Thousands of workers needed in U.S. rail industry

by Anthony Wikrent

In his nationwide television broadcast of March 8, Democratic presidential candidate Lyndon LaRouche presented his plan for creating 3 million jobs in the public sector and 3 million more in the private sector, based on initiating needed infrastructural public works. Over the past 15 years, whole sectors of production have collapsed in the capital goods industry, for example, railroad equipment, power-generating equipment, and construction machinery. Take the case of the rail industry, and look at what is required in the way of output and jobs.

Traffic analysts have estimated that $40 billion is lost every year to road traffic congestion in just the eight largest U.S. cities. This reflects the reliance on the automobile and trucking, and the drastic decline in advanced rail travel and freight movement. The American Association of State Highway and Transportation Officials has warned that without a shift in national transport priorities, road congestion in the United States will become so bad during the 1990s that more money will be lost in man-hours and shipping days wasted, than the actual amount of money spent on highways and bridges.

The number of mass transit rail vehicles in use declined spectacularly in the 1950s, and reached an all-time low in the 1980s (see **Figure 1**). Not surprisingly, employment in the rail equipment manufacturing industry (Standard Industrial Code 374) also reached an all-time low in the 1980s. **Figure 2** clearly shows the effect of the Kennedy investment tax credit in building out of the Eisenhower recession of the 1950s, with the number of production workers doubling in just five years, from 24,000 in 1961, to 48,200 in 1966. The spike in employment at the end of the 1970s represents the initial euphoria over the Staggers Act deregulation of rail transport, which touched off a brief speculative boom in the building and leasing of rail freight cars. The true impact of deregulation is seen afterwards, when employment in the industry collapsed to post-World War II lows, and stayed there.

Initiating plans to restore mass transit would overnight create thousands of jobs. Altogether, there are 39 metropolitan areas in the United States with populations of 1 million or more. A national commitment to new surface transportation modes both within and between these metropolitan areas would easily entail a doubling of the U.S. rail passenger car fleet and rail mass transit route kilometers, every two or three years over the next decade or two.

Present U.S. manufacturing capacity is a mere shadow of its former self, with only one U.S.-owned company, Morrison Knudsen, having facilities to build rail passenger vehicles. The Canadian manufacturing and aerospace conglomerate Bombardier also has a U.S. facility for building rail vehicles, in Barre, Vermont, as well as a facility in Quebec. Annual North American capacity between the two companies is estimated at between 1,000 and 1,200 cars.

This is a far cry from the situation 20 years ago, before the following U.S. manufacturers of passenger rail vehicles went out of business, or abandoned the railroad business: St. Louis Car Co., Budd Co., Pullman-Standard, Rohr Industries, Westinghouse-Amrail, American Car & Foundry Co., General Steel Industries, Boeing Vertol Co., Urban Transportation Development Corp., J.G. Brill Co., Standard Pressed Steel Co., Bethlehem Steel, and General Electric.

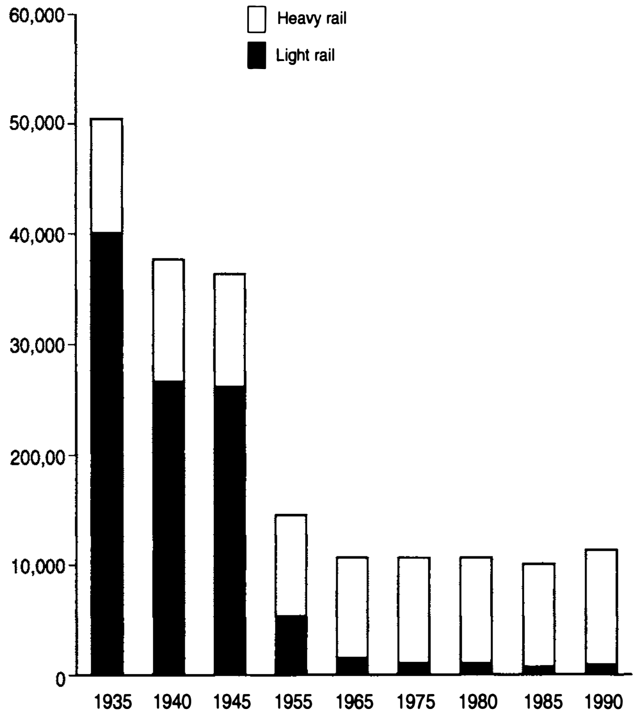
Jobs to build thousands of rail cars

According to a 1990 survey of capital goods requirements by the American Public Transit Association (APTA), 49,610 new motor buses, 9,134 new vans, and 4,480 new rail passenger vehicles, as well as rehabilitating 18,570 motor buses and 11,270 rail vehicles, are required to restore a semblance of a transit system in the United States.

These figures are extremely conservative. They are predicated on the assumption that mass transit will continue to account for less than 1% of the total passenger miles traveled in the United States each year. Consider, for example, that while 82.7% of all workers in New York City's central business district, and 74.6% in Chicago, used mass transit in 1980, passenger trips per capita that year were 121.5 in New York and 114.6 in Chicago, compared to 471.8 in Tokyo, 394.5 in West Berlin, and 363.3 in Zurich.

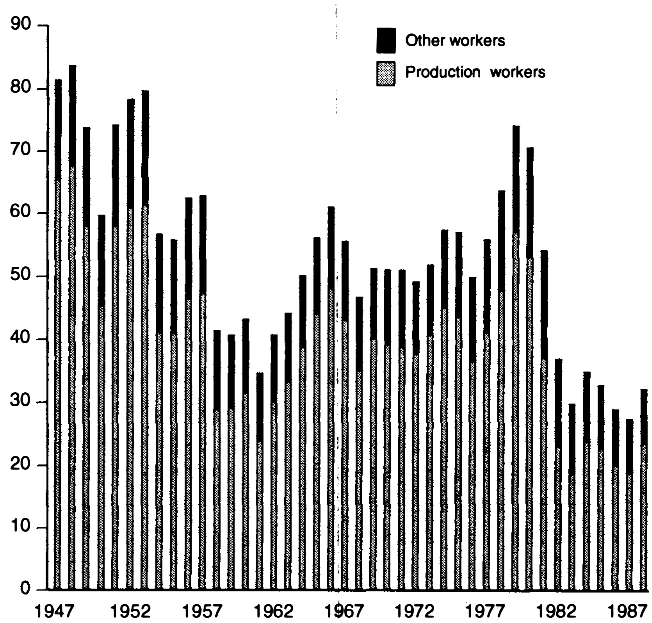
These figures, of course, reflect the much greater emphasis on personal automobiles that has been fostered by policies at all levels of government in the United States. A serious national commitment to a revitalization of mass transit—and intercity urban rail travel, which also accounts for less than 1% of total passenger miles in the United States—would quickly boost requirements far above those of the APTA survey. The total number of mass transit rail passenger vehicles in use in the United States, for example, is 15,747. Just two cities in Japan—Tokyo and Osaka—had 16,286 rail passenger vehicles in the mid-1980s.

FIGURE 1
Number of rail mass transit vehicles in use



Source: American Public Transit Association, annual *Transit Fact Book.*

FIGURE 2
Employment in railroad equipment manufacturing
(thousands of employees)



Sources: U.S. Dept. of Labor, Bureau of Labor Statistics, *Employment, Hours, and Earnings, United States, 1909-84,* and Supplement to Employment and Earnings, August 1989.

Moreover, only five U.S. cities have extensively developed mass transit rail systems—New York, Chicago, Philadelphia, Boston, and Washington. However, even these cities do not approach the density of development found in Japan or Europe, when measured by route-kilometers or number of rail cars per unit of population or land area (see **Table 1**). Another 14 U.S. cities, including Atlanta, Baltimore, and San Francisco, have developed or are developing some rail mass transit, but again, nowhere close to the density characteristic of Japanese or most European cities. Los Angeles, for example, has embarked on what is called "an ambitious program" of building rail mass transit. In reality, the plans are inadequate for the twelfth largest urban area in the world.

Among those U.S. cities with 1.5 million people or more in their metropolitan areas that have no plans or are only considering developing such systems, are Detroit, Houston, Minneapolis-St.Paul, St. Louis, Phoenix, Tampa, Denver, Cincinnati, Milwaukee, Kansas City, Norfolk-Virginia Beach-Newport News, Columbus, and Indianapolis.

Will people use rail transit?

The history of rail transportation in the United States—both mass transit rail and intercity rail—clearly indicates that if provided an option that is modern, clean, and safe, the public will use it. Amtrak has captured over 40% of the air travel market between New York City and Washington, D.C. Amtrak can be expected to take a similar portion of the New York-Boston market, once the route between New Haven, Connecticut and Boston is fully electrified, eliminating the need to change locomotives at New Haven. In California, when Amtrak increased the number of round trips from Los Angeles to San Diego from three to seven daily, the number of paying passengers jumped 322%.

Baltimore officials projected that it would take 20 years for daily trips to reach 35,000 on the new Baltimore subway. That number was reached in 1983, when the first eight miles were opened. By 1987, when the remaining six miles of Baltimore's subway had opened, daily trips had risen to 52,000. First-year ridership projections were also exceeded on Portland, Oregon's 15.1 mile light rail line. In Washington, D.C., ridership on the rail mass transit system has increased faster than vehicle miles of travel on major thoroughfares.

In San Francisco, the Bay Area Rapid Transit System was closed for inspection for only a few hours after the 1989 earthquake that destroyed the Nimitz Freeway in Oakland and collapsed part of the Oakland Bay Bridge. Service on BART was expanded to 24 hours a day for the nearly two months it took to restore motor vehicle traffic routes to normal.

The number of passenger rides on almost all forms of mass transit (rail and bus) reached a post-World War II peak in 1989, before a rapidly collapsing economy caused a slight decline in ridership in 1990 (see **Figure 3**). However, U.S. federal funding

TABLE 1

Comparison of major urban rail mass transit systems, mid-1980s

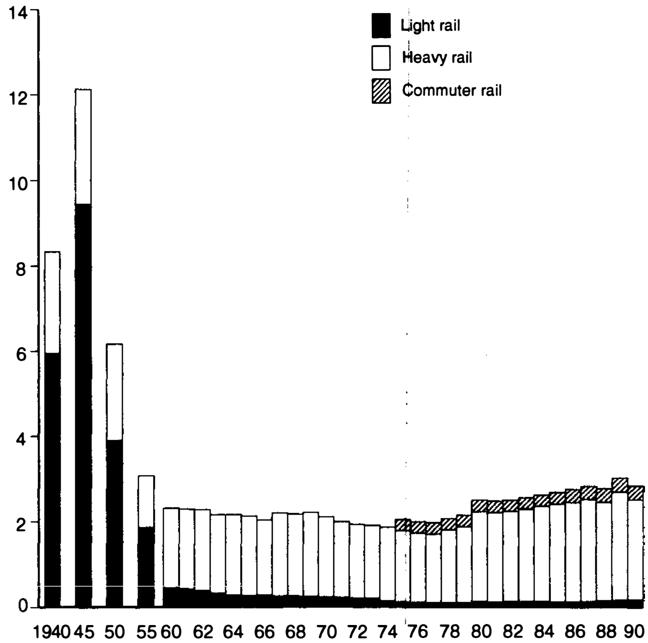
	Passenger trips per capita	Route length kilometers	Kilometers per million population	Rail cars	Cars per million population
Osaka	1,029.3	1,151	438.6	5,387	2,052.2
Tokyo	846.6	1,986	171.2	10,899	976.2
Vienna	470.1	586	390.4	1,818	1,212.0
Frankfurt	225.0	156	260.0	367	611.7
Paris	192.0	1,231	123.1	7,283	728.3
West Berlin	188.4	230	120.8	1,322	695.8
London	167.2	903	134.8	10,851	1,619.9
New York	103.6	1,482	130.0	7,666	672.5
Chicago	57.7	853	230.2	1,865	504.1
San Francisco	36.8	230	92.0	632	252.8
Washington	34.2	300	100.0	459	153.0

Source: *Jane's Urban Transport Systems,* 1986.
Note: Total passenger trips for Osaka were estimated based on size of subsystems. Total kilometers for London were estimated.

FIGURE 3

Rail mass transit passenger trips

(billions of trips)



Source: American Public Transit Association, annual *Transit Fact Book.*

for capital improvements fell from a high of $3.162 billion in 1983, to $2.38 billion in 1990, while federal funding for operations fell from $1.13 billion in 1981, to $815 million in 1990. Funding for mass transit from state and local governments increased faster than the decline in federal assistance until 1990, but state and local governments are now struggling to maintain solvency and are cutting their budgets savagely.

The 1992 Surface Transportation Act boosts federal assistance to mass transit enormously, to $5.3 billion a year, but it is not enough to make up for the backlog of deferred maintenance and new equipment purchases accumulated during the 1980s. The 1990 APTA survey found that $90.8 billion in total capital needs must be funded between 1992 and 1997. APTA figured that this would translate into an annual federal funding requirement of $12 billion. The total capital needs identified by APTA members included $22.7 billion for constructing and modernizing bus and rail facilities, $30.1 billion for new starts and extensions of rail mass transit systems, and $20.3 billion for purchases and rehabilitation of vehicles.

U.S. technology three generations behind

Present U.S. rail motive power technology is now three generations behind that of Japan and Europe. In 1981, ABB Transportation (a unit of Asea Brown Boveri, the Swiss-Swedish electrical equipment conglomerate) delivered new Henschel-BBC series DE 2500 locomotives to the Danish (DSB) and Norwegian (NSB) state railways. These DE 2500 locomotives were the first production models in the world to use alternating current induction motors, instead of the direct current motors which had been developed and refined over the past century, especially in North America.

Alternating current (AC) induction motors have a tremendous advantage derived from dispensing with the brushes and commutators required in direct current (DC) motors. Electric current is *induced* in the motor by cycling the magnetic field in the stationary windings. Eliminating the commutator and brushes, which inevitably wear out, greatly reduces maintenance and repair requirements. The danger of "flash-over," in which the windings of a DC motor short circuit and the motor explodes, is also eliminated. In addition, the AC traction motor readily becomes a generator, allowing it to be used for dynamic braking of the vehicle.

The key that unlocked the use of AC motors for rail motive power was the development of modern thyristor (essentially electronic one-way gates, which allow the current to go one way, but not the other) semi-conductors. Previous thyristors involved the use of vacuum tubes that could not withstand the vibration and heat of railway applications. The major makers of thyristors are Siemens of Germany and Toshiba and Mitsubishi of Japan.

European manufacturers had built and operated AC locomotives on an experimental basis beginning in the early 1970s. European railways and transport authorities now have at least 10 years' experience in the production and operations of AC traction equipment, according to a report in the September 1991 *Railway Age*. Some 222 diesel-electric AC locomotives and 153 electric AC locomotives are in operation in Europe, with another 120 diesel electric and 180 electric units on order. By contrast, the first AC locomotive in North America was supplied to Canadian Pacific for testing in 1984 by BBC Canada. Based on its tests, Canadian Pacific Rail predicted that the 4,000 horsepower AC unit would deliver 225,000 more gross ton miles per unit per day than a DC locomotive with similar horsepower.

In 1987, Amtrak took delivery of a 3,300 horsepower AC locomotive that had been converted by the Electro-Motive Division of General Motors, using equipment supplied by ABB Transport. Two years later, Amtrak took delivery of two more, also built by EMD-GM, but with the critical traction equipment supplied by Siemens AG of Germany. These three units have been tested extensively, but U.S. railroads had only 14 more AC units on order as of September 1991. In 1990, Amtrak sought bids for 52 AC-powered locomotives, but both EMD-GM and General Electric (the only other U.S. manufacturer of new railway locomotives) wanted so much money per unit that Amtrak withdrew its tender and resubmitted it, specifying DC power.

Another area in which the United States has little or no experience is in high-speed rail. The fastest system in the United States is Amtrak's Metroliner in the crowded Northeast Corridor, which reaches a top speed of 125 miles per hour on a few short, less crowded sections. By contrast, the French TGV high-speed passenger train, built by GEC/Alsthom and which uses AC motors, regularly operates at 186 mph, and has been tested at up to 299.6 mph.

A survey of high-speed rail systems by *Railway Age* in May 1990 listed only European and Japanese manufacturers. Besides the TGV of GEC/Alsthom, there is the 171 mph ETR-500, built by Breda, Ansaldo, Fiat, and TIBB; the 186 mph ICE, built by a German consortium under the direction of the German Federal Railways; and the Swedish 150 mph X-2, built by ABB Traction.

In Japan, where the Bullet trains began operating 30 years ago, Kawasaki, Nippon Sharyo, and Hitachi are cooperating to boost operating speed to about 170 mph.

Beyond high-speed rail are the magnetically levitated or maglev systems and, here again, the United States has been practically standing still in comparison to Europe and Japan. In February 1990, HSST Corp. (a Japanese company) general manager Eiji Ikeda stunned the California Senate Transportation and Appropriations Committee by proposing for construction, *within 18 months of approval,* a five mile demonstration maglev in Orange County. Ikeda said his firm was also ready to begin work on a 155.6 mile loop around the Los Angeles metropolitan area, at a cost of $30 million a mile, if the state would grant HSST rights-of-way along area freeways, and exclusive rights to operate the system.

While studies have found that the capital costs of maglev are about 25% greater than high-speed rail, operating costs are nearly the same. And the higher speeds which can be achieved by maglev—including supersonic speeds in evacuated (vacuum) tubes underground—promise to make maglev more attractive to revenue-paying passengers. The Argonne National Lab estimated in 1990 that maglev capital costs would average about $15 million per mile, compared to $30 million for interstate highways in urban areas, and $25 million in suburban areas. At present, there are no U.S. companies that have built, or are near building, a maglev system.

Who controls the U.S. industry?

How much importance does the U.S. federal government attach to the rail equipment industry? The last issue of the annual Department of Commerce publication *U.S. Industrial Outlook* which provided a profile of the industry, was for 1988. Calls to the Commerce Department and to the Federal Railway Administration could find no one able to provide information on the industry.

Most industries would raise a hue and cry over this dearth of government concern. The unusual quiet on the part of the industry may be explained by the large portion of the industry taken over by unsavory financial characters. One of the largest rail freight car manufacturers, Thrall Car Manufacturing Co., listed in *Ward's 1992 Business Directory* as the sixth-largest firm in the industry with $280 million in sales, is a subsidiary of Duchossois Industries, Inc., itself listed as the third-largest firm in the industry with $900 million in sales. Company patriarch Richard Duchossois had poured $175 million into building a lavish "family oriented" horse racing track in Arlington, Illinois by the end of 1990, while eliminating 25% of the capacity at Thrall.

Freight car rebuilder and leaser ACF Industries, Inc., is a subsidiary of Icahn Capital Corp., controlled by notorious corporate raider Carl Icahn. Union Tank Car Co., GL Sub Co., and Marmon Group, Inc. are all part of the Pritzker family empire, which has long been suspected of being tied to organized crime.

Morrison Knudsen, which has emerged as the largest firm in the industry only in the past few years, has on its board Harold W. Andersen, the past chairman of the *Omaha World-Herald* who has been implicated by child-victims in a satanic pedophile scandal in Omaha, Nebraska. Sir Michael Sandberg, past chairman of the Hongkong and Shanghai Banking Corp., historically the financial linchpin of the Far East narcotics trade, is on the international advisory council of Morrison Knudsen, as is J. Peter Grace, of the W.R. Grace grain cartel family. Zbigniew Brzezinski, the post-industrial theorist who helped initiate the New York Council on Foreign Relations' policy for the "controlled disintegration" of the world economy as National Security Adviser to President Jimmy Carter, also serves on the international advisory council, as does former U.S. senator and former White House chief of staff Howard Baker. As *EIR* has documented, the policy objective of this cast of characters is the deliberate take-down of U.S. industrial capability.