How Congress must act to rebuild after the crash

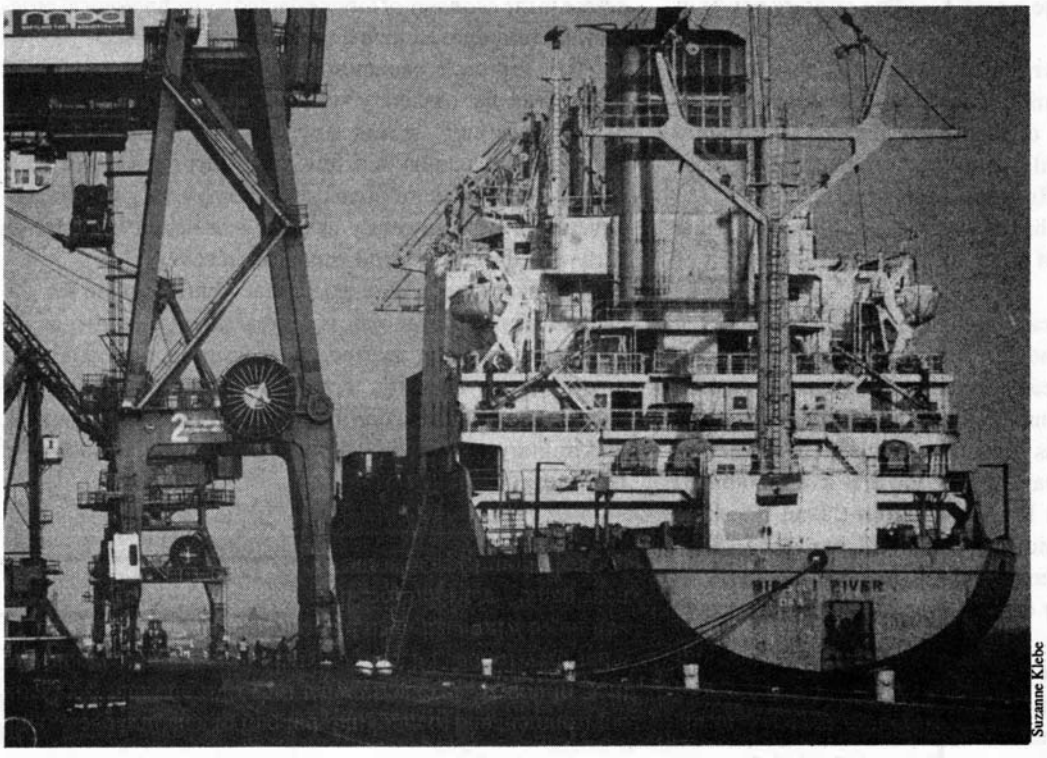
by Lyndon H. LaRouche, Jr.

EIR *presents excerpts from the main body of the electoral platform of Lyndon LaRouche, candidate for U.S. Congress in the Tenth District of Virginia. The platform's preface, not included here, was published separately by LaRouche's campaign committee in July, in the form of a pamphlet entitled "The Great Crisis of 1989-1992." In that preface, LaRouche accurately predicted that a new series of financial convulsions would occur beginning in October of this year, and warned that unless the leadership of the United States gives up its illusions about what constitutes real economic wealth, rejecting the neo-malthusian, "post-industrial" follies of the past two decades, not only the United States, but the entire world will be plunged into a bottomless crisis. LaRouche pointed to his own candidacy for U.S. Congress as a centerpiece of the new, global, revolutionary nationalist movement—based on the principles of the global "American" revolution in the eighteenth century and its predecessor, the Italy-centered Golden Renaissance of the fifteenth century—representing humanity's only hope of averting the unspeakable misery which already today is sweeping this planet.*

1.0 Primarily an economist

By profession, candidate LaRouche is an economist, a leading international authority in the science of *physical economy*. His expertise in some other professions will be identified, later in this platform, under relevant topics of policy-shaping; however, most of these additional skills were acquired over decades of applications of physical economy; and it is the candidate's skills as an economist which will be his principal technical contribution to the work of the crisis-stricken 1991–1992 Congress. Thus, for our purposes, he is primarily an economist.

Briefly, the science of physical economy was founded by Gottfried Leibniz over the years 1672–1716: This was the same Leibniz famous for his 1676 discov-



Suzanne Klebe

Congress must act "to create a U.S. flag maritime fleet of high-speed cargo vessels, most probably in the 50,000-100,000 ton class. This fleet shall be part of the military reserve."

ery of the differential calculus, and for founding more branches of mathematical physics than today's average science Ph.D. could name. Leibniz had great direct and indirect influence on the thinking of the leading patriots of the eighteenth-century English colonies in North America; Cotton Mather and Benjamin Franklin are but two most notable examples. It is Leibniz's economic science, not that of the British East India Company propagandist Adam Smith, which supplied the foundation for *the American System of political-economy*.

That is directly to the point today. Each time the U.S.A. has moved away from the so-called *mercantilist* economic policies reflected in Article I of our federal Constitution and Treasury Secretary Alexander Hamilton's famous three "constitution-like" reports of 1789-1791 to the U.S. Congress, our national economy has suffered a disaster. A few examples of this help to situate the great financial crisis of 1989-1990 in the most useful historical perspective.

The first administration of President George Washington rescued the young republic from national financial bankruptcy, and worse sequelae. Washington and Treasury Secretary (and military Inspector General) Alexander Hamilton left the U.S.A. solvent, economically prosperous, and well-defended.

From 1800 into 1812, the administrations of Presidents Jefferson and Madison ruined our economy and virtually dissolved our national defense. The enemy "mole" inside both administrations was the Swiss-born, left-wing Jacobin Albert Gallatin, an agent of influence of the British East India Company—a kind of Henry A. Kissinger of his time. As a key, virtually controlling member of the Jefferson and Madison cabinets, Gallatin overturned the successful American System, in favor of the so-called British System of Adam Smith.

Our economy was ruined, near to bankruptcy, and Gallatin almost succeeded in destroying our Army and Navy in the face of British plans to conquer and dismember us.

It was the 1812 election of Henry Clay's "Warhawks" to Congress which saved the United States from foreign military occupation and dismemberment.

Under President James Monroe and Secretary of State John Quincy Adams, we threw away the bankrupt Adam Smith system, and returned to Hamilton's American System. Our defenses were rebuilt, and although modest, were technically the best-built and best-manned in the world at that time.

Mid-term under President Andrew Jackson, beginning approximately 1832, we were ruined again. The American System was thrown out, and with that our prosperity and national solvency. Adam Smith was brought back in. All of this was managed by an intellectual fellow-traveler of Albert Gallatin, Jackson's "Svengali" and later President himself, Martin Van Buren. The result of Jackson's and Van Buren's return to Adam Smith, was the catastrophic "Panic of 1837."

In 1865, and undeniably after that, the United States emerged as the world's second industrial power—after a

united Germany—and the world's leading military power in land and naval forces.

This was ruined under Presidents Johnson and Grant, by a drift back to Adam Smith. The virtually treasonous U.S. Specie Resumption Act of the 1870s plunged us instantly into a degree of national bankruptcy we had not suffered since, until the second Reagan administration.

The depressions of the 1870s, 1880s, 1890s, the Panic of 1907, and the crash of 1929 are rightly called the gift of Adam Smith.

To be fair to America's old enemy Adam Smith, even that proudly immoral and fervently irrational old hedonist would be disgusted by each and all among that succession of putative sages, beginning with silly Professor Milton Friedman, who served as "economic adviser" to Presidents Nixon, Ford, Carter, Reagan, and (the first five months of) Bush. Perhaps not since President Martin ("Ivan Boesky") Van Buren's catastrophic Panic of 1837 has our U.S.A. seen a succession of economic and monetary policies as cheerfully lunatic as the drift of practice during the recent twenty years.

On their records, the leaders of the official economists in the universities and private sector are not better. To where shall a desperate Congress turn, then, to find competence enough to meet the requirements of the 1989-1990 financial collapse? There is no solution, but to return to Alexander Hamilton's *American System of political-economy*. For these reasons, the fact that the candidate is one of a very few leading competent economists, defines the major contribution he must provide our next Congress.

On the subject of *physical economy* as such, the following definitions are relevant to the topics of this platform:

Leibniz founded the science of physical economy by examining the function of steam-powered machinery in raising the level of physical productivity. (Under his leadership, Denis Papin developed the first successful steam-powered engine used to power a [river] boat.) Leibniz attacked this matter both in terms of engineering problems, and from the standpoint of fundamental principles of physics. In this connection, he discovered the concept of *technology*.

Today, we define *physical economy* as a study of the cause-effect relationship, by means of which increase of energy-intensity and advances in level of technology, increase the productive power of labor both per capita and per square kilometer of land-area in use.

These measurements are made by disregarding *money* and *money-price*; only *physical* relations of production, distribution, and consumption are considered. Since Leibniz's first dissertation on economics, his 1672 *Society and Economy*, we measure *economic value* in first approximation, in terms of family household market-baskets. We define the physical goods and essential services needed to maintain a family household at a certain level of culture and potential average productivity of its labor-force members. We measure the increase in the *economy of labor* effected by technological progress, by reference to such a standard market-basket.

The approach becomes most clearly indispensable at those times the monetary system, and therefore the system of money-pricing, breaks down, as it is in the process of doing in the months and few years just ahead. We must employ the science of physical economy as a guide to constructing a new monetary system, one suited to foster an early and durable general economic recovery.

The candidate's leading original contribution to the science of physical economy is a breakthrough known as *the LaRouche-Riemann method*, in measuring the correlation among energy-intensity, technology, and productivity. The candidate's technical contributions in biophysics, aerospace, and military science, are derived chiefly as applications of that breakthrough.

2.4 Banking

The U.S. banking system as a whole is bankrupt. In 1982, when candidate LaRouche presented his master-plan for solving the 1982 debt crisis, the U.S. banking system could still have been saved. Now, it is too late: The "patient" would have survived then; now, seven years later, his condition is long too far gone. The best banking system we shall have, come the year 1992, will be the reorganized system pulled out of bankruptcy.

The principal policy-issue now, is what will be our choice of a newly created banking system, to replace the bankrupt old?

Candidate LaRouche's choice is one he has outlined repeatedly and consistently.

For the U.S.A. domestic banking system. We must "federalize" the Federal Reserve System, to transform that institution, and to transform it into a "Hamiltonian" form of national banking system.

The semi-private Federal Reserve System's past authority to create new issues of Federal Reserve currency notes shall be terminated. Instead, the *creation of new volumes of credit* (excepting lending of deposits, trade credit, and strictly personal, non-commercial loans) shall be by issue of U.S. Treasury currency-notes, as prescribed by the U.S. Federal Constitution.

For the period of the emergency, these issues of U.S. Treasury currency-notes should be loaned through the national banking system, chiefly through banks, at discount rates of between 1% and 2% per annum. However, to prevent these issues from becoming an engine of inflation, the lending of this money must be restricted in application, to physical production and related investments and operating loans in agriculture, manufacturing, and basic economic infrastructure.

This credit shall be concentrated as much as possible in

medium to long term fixed capital investments in agriculture, manufacturing, and basic economic infrastructure.

3.1 Agriculture

There is presently a worsening and worldwide food shortage, but, so far, the U.S. Department of Agriculture continues the policy of deliberately bankrupting farmers, lowering agricultural productivity, lowering quality of agricultural product, and turning fertile farmland into infertile wasteland, even dust-bowls.

The secret for bankrupting farmers is to leave them at the mercy of the giant cartels which dictate USDA policy, firms such as Cargill, Archer Daniels Midland, and Armand Hammer's Iowa Beef Processors. By forcing farmers to sell at prices 30% or more below fair true cost of production, sooner or later the depleted farm is ruined, and the farmer bankrupt.

In order to keep an adequate food supply for the nation, we must prevent farmers from being driven into bankruptcy by the grain cartel's and agri-business giants' looting. To prevent the farmer from being looted, and to protect our nation's food supplies, someone just as powerful as the grain cartel must move in to ensure that the individual farmer is given fair play.

Those who argue that farmers' prices are low because of an excessive supply of food, are either simply ignorant or they are lying. There is already a massive and worsening worldwide food shortage, and we are also on the verge of major shortages inside the United States.

The key to farm prosperity—and your food supply—is parity. When a farmer is paid "90% of parity" for his product, the farmer is receiving no more than the competitive cost of producing what he sells. There is no "handout."

Moreover, the American family farmer is key to our overall economic health. Among American businessmen, no sector of business has plowed as high a percentage of its income back into improving production as American farmers. Few businessmen represent the level of relative technological competence of these farmers. As a group, the proven performance of these farmers proves that they are the best managers in our national economy.

Also, these farmers have been a major purchaser of industrial output. Our modern, independent farms and ranches have been major buyers of steel in various forms: pipe, fencing, and so forth. They have been a considerable part of the market for our chemical industry. The volume of their purchases of tractors, bulldozers, and other farm machinery is legendary. Entire townships, and even some cities of the United States more or less depend for their economic existence on production for and sales to farmers. When the farmer stops buying, or goes out of business, a lot of our citizens lose their jobs, or their businesses, and even heavy basic industry feels the pinch.

So, it is vital not only to the general health of our national economy, but to our national security, that we maintain the number of family- and intra-family-operated farms in at least the present numbers.

Generally, of course, the present troubles of these farmers are a product of the same misguided monetary policies and post-industrial society trends which afflict every sector of basic industry. However, the present crisis in food supplies was caused either by special circumstances affecting agriculture more than most other parts of the economy, or by the special way in which energy and banking policies of the 1973-1984 period affect the exceptional features of agriculture.

The most significant of the special circumstances is the fact that since Orville Freeman's term at the Department of Agriculture, that department's "supply management" policies have been designed to assist the grain cartel in wiping the independent American farmer off the map.

Otherwise, the special problems of agriculture erupted with the 1973-1974 energy crisis. Energy is the most critical of the raw materials of modern agriculture. Electricity for such things as irrigation and for farm equipment, fuels consumed in large quantities to operate farm machinery, and energy in the form of large volumes of fertilizers and other chemical products, give the general picture. Therefore, within limits, agriculture is more sensitive to a rise in the cost of energy than rises in interest rates. The sudden leap in energy costs, beginning 1973-1974, started the chain-reaction putting farms into their presently threatened condition.

The introduction of Jimmy Carter's and Paul Volcker's high-interest-rate policies, in October 1979, had almost immediate, and disastrous impact on agriculture.

Then, since President Reagan's first term, there have been severe droughts in large areas of the United States. Now, traditional sources of farm credit are being shut down. By the end of 1984, nearly half the acreage in production at the time of President Reagan's 1981 inauguration was out of production. Meanwhile, dustbowl conditions are already emerging in Texas, threatening to repeat the dustbowl pattern of the 1930s.

The past 15 years of U.S. agricultural policy have been consistently a disaster, a policy which has been, in effect, a simply immoral policy.

The Congress must act immediately, and move the President to act, to effect the following measures:

1. There must be an immediate moratorium on farm foreclosures, nationwide.

We must implement a policy of something like the following formulation: *Any farm which was in the top 75% of economic performance during a five-year period preceding 1981 should be protected from foreclosure. This action must be implemented under the title of National Security Emergency.*

2. Establish immediately, a policy of intervention to

maintain farmers' prices at 90% of parity.

Generally, such a policy is implemented in the following way.

If a farmer can not sell a designated crop at the established percentile of a parity price or higher, the Department of Agriculture intervenes to buy that crop at that price. Then, later, either the grain cartel or the agribusiness can pay government that price plus a service charge for its purchase of this stock, or, some of the stock is retained by the government as national strategic reserves, or, the government may directly market such stocks abroad under government to government trade agreements.

3. The President and Congress must intervene with emergency measures to facilitate the reorganization of financial affairs.

It should be axiomatic, that by rescheduling existing farm debt of viable farms, at interest rates between 2% and 4%, a 100% repayment of the principal value of the carried-forward debt will be the normal result. Federal action is required to ensure that restructured debt be classed as performing bank assets, and to provide simple procedures for conducting the financial reorganization.

It should be normal procedure, in these cases, that additional loan capital be supplied, at prime rates of between 2% and 4% for loans based on lendable issues of gold reserve U.S. currency-notes through local banks. This should include crop-production loans, and also medium-term and long-term loans for needed capital improvements and replacements.

Such loans should be available to farmers generally.

4. Disaster relief for farms in relevant regions of the nation.

For example, in regions hit by persisting drought conditions.

5. Immediate action to develop fresh-water management systems in areas suffering or threatened by major water shortages.

Candidate LaRouche has co-sponsored revival of proposals to develop a continental water-management system, to include bringing water now flowing into the Arctic Ocean down through the Western states: one line running in the arid region between California and the Rocky Mountains, and the second to the east of the Rockies, across the river-systems flowing eastward into the Mississippi. The feasibility of such a program was developed years ago by a major engineering firm, a design named the NAWAPA project (North American Water and Power Alliance). LaRouche has adopted an expanded version of this proposal, which would integrate the eastern United States via the Great Lakes and the Tennessee and Mississippi states' water systems. Such a continental system of water-management would be integrated with state and regional water-management systems. The expanded version of NAWAPA, combined with these state and regional water-management systems would therefore constitute a single, combined, continental water-management system for the United States as a whole.

3.2 Labor force

The central feature of employment in the U.S. economy over the recent forty years, has been the decline of the percentile of the labor force employed as productive operatives—as opposed to "services" employment—from 62% of the total labor force in 1946, to a shrinking 20% (actual) today.

Today, this declining ratio of operatives employed, as a percentile of the total labor force, must be considered under conditions that the population as a whole is dying. Fewer children are being raised. When there are fewer children born, the total labor force shrinks by a corresponding amount twenty years later. The ratio of retired persons to total population increases, and the ratio of retired persons to the total labor force increases. If the present U.S. population-trends continue, during the coming century, the U.S. population will have shrunk from 230 million persons today, to a projected 125 million—largely starving senior citizens. The United States is not "lowering its population growth," it is committing demographic suicide.

This demographic trend is key to strong pressures on governments, from profit-minded international insurance cartels, to cut back drastically on medical care of persons who are either over fifty years of age, or younger persons with serious forms of long-term impairments. The ratio of the adult labor force, those who pay contributions to medical care and retirement funds, to senior citizens, is declining at accelerating rates. Poorer persons, without financial means to pay significant contributions for major medical care, are being urged to "die with dignity."

A calculation has been made: What would the number of employed operatives have been, in 1970, 1978, 1979, and 1980, if 40.3% of the employed labor force, the ratio in 1960, had also been so employed in those years, instead of dropping as it did? The result would have been that, instead of the 30.43 million productive operatives left in 1980, we would have had roughly 40 million. In other words, there should have been at least 9.976 million more persons employed as operatives in productive jobs than there were actually reported so employed in 1980.

And yet, even the 40.3% figure for operatives as a percent of employed labor force does not represent a normal condition for the U.S. economy. Nineteen sixty was the fag-end of the 1957-58 recession. From study of changes in employment patterns over the course of the 1946-57 period, a healthy condition for the U.S. economy would be between 50% and 55% of the total labor force employed as operatives.

We estimate the total labor force as equivalent to approximately 63-66% of the adult population, and use the standards of the late 1940s and the 1950s in estimating "normal "

unemployment.

What is clear is that operatives' employment ought to be between 50% and 55% of the labor force, that science and R&D must be between not less than 5% and as close as possible to 10%, infrastructure is about right at the 15% level, capital goods at 20% consumer goods production at 10% of employment, and so forth.

The most significant among the arguable features of these suggested ratios is the leap in capital-goods employment. The barebones argument for this choice is that output of consumer goods ought to increase chiefly as a benefit of increased productivity of operatives—rather than increased operatives—on the condition that high rates of technologically progressive, capital-intensive investment prevail. Most of the increases in employment of operatives ought to be concentrated in infrastructure (15%) and capital goods (20%) production, including capital-goods production for infrastructure building.

These ratios are to be considered the approximate values of targets to be reached within a period of approximately ten years of proper investment, tax, and credit policies.

3.3 Basic economic infrastructure

A study conducted by associates of candidate LaRouche has shown that during the postwar period, the rate of increased national investment in basic economic infrastructure correlated directly with the rate of increase of labor-productivity. Generally, U.S. investments in basic economic infrastructure increased in rate through approximately 1966. Such investment increased in total amount at a slower rate until 1970. From 1970 to the present, the level of such investment has dropped below the level required to replace existing infrastructure. Rates of increase of productivity correlate precisely with rate of change of investment in infrastructure, by a lag of twelve months.

Our productivity is dropping, and we are becoming rapidly a national junk-heap. It is a fair estimate that, simply to repair decay of existing infrastructure, to bring our nation's basic economic infrastructure back up to 1970 levels, the United States would have to spend about $3 trillion!

Basic economic infrastructure is chiefly:

- Fresh-Water Management Systems;
- Systems of Energy Production and Distribution;
- Transportation Systems: Ports, Inland Waterways, Roads and Highways, Railroads, Air Traffic Systems, Pipeline Systems;
- Communication Systems;
- Urban Infrastructure;

In the last category, Urban Infrastructure, fall two subcategories:

1) Utilities, other than energy production; Sanitation, including sewage treatment; Intra-Urban Mass Transit; Docks, Warehouses and Freight Transfer Facilities; Medical Institutions.

2) Educational Institutions; Libraries, Museums; Public Halls of Assembly; Parks; Government Buildings.

In the greater part, *the development and maintenance of infrastructure is an economic function of either government, or of government-regulated utilities,* as distinct from unregulated forms of private ownership. It is, properly, the major non-military expenditure of government, which must either provide this out of its own expenditure, or must regulate the delegation of some among such functions to public utilities.

There has been, lately, greatly exaggerated praise for the glories of "deregulation" of what had become traditionally areas of economic or regulatory responsibility of, variously, our federal, state, or local branches of government. It can not but be the case that most of those promoting "deregulation" or "privatization" suffer an astonishing ignorance of relevant parts of our national history. A few references to that history are therefore appropriate.

From the beginnings of our federal republic, increasing portions of basic economic infrastructure were the adopted responsibility of government.

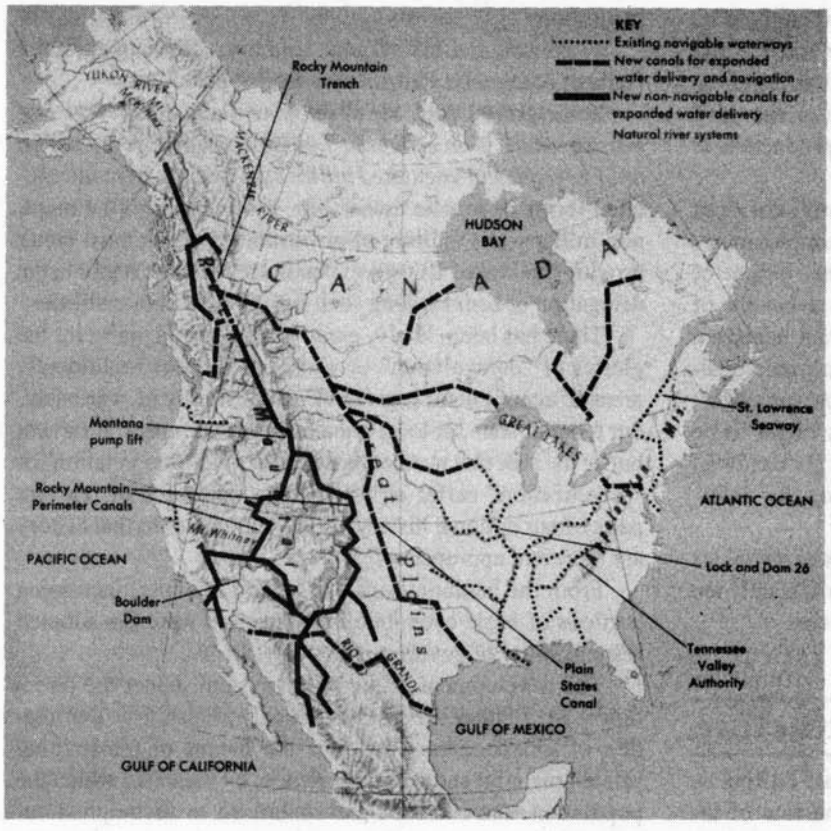
The development of the postal system, under the direction of Dr. Benjamin Franklin, not only predated the Declaration of Independence, but was the means of transmitting printed material and correspondence, by means of which the population was educated and mobilized to accomplish our independence.

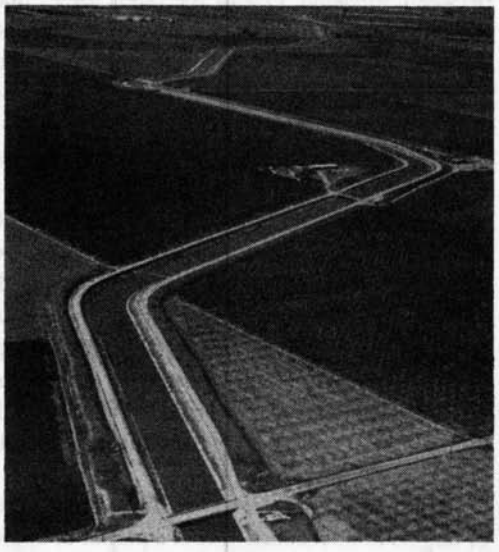
Prior to 1776, patriots including George Washington recognized the wisdom of France's eighteenth-century "Colbertistes" in regarding the responsibility of government for developing and maintaining roads, bridges, and canals as a vital economic-strategic, as well as military-strategic function of government. The wars against French and French-deployed Indian forces were won substantially by aid of the foresight of those leading colonists who both developed the American militia according to republican military principles, and developed the economic-strategic arteries of transport by means of which settlement and military victory marched together.

Among the heated practical issues prompting Washington, Franklin, and others to convene the 1787 Constitutional Convention was the frustration and disgust, so reported by Washington, at the lack of a central government authority to assume efficient responsibility for such public works.

In chief, the pre-1870s development of the railway system of the United States was accomplished by the federal and state governments, and could not have been accomplished otherwise. It was after private financier interests took over the railways, and looted them, beginning the 1870s, that the troubles began.

The development of the telegraph system by Samuel Morse, was originally projected as a military venture. Morse worked with scientists in Paris, to extract from the develop-





Courtesy of Bucyrus-Erie Company

The North American Water and Power Alliance, a water-management plan for channeling arctic waters southward to the U.S.-Mexico border, is over 20 years old, but is all the more urgent today. The 102-mile Central Sacramento Valley Project waterway, pictured at right, shows what the nation can do if it ignores the malthusians.

ment of electricity a means for producing a system of rapid communications, by aid of which the vast territory of the United States could be defended.

In chief, most of the elements of infrastructure developed have been created either directly as an economic function of government, or, indirectly, through government subsidies. Respecting the notable cases of financial and other mismanagement of such enterprises, as the instance of the looting of railways and the case of the New York City transit system illustrate, it has been the takeover of such functions by private financier interests which has been the prevailing cause for the bad reputation public utilities have popularly acquired.

Infrastructure, by its nature, partakes of the characteristics of monopoly. Additionally, the development of large-scale infrastructure involves a large-scale risk, which the existing species of financier interest will not hazard without governmental guarantees and subsidies.

There are two additional, important points to be considered in setting forth infrastructure policy.

First, the $3-4 trillion deficit in U.S. infrastructure today, relative to 1970, is obviously $3 trillion of unpaid depreciation on past investments in infrastructure. *If so large an amount had been deducted from reported national-income accounts during the past decade, there would have been no reported growth at all in the U.S. economy during this period!* How is it that so large an item of unpaid costs of production was (chiefly) unreported? The reason is elementary: Most of this infrastructural loss was a loss to various levels of government. The problem is, on this account, that the entire system of national income accounting presently in use is grossly incompetent.

The second point to be made, is that total infrastructural cost is a very large component of total costs of production of goods. Except as this is reflected in the utility bills of firms, that cost is not reflected in the cost-accounting of private industries and agriculture; the businessman seldom recognizes that the development and maintenance of government- and utility-provided infrastructure is a major part of every businessman's costs of doing business, a very substantial part of the real cost of everything produced in our economy.

Just as adequate and reliable supplies of energy and water are indispensable to the production of goods, so are each and all of the other items of infrastructure named above. If these elements of infrastructure should break down, or merely deteriorate significantly, the costs of doing business must rise accordingly, and business may not be able to function at all.

This is, broadly speaking, the reason that the close correlation between rises in development of infrastructure and rises in the rate of productivity are the two factors most closely statistically correlated in economics. Before a producing firm (or any other sort of firm) can start business, it must have available to it the quantity and quality of basic economic infrastructure required by the scale of business operations and by the type of business and the level and type of technology employed.

Therefore, government promotion of high rates of investment in improving and maintaining infrastructure must be a leading feature of any workable program of economic recovery.

The concrete policy-actions to be taken by the federal government prominently include the following measures:

1. There must be immediate and large flows of gold-reserve credit to public utilities and capital programs of government for infrastructure development.

2. The state governments must be supplied with long-term credit for construction loans, at 2% prime interest rate, for work on development of a national fresh-water management grid, including the NAWAPA project, with priority on construction in areas most affected by drought and lowering of water tables.

3. Long-term credit must be made available, at 2% prime interest rate, to public utilities, for creating not less than 5 trillion kilowatt hours of generating capacity during a period of not more than fifteen years ahead. The credit issued shall be used initially to finance the construction phases, prior to certification. On certification, part or all of the loan may be rolled over in the form of a medium-term or long-term permanent mortgage, until such time as private bondholders may buy out portions or the entirety of the loan.

4. Long-term credit shall be issued for construction of a renovated freight and passenger rail system between principal population centers. The transport of passengers by air between population centers 200 to 300 miles apart is becoming a critical factor in air-traffic control. With the modes of high-speed rail transport available to us, passengers can be moved such downtown-to-downtown distances with no greater, or even significantly less total time of travel than by present-day airlines. If outlying (usually) air terminals are linked to urban rail-traffic centers by direct rapid-transit links, optimal efficiency in inter-mode transition among various modes of inter-city and intra-urban-area passenger transport can be secured.

5. The U.S. Army Corps of Engineers must be expanded, both for its essential role in developing the national fresh-water management grid, and its related role in rebuilding and extending the nation's system of inland waterways and ports. In addition to accelerated dredging of waterways and repairs of locks, immediate priorities must focus upon the Ohio and Mississippi river systems, on the completion of the Tennessee-Tombigbee system, and the completion of a barge canal linking Lake Erie to the waterways in the Pittsburgh region. The constructions for these programs should also be funded by gold reserve credit.

Water transport continues to be the lowest-cost mode per ton-mile. Given the slower speed of such low-cost transport, it is best suited for carrying of either bulk freight, or cargo too heavy or bulky to be carried by other modes. Hence, inland waterways are optimal for carrying of cereals and for fostering heavy industry along the waterways. The immediate objects of development of the indicated inland waterways are: a) to restore the industrial heartlands of the Mississippi-Ohio systems, and, b) to open up for expanded economic development the basic industry of the region of Tennessee and Mississippi.

6. To create a U.S.-flag maritime fleet of high-speed cargo vessels, most probably in the 50,000-100,000 ton class. This fleet shall be part of the military reserve.

7. To refurbish the essential ocean-vessel ports of the United States, and incorporated construction and repair facilities.

8. To provide gold-reserve credit to states and local government for urgent capital repairs of essential infrastructure.

9. To reinvigorate the system of veterans' hospitals by aid of making such institutions national centers of clinical care and laboratory research facilities in treatment of diseases of aging of tissue, such as cancer. To provide loans for capital improvements and expansion of plant and equipment for this purpose.

10. To supply low-cost, long-term credit to those industries which must expand and/or retool their production capacities, that they might fulfill their functions as vendors to both national defense and the principal infrastructure development programs making use of loans of gold-reserve credit.

11. To establish several experimental stations whose activities are inclusively devoted to development of improved methods and procedures of desalination of salt water.

As the energy-flux density of energy production rises from the 10,000 to 40,000 kilowatts per square meter of systems generally in use today, desalination will become increasingly economical. There are methods which are more economical than distillation of vapor produced by boiling, but all require energy. The cheapness of energy, and the energy-flux density of produced energy, are crucial.

Additionally, the time is fast approaching that we shall require supplementary production of fresh water by desalination to meet water requirements of various regions of the nation and the world. As energy costs, for both desalination and pumping, are brought down, endemically water-short regions can be supplied adequately by this supplementary means, and large arid regions of our own and other nations can be opened for development and habitation.

If we push ahead now, we will have this new source of fresh water in time.