,64	230.744,32	10.519.081,55	3.551.989,16	468.410,38	423.089,90	1.767.928,33	513.558,49	—	16.952.533,82	25.924.775,13	42.877.308,95	2. Banate of the Vrbasse.	
3. Banovine de la Drava.	3.994.874,99	40.788.074,14	1.387.106,56	1.129.873,66	762.762,68	120.757,76	1.55.889,03	95.961,64	8.521.204,45	2.986.472,25										

		DÉPENSES TOTALES EXPENDITURE ON ALL KINDS OF WORK		TOTAL	Under the authority of
Hydrotechniques Technical works	Construction des voies ferrées Railway construction	Constructions neuves New constructions	Réparations Repairs		
Réparations Repairs					
Dinars	Dinars	Dinars	Dinars	Dinars	

0	8.813,40	—	19.930.294,93	17.686.290,37	37.616.585,30	1. Banate of the Vardar.
—	31.815,—	—	5.858.431,53	6.874.343,16	12.732.774,69	2. Banate of the Vrbasse.
3	158.194,89	—	2.738.796,03	4.743.497,44	7.482.293,47	3. Banate of the Drava.





GENERAL RECAPITULATION OF WORKS IN COURSE OF EXECUTION.

Territoire	Exécutés à la charge Executed for account of										Territory		
	De l'Etat — The State			Des Banovines et autres circonscriptions administratives autonomes The banates and other autonomous administrative units									
	En régie directe Direct			Par l'intermédiaire d'entreprises privées Through private undertakings			En régie directe Direct						
	Constructions neuves New constructions		Réparations Repairs	Constructions neuves New constructions		Réparations Repairs	Constructions neuves New constructions		Réparations Repairs	Constructions neuves New constructions			
	Dinars			Dinars			Dinars					Dinars	
I. Banovine du Vardar	1.468.758		2.975.386	2.642.590		6.127.770	1.441.239		400.000	4.084.631		797.616	I. Banate of the Vardar
II. Banovine du Vrbas	412.057		1.619.747	476.246		689.852	1.574.969		306.195	4.579.769		540.051	II. Banate of the Vrbas
III. Banovine de la Drave	3.102.033		1.561.000	1.600.000		244.000	35.022.065		24.602.781	19.485.000		1.656.000	III. Banate of the Drava
IV. Banovine de la Drina	135.765		5.146.914	1.124.419		7.801.929	429.013		540.400	1.824.098		5.843.421	IV. Banate of the Drina
V. Banovine du Danube	723.294		502.006	2.549.192		1.793.047	819.849		4.609.016	39.962.574		10.931.058	V. Banate of the Danube
VI. Banovine de la Zéta	3.653.817		8.214.704	3.625.387		1.450.401	7.986.026		1.942.089	12.889.252		1.629.780	VI. Banate of the Zeta
VII. Banovine de la Morava	2.722.824		125.718	2.086.253		552.062	11.817.713		1.642.793	14.052.102		1.652.011	VII. Banate of the Morava
VIII. Banovine du Littoral adriatique	907.469		5.829.416	1.509.880		1.187.688	646.993		1.418.164	2.213.164		717.851	VIII. Banate of the Adriatic Coast
IX. Banovine de la Save	—		4.429.989	3.098.881		4.031.853	165.000		2.700.877	13.929.059		5.777.960	IX. Banate of the Save
X. Préfecture de Beograd	—		136.306	124.567		365.858	—		—	—		—	X. Prefecture of Belgrade
XI. Ministère des Travaux publics	—		—	609.746.057		—	—		—	—		—	XI. Ministry of Public Works
Total	13.126.017		30.541.186	628.183.472		24.244.460	59.902.867		38.162.315	113.019.649		29.546.048	Total

GENERAL RECAPITULATION OF SCHEMES OF WORKS.

Territoire	Travaux projetés dont l'exécution est prévue à la charge Schemes of works to be carried out for the account of				Territory
	De l'Etat The State		Des Banovines et autres circonscriptions administratives autonomes The banates and other autonomous administrative areas		
	Constructions neuves New constructions	Réparations Repairs	Constructions neuves New constructions	Réparations Repairs	
I. Banovine du Vardar	Dinars 566,825	Dinars 19,814,801	Dinars 26,109,132	Dinars —	I. Banate of the Vardar
II. Banovine du Vrbas	2,783,670	6,871,796	4,541,220	841,792	II. Banate of the Vrbas
III. Banovine de la Drave	192,007,276	59,502,582	181,573,756	36,334,140	III. Banate of the Drava
IV. Banovine de la Drina	1,450,000	9,450,000	400,000	8,700,000	IV. Banate of the Drina
V. Banovine du Danube	161,368	9,576,795	1,868,751	5,776,685	V. Banate of the Danube
VI. Banovine de la Zéta.	177,120,547	19,800	16,000,000	—	VI. Banate of the Zeta
VII. Banovine de la Morave	22,007,024	11,142,118	22,713,832	9,725,377	VII. Banate of the Morava
VIII. Banovine du Littoral adria- tique	46,250,000	1,500,000	244,992,000	8,421,300	VIII. Banate of the Adriatic Coast
IX. Banovine de la Save	11,114,002	26,425,745	10,221,354	120,296,133	IX. Banate of the Save
X. Préfecture de Beograd.	2,997,492	4,672,875	—	—	X. Prefecture of Belgrade
XI. Ministère des Travaux publics	563,600,090	—	—	—	XI. Ministry of Public Works
Total.	1,019,458,204	148,976,512	508,420,045	190,095,427	Total

ROYAL MINISTRY FOR WAR AND FOR THE NAVY.

Airports for civilian air traffic have been established at Belgrade, Zagreb, Skoplje, Ljubljana and Susak.

The following works have been carried out :

At Belgrade :

- Levelling of the ground ;
- Construction of air station ;
- Three large hangars of reinforced concrete ;
- Workshops ;
- Water conduit ;
- Water supply ;
- Approach roads ;
- Electric installation ;
- Telephones ;
- Petrol tanks ;
- Garage, etc.

At Zagreb :

- Levelling of the ground ;
- Construction of air station ;
- Two large hangars of reinforced concrete ;
- Water conduit ;
- Water supply ;
- Approach roads ;
- Electric installation ;
- Petrol tanks ;
- Telephones, etc.

At Skoplje :

- Levelling of the ground ;
- Construction of air station ;
- Three hangars of iron ;
- Water-pipes ;
- Approach roads ;
- Electric installation ;
- Petrol-tanks, etc.

At Ljubljana :

- Levelling of the ground ;
- Construction of air station ;
- Two hangars of stone ;
- Water conduit ;
- Approach roads ;
- Electric installation ;
- Telephone ;
- Petrol tanks, etc.

At Susak :

- Levelling of the ground ;
- Construction of air station ;
- One hangar of stone ;
- Approach roads ;
- Electric installation ;
- Petrol tanks ;
- Water tanks, etc.

No other work is being carried out at present or is contemplated in the near future.

TECHNICAL AND ENGINEERING DEPARTMENT.

The following building work has been carried out by the department :

- (1) The building of the dam at Grosnica near Kragujevac, in order to bring water to the Military Technical Factory and to the town of Kragujevac ; and
- (2) Reconstruction of the following roads in the banates with the assistance of military labour : Kicevo-Jama-Debar, Skoplje-Urosevac and Ljubljana-Litija-Radeće.

LIST OF DOCUMENTS, ETC., ATTACHED TO THE REPLIES FROM
THE VARIOUS GOVERNMENTS AND WHICH HAVE NOT BEEN
PUBLISHED OR FROM WHICH ONLY EXTRACTS HAVE BEEN
REPRODUCED.

UNION OF SOUTH AFRICA.

1. The Land Settlement Act, 1912 (No. 12, 1912).
2. Act to amend further the Laws relating to Land Settlement (No. 38, 1924).
3. Act (No. 1, 1931) to amend the Law relating to Land Settlement ; Act (No. 25, 1931) to provide for the Grant of Relief to Settlers and to amend further the Law relating to Settlement.
4. Act to amend the Law relating to Land Settlement (No. 57, 1934).
5. Report of the Department of Lands (period 1932-33).
6. Anti-Soil Erosion Works and Improvement of Pasturage (Further Facilities).
7. Bywoners, Farm Overseers and Farm Assistants Rehabilitation Scheme.
8. Memorandum prepared by Cape Provincial Administration (Roads and Bridges).
9. Memorandum prepared by the Orange Free State Provincial Administration (Roads and Local Works Branch).
10. Memorandum prepared by the Transvaal Provincial Administration on Public Works.

AUSTRALIA.

Prevention and Relief of Unemployment Act, 1930-1932. (Declaration of Works to be Works for the Relief of Unemployment. Declared Relief Works ; Wages, Hours and Mode, Terms and Conditions of Employment).

AUSTRIA.

Statistics of Austrian hydro-electric and thermo-electric works with a nominal output of not less than 500 kw., and transmission plants accessory thereto, as at the end of 1933.

BELGIUM.

1. Technical questions : Power which can be directly utilised ; power available but which cannot be directly utilised.
2. Map relating to the production and transmission of electric power.
3. Map relating to the distribution and conveyance of gas.

CANADA.

1. Unemployment Relief Act, 1930. (Report of Dominion Director of Unemployment Relief).
2. Unemployment and Farm Relief Act, 1931. (Report of Dominion Director of Unemployment Relief.)
3. The Relief Act, 1932. (Report of Dominion Commissioner of Unemployment Relief.)
4. The Relief Act, 1933. (Report of Dominion Commissioner of Unemployment Relief.)

UNITED STATES OF AMERICA.

Public Works Administration : Letter from the Administrator of Public Works transmitting, pursuant to Senate resolution No. 190, a report of the business of the Federal Emergency Administration of Public Works for the period ending February 15th, 1934.

HAITI.

General Directorate of Public Works : Annual reports of the Chief Engineer for the financial years 1927-28, 1928-29, 1929-30, 1930-31 and 1931-32.

ITALY.

1. Ministry of Public Works : Public works up to December 31st, 1929 ; December 31st, 1930 ; December 31st, 1931 ; December 31st, 1932.
2. Ministry of Public Works : Public works, 1922-1932.

PORTUGAL.

1. Autonomous Road Board : Statistical table (1929-1934).
2. Ministry of Public Works and Communications : Brief summary of the work carried out by the Autonomous Board for Agricultural Hydraulic Works (May 1934).
3. Scheme for the improvement of the ports of Douro and Leixoes.

SWITZERLAND.

1. Federal Decree granting extraordinary assistance to the unemployed (December 23rd, 1931).
2. Federal Decree granting extraordinary assistance to the unemployed (April 13th, 1933).
3. Federal Decree concerning the replenishment of reserve stocks of military material and the execution of other extraordinary works designed to relieve unemployment (October 14th, 1933).
4. Federal Decree opening a new credit for subsidies in aid of relief works (June 22nd, 1934).

YUGOSLAVIA.

1. Statistics of public works carried out during the years 1929, 1930, 1931, 1932 and 1933.
 2. Statistical table of public works carried out during the first quarter of 1934.
 3. Detailed tables relating to public works now being carried out.
 4. Detailed tables relating to projected public works.
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