Prepared for the January issue of Contractors and Engineers Monthly Sent Dec. 14, 1934.

### Road Building Employment

### A Four Year Record

Thos. H. MacDonald, Chief, U. S. Bureau of Public Roads

Congressional effort to increase employment through road work began as early as April 1930 - less than six months after the stock market collapse. The action then taken, which may be regarded as the first direct attack upon the depression by the Federal Government, provided for an increase in the Federal-aid road apportionment for the fiscal year beginning July 1, 1930, from the \$75,000,000 already an thorised to \$125,000,000.

For six years previously the Federal contribution had stood at the \$75,000,000 figure, and throughout that period had represented a very small part - from an eighth to a sixth - of the combined State and Federal expenditure for construction.

The additional \$50,000,000, that was voted not only for the fiscal year 1931 but also for the two succeeding years. It was thought would add somewhat to the employment provided on road work and so contribute in a measure to the quick economic revival that was then expected. Since the State contributions had so greatly exceeded the Federal there was no thought at first that any State might find it différult to match the enlarged Federal offer. Yet that, it was shortly discovered, was the condition that would be confronted by a number of States.

### The First Emergency Appropriation

To meet this situation, the Congress on December 20, 1930 appropriated \$50,000,000 to be advanced to the States and used by them in lieu of their own funds in matching the regular Federal-aid apportionments.

At the time this appropriation was made the country was facing the certainty of its first serious condition of unemployment. It was realized that an unprecedented number of men would be out of work during the coming winter, but it was thought that if means could be found to relieve the winter situation, the normal upturn of business in the spring could be counted upon to restore to employment rolls all these temporarily out of work.

Consequently Congress made the \$80,000,000 it appropriated available for expenditure only until September 1 of the following year, expecting by so doing to force a considerable expenditure during the winter and spring months. Also, it provided that the money advanced should be returned by the States over a period of five years beginning in 1933, by deduction from the Federal-aid apportionments for that period.

This first emergency appropriation had substantially the intended effect. Within a very small margin it was entirely expended by the

- 2 -

terminal date set; and, as the accompanying monthly employment table show (Table 1), it materially increased the number of men employed during the ensuing six months.

#### The Second Federal Advance

After this effort no similar action was taken by the Federal Government until July 1932 when, in the Emergency Relief and Construction Act, it again provided an emergency advance, this time in the amount of \$120,000,000 to be expended before June 30, 1933 and repaid by deduction from future Federal-aid authorizations in ten installments beginning in 1938.

By reference again to Table 1, it will be seen that, after the stimulation of the first emergency advance construction employment during the first part of 1932 had again fallen off, and that this trend was arrested and quickly turned by the new advance, the effects of which are evident as early as September.

At this point it should be explained that the two emergency appropriations were intended to meet what was believed at the time would be a quickly passing difficulty of the States in matching Federal authorizations; hence the limited term of expenditure and the requirement of repayment by deduction from future Federal-aid apportionments. •

، پیچ <del>میں بین پر سائی پر پار سال ہی جارہ</del>	<b> </b>			Construc	tion Tork	مى سرى بىلى بالى بى سى بىلى بالى مى بىلى بىلى بىلى بىلى بىلى بىلى بىلى		<del>, , , , , , , , , , , , , , , , , , , </del>	1 1 1				*		<u></u>
Month	t t t t	ederal and	Federal-4	id	1 : :	Stat	•		; 1 <b>St</b> 1 :	ate Mainte	nance Tork		► * *	<b>2</b> 0	tal.
	: 1931	‡ : 1932	: : 1933	: : 1934	: : 1931	<b>19</b> 32	: : 1933	: : 1934	: 1931	: 1932	: 1933	: : 1934	4 : 1931	* : 1932	*
January Fobruary March	1 31,279 37,557 37,557 39,852	: 26.673	: 78,215	: 154,154 : 156, <b>5</b> 14 : 144,053	: 53.787	: 53,607	: 36,352	: 22,311	: 30,156	: 137.93#	140,689	: 136,490 : 126,965 : 132,227	: 171.560	: 218,218	: 255,
April May June	: 97,560 126,715 154,515	* * *2,205 * 59,008 * 71,772	: 139.831	: 271.972	: 72,212 : <b>8</b> 9,764 : 101,275	1 70,834	: 47,510	: 27.161	: 94.452	: 129.775	: 142.767	: 136,111 167,371 170,957	: 310.931	1 200.615	: 330.
July Angust September	: 164.708 : 151.415 : 116,100	: 89,346	: 111.211	1 207.229	: 112,638 : 121,172 : 123,404	92.855	: 60,365	: 53.540 :	1 117.359	: 151.202	: 156.237	1 180.270	: 389.949	: 333.403	1 329.
October Sovenber December	: <b>55,86</b> 9 : 62,466 : 35,991 :	: 129,933	: 154,016 : 174,358 : 154,154 :	<b>t</b> .	: 116,752 : 103,198 : 74,543 :	81,006	: 58.711 : 46,810 : 25.345	: - :	: 123,652	: : 156,819 : 160,728 : 139,986 :	: 140,663	: -	: 330,104 289,316 244,971	: 371.667	: 362,
Monthly Average	1 93.595	: 75.173 :	1 : 125,148 :	: 234,147	t 89,672 (	73.610	: 47.638	: 3 <b>8,56</b> 5	: 105.995	: : 142,351 :	144,268	1 : 157.653 :	: 2 <b>58</b> ,273	r : 291,134 :	: ; 321. ;

# TABLE 1.- ATERAGE NUMBER OF HER IMPLOTED OF TEDERAL AND STATE HIGHWAY WORK

# BY HORTHS FROM 1931 TO 1934, INCLUSIVE

1933 : 1934 56,443 : 315.989 55,256 : 306.090 9.213 : 296,265 19.882 : 345.278 10.138 : 466.904 19.605 : 545.013 2.277 : 949.203 9.813 : 531.034 17.973 : 498.151 14,029 : 450,322 52,031 : -15,989 : -1.054 : 430.345

-

4

-

### The Recovery Act Appropriation

A clearer recognition of the depth of the depression is indicated by the outright grant of \$400,000,000 by the Mational Industrial Recovery Act. which next provided for road work; and a similar view is evident in the terms of the most recent act. approved June 18, 1934, which not only provided a further outright grant of \$200,000,000. but also cancelled the repayment obligations created by the two emergency appropriations.

A further reference to Table 1 shows that the employment effects of the first outright grant were first felt in September 1933, and side since that month have been evident in greatly increased numbers of man employed on the Federal and Federal-aid work. In the first ten months of 1934 the average employment on Federal construction was 234,147 man, which was nearly twice the average of the preceeding year and three times that of 1932.

All Federal and State work, including the maintenance work carried on exclusively by the States is shown by the table to have employed an average of 430,385 men throughout the first ten months of 1934.

It should be explained that these figures represent direct employment on the roads only and do not include indirect employment provided in the production and transportation of materials and equipment used in the construction work. This indirect employment is estimated at 1.4

- 5 -

times the direct. It is probable, therefore, that the indirect employment generated by the whole Federal and State program during the first ten months of 1934 averaged not far from 600,000 men.

It should also be stated that the figures reported represent continuous employment and not numbers of individual workers employed. A study of the payrolls indicates that the number of individuals given work in any month averages about four-tenths greater than the man-months of continuous employment.

Increasing Numbers Employed on Federal Work

Comparison of the employment furnished by Federal and Federal-aid construction with independent State construction and maintenance, as shown in Table 1, will show that the Federal work has employed a steadily increasing number of the men supplied with highway work during the last four years.

Part of the increase in number of men employed on the Federal work has been due, since the latter part of 1932, to the limitation of hours of work that has been enforced, and the same is true with respect to State construction work done under the codes in 1934. Presumably the State maintenance work has been little affected.

On Federal construction, working time averaged 179 hours per month in 1931, dropped to 153 in 1932, to 106 in 1933 and in 1934 has averaged only 92 hours per month. On State construction, average working time remained at approximately 180 hours per month until 1934 when as a result of the code requirements, it dropped to about 140.

- 6 -

In view of these changing hours of work a more exact picture of the volume of work done on highways from year to year is afforded by a conversion of the actual employment figures into equivalent employment on the uniform basis of 150 hours per month, which was the approximate rule in 1931. This is done in Table 2.

### Employment Increased By Recovery Act

It will be seen from this table that employment under the appropriations of the Mational Industrial Recovery Act was responsible in 1934 for a considerable increase in the total employment, and that the Federal employment in that year reached 39 percent of the total.

The most striking trend indicated by the figures is the drop in employment on independent State construction. In this connection it is to be noted that the decline in State contribution to construction has been even greater than these employment figures would suggest, on account of the fact that in 1931 the States bore the expense of a comsiderable portion of the employment attributed to Federal and Federal-sid work whereas in the succeeding years they have contributed in progressively smaller percentage.

- 7 -

State State   State State   State 31.2   73.610 26.3   17.7 1   9.672 17.7	•••		(lonstruction ∛ork	on sork	1945 Bart Anna San Anna Anna Anna Anna Anna Anna	state Kaintanana		
Average Number of Note 1: A		Zaderal and Federa	a14					Total
93,000 32.3 89.672 31.2 105,095 35.5 31.2 105,095 36.5 31.2 112,351 50.9 55.0 113,700 26.3 1148,268 55.0 1148,268 55.0 111, 1148,268 55.0 55.0 119,600 1 9.6 117,7 1 1148,268 55.0 55.0 119,600 1 9.6 1 17,7 1 1148,268 55.0 100,000 1 9.6 1 17,7 1 1148,160		vereae Susper of Me	ui & or Totalia	verage Number of Me	wif of "otali	Average Number of Me	mis of PotaliAy	varace hunder oke
64,000 : 22.8 73,610 26.3 142,351 50.9 73.700 : 27.3 i 148,268 55.0 1 39.00 9.6 17.7 148,268 51.2	inter	93,000	Ř			105,095	29.92 	287.767
73.700 : 27.3 : W. 638 : 17.7 : 148.268 : 55.0 : 51.2 : 119.600 : 39.0 : 30.000 : 9.6 : 3.7,653 : 51.2	192.	64,000	80 04 04	73.610		142,351	6.0 <u>6</u>	196,951
119.600 ; 39.0 ; 30.000 ; 9.6 ; 157,653 ; 51.2 ;	1933:	13.700		W.638		148,268	22.0	369,606
	ALLES L	009.611	0. 66		80 67	157,653	21.6	101. NS3

1/ To October inclusive

Table 2. - Average equivalent employment on Federal and State highmay work by years from 1931 to 1934.

inclusive (Actual employment converted to uniform basis of 180 hours per men-month)

## Drop In State Employment Must Be Halted

The transfer of State support from construction to maintenance work as Federal funds have been supplied to carry the construction cost is also one of the notable indications of this employment record. But the salient point is the evidence that the additional provision made for highways during the period by the Federal Government has been effect by withdrawal of support by the States.

It is important that these facts be generally understood at this time because the Federal Government has given notice in the Hayden-Cartwright Act of its intention hereafter to return to the Federal-aid plan of contribution to road work. That plan will substitute for the direct grants of the recent past, a shared expenditure, which will impose upon the States an equal obligation. The contemplated Federal contribution will be considerably less than these of the past year or two. Therefore, if a material reduction of the highway program is to be avoided it will be necessary that the States return to the work at least the measure of support they have recently withdrawn from it.

In the light of the figures presented in the employment tables, the wisdom of the provision of the Hayden-Cartwright Act that seeks to halt further diversion of motor vehicle revenues from road work is quite apparent.

Throughout the depression road work has been proved to be an effective means of combatting the menace of unemployment. As indicated

- 9 -

herein, its benefits have extended directly and indirectly in 1934 to not less than 1.500.000 workers. It not only reaches large numbers of individuals, however, but also distributes its benefits widely throughout the nation. In the recent Federal work it has been required that at least one construction project be provided in not less than 75 per cent of the counties of each State, and the actual performance has exceeded the requirement, for work has been done in 86 percent of the counties of the United States. And, finally, the work on the roads has the further merit of producing permanent and needed additions to the capital plant of the nation in a form that carries no threat of present overproduction of consumption goods and yet supplies transportation facilities that will be imperatively needed in the future.