Volume Title: Business Cycles and Unemployment

Volume Author/Editor: Committee of the President's Conference on Unemployment, and a Special Staff of the National Bureau

Volume Publisher: NBER

Volume ISBN: 0-87014-003-5

Volume URL: http://www.nber.org/books/comm23-1

Publication Date: 1923

Chapter Title: The Long-Range Planning of Public Works

Chapter Author: Otto T. Mallery

Chapter URL: http://www.nber.org/chapters/c4671

Chapter pages in book: (p. 233 - 263)

CHAPTER XIV

THE LONG-RANGE PLANNING OF PUBLIC WORKS

By Otto T. Mallery

Member of the Pennsylvania State Industrial Board

I. THE PROBLEM

Our problem is to examine public works in order to determine whether hrough their timely prosecution cyclical unemployment periods may be iminished or prevented. Can public works, by forethought, advance lanning, and financial prevision, be expanded in periods of cyclical nemployment? To what extent? How far can public works be revented from adding to the height of a boom wave through competition vith private industry during periods of industrial activity? How far an the resulting fall into a trough of depression be lessened? With vhat economic effect on industry in general?

II. ECONOMIC BASIS

Flexible Public Works and Regularized Private Industry.—There re two kinds of business, private and public. The object of most rivate business is profit; of public business, service.[1] Regularization of roduction is profitable for private business; on the other hand there is no ommercial value in regularizing the annual execution of public works, hough of course governments can keep down the taxpayers' burden by xecuting public works economically. After every private plant and ndustry has made every effort to stabilize production, a considerable luctuation will remain. Government—federal, state, and municipal—vould obviously increase the value of its services to the public, could it bsorb a part of this fluctuation by conscious expansion and contraction f its public works at specific times and in reverse direction to the flow f private industry. On the other hand, a government which competes vith private industry for the same men and materials by executing ublic works during periods of industrial activity does a positive injury

[1] I take exception to this distinction. The legally required purpose of the business f regulated public utilities is service. Profits are permitted only as an incident to the endering of service. Furthermore, many private businesses such as mutual life insurnce companies, savings banks, building and loan associations, etc., are operated rimarily for service. Some professional men, manufacturers and merchants would ay, with a measure of truth, that they aim at service rather than profit. On the ther hand, the service motive is frequently subordinated in public business to the rofit of office-holders and political machines.—Note by M. C. Rorty.

to the economic structure and brings on the evils it might prevent.[1] Prices of materials and rates of wages are sky-rocketed; labor turnover is increased; transportation facilities are overtaxed; interest rates on commercial and other credits are lifted and the costs and selling prices of all commodities raised.

Total Cost Decreased by Expansion in Bad Times.—One obvious benefit of the reverse policy is that the total cost of public works would be less over a ten-year period containing both prosperous and depressed years. Whatever percentage is executed during depressions may be contracted for at lower prices for materials and labor. Since unemployment of capital coincides with, or closely follows, unemployment of labor, the interest paid on municipal bonds sold during and immediately after depressions will in the long run be less.[2]

The Social Cost of Dependents.—The informed taxpayer and voter has a pecuniary motive in putting this policy into practice. A decrease in unemployment, however accomplished, decreases the local appropriation for poor relief and the more remote by-products of poverty, including the costs of the institutional support of dependents.

Taxpayers' Motives.—In many New England towns it has long been the practice to employ mill operatives on wood cutting and the building of stone walls—primitive forms of public work—when the mills are closed. The town obtains a return for funds which would otherwise be dispersed as charity. What is true in a small town is equally true in a large city, though it may be less obvious to the taxpayer. The mere size and complexity of the city often conceal from the citizen his true relationship to the costs of unemployment.

Purchasing Power of Wages.—The effect of public works upon unemployment does not stop with the employment of the man upon the particular job. The manufacture of the materials requires the employment of as many or more additional men. The purchasing power of the wages is an equally important consideration. For example, wages are partly spent upon shirts. The demand for shirts causes unemployed cotton and wool operatives to go back to their looms, moves cotton bales from the South and wool from the West, liquefies frozen credits

[1] I do not agree with Mr. Mallery that governmental competition in the execution of public works during periods of prosperity is necessarily an injury to the economic structure. I feel that governmental competition during both periods of depression and periods of prosperity may have a very salutary effect in raising the standard of living of the workers, their consequent purchasing power and the health of industry. I realize, however, the very great value of extensive public operations during periods of depression.—Note by H. W. LAIDLER.

[2] Taking the years 1878–1912 in England, grouping them into cycles of seven years, we find that in the years when unemployment is above the average, interest rates are below the average and *vice versa*. British Board of Trade figures quoted in the *Report of the Ontario Commission on Unemployment* (Canada), 1916, p. 144.

in cotton and wool, increases freight receipts of the railroads, etc. The purchase of clothes, shoes, food, and countless other commodities from the proceeds of public works' wages exerts a cumulative effect upon general industry and employment.

A Small Variation in Public Works Affects All Industry.—Public works need give direct employment to only a small percentage of the unemployed in order to improve the situation. Between a year of boom and a year of depression there is a difference of only 10 to 20 per cent in the weight or quantity of production.[1] This means that prosperity can be destroyed by making only nine sales where ten were made before, or it can be created by making eleven sales where ten were made before.[2] Just as it is the last few hundreds of millions of orders which raise the boom wave to the breaking point, so it is the first few hundred millions of orders that check the depression and begin the reconstruction of the industrial structure. Can public works supply such a check and such a forward impulse?

III. POWER OF CONCENTRATED PUBLIC WORKS TO CHECK CYCLICAL UNEMPLOYMENT[3]

Obviously the long-range planning of public works is no panacea for the ills of cyclical unemployment. But is its contribution toward control trifling or substantial? To answer that question some rough statistical estimates are necessary.

Average Expenditure for Public Works.—The best data for estimating the aggregate expenditure on public works are the "outlays" reported by the Census in its reports on *Wealth, Debt and Taxation* and in *The Financial Statistics of States* and *Cities*. "Outlays" is an accounting term which covers permanent improvements. From these sources Table XLI has been made:

TABLE XLI.—OUTLAYS UPON PUBLIC WORKS

Branch of government	Period covered	Average "outlays"
Federal government	1913	$ 64,380,000
States	1915–19	77,000,000
Cities over 30,000	1909–19	300,000,000
Smaller cities, villages, and counties	1913	163,000,000

[1] See the estimates in Chap. III, above.

[2] Moody's Investors Service *Weekly Review of Financial Conditions*, Jan. 12, 1922, p. 2.

[3] This section is the net resultant of work by T. W. Mitchell, W. I. King, E. E. Hunt, and W. C. Mitchell.

Aggregate public expenditures of this sort in 1913 were $586,000,000; but the total from the above schedule (some $600,000,000) may be nearer the pre-war average.

At present prices, government "outlays" are probably running in the neighborhood of $900,000,000 per annum. The F. W. Dodge Company reports an average expenditure on public works in 1919–1921 of about $700,000,000—an amount consistent with a total of $900,000,000 for the whole country, when an estimate is added for the territory not included by the Dodge Service.

Size of a Possible Public Works Reserve Fund.—To determine what fraction of the expenditure could be postponed to, or advanced to coincide with, a period of depression would require an elaborate investigation. If, however, we assume that one-third of the work could be assigned to the long-range program, $300,000,000 a year might go into the public works reserve fund.

Probably two-thirds of the money spent for goods goes directly or indirectly to pay wages and salaries.[1] On this basis the annual addition to the public works reserve fund would provide some $200,000,000 for pay-rolls.[2]

The size which this reserve would reach depends, of course, upon the number of years during which accumulations continued. Here is a difficult problem. Within the last thirty-three years the United States has suffered five severe depressions which began in 1893, 1903, 1908, 1914, and 1920—say one in every six or seven years. Can we then count on a five- or six-year period for building up the reserve? Scarcely, because the depressions have lasted from about thirteen months (1908) to about four years (1893–1897, with a brief and partial revival in 1895). An administrative board might spend all its accumulated reserve in the first year of a long depression, and would scarcely stint public expenditures in the second or third year in order to start accumulating new reserves to meet a future emergency. It is doubtful whether five years' accumulations would have been made before the panic of 1893 because of the brief period of dullness in 1890–1891. Not more than four or five years' accumulations would have been available in 1903; and three years' accumulation in 1908. The next case is harder to guess because 1911 was a dull time; but certainly not more than five years' accumulations would have been in the reserve fund by 1914, and not more than five

[1] See the report of the National Bureau of Economic Research on "Income in the United States," New York, 1921 and Sir J. C. Stamp, "Wealth and Taxable Capacity," London, 1922.

[2] The reserve fund would depend only in small part upon accumulated cash and postponements. Its chief strength would consist of authorized bond issues, of engineering plans ready for specific works, and of the formulated determination of federal, state, and municipal governments to catch up with existing needs and to anticipate needs of the near future when unemployment is greatest.

years' accumulations by 1920. On the basis of this experience, we may take four years as a rough average attainable by a board capable of withstanding pressure, determined to stimulate public works only in times of severe depression, and insisting upon continuing its accumulations during periods of moderately heavy unemployment. Four years would provide a reserve of $1,200,000,000 or a pay-roll fund of $800,000,000. Whatever the size of the reserve, it is clear gain if the time of its expenditure is based upon unemployment statistics.

Adequacy of the Possible Reserve Fund.—How far would such a reserve, plus the increase of public "outlays" from $600,000,000 to $900,000,000 per annum, offset the wage losses of a single year of depression?

The only class of workers whose wage losses we can approximate from available data are factory employees, but it seems probable that workers in most other lines are much less affected by cyclical unemployment.[1]

From the Census of Occupations and the employment figures of the Bureau of Labor Statistics we estimate that factory employees numbered not far from 11,500,000 in 1920 before the crisis. Other statistics in the *Monthly Labor Review* indicate that these workers were earning about $100 per month on the average, and that the number on factory pay-rolls dropped 2,200,000 between May, 1920 and May, 1922.[2] All these rough figures indicate a loss of wages exceeding $2,600,000,000 per year among factory workers—a sum far larger than any public works reserve fund we can regard as likely.

But should we take the number of employees and the rate of wages at the peak of the boom as the basis for estimating the burden of unemployment relief to be carried? Are there not many women and youths of school age who are attracted into factories only when unusual inducements are offered and who are not properly included among the "unemployed?" And is it proper to count the decline in number of employees over so long a period? May not that number be the result of a cumulation of misfortune, among which the earlier discharges counted as an important factor? Even a partial remedy quickly applied might have prevented unemployment from becoming so great.

Would a Board of Public Works be expected to pay top prices for labor and materials in a depression? If the Board did pay top prices, would not the tendency be merely to delay the depression until the reserve fund was exhausted? Would not the reduction of public works during prosperity do something toward lessening the intensity of the boom, and the severity of the crisis? Would not the prompt letting of public contracts exceeding a billion dollars mitigate the depression? And again

[1] The statistics in Chap. VI above show that this was the case in 1920–1922.

[2] Table XIX in Chap. VI indicates a maximum decline between the third quarter of 1920 and the third quarter of 1921 of 2,910,000 employees on factory pay-rolls.

must we not take account of the psychological effect of this action upon business men? Would the effects be limited to the direct disbursements upon public works? Is it not necessary to consider the cumulative effects started by the spending of the wages and profits of the men employed on public works?

Experience alone can answer these questions. Much doubtless would depend on the length of the preceding period of good times, the length of the depression, and the wisdom of the administrators of federal, state and city reserve funds. Probably the plan would be more effective in some cycles than in others. But under favorable circumstances it seems reasonable to believe that the public-works reserve fund would make a substantial contribution toward the mitigation of general unemployment.

IV. EXPERIENCE IN RELIEF WORKS

Relief Works Unlike Commercial Works.—Relief works are improvised to afford emergency employment and are performed by necessitous persons often without consideration of their fitness and usually at wages below the market rate. Quantity and quality of production are secondary matters.

Commercial public works on the other hand are executed by any available workers, hired and discharged under the usual commercial conditions. Commercial public works may be suddenly expanded in an emergency or planned at long range.

No Federal Relief Works.—In the United States relief works have never been undertaken or assisted by the federal government. Each city and town has struggled alone with its unemployment problem without national recognition of the existence of successive periods of unemployment, until after the Armistice of 1918. Then, and again following the President's Conference on Unemployment, 1921, a stimulation of local public works was undertaken under the leadership of the federal government but without its financial assistance except in the building of public roads.

Local Relief Works.—Mayor Wood of New York in 1857 suggested employing on public works everybody who would work, payment to be made one-quarter in cash and the balance in cornmeal and potatoes. During the successive unemployment periods previous to 1893 no general record was made of the character and interrelationship of the relief works of scattered towns or of the combined effect upon unemployment. The Massachusetts Report of 1895 on the Unemployed [1] showed that 21 of the 30 cities of Massachusetts and 13 of the 41 larger towns gave emergency employment on public works. Wages of from one to two dollars per day were paid; only simple kinds of work were undertaken; not enough work

[1] *Report of the Mass. Board to Investigate the Subject of the Unemployed* (Boston, 1895) Part I, pp. xxv–xxxiii, 58–107.

could be extemporized for the applicants; workers were rotated; the total expenditure was inadequate; from a business point of view the results were not economical. Some consider, however, that "public work has paid if it has made men anew, restored their self-respect, prevented their losing their self-control and becoming permanent charges against the community as unemployables."[1] Many cities tried relief works in the depression of the middle nineties with results similar to those in Massachusetts. Work of any kind was regarded as better than none and some examples were regarded as wholly successful.

In 1914 over 100 cities succeeded in expanding their public works to some degree and employed several thousands of persons for periods of from one to six months in two-day to two-week shifts. These works were largely on a commercial basis with hours and wages as usual. Many officials in charge stated that they had secured full efficiency from workmen, while a few said the work had been done at a distinct saving.[2]

Result of Experience in Relief Works.—General experience in relief works shows their inadequacy to relieve national unemployment, the pitfalls to be avoided, and points toward long-range planning as a more economical and potent method.

V. EXPERIENCE IN FLEXIBLE DISTRIBUTION OF PUBLIC WORKS

England. *Bowley's Estimates.*—The distinguished British statistician, Bowley,[3] estimated that if for ten years between 3 and 4 per cent of the ordinary annual appropriations for public works and services had been set aside in normal years and the accumulation expended in times of depression, the amount would have been sufficient to offset the wage loss during the decade due to industrial depressions.

British Legislation, 1909 and 1914.—Bowley's proposal gained legislative recognition in the Development and Road Funds Act of Great Britain in 1909. The act provides that national public works and Parliamentary grants to local authorities for local public works "must be expended having in mind the general state and prospects of employment." Early in 1914 the Development Commission set aside a reserve for use in depression years, and when war broke out, drew upon it for works in localities where unemployment prevailed. Arrangements were perfected for $10,000,000 of additional road work in case unemployment should require it, but the latter reserve was not drawn upon because war activities soon changed the situation.

[1] SNOWDEN, PHILIP M. P., "Labour and the New World," London, 1921.

[2] For description of local public works in 1914 see "Out of Work," by FRANCES KELLOR, New York, 1915; and *American Labor Legislation Review*, November, 1915.

[3] A. L. BOWLEY, Professor in the London School of Economics, in *Report of the Royal Commission on the Poor Laws and Relief of Distress*, 1909, Cd. 4499, p. 1195.

British Results in 1921.—War acted as a check upon local public works in England as in the United States. A peace control instead of a war check is needed. The possibility of advance planning contained in the act of 1909 was utilized by the British government after the Armistice. Large sums were appropriated for public works while demobilization was in progress. During the unemployment period of 1920–1921 over 3,500 local public works were assisted by the British government at a total cost to the combined authorities of about $125,000,000. The work provided amounted to about 1,000,000 man-months of direct employment.[1] In afforestation 559 schemes were subsidized. Government purchases of supplies were made earlier in order to exert their purchasing power when most needed, but on a small scale only. These policies were the result of activities in and out of Parliament during the previous decade carried on by men who had popularized and pressed the long-range planning of public works. Although the concrete results are greater than those so far attained elsewhere, only the surface possibilities have been touched.

France.—The French government evolved a more comprehensive solution, but the World War interrupted its development beyond the theoretical stage.

In 1896 the French Minister of Commerce, through the Bureau of Labor, reported the most successful methods of the various municipalities in alleviating unemployment through public works but no new administrative methods of control were advanced.

The Commission on Industrial Crises recommended in 1909 far-reaching financial reforms; the inclusion in annual budgets of specific appropriations for public works not to be executed in a budget year; the creation of special reserve funds for various city industrial services, such reserve fund to be expended during depression years; the use of trust funds placed under state control by public and private bodies with the same principle in mind; and the possible creation of a general reserve fund for public works in bad times.[2]

Germany. *City Reserves.*—In German cities it has long been the practice to accumulate a special reserve for the building of high schools and public baths, broadening of streets, and for nearly every form of civic development.[3] These reserves are not necessarily intended to be spent in bad times but such improvements are accelerated when prices are low and labor plentiful.

[1] Great Britain *Parliamentary Debates:* Feb. 9, 1922, vol. 150, col. 363; Mar. 8, 1922, vol. 151, col. 1261; Mar. 16, 1922, vol. 151, col. 2376.

[2] International Association on Unemployment, *Bulletin,* January to March, 1914, p. 263.

[3] SHILLADY, JOHN R., *Planning Public Expenditures, to Compensate for Decreased Private Employment during Business Depressions.* (Mayor's Committee on Unemployment, New York City, November, 1916.)

Policy of 1920–1921.—Since early in 1920 a large public works program has been under way. The Ministry of Labor subsidizes local works to the extent of three-sixths, and the state two-sixths, while the municipality pays the remaining one-sixth. Felix Morley states that "during the first five months of 1921 an average of 230,000 formerly unemployed men were continuously engaged. This cut down directly the number dependent on unemployment relief by 35 per cent and later by 50 per cent. Over 9,000 contracts were let, including those for flood regulation in Leipsig, subways in Berlin, immense highway projects over the Jura Mountains to connect Bavaria with northern Germany, irrigation, afforestation, electrification, etc."[1]

The municipality as the applicant for the subsidy submits full particulars. The Ministry of Labor decides whether the project is of economic value, the estimate reasonable, and the local unemployment situation compelling. After approval, the municipality, either directly or through a private contractor, picks the necessary key-men of proved ability. The remaining five-sixths of the workers, who in ordinary operations would be hired by the private contractor at the gate, must be taken on through the public labor exchange. The labor so obtained is not an unknown quantity but consists of registered men with every incentive for keeping their industrial record good. If familiar with the work, they receive standard wages, and if not, are assured a living while being given special opportunity to learn. The contractor is of the usual type who must bid low to get the contract and manage it efficiently to keep it. Consequently the work is free from the deteriorating influences associated with relief works and is developing successfully as part of a permanent national policy of flexible public works.

Italy.—In Italy 130,000,000 lira have been expended since 1919 upon public works to combat unemployment. Recent appropriations give a total of over 900,000,000 lira still available. In addition a permanent fund of 50,000,000 lira has been placed in the hands of the central unemployment office to be advanced to cooperative societies, companies which have obtained municipal contracts, land-reclaiming societies, etc., in order to enable them to begin work at once or to overcome temporary obstacles. This permanent fund is to be used only where unemployment in a particular district constitutes a menace to the peace.[2]

Other European Nations.—Since the Armistice there has been purposeful expansion of public works throughout Europe. As a whole the movement bears few of the characteristics of old-time relief works. The central government stimulates, frequently subsidizes, and sometimes pays in full. Because the World War checked customary public works, a

[1] *London Nation and Athenaeum*, Nov. 26, 1921.

[2] Special report of American Commercial Attaché H. C. Maclean to the Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce.

reserve of useful public works was ready for the subsequent unemployment period. Large public works have been executed in Belgium, Switzerland, Czecho-slovakia, etc.[1]

Canada.—The Ontario Commission on Unemployment (1916) found that

> During the period of development of a new country no group of employers controls so large an expenditure of capital as the Dominion, Provincial and Municipal authorities. Of even greater importance is the fact that no other group controls to an equal extent employment which may be postponed with a view to supplementing the business activity of lean years. To plan public works and expenditures for the lean years, in order that public employment may compensate as far as possible for lessened private employment, is one of the most effective methods of dealing with the problem of periodic unemployment.

These principles have been sought to be applied by various governmental agencies. A most useful result has been the stimulation of public work in winter. Public work undertaken by municipalities specially for the relief of unemployment have been subsidized by the Dominion government to the extent of one-half the difference between the normal cost and the cost incurred by reason of the winter. As the province pays an additional third of the excess cost, the municipality is assured that winter costs to it will not be a deterrent, and many have therefore increased the volume of winter work.

Where work can not be provided, the Dominion government refunds to the municipality one-third of its expenditures for direct unemployment relief conditional upon an equal participation by the province.[2]

United States.—After the Armistice, the War Labor Policies Board, anticipating widespread unemployment during demobilization, sought to stimulate local public works. The board was dissolved before its plans were consummated. The War Department, under Arthur Woods, Assistant to the Secretary, successfully expedited the resumption of local public works. By June, 1919 it was clear that industry was on the eve of a post-war boom, and stimulation was therefore discontinued.

Proposed United States Emergency Public Works Board.—In order to make flexible expansion a permanent policy, early in 1919 Senator Kenyon of Iowa introduced a bill creating a United States Emergency Public Works Board to aid the states, and through the states, the municipalities, to execute public works during periods of unemployment.[3] A favorable committee report was not obtained.

[1] Report of International Labor Office, quoted in *Report of the President's Conference on Unemployment*, 1921, pp. 104–5.

[2] Canadian Government Orders-in-Council of Oct. 7, 1921 and Jan. 25, 1922, see *The Canada Gazette*, Oct. 15, 1921, p. 1597, and Feb. 4, 1922, p. 3187.

[3] *Hearings before Senate Committee on Education and Labor*, Feb. 7, 1919, pp. 75 ff. on S-5397 introduced Jan. 21, 1919.

President's Conference on Unemployment, 1921.—The President's Conference on Unemployment of September, 1921 marks an epoch. Previous to its sessions unemployment and long-range planning had been subjects left largely to groups outside the government—to local committees, charitable associations, social workers, and labor unions. In the public works field the conference produced results of immediate as well as far-reaching influence.

Municipal Bonds for Public Works Break All Records.—The sale of municipal bonds for local public works broke all records during the months immediately following the Conference on Unemployment.[1] The term "municipal bonds" includes bonds of counties, school districts, road districts, states, etc. The total for the year 1921 was $1,383,000,000 or nearly double that of any previous year and over three times the sixteen-year average.[2] The amount of work executed was, however, much less than the amount of bonds sold. The F. W. Dodge Company statistics for twenty-seven northeastern states show that about the same amount of public works was contracted for in that section in 1920 and 1921. The *Engineering News-Record's* figures for the whole country show a gain of 13 per cent in 1921 over 1920.[3] Neither of these sources account for more than one-third of the municipal bonds issued in 1921 or for more than one-half to three-fifths of those issued in 1920. After making allowances for bonds issued for non-productive purposes such as refunding, soldiers, bonus, etc., the expenditure of a large percentage of the proceeds remains unaccounted for. Aside from the obvious lack of inclusiveness of existing statistics of public works contracted for, two other important factors explain the discrepancy. First, the letting of the contract often lags many months behind the bond sale. Second, large sales of bonds are often made for projects requiring several years to complete.

Thus an appreciable "reserve" for public works is lying in municipal treasuries at all times. This practice supplies the financial foundation for expanding construction during unemployment periods. The effect of the President's Unemployment Conference was to increase this "reserve" by the unprecedented bond sales already noted and also to

[1] From *Bond Buyer:* Municipal bond sales in the last quarter of 1921 were $560,000,000 against $209,000,000 and $253,000,000 in the last quarters of 1920 and 1919, which in turn exceeded previous years. In the first half of 1922 sales were $725,000,000 against $518,000,000 and $349,000,000 for the first half of 1920 and 1919 respectively.

[2] During the sixteen years ending 1920, $6,500,000,000 of municipal bonds were issued for the following purposes: streets, roads and bridges 25.96 per cent, schools 14.10 per cent, water 13.04 per cent, general buildings 8 per cent, sewers and drainage 7.24 per cent, parks and museums 2.75 per cent, electric light and gas 1.05 per cent, refunding 5.03 per cent, funding and improvements 5.61 per cent, and miscellaneous 17.12 per cent.

[3] The *Engineering News-Record* figures exclude all public buildings and the smaller projects under certain minimum costs.

expedite construction already financed. The mayors of one hundred and twenty-five cities with a total population of 25,500,000 reported to the Conference that public works construction was being energetically pressed.

Experience of American Cities.—An unprecedented amount of winter work was undertaken. In one city (Baltimore) about half of the registered unemployed were given jobs by city departments; the volume of public works exceeded any year since 1914 in paving, sewers, and school buildings; in the laying of water pipes all records were broken; work was done as economically as heretofore by regular forces. In another city (Philadelphia) public works expenditures exceeded any previous year. In another city (Fitchburg, Mass.) more sewers were built than in any year since the bad times of 1893, more paving was laid than for twenty years with the exception of 1914—also a depression year. In all lines public works of 1921 were double those of 1920. In Lynchburg, Va., more public work was done than in five years preceding. In Middletown, Ohio, a spring meeting of the Chamber of Commerce laid plans for winter public works and the starting of street paving early the following spring "so that employment would be given in the slack season and the work finished in time to release men and teams for harvesting and private work in general." In Buffalo, a special appropriation was made for the repair of all municipal buildings. In Dayton concrete coverts over the river were finished in April; sewer excavations in addition to the usual program were continued throughout the winter with stops of two or three days at a time in severe weather. In Columbus public works and other municipal measures gave aid to many and "no person passed a night without shelter." In Gloucester, Mass., more new buildings were under way than in ten years. In another city (Bridgeport, Conn.) the Department of Public Charities provided work for over 1,000 men, on the streets, wall building, and improving playgrounds, parks, and hospital grounds. In still another city (Toledo) a bond issue, "especially authorized to relieve unemployment," afforded work for 3,000 different men in two working shifts during the fall and winter at thirty-five cents per hour. In another (Wilmington) one-half the total public works appropriation was expended during the winter. In Richmond, Va., the City Council authorized work which had been waiting several years, and pressed it throughout the winter. In Peoria every asphalt and brick street was repaired between October, 1921 and May, 1922. In Rochester the interior finishing of five new schools and six additions was undertaken during the winter. In Detroit extra forces kept the streets "disgracefully clean," and an extraordinary expansion of public works was promptly executed. On the other hand, some large cities, notably New York and Chicago. executed much less public works in 1921 than in 1920.

The stimulus of the President's Conference on Unemployment was not felt until late fall of 1921 and the effect of large bond sales then could not be fully operative until the open season of 1922. The F. W. Dodge Company's statistics confirm this remark by showing that contracts awarded during the first half of 1922 were more than half the total of any previous full year. The time of maximum execution coincided with the end of the depression and the turning of the tide.

Conclusions as to Cities.—In general, American cities in 1921–1922 made the greatest effort on record to expand public works during an unemployment period. The effect of the nation-wide program, executed because of a national emergency under national leadership, was a powerful one. Organized national determination, locally expressed, galvanized our industrial and civic forces to fight depression and unemployment as never before. Where two forces in a given town were arrayed against one another, one for, and the other against some immediate public-works project, the positive force was strengthened. The proposal to anticipate public works, which would have waited ordinarily until "a more convenient season," came from the Conference to several hundred local emergency committees. The spirit of helplessness and inaction noted in other periods of unemployment was conspicuously absent. Without national leadership it is possible that public works would have diminished as private business slumped and general confidence fell.

Successful execution of public works assisted the resumption of private construction on the large scale noted in 1922. The total probably shortened the depression, but is only a partial index to what may be accomplished in the next unemployment period if the states, counties, and towns incorporate their experience into administrative methods of long-range planning.

Federal Aid Appropriation for Roads.—Road building was given a national impetus by the passage of a $75,000,000 Federal Aid appropriation to the states in the autumn of 1921. While the appropriation was hanging fire in Congress, the Chairman of the Conference on Unemployment, Herbert Hoover, asked the governor of each state how much road building he could have under way within ninety days if the appropriation were passed. The governors made substantial promises, which the highway commissions undertook to fulfill after the passage of the appropriation. The appropriation was passed earlier because of the direct urge of the Conference and of the home districts. The Chief of the Bureau of Public Roads, Thomas H. MacDonald, under whose supervision the appropriation was made available to the states, was alert to facilitate the national policy by arranging for rapid federal approval of local projects.

Orders Given in Winter instead of Spring.—Manufacturers of road-building machinery reported that they received orders in December instead of in April, as in previous years. Thus men were employed in

making the machinery during the winter who would otherwise have been idle until spring, and orders for the constituent steel and other materials advanced employment in those industries. The movement extended to industry in general for "the spring trade [of 1922 showed unusual] gains over [the trade of] the winter months. . . . Indeed the spring business began about six weeks [ahead of time] and then proceeded rapidly.[1]"

Other Federal Works.—Aside from roads, Congress did not increase public works appropriations. The Reclamation Service expended for construction in 1921 less than the ten-year average and less than one-half of the fund available. River and harbor and other public works appropriations were not increased and the normal appropriations were not made available earlier for use in the winter and early spring.

Federal "economy" was held to preclude an increase of productive public work during the depression and to require postponement of new undertakings no matter how necessary or economical their immediate execution might be. With the exception of large appropriations for army hospitals, Congress made no provision for public buildings, post offices, etc., although many important cities urgently required additional space and no comprehensive building program had been authorized since 1913. The Federal Reserve Bank buildings in various districts were actively prosecuted, this agency being independent of Congressional appropriations and able to utilize its own surplus reserves.

President's Letter to Heads of Departments.—President Harding's letter to the heads of Federal departments, under date of January 26, 1922, asked them to anticipate by a few months any necessary public works for which appropriations were available.[2] This proposal produced no results because the available funds were insignificant. The President's request, however, sanctioned the policy and constitutes an important precedent. After long-range planning has been administratively established a similar request will have far-reaching results.

VI. ADMINISTRATIVE MEASURES

Federal. *Roads and "Reserve" Clause.*—Although the public works of the states and cities are about five times those of the federal government, the federal one-fifth is a convenient key to unlock many doors. An important part of federal public works appropriations is given in aid or subsidy to the states on a fifty-fifty basis for road building. In 1916 road appropriations were outlined for five years ahead, and in 1922 a similar program was adopted for three years In the latter case the appropriations totalled $540,000,000 and if met by the states, they will provide for over a billion dollars' worth of road building. This is an intrenched policy likely to continue to command the necessary votes in Congress and to reach a great total in the next two decades.

[1] Moody's Investors Service *Weekly Review of Financial Conditions*, April 27, 1922.
[2] *Congressional Record*, Feb. 15, 1922. p. 2898.

All that is required to assure the building of more roads in bad times than in good times is that a clause be attached to each federal appropriation for roads, reserving a certain part, say 20 per cent for expenditure only when the President shall find a period of national unemployment and industrial depression to exist. In exercising control of the time of construction the President would follow the precedent of the Governor of Pennsylvania, whose duty it is to decide when extraordinary unemployment is present and then release a reserve for general public works, as he did in March, 1922.[1] In practice the President would mean the Secretary of Agriculture acting through the Chief of the Bureau of Public Roads, or after the creation of a Department of Public Works, the secretary of that department. Such Congressional action would impel state legislatures to appropriate like funds contingent upon the availability to them of the reserved percentage. Otherwise the state not appropriating would lose its federal aid.

More Roads for the Same Money.—At present there is no motive for a State Highway Department to plan roads long in advance because no one can tell what amounts will be appropriated by succeeding legislatures. It is known that many hundreds of miles of roads will be built in each state within the next ten years but nobody knows how much will be built in any year of the ten. The federal "reserve" clause would put all legislatures on notice that funds would be available for a given number of miles in the next year of industrial depression. The greatest value of federal aid would be this creation of a unified, nation-wide policy. The "reserve" clause should result in more roads being built because a greater proportion than otherwise would be built at the lower prices prevailing during depression.[2]

An alternative suggestion is the use of comparative statistics compiled by the Department of Commerce in the *Survey of Current Business* as a guide to the President in recommending larger road appropriations when a trend toward business depression is indicated.

Advance Authorization of Bond Issues for Roads.—If political obstacles prove serious, a possible alternative which has been proposed is the authorization of a federal bond issue of a given total, say $100,000,000–$200,000,000, to be sold by the Secretary of the Treasury only when a period of unemployment shall exist, the proceeds to be appropriated and expended according to existing federal aid practice. The authorization of such a bond issue, although of course not the sale of the bonds, must

[1] Minutes of Industrial Board of Pennsylvania, May 9, 1922, p. 25; Emergency Public Works Act, July 25, 1917, Pennsylvania, *Pamphlet Laws*, p. 1193.

[2] The Lighthouse Service asked for an appropriation during the boom of 1920 estimated to be sufficient to build three light ships. By the time the appropriation was available, the same sum built five ships during the depression instead of three during the boom.

take place in good times, several years before the depression arrives. Otherwise the state legislatures which meet infrequently would not have time to make like appropriations in order to obtain their full share of federal aid.

Road Building by the Federal Government.—A more doubtful suggestion is that the federal "reserve," or proceeds of the contingent road bond issue, should be expended under the direction of the Chief of Engineers of the Army or through other federal agencies upon national highways to whatever extent the states may fail to match the federal appropriation reserved for the period of unemployment. This might, if enacted, prove effective. On the other hand it would probably increase resistance to any "reserve" legislation whatever because the states might oppose in Congress the diversion of any funds from their control.[1]

The detailed study and recommendation of a "reserve" clause or "contingent bond issue" would seem to be the function of the Bureau of the Budget or of a Congressional committee.

Classes of Public Works Appropriations.—Federal public works appropriations fall into the following classification:[2]

1. Annual: such as federal aid to road building, rivers and harbors, lighthouses, forestry, roads and trails in national forests, national and military parks, flood control, Indian schools, irrigation works on Indian reserves, Panama Canal Zone construction and equipment.

2. Spasmodic: such as public buildings, post offices, court houses, customs houses, quarantine immigration stations, hospitals, monuments and memorials, departmental buildings, etc.

3. Revolving funds for works such as reclamation and irrigation.

4. Unusual projects dependent upon the solution of difficult questions of technique or policy before authorization for construction or appropriation will be made: for example, the Boulder Canyon power dam in Arizona, large scale drainage and flood prevention projects, the Muscle Shoals proposal, the Alaskan Railroad, etc.

5. Municipal: such as carrying out the city plan of Washington and the ordinary public works of the District of Columbia.

Centralization of Federal Public Works.—These public works are performed by thirty-nine federal agencies, four of which are independent and unattached and the remaining thirty-five are each a part of some one of nine of the ten national departments. Sixteen federal agencies are authorized to build roads, nineteen to do hydraulic construction, sixteen

[1] I have always been impressed with the advisability of long-range planning of public works; but I would not approve the suggestion that the Chief Engineer of the Army or any federal agency be authorized to expend the proceeds of a suggested bond issue to whatever extent the states may fail to match the federal appropriation reserved for periods of unemployment, until I had given this suggestion further consideration.—Note by A. W. SHAW.

[2] Military and naval works are omitted.

to work on rivers, and twenty-two on engineering and research.[1] No one would have designed such cumbersome confusion. It is the unpruned, rank growth of a century and a half. The President, Congress, and public opinion combined are helpless to make all of these agencies do any one thing in any one way. To establish natural relations among the members of the public-works family is a necessary part of the policy of long-range planning. Expression of this need is found in the bill to create a department of public works.[2] The Public Works Department Association has popularized the case for administrative reform and the chance of some unification of public-works agencies is regarded as good. A department of public works should be able to give better effect to a national policy of expanding public works in bad times.

Legislation for Future Cyclical Depressions.—Senator Kenyon of Iowa, in a bill introduced November 16, 1921, sought to carry out the recommendations of the President's Conference on Unemployment and to cover all federal public-works agencies by stating one policy for all. This bill to "prepare for future cyclical periods of depression and unemployment by systems of public works" was reported favorably by the Senate Committee on Education and Labor.[3] It authorized all federal public works agencies to make advance engineering plans and to keep them up to date so that when an unemployment period arises a Congressional appropriation would result in immediate construction. These plans would afford a diversified and comprehensive list ready to hand from which Congress could quickly choose. In order to decide when a period of cyclical unemployment is at hand, the bill authorized the development of the monthly *Survey of Current Business*, already published by the Department of Commerce, to include available statistical data upon production, trade, and commerce. The aim was to afford at any moment a comparative picture of the past and the present state of business. Such a picture is needed as a guide for federal, state, and city governments in determining when public works should be expanded or contracted. A few large corporations at their own expense have successfully marshalled the meager statistics now available and made money by planning long-range adjustments of purchases of raw materials to contemplated output. The proposed publication would place small business men on the same information footing with these few large corporations and give to both more complete facts.

[1] WILHELM, DONALD, Unscrambling the Departments, *Saturday Evening Post*, May 22, 1920.

[2] U. S. Sixty-sixth Congress, Third Session, S–4542, bill introduced Dec. 7, 1920.

[3] U. S. Sixty-seventh Congress, Second Session, S-2749 introduced Nov. 16, 1921; Hearings before Senate Committee on Education and Labor, Dec. 21 and 22, 1921; *Congressional Record*, Feb. 16, 1922, pp. 2948–53, 2957–60.

The final clause of the Kenyon bill provided that when Congress has not stipulated the beginning or completion of a specific public work within a given time, the President may order such work to be expedited or retarded in accordance with general business conditions. General support of this bill developed at the hearings before the Senate committee but on the floor of the Senate opposition was encountered. Some Senators stated that past and present throw no light on future business conditions; that information might bring on the very panic it sought to prevent; that federal public works are too trifling in volume to make any difference; that unemployment periods are acts of God, which "not even the Congress of the United States can control;" that too great power would be given to the President if he could retard public works authorized by Congress; that such a measure is paternalistic and invades a field where government has no place; that it is a measure fathered by big business to insure profits in bad times.[1] A fear apparently existed that a president of one party might postpone public works in the territory of the opposite party while forwarding public works in the territory of his own party. The Democratic Senators voted almost solidly for an amendment to withdraw the types of public work more prevalent in the South and West, such as rivers and harbors and reclamation, from the scope of the bill. An emasculating amendment prevailed by the narrow margin of three votes and the bill was recommitted to committee.

Among the advocates of the Kenyon bill were the President's Conference on Unemployment, the Federated American Engineering Societies, the American Federation of Labor, the Associated General Contractors of America, the Industrial Board of Pennsylvania, the American Association for Labor Legislation, members of the United States and local Chambers of Commerce, and many economists and industical leaders. The advocates of the bill hold that there is need of a better organization and marshalling of public opinion of the kind which effectively demanded the national budget.[2]

Possible Changes in Appropriation Policy.—Long-range planning requires consideration of the various prevailing methods of appropriating for different kinds of public work.

Annual Appropriations.—Annual appropriations are made for such public works as federal aid to road building, rivers and harbors, lighthouses, etc. These show wide variations from year to year. The larger appropriations have often been made in years of greatest industrial activity and the smaller appropriations in years of depression.

[1] *Congressional Record*, Feb. 16, 1922, pp. 2957 ff.

[2] Steps in this direction are proposed for 1923 through a Public Works Committee composed of various national organizations. Those interested may communicate with the American Association for Labor Legislation, 131 East 23d Street, New York City.

However, nearly all public works appropriation are available until expended. Hence it makes no difference to the plan under discussion how much may be appropriated in years of active industry provided a clause is inserted reserving some part, say 20 per cent, for expenditure during a year of depression.

Spasmodic Appropriations.—The latest bill for federal public buildings, chiefly post offices, was passed in 1913. Construction under it and under previous bills was actively prosecuted during the succeeding four years until the war intervened. More work was done in good years than in bad years because the program happened not to get under full headway during the unemployment period of 1914 and gained its momentum thereafter.[1] The next public buildings bill will be a large one because the accumulated needs are great. Contrary to general belief, there has been little waste in public buildings appropriations. When a post office has been built too large for a town, it has commonly proved less wasteful than fitting the town to its measurement and ten years later tearing down the building to replace it with a larger one. The United States is still renting post office buildings in hundreds of towns and in many buildings mail clerks are crowded under unhygienic conditions. A comprehensive program to give every town an adequate and well designed post office seems probable in the near future.

This prospect may be used to illustrate the arguments of those who advocate long-range planning. What means, they ask, can be devised to prevent the throwing of such additional fuel under the pot at the boiling point of a building boom? They answer, the plans can not be prepared in time to start all the buildings in two or three years. Some will be automatically postponed. Few Congressmen will wish those in their district to be delayed. Many ought undoubtedly to be built as soon as possible. Who will decide which? Administrative discretion rests in the Secretary of the Treasury and the Supervising Architect. Under the Kenyon bill the Supervising Architect would be instructed to use that discretion by increasing operations during periods of unemployment and *vice versa*. Without the Kenyon bill the Supervising Architect, whoever he may be, will be tempted to make excuses to those Congressmen whose political pressure is least compelling. The easiest way out of his dilemma is to accommodate all as far as possible and do the whole program at one swoop, forgetting those absent parties, "unemployment" and "industrial depression," who have no official representation. With the Kenyon bill the President may request the Secretary of the Treasury or the heads of departments to speed or delay construction. This is now his privilege rather than his duty—a doubtful privilege with unknown political consequences. A President may cheerfully and safely expand public works during bad times, if he can, but to contract them at any time will require courage and the support inherent in an accepted policy.

[1] The program is not yet completed (1922) because of price changes since 1913.

Revolving Funds.—The Reclamation Service, one of our greatest federal engineering agencies, receives no appropriations, but is given loans to its revolving fund to be returned to the Treasury from future payments by settlers. The scope of its operations therefore usually depends not on the Congress in session, but on the current amounts paid by settlers. These current payments are likely to decrease in bad agricultural years and automatically to restrict construction. In 1921 the settlers' difficulties caused by the fall in agricultural prices delayed their payments. In order to remedy this situation the Conference on Unemployment recommended a loan by Congress to complete projects under way. The House Committee on Irrigation of Arid Lands approved such a course but Congress remained inactive.[1] In 1921 funds were obtained from a new source: leases from oil, phosphate, and other mineral lands. These, added to other receipts, made available a larger construction fund than the average for the preceding ten years. Thus accidentally a fund for construction expansion in a year of depression was had. Its use was postponed by the lag of departmental, public, and Congressional opinion and the absence of a conscious policy. The opposition of farm organizations was a contributing factor. These apparently believed that any increase in farm land would decrease the selling price of existing farms and farm products.

Chart 54 shows that expansion of construction in years of depression is feasible and occurred in 1908 and in 1914. Expenditures were sharply curtailed during the years of high cost and of active industry (1916–1920), but quick expansion did not occur during the period of falling costs and industrial depression (1921).

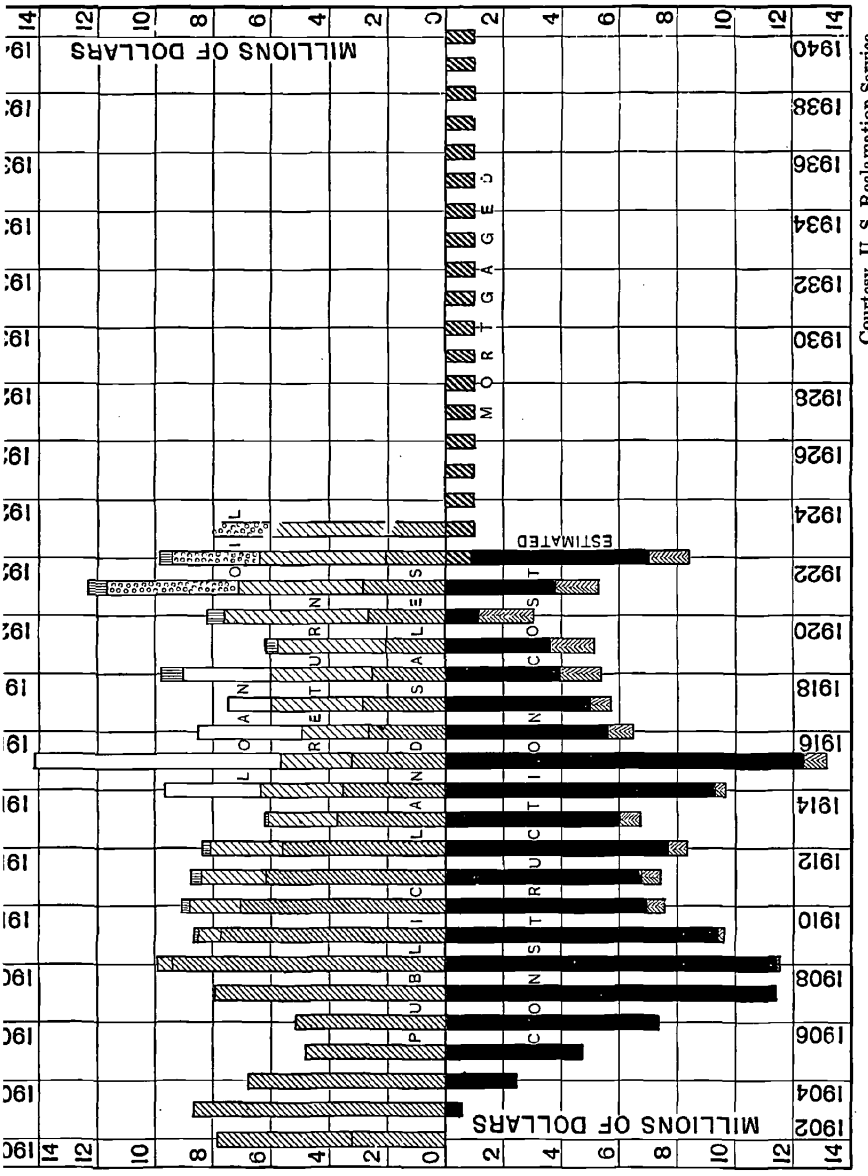
The Reclamation Service seems well adapted to long-range planning. Its engineering plans are made long in advance and its operations scattered over wide areas. Its work creates a demand for innumerable products manufactured in states other than those where the lands are under development. A reclamation project in Arizona makes itself felt immediately in A-ville, Ill., in an order for wheel-barrows; in B-burg, Mich., for motor trucks; in C-wood, Pa. for steel, etc.

The potential activities of the Reclamation Service in the next two decades are very great. Vast areas of the South require drainage. Deforested areas need development. Arid regions await irrigation. Most of this work will be done some day. Meanwhile the choice of projects, their planning, and preparation for financing might readily proceed in advance of the next depression.[2]

Advocates of long-range planning hold that reclamation interests will best accomplish their purpose by obtaining assurance of a Congressional loan contingent upon the existence of unemployment and by the

[1] Hearings before the House Committee on Irrigation of Arid Lands, Oct. 26, 1921.

[2] U. S. Reclamation Service, *Annual Reports*.



Courtesy, U. S. Reclamation Service.

adoption of a policy of putting all available funds under contract during a period of depression.

Extraordinary Projects.—The federal government has under consideration several great exceptional undertakings. During the unemployment period of 1921 none had reached a stage where sufficient information was at hand upon which to make a decision. If a positive decision had been made, it could not have resulted in prompt construction. Examples of these extraordinary projects are the Colorado River power and irrigation undertaking, known as the Boulder Canyon dam of Arizona, for large scale irrigation and power development; the Muscle Shoals fertilizer project; and several great flood prevention and drainage proposals. In all these cases political action must wait upon the study of engineering facts. If a central public works agency were established, it would be easier to pursue a continuous policy of obtaining engineering facts as a preliminary basis for Congressional decision. If the preliminary plans and rough estimates were ready for a number of such projects, it would be possible, indeed natural, to start some of them during a period of depression.

Municipal Work Done by the Federal Government.—Congress is also the city council of Washington, D. C. Visitors who admire the city's beauty may not be aware that this beauty is the result of a city plan prepared in 1901 as a public service by men of standing in the professions of architecture, sculpture, and landscape architecture. The plan enjoys such general approval and understanding that nothing has been done contrary to its provisions. A proposal now before Congress includes an annual appropriation of $5,000,000 to the Public Buildings Commission.[1] If this appropriation is made continuing and the portion unexpended one year remains available until spent, long-range planning under perfect conditions will be possible. After catching up with immediate needs it will be natural for the Public Buildings Commission to proceed more slowly when costs are high. A similar principle might be incorporated in the customary annual appropriation to the Commissioner of the District of Columbia for ordinary municipal improvements.

For many years the Department of Justice has occupied a rented building. The landlord raised the rent in the happy confidence that the government would not build during a period of unemployment even though it had bought a site long ago. The Department of Commerce is renting several buildings scattered widely over Washington to the detriment of efficiency. The Treasury Department needs large additional space. An opportunity for long-range planning of these and many other structures might readily be given to the Public Buildings Commission.

[1] Composed of senators, congressmen, architects, and appropriate government executives.

Federal Reserve Funds and Contingent Bond Issues.—Public works reserves require merely the making of a present appropriation available for future use; not the setting up and withdrawal from use of a separate treasury fund of non-interest yielding cash. The political objection to any reserve is that it makes the appropriations of the party in power appear, at first blush, unduly extravagant. Upon analysis these reserve appropriations are to be spent not by the Congress in power but by succeeding Congresses, and are therefore a husbanding of present resources. Although setting aside any reserve is contrary to the government bookkeeping custom of making yearly appropriations balance with yearly expenditures, it is regarded as sound practice by important private industrial corporations, whose reserves are a source of great strength not only to them but also to the general business and employment fabric in time of need.

The "contingent bond issue," to be sold only during periods of extraordinary unemployment, avoids these objections and resembles closely existing practice under the law authorizing the Secretary of the Treasury to issue short-term certificates of indebtedness in order to make available the monies appropriated when revenues are temporarily insufficient. Although the Secretary of the Treasury may be already technically authorized to issue such certificates for emergency public works, he is unlikely to do so without specific authority and the existence of an unmistakable legislative policy. Hence, if a policy of long-range planning is adopted, authorization by Congress of contingent bond issues for emergency public works will be desirable and will lessen the delay inherent in securing legislation and starting work after an emergency is at hand.

State. *Placing Responsibility.*—In the state the first step in long-range planning would be to place the definite responsibility upon some one state agency. Everybody's business is nobody's business. Should an existing agency be chosen or a special one created? As the long-range public-works agency is intended to overlook all the state departments participating in public works, the agency should include general officials responsible for the financial and administrative conduct of the state. This intention led to the membership of the governor, the treasurer, the auditor-general, and the commissioner of labor and industry in the Pennsylvania Emergency Public Works Commission.[1] A request from such officials carries authority. As they have many other irons in the fire, an executive secretary is needed on the job part time, preferably an official employed elsewhere in the state government or one who knows its ins and outs. The Pennsylvania Commission is custodian of a reserve fund accumulated during good years for expenditure in bad times through the usual state agencies. The activities of such a commission may gradually influence the policy of state departments, and also the

[1] Act of July 25, 1917, Pennsylvania, *Pamphlet Laws*, p. 1193.

legislature's method of appropriating for public works. In some states an existing agency may better exert this influence—for example, the industrial commission, the highway department, the commissioner of public institutions, etc. In any case the introduction of legislation instructing some specific official or commission to cause advance planning to be done by all agencies should have educational value.

California attacks the problem in a way similar to Pennsylvania by requiring the Board of Control[1] to secure tentative public works plans from various departments; by placing upon this board the responsibility for reporting to the governor when a period of unemployment exists; and by authorizing the governor then to release the accumulated public works. The effect of the Pennsylvania and California acts has been wider than their content implies. In both states public works by the cities and towns were stimulated during the unemployment period of 1921–1922. The California Board of Control and the Pennsylvania Emergency Public Works Commission are influencing public opinion and public action throughout the political subdivisions of the state.

Ten-year Program for State Institutions.—State institutions for dependents, feeble-minded, insane, and criminals are chronically inadequate. In many states each institution is managed by a separate commission or board. A comprehensive building policy or the central purchasing of supplies is then impracticable. The resulting waste and confusion suggest remedy through one central agency such as the New Jersey State Board of Control of Institutions and Agencies.[2]

The New Jersey Board after checking building during the war and post-war high prices, promulgated a ten-year building program and asked for successive regular appropriations. New Jersey has here proposed an administrative solution of the long-range planning of state institutions, if these appropriations are made available until spent, thus enabling it to go ahead full speed in certain years and to hold back in others. Execution would depend very largely upon employment or unemployment. "The plans will be ready for fifteen institutions, each consisting of several buildings. It will be easier to concentrate construction during unemployment periods than to spread it out equally."[3]

Increasing Production of Governmental Supplies in Depression Years.—The New York State law of Feb. 10, 1922, provided for the creation of a state department for the centralized purchase, control, and distribu-

[1] Act to Provide for the Extension of Public Works of the State of California during Periods of Extraordinary Unemployment, approved May 26, 1921, cited in *Commonwealth Review* of the University of Oregon, January, 1922, p. 58.

[2] *The Ten-year Construction Program* for 1922–1933, with graphic charts.

[3] Statement of Burdette C. Lewis, Commissioner of Institutions and Agencies of New Jersey.

tion of all supplies required by the state. Another law passed at the same time established a bureau of standards. A modern supply system is being installed similar to those used by large private corporations. The exact knowledge of current needs and the accurate estimate of future requirements afforded by such a system enables large corporations to make service agreements with large producers. These service agreements not only give price protection in boom times but may result in increased orders for production during periods of depression. A manufacturer can readily finance such orders during a depression either for immediate or future delivery, whereas he could not as easily finance manufacture for stock even if he were willing to take the risk. Under its new system there is nothing to prevent the State of New York from making such service agreements covering at least the period of time for which appropriations are customarily made. No obstacle prevents buying from hand to mouth during boom times or placing larger orders during periods of depression. A director of supplies might also develop the practice of giving timely orders to certain industries during their slack seasons.[1] Thus the purchasing power of the state would be controlled for the mutual advantage of the state, the manufacturer, and the worker. In most states appropriations are for two years and service agreements could be made for that period. When a depression coincides with the year in which the appropriation is made the orders would presumably call for the immediate manufacture of the major part of the known requirements of staple non-perishable commodities for the two years. The service agreement would cover dates of delivery.

Eight states now have laws which permit central purchasing of supplies, but practically all of them lack the business organization to make them effective. The supply requirements of all the states and of thirty-one large cities involve a purchasing power of about $650,000,000 per annum.[2] The Associates for Government Service, Inc., a semi-public, non-profit taking corporation, proposes to combine the supply purchases of state and municipal governments which have similar specifications for the same commodities by bidding in contracts and securing advance options from producers at prices based upon the combined requirements. This plan may harness purchasing power to pull against a depression.

The Federal Purchasing Board has recently been established at the suggestion of the Director of the Bureau of the Budget. It is making the

[1] Memorandum of Employment Service of Canada, *Government Employment as a Factor in the Prevention of Unemployment;* Department of Labour (Canada), *Proceedings of the Eighth Annual Meeting of the International Assn. of Public Employment Services*, 1921, pp. 29, 30.

[2] Estimate of Associates for Government, Service Inc., 60 Trinity Place, New York City. This estimate excludes all supplies purchased through bond issues.

first approach toward coordinating the purchases of the various federal departments, but is not a central purchasing agency. Before any federal establishment could buy two years' supplies during a depression, Congressional appropriations would have to be made for longer than one year. The Navy Department and, to a less extent, the Post Office Department are now the only ones so financed as to buy beyond the needs of a current year. This policy might be extended to other departments, and centralized purchasing and storekeeping authorized in places like the District of Columbia where many branches of the government are contiguously located.

In road building the policy of the national government, as incorporated in federal aid appropriations, will largely determine the degree of long-range planning by the states. Nevertheless the state highway commissioner and the governor will have a large voice in determining whether more roads are ready to be built in bad times.

Municipal. *Breaking up the City Plan.*—The city plan is the entering wedge in long-range planning by municipalities. It shows the city's future growth and needs. Its major proposals cannot be reached in one jump but can best be obtained by systematic approach over a period of years. Parts will be halted for one reason or another until some unusual impetus propels them. An unemployment period may be such an energizing impulse which breaks through obstacles. The program, then, is to develop the city plan, to gain general understanding and approval of it, and to break it into parts. While it need not have the force of law, it must have the support of public opinion and rest upon detailed plans constantly under preparation and revision.

An examination of several city plans reveals an especial value in dividing the plan into parts somewhat as follows:

Vitally Needed.—Work which should, and will be, done as soon as financial provision can be made. Examples: schools, fire protection, street improvement and extension, etc.

Periodic.—Works requiring a long period, which gain in usefulness and economy if planned as a whole and executed in conformity with a long-range plan. Example: sewage disposal, sewerage system, increased water supply, outer park system.

Delayed.—Works which are likely to be delayed by the greater pressure of others. Example: civic center, municipal buildings, etc.

Desired.—Works long desired but never authorized whose best chance of getting done rests upon an unusual impulse. Examples: boulevards, park extension, complete recreation facilities, golf course, terminal rearrangement.

Left-overs.—Examples: renovation of jails, police stations, and court houses; adequate housing for welfare institutions, municipal

lodging house; street marking and repairing; destruction of condemned or antiquated structures, etc.

The practicability of some such breaking up of the city plan has been approved by representative city planners and city engineers. It is generally agreed to be practicable from an engineering standpoint to consider the needs of a city over a ten-year period, to list these needs, and to double public work in a year of unemployment.[1] Advocacy and accomplishment rest with such organizations as the National Conference on City Planning, National Municipal League, American Civic Association, Federated American Engineering Societies, American Institute of Architects, American Society for Municipal Improvements, City Managers' Association, and local Rotary, Civic, City, and Women's clubs.[2]

Financing.—After the city plan has been conveniently subdivided the chief remaining provision needed for a flexible construction program is a financial one. The advance authorization of a bond issue for certain projects is desirable, the bonds to be sold only during bad times. The legal proceedings required to authorize and validate a bond issue, if begun during an unemployment period, may delay construction until too late to relieve unemployment. The unconsidered sale of large successive bond issues during boom times may leave a city with small borrowing power for use during bad times. A good market exists for municipal bonds when business is bad because at that time capital unemployed in private industry is seeking investment elsewhere and because conservative investors turn from industrial investments to those backed by the credit of the community.[3] The unprecedented volume of municipal bonds sold in 1921 did not prevent a sharp decline in interest rates on this class of bonds in the last half of the year. This decline, to be sure, was contemporaneous with a similar decline in the rate of interest on corporation bonds; but was in the face of a steadily growing volume of municipal issues as the year progressed, whereas corporate financing was distinctly less heavy in the second half than in the first of that year. The marketability of municipal bonds has, especially since the

[1] Among those who have given valuable suggestions are: Ivan E. Houk, City Engineer, Dayton. Morris L. Cooke, Ex-Director of Public Works, Philadelphia. Allen J. Saville, Director of Public Works, Richmond. Robert Whitten, City Planning, Cleveland. Harland Bartholomew, City Plan Engineer, St. Louis. L. W. Wallace, Secretary, Federated American Engineering Societies, Washington, D. C. Philip W. Foster, City Planning, Cambridge, Massachusetts. Fred B. Williams, Chairman City Planning Committee, City Club, New York. Nelson P. Lewis, City Club, New York. Kenyon Riddle, City Manager, Middletown, Ohio. Frederick Bigger, Member City Plan Committee, Pittsburgh.

[2] Those interested may correspond with the Federated American Engineering Societies, 719 Fifteenth Street, Washington, D. C.

[3] *Report of President's Conference on Unemployment*, 1921, p. 96.

war, been enhanced by the exemption of the income therefrom from the federal income tax; but even before this tax was enacted, municipal bonds had probably been more readily marketable in bad times than any but the highest grade of corporation bonds and the fluctuations in the interest yields on the former had probably been less from year to year than was the case with a great majority of corporation bonds. The conclusion would seem to be fair that the obstacles in the way of municipal financing of public works in bad times are less than those which check corporate financing for plant extension during such periods.

The creation of reserve funds from annual taxation for specific work is possible but more difficult. Alameda, California, accumulated such a reserve through a tax of one one-hundredth of 1 per cent on real estate. Milwaukee has an emergency fund for any emergency purpose, which was used for public works in 1921.

Political Considerations.—Where there is an able city manager a reserve fund is practicable. Where the city council is elected by wards, the serious obstacle is presented of inter-ward competition for improvements, which prevents consideration of the needs of the city as a whole. Where the city government swings from one rival administration to another, each is likely to spend everything in sight, including the reserve funds of its predecessor. Outside of the larger cities such chaotic changes are no longer the general practice.

Yet the flexible policy of construction seems not impracticable from the political standpoint. The unemployed in bad times comprise steady and substantial citizens and therefore reliable political support. Storekeepers and merchants trace the connection of the public works done in bad times with their trade and the payments of their customers' bills. Consequently the political objection to deferring work may be counterbalanced by political advantages to those politicians who can afford to wait to reap them.

A semi-permanent public-works official will be found in many cities, usually a subordinate, whose accumulated knowledge of every inch of the city has made him indispensable.[1] This man is also indispensable to long-range planning of public works. He knows what is feasible and what is not. His city is his life work and he responds to whatever he believes to be for its ultimate good.

American cities grow so rapidly that they are chronically behind in necessary public improvements. Over half our streets and alleys are still unpaved. Only a small percentage of water supply is filtered. Few sewage disposal plants exist.[2] Consequently the problem is more largely

[1] A committee of contractors touring the country recently reported that the public-works officials of the cities of middle size and below were in general efficient and honest.

[2] *Engineering and Contracting*, Sept. 7, 1921, p. 225.

ne of supplying accumulated needs in an unemployment period than of ostponing specific works. Experience shows that financial and administrative machinery cannot be set up quickly enough after the exigency s at hand. The crucial point is the development of the method during ood times.

The purchase of supplies for city welfare institutions and departments s enormous in volume and is farther along the road to centralization than hat of the states. Although the first step has been taken toward the dministrative possibility of more flexible and larger purchases during ad times, the practice remains to be developed.

County, District, Etc.—Geographic subdivisions with taxing power re so manifold and various that no policy can be made to fit all of them. The county is an important unit in some states and negligible in others. The New England "town," and Louisiana "parish," etc., are of consequence. In addition there are numerous types of road, drainage, metropolitan, and school districts—"Carey Act" irrigation districts, conservancy districts, etc. Although each furnishes a mere drop in the bucket, the aggregate public works of these units is important. Similar principles of long-range planning are adaptable to most of them in varying degrees.

Summary of Practical Measures That Would be Required for Efficient Long-range Planning of Public Works.—The following are among the steps which would have to be taken to secure efficient long-range planning of public works. In dealing with federal public works it would be necessary to:

1. Continue to outline federal aid road appropriations for five year periods; include a "reserve" clause in annual appropriations; authorize n advance a "contingent bond issue" to be sold only during a period of unemployment and industrial depression; use the large potential power of federal aid appropriations to increase state road construction during bad times.

2. Create a federal Department of Public Works or centralize all public works in one existing department, for instance Department of the Interior.

3. Enact the Kenyon bill or equivalent legislation requiring advance planning.

4. Develop the *Survey of Current Business* of the Department of Commerce as a guide to the expansion and contraction of public works—federal, state, and municipal.

5. Have the Bureau of the Budget devise improved methods of Congressional appropriation for public works.

6. Use in public buildings appropriations a "reserve" clause, "contingent bond issue," and advance planning.

7. In reclamation and irrigation make advance authorization of a loan to the reclamation revolving fund for expenditure during the next period of depression.

8. In extraordinary projects authorize preliminary engineering plans and estimates.

9. In the prosecution of the Washington city plan and of departmental buildings make regular annual appropriations to the Public Buildings Commission which shall be available until spent.

In dealing with state public works it would be necessary to:

1. Place the responsibility in a commission, like that of Pennsylvania or California, or utilize some appropriate existing agency.

2. Develop a ten-year plan for state institutions of welfare and correction like that of New Jersey.

3. Create an agency for central purchasing of supplies like that of New York, with provision for buying larger supplies of staple commodities in a year of unemployment.

In dealing with municipal public works it would be necessary to:

1. Develop a city plan.

2. Break up the city plan into parts.

3. Authorize a "contingent bond issue" and "reserve fund."

4. Conduct educational campaigns by national and local civic organizations.

VII. CONCLUSION[1]

The long-range planning of public works and of the purchase of supplies seems to be one of the simplest and most promising devices for stabilizing industry and employment. Its principles appear economically sound. The obstacles in the way of practical trial are chiefly political and administrative. The tools are popular knowledge and appropriate administrative measures. After a careful canvass of various proposals, the British Commission on the Poor Laws concluded that "It is now administratively possible . . . to remedy most of the evils of unemployment to the same extent, at least, as we have in the past century dimin-

[1] BIBLIOGRAPHY.—The first complete bibliography of the subject has been compiled for this study by the Library of Congress and is available to libraries on request.

An excellent popular presentation is that of William Hard, "Big Jobs for Bad Times" in *Everybody's Magazine*, August, 1919. A careful technical study is that of John R. Shillady, *Planning Public Expenditures to Compensate for Decreased Private Employment During Business Depressions*, Mayor's Committee on Unemployment, New York, N. Y., November, 1916.

ished the death rate from fever and lessened the industrial slavery of young children."[1]

The flexible distribution of public works merits careful consideration as a factor in limiting the swing of the industrial pendulum and in lessening the shocks of unemployment.[2]

[1] National Conference of Charities and Correction, *Report*, 1916, p. 174, quoting the Majority Report of the British Royal Commission on the Poor Laws and Relief of Distress of 1909.

[2] A draft of a Federal Act embodying some of these recommendations can be obtained from the American Association for Labor Legislation, 131 East 23d Street, New York City.