Rail Proves U.S. Steel Crisis Is One Of Underconsumption

by Marcia Merry Baker

The downfall of American steel production and utilization began in the 1970s, when the chairman of U.S. Steel (now USX), the largest integrated steel producer in the country, said, "We make profits, not steel." The result a quarter-century later, is that the entire sector makes little or no profits, and less and less steel. So much for the post-industrial "New Economy."

The industry crisis is now at an end-point. Its production collapse is now two decades old (see **Figure 1**). Since 1997, twenty-nine companies have declared bankruptcy, others merged or downsized; the U.S. steel workforce has lost 25,600 jobs since January 1998. Over just the 11 months before October 2001, raw tonnage output has dropped 16%.

But as many in the American industry do not understand or admit, the steel collapse is worldwide in scope. World steel output has been dropping; in 2001, it is expected to fall another 1.5%, to 835 million tons from 847 million in 2000.

Thus the foolishness of the decision of the Dec. 17-18 "steel summit" of 26 steel-producing nations in Paris, to cut world production by another 100 million tons to eliminate overcapacity and increase prices, which will never happen in a depression. The same idea is echoed by the Congressional Steel Caucus, the United Steel Workers of America, corporate lobbyists, and the Bush Administration.

These nations, rather than accepting the *worldwide falling demand for steel, which is the problem,* should be solving that problem by the needed infrastructure projects—especially in railroads—which would increase that demand.

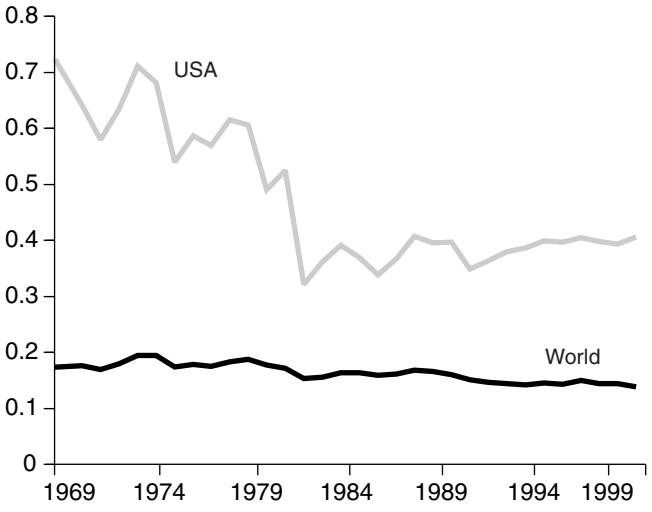
In December, 2004 Democratic Presidential pre-candidate Lyndon LaRouche called for a "National Recovery Planning Act" for the United States, to address specifically

Proposed maglev train, with Pittsburgh's "Three Rivers" in the background. The proposal for a 47-mile maglev line between Pittsburgh and Greensburg, is one of several locations now planned, if a national infrastructure-building policy is implemented.

FIGURE 1

World And U.S. Steel Production Per Capita

(Short Tons)

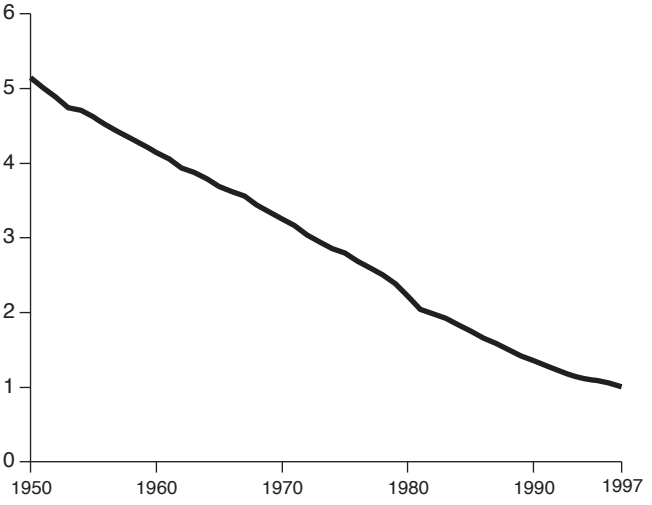


Sources: American Iron & Steel Institute, U.S. Census, *EIR*.

FIGURE 2

U.S. Railroad Mileage Decline, 1950-1997

(Miles Per 1,000 Households)



Sources: Association of American Railroads; U.S. Department of Commerce, Bureau of the Census, *Population Surveys*, various years.

how to proceed with steel, and all vital economic sectors in crisis. This is linked to LaRouche's Eurasian Land-Bridge policy of building rail-centered corridors of development.

Underconsumption, Underproduction

Today's steel crisis reflects the generalized economic and financial breakdown, and the decades-long *underconsumption* of steel in the contracting U.S. economy—declining utilization for infrastructure (bridges, water systems, railroads), shipbuilding, industrial equipment, nuclear-power plants. As for insolvency, the billions of dollars of unpayable debts must be dealt with under the principle of the Chapter 11 bankruptcy approach, of keeping essential functions going, and restoring economic growth and activity.

Per capita, the actual *output* of raw steel tonnage has *declined* during the past three decades, both in the United States, and for the world overall (**Figure 1**). In 1969, some 1,500 pounds of steel per capita (670 kg) was produced in the United States—utilized for everything from cars to the space program, and some for export. The global per-capita production average in 1969 was about 380 pounds per capita (170 kg). Then, over the past 30 years, these ratios fell, to 900 pounds (407 kg) in 2000 in the U.S., and to 308 pounds (140 kg) worldwide.

Per-capita *consumption* of steel has likewise declined globally, though in the United States, it was propped up by rising imports over the 1990s. As of the end of the 20th Century, dramatic disparities existed, so that, while U.S. per-capita annual steel consumption was 1,100 pounds (497 kg) (much lower than in the 1950s), billions of people in the Third World had per-capita consumption in the range of a pound or two a year: in effect, the pre-Iron Age.

The fall of steel production and consumption can't be made up by new steel-substitute materials, because the cause of that fall is the collapse in necessary infrastructure-building and economic activity itself. Even the post-Sept. 11 emergency spending bills have included *no new infrastructure at all*. Rail is a perfect example.

Figure 2 shows the decline in rail length in the United States from 1950 to 1997, in miles per 1,000 households. Thus, the apparent rail "market" for steel-repairing, upgrading, and expanding—*shrank* at the same time as the rail network did. Today, the website of the American Iron and Steel Institute (www.steel.org) does not even carry steel rail for look-up! A spokesman explained, that "rail is not a market we are trying to develop."

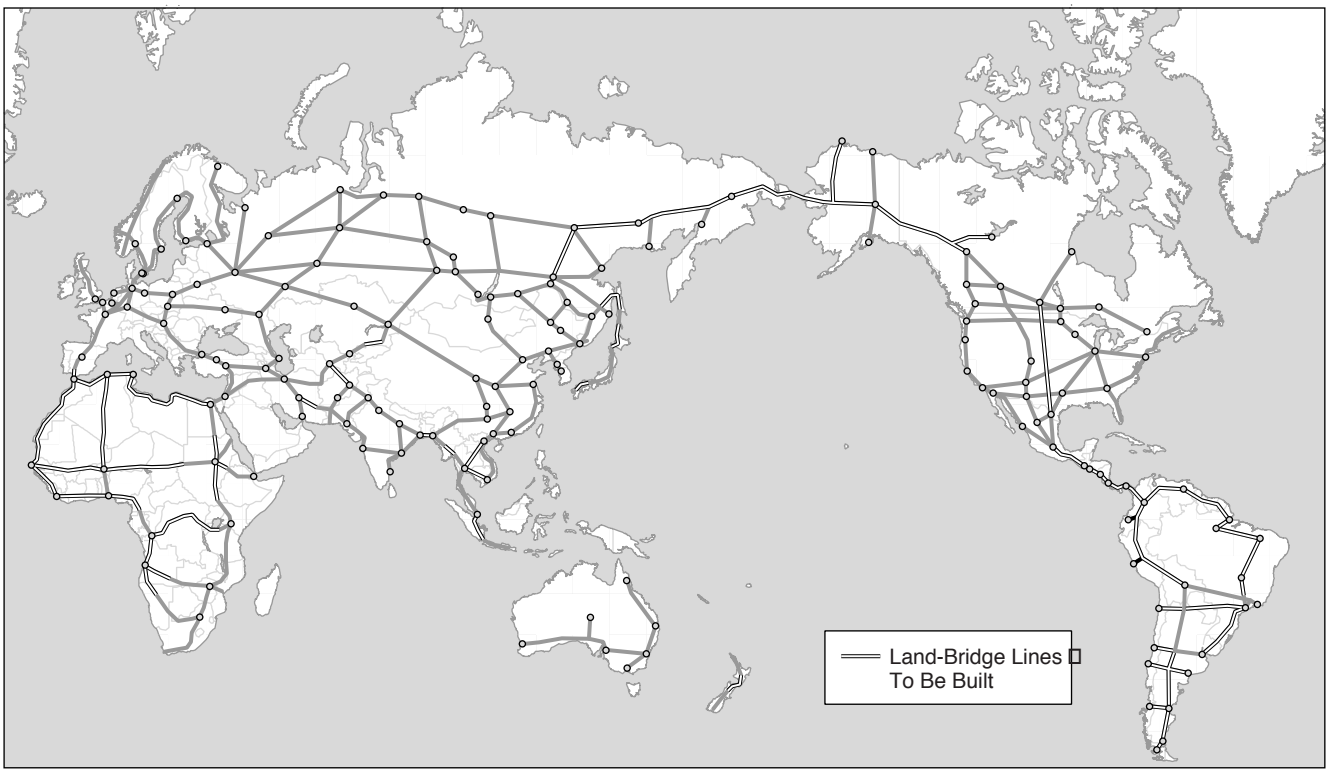
What folly, considering that new, high-speed freight and passenger rail corridors are the prime development need worldwide! There is a global steel *undercapacity crisis*, which defines how to approach the needed emergency measures for steel and all industry.

LaRouche Proposes 'Recovery Planning'

LaRouche's Dec. 9 National Recovery Planning Act proposal emphasizes Chapter 11 financial reorganization—not to fatten the bottom line, but in order to clear away the mountains of worthless debt—and a commitment to domestic and

FIGURE 3

Main Lines Of A Proposed Worldwide Rail Network, Showing Lines To Be Built



Sources: Map by Hal B.H. Cooper, Jr.; Cooper Consulting, Seattle, WA. Unbuilt designations: EIRNS.

collaborative international infrastructure-building.

Launching needed railroad projects—building priority new lines, as well as upgrading the existing grid—fosters precisely the industrial, financial, and political conditions required to solve the steel crisis overall. The governing principle is, to designate the *economic activity* as in the national interest—in this case, building expanded rail service, and creating whole new corridors of development in formerly remote parts of the continent—and then, in the context of this economic growth policy, take the necessary Chapter 11 bankruptcy measures to deal successfully with presently insolvent industrial companies.

If a company, without prospects for increased orders and income, gets a Federal bailout—as is being requested now in the case of the newly bankrupt, third-largest U.S. integrated steel producer, LTV Corp.—the bailout will just go straight to Wall Street. This would be a Federally backed hand-out to those whose insane thinking and practices caused the demise of the steel industry in the first place!

Instead, Federal loans and advances can be properly made to LTV and others—in or out of bankruptcy—on condition we follow the precedents of the Presidency of Franklin D. Roosevelt that worked: the big projects of the 1930s, such as the Grand Coulee and Hoover Dams, the Tennessee Valley Authority, and myriad smaller projects.

LaRouche said on Dec.9, "Our farms, manufacturing facilities, and essential security we can keep in business. We need international loans and development. We won't bail out the steel industry or other industries. We can issue credit for development, but down the line, this brings benefits, we get long-term development.

"We need to build the international infrastructure projects, and that is what will keep these steel companies alive. You see, if the government extends a bailout to the steel industry, the steel industry will just suck up the money—Wall Street will just suck up the money. These companies need to be put through bankruptcy reorganization. We need to keep the steel industry capacity going, but through these projects."

Some 'Land-Bridge' Links

Figure 3 shows the major lines of a world rail network sketched by Hal Cooper, a Seattle-based transportation con-

TABLE 1

Steel Requirements To Build New Key 'Land-Bridge' Rail Links, By Continent

Continent	New Track Length (miles)	Steel for Rail[1] (short tons, double-track)
North America	3,170	2,276,060
Ibero-America	16,025	11,752,975
Asia	4,815	3,457,170
Africa	15,525	11,146,950
Total World	39,535	28,633,155

1. The factor used, is 359 tons per mile of single-track railroad, accounting for rails, at weight of 139 lbs per yard, per standard length of 39 feet, plus additional steel tonnage for plates, spikes, and other fixtures. The total shown, is then twice this for double-track. (The factor does not include the additional steel for bridges, culverts, pilings, and so on.) From the American Railroad Association.

sultant, which appeared in the January 1997 *EIR Special Report,* "The Eurasian Land-Bridge: The 'New Silk Road'—Locomotive for Worldwide Economic Development." It delineates certain priority unbuilt lines from the existing routes (or from lower-priority, unbuilt sections, as in Arctic Russia). For example, in eastern Russia, the line taking off northeastward from the Trans-Siberian Railroad (completed in 1903) goes up to the Bering Strait, to connect to the Americas.

Table 1 gives a minimum track-length estimate for just these select unbuilt sections, by continent. Then, for each continent, the total tonnage of steel required for the rails of the proposed new line, is given. Globally, some 39,500 miles are needed for the new lines shown in Figure 3. This means that, for the line alone (single-track, and for fixtures), some 14.2 million tons of steel are required; for double-track, 28.4 million tons.

For North America, 3,170 miles of new track are listed. As shown in Figure 3, this involves two major segments—from the Bering Strait, down through Canada, to connect with existing lines going into the Lower 48; and a new north-south line, through the central Plains States, down to Texas and Mexico.

These proposals are not pie-in-the-sky. For well over 100 years, the idea of a continental North American north-south line, from Alaska to Mexico, has been on the drawing boards, but was never carried out. In 1942, the Army Corps of Engineers did the precise surveying for the line from Alaska southward, running down through British Columbia. That work still stands. Either it, or a more easterly route, could be chosen for priority construction, or both. There are similar proposals long planned for South America, and for the Central American intercontinental connections.

In Eurasia, construction is already under way on some of the key lines of the Eurasian Land-Bridge. In May, the Rail Transport Union was formed in Moscow, for multinational

FIGURE 4

Planned Maglev Projects In China

Source: Transrapid.

cooperation on rail expansion. President Vladimir Putin has repeatedly stated his commitment to new rail and "energy bridges" to China, the Koreas, Japan, and elsewhere on the vast continent. In China, a magnetically levitated (maglev) line is under construction from Shanghai to its Pudong airport, and another line is being considered to go to Beijing (**Figure 4**).

In Alaska, there is active promotion of the need to build the Alaska-Canada-Lower 48 rail connection, spurred by state Rep. Jeanette James (R-Fairbanks), who hosted a conference in October in Fairbanks. Meetings have taken place among legislators from Cochotka (eastern-most Russia), Alaska, and the Yukon, on the prospects for a Bering Strait tunnel connection.

On Dec. 17, the front page of *Le Journal de Montréal,* the city's largest circulation daily, carried a huge color photo of

Germany's Transrapid maglev train (the same as on the *EIR* cover on Nov. 2), leading into a two-page report on the technology's benefits for the Montreal-Laval regional airport connections, and covering similar proposals to link Pittsburgh to its airport, Las Vegas-Los Angeles, and Washington, D.C.-Baltimore. Transrapid International's president, John Schubert, met on Dec. 17 with Quebec government officials, and the mayors of cities involved, saying to the press, "Montreal could become window for North America of the maglev." The second phase of the project could involve connecting Montreal to New York City.

Cooperation among the United States, Canada, and Mexico, in the Americas, with the Eurasian Land-Bridge projects, is the only realistic approach to both the economic breakdown crisis, and required foreign policy. Millions of tons of steel are required.

Millions Of Tons Of Steel

The steel requirement shown in Table 1 for North America, of 2.276 million tons, for the rail required for construction of certain key unbuilt lines on the continent, is far higher than the yearly output of rail by the United States and Canada at present. U.S. rail shipments (imports and output combined) in 1999 were only 501,000 tons, down from even 532,000 in 1995. The United States is rail-import dependent. Few mills have the capability. To gear up for needed output, would require industrial growth planning on where and how to upgrade rail output capacity.

Moreover, we are looking here—to make the policy point—only at the steel used for the track itself: the rails, spikes, plates, etc. Additional steel is required, in significant tonnages, and in various types of product, for culverts, bridges, sidings, and for double- and triple-track. If the new North American line is double-track from the outset, then 2.3 million tons are required, and millions more for the needed construction and management structures.

Then there is the woeful state of the existing rail network of the nation. The length of railroad line owned by Class I (major) rail companies fell from 146,000 miles in 1990, down to 132,000 in 1998, a drop of 14,000 miles. Much of the railway is in substandard condition. The policy of the under-regulated, merged lines, was to shrink mileage, intensify runs on the fewer lines, minimize repairs, and pull out fast bucks for Wall Street. Some 70,000 track-miles currently in use, require upgrading to double- and triple-track specification, according to Cooper. This alone, at a minimum input of 359 tons per track mile, creates a demand of 25.4 million tons of steel.

Moreover, regional high-speed rail programs are long overdue.

Figure 5 shows 11 priority high-speed rail corridors. Compared to the paltry 500,000 tons of annual steel rail shipments yearly at present, massive tonnages of steel are required to make these regional networks reality. A minimum estimate is 5.4 million tons of steel for 7,500 miles of high-speed line, part of the 70,000 track-miles indicated by Cooper for upgrade.

The Maglev Designs

However, the pinnacle of modern "rail" technologies, are the maglev designs, which are technically frictionless, but still require significant amounts of steel for construction and system operation. The photo is from Maglev, Inc. of Pittsburgh, which gives the following description and factors of steel input: "The guideway is an elevated structure with prefabricated, T-shaped, steel beams set on concrete pillars of various heights. This elevated double guideway requires approximately 5,000 tons of steel per mile, primarily rolled plate steel. Attached to these beams are several functional components, including a linear motor, guidance rails, and low-friction skids. The linear motor, which is part of the guideway and provides the propulsion for the vehicles, requires approximately 275 tons of magnetic steel per mile of guideway. The shape of the guideway is adjusted to the alignment and gradient for high-speed operation, making few girders completely identical in shape. The strict tolerances, far exceeding the values usual in steel construction, require an automated production concept. Therefore, to achieve the accuracy and minimize the cost of guideway construction, a computer-integrated manufacturing process is used, whereby the measurements taken at the construction site are input directly to the beam fabrication equipment."

Thus, in quality, as well as in quantity, the current steel industry must be vastly expanded. Maglev, Inc. calculated that for just three groups of maglev lines connecting, through Pittsburgh, with Cleveland and Columbus in the west, Huntington, West Virginia in the southwest, Washington, D.C. in the south, Philadelphia in the east, and Erie in the north, 1,300 miles of line would be required.

This Mid-Atlantic Regional System, using Maglev Inc.'s per-mile input-factor of 5,275 tons of steel, would require 6.9 million tons of steel.

To summarize, just for minimum 21st-Century rail transportation steel inputs required for North America—not counting the grand projects of the Eurasian Land-Bridge requirements overall (including Africa, Ibero-America, Australia, New Zealand, etc.), the following steel volumes are essential for rail: 25.4 million tons to upgrade existing grid; 2.3 million tons for new continental links; 6.9 million tons for the U.S. Mid-Atlantic maglev; 21.0 million tons for three other regional maglev webs, for a total of 54.6 million tons.

This tonnage, for rail alone, is half of the total current output level in the United States.

Now that we have the beginning of a political phase-change around the world, including in the United States, away from "globalization," and the "New Economy," it is high time to revive those policies of nation-building, which can get on with the job of recovery.