

China Builds Sun Yat-Sen's Great National Rail Project

by Mary Burdman

China is responding to the world economic crisis by building the most extensive high-speed national rail system on Earth. This project, which will make the high-speed lines the core of a fully integrated rail system, will transform its enormous economy, and contribute to making China a leader in bringing the world out of the current disaster. China is finally building the integrated, strategically planned, national network, proposed by its first great republican leader, Dr. Sun Yat-Sen, a century ago. Chinese leaders already foresee that this transport system will contribute to the economic expansion of other nations, especially Russia, the United States, and India.

This development promises to become a building block of the Four Great-Powers Initiative proposed by Lyndon LaRouche, of the only nations—the U.S., China, Russia, and India—with the national sovereignty required to defeat the British imperial system which has brought the world to this pass. On Jan. 9, LaRouche wrote: “To move forward into the time of the future, society must move forward in space.... The functional concept of the railroad-system, as a system, was clearly established in intention by the work done by then U.S. Secretary of State John Quincy Adams’ defining the policy of establishing the United States as a transcontinental nation.... To understand this in the way this must become understood in the world today,

look always at the future in terms of the change which breaks out of those limits which had reigned in the past....”

Writing as if from the future, he continued, “Later, came the transcontinental railway system of the United States, and the resulting shift from within the bounds of the Atlantic and Indian Ocean, through reaching the Pacific coasts of Asia, from the place where the Trans-American railways met the Pacific coast. Then, came the advent of the unification of the railway with those related transcontinental systems uniting Eurasia, the Americas, and Africa into a unified global system. Next, will come the links to the Moon and then Mars....

“The great transportation and other physical systems, and the sharing of advances in science and technology, typify the means by which the aims of the nations of mankind are united, at the same moment that their cooperation is rooted in the principle of separation by reliance of each upon the indispensable instrument of national cultural sovereignty.”¹

To build the currently planned 20,000 km high-speed system, China is “leaping over” decades of technological development. Future development will

1. Lyndon H. LaRouche, Jr., “The Question Before Us,” *EIR*, Jan. 15, 2010.



China's first great republican leader, Sun Yat-sen, called on the United States and Europe, following the devastation of World War I, to help China to "leapfrog" into an advanced economy. His dream of a national rail network is now, a century later, being realized.

FIGURE 1
Sun Yat-Sen's Vision of a China Rail Network
 (At the time, China's borders included modern Mongolia.)



require even more advanced technologies, especially, magnetic-levitation systems, now begin applied only on a minuscule scale, to meet world economic needs.

The immediate plan is to have an overall passenger and freight rail network of 110,000 km by 2012, from 86,000 now, Rail Minister Liu Zhijun announced in his annual report to the national rail conference on Jan. 7. This will grow to 120,000 km by 2020. This great project is being constructed at a rate only comparable to that achieved by the United States in the late 19th-early 20th centuries. Since then, the U.S. has cannibalized its rail system to half of its 1930 total of over 400,000 km (250,000 miles)—by far the most extensive national rail system ever created. Europe, including Ukraine and Belarus, but not European Russia, now has just over 270,000 km of rail lines.

Transforming China

As China's leaders well know, despite rapid construction during the past decades and especially the past five years, the current rail system is utterly inadequate to meet the requirements for developing an economy of 1.3 billion people. Per capita, China has only 6 centimeters (!) of rail per person. At the same time, China's leaders are breaking with the disastrous

"globalization order," by recognizing that a nationally directed rail network is the only transport system which can possibly function in the nation—air and auto transport are far too inefficient, too costly, and far less safe.

China's current great rail project will transform society as well as the economy, raising living standards across the nation, which is essential to lessen the severe income gap that divides the rural vast majority of the population, from the much better-off urban population. Increased rail transport will create a new level of national integration. China's high-speed passenger transport network will connect all provincial capitals and large cities with a population of over 500,000. The concept is to build an "8-hour transport circle," to bring every important city in China within eight hours' travel time to Beijing, or, where distances are still too great, another big city. This high-speed network will eventually be within accessible distance to 90% of the population. Some RMB2 trillion (\$293 billion) has been allocated for already approved projects for the next decade. In the coming three years, 3.5 billion renminbi (RMB) of the stimulus, will be spent for rail investment, the China High-Speed Railway summit announced.

China's Mid- to Long-Term Development Plan for Building the World's Longest High-Speed Rail Network



World Bank/www.indianrailways.gov.in

Chinese Rail Network, 2009



World Bank/www.indianrailways.gov.in

Sun Yat-Sen's Strategic Plan

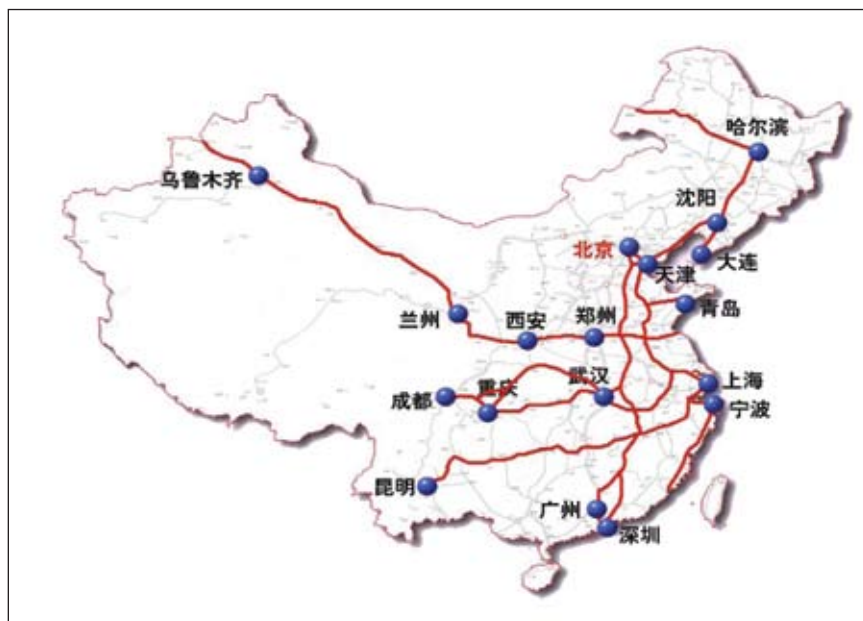
Sun Yat-Sen (Sun Zhongshan, 1866-1925) took the historical opportunity, in the wake of the First World War, the most brutal the world had ever seen, to propose international cooperation to develop China. Sun's *The International Development of China*, published in 1922, calls on nations reconverting from war production, to help China "leap-frog" from its pre-industrial condition to an advanced economy. This would primarily benefit what was then a population of 400 million, but would also be a boon to the United States and Europe, by creating a huge market, both for China's own production, and for the advanced technologies which would help transform

the nation. At the time, China had just over 10,700 km of railroads, concentrated in the northeast, almost all foreign-built and controlled. For comparison, the United States, at approximately the same geographical size, as mentioned, had some 400,000 km of rail.

Sun's program leads with a strategic plan to develop a 160,000 km (100,000 mile) national rail system, connected to a Eurasian system to link China to Russia, Central Asia, India, and Europe—and, eventually, Africa. Sun's economic policies were founded in the American System—his three principles of the people (roughly: government of the people, by the people, and for the people), came directly from Abraham Lincoln.

He was also a strategic thinker, and leading the “cardinal principles” of his last years, was allying China with Russia, then, the Soviet Union. Sun called for strategic planning of the rail lines, to

Planned Freight Container Corridors



World Bank/www.indianrailways.gov.in

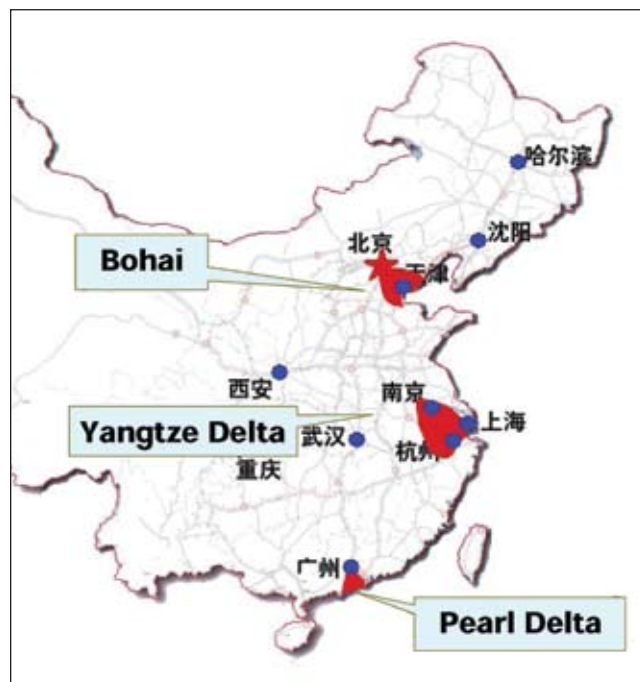
reach all areas of China. His proposed North-West line would not only integrate this vast region—from Bohai on the Pacific Coast to Xinjiang in the far West—into

Mid- to Long-Term Development Plan for Western China



World Bank/www.indianrailways.gov.in

Planned Regional Intercity Systems



World Bank/www.indianrailways.gov.in



China's consulate-general, in Cape Town, South Africa

China is now becoming the world's leader in high-speed rail technology. Here, a CRH (China Railway High-Speed) bullet train, named "Harmony" leaves Zhengzhou City for Beijing, April 2007.

the Chinese national economy, it would also link China to eastern Russia, and make Xinjiang the hub of rail connections to Central Asia—including the current Euro-Asian Continental Bridge, as well as the China-Kyrgyzstan-Uzbekistan route, now in the planning stage. Of the rail lines from Xinjiang to Eurasia, he wrote, “there is no existing railway commanding such a world position as this.”

Sun also understood the role of transport in economic development, emphasizing that linking densely to thinly populated areas, “is the best-paying proposition” of railway economics.

China Takes Rail Technology Leadership

The rail system will also change China's international relations, by making possible construction of badly needed rail connections to its land neighbors and beyond, to the rest of Eurasia. “The successful operation of the high-speed railway of more than 1,000 km length, helps demonstrate China's technological strength,” Prof. Yang Hao of Jiatong University told *China Daily* Dec. 10. This will “appeal to countries like Russia, India, and the United States, which also have broad territories and a plan for building high-speed railways.” These trains would also be extremely useful in the underdeveloped nations of Africa and Ibero-America.

This development is being achieved, in a nation which had only 21,000 km of rail lines in 1949 (about half of that operating), and, for all but a tiny portion of the population of 400 million, footpaths were still the main mode of transportation—including for carry-

ing freight. Despite large-scale construction since then—China already had 76,000 km of railroad by 2006—rail capacity is still severely overburdened, and the constraints are seriously hindering economic growth, as the Ministry of Railways and other national leaders are acutely aware. China has one of busiest railway networks in the world, moving 24% of global rail traffic with just 6% of the world's tracks. Just to be able to do this demonstrates some level of efficiency, but the situation must be changed for China to develop further. Only 30,000 km are now electrified.

In September 2008, Zhang Shuguang, director of the transportation department of the Rail Ministry and deputy chief designer of the project, said that, by 2012, China will complete a high-speed rail network of 42 lines, comprising 13,000 km. Current plans are to expand this system rapidly, to 16,000 km—and according to latest reports, 20,000 km—by 2015. China's high-speed system will be at least as long as the entire rest of the world together by the end of 2012. There will be two types of tracks, one for the main corridors, where trains will travel at speeds of 350 km/h—the fastest in the world—and the rest for “slower” trains which run up to 200 km/h. Europe's high-speed network is just over 3,000 km, scheduled to triple, but only by 2020. Japan's “bullet train” is still using technology developed decades ago. Modern high-speed rail does not exist in the United States.

China is also becoming the world's leader in high-speed rail technology. It has imported from Germany, Japan, and France, but is now generating new technolo-

gies itself, putting them to work over unprecedented distances. On Dec. 27, the Wuhan-Guangzhou high-speed line was opened, the world's fastest and, by far, the longest, which tested at over 390 km/h, and is now carrying passengers at 312 km/h over almost 1,000 km. This was the first time ever that such speeds were able to be sustained over such a distance.

The breakthrough here, is in the construction of the rail line, not just its design, *Technology Review* quoted rail expert Rongfang Liu Jan. 11. While the train itself is relatively close to European and Japanese technologies, the entire rail line, including special cement rail beds, was built to safely carry trains at high speeds over hundreds of kilometers, and everything from the cement rail bed, to tunnels and bridges were built to accommodate this. This construction capability follows on Chinese breakthroughs to build the world's highest-altitude railway to Tibet, opened in 2006, which required adaption to some of the most extreme conditions on Earth.

"China has learned [these technologies] fast, and China also has its advantage in industrial integration," Minister Liu said Jan. 7. China will need 800 trains by 2013, he said. A new-generation train, which could run up to 380 km/h on the Beijing-Shanghai line, should be in production by the end of this year.

Last September, Zhang Shuguang said that a domestically developed train capable of reaching speeds up to 500 km/h will be produced by the end of 2010, China News Service reported. This train will also be able to run on regular track—at much lower speeds—making it possible to integrate cities not yet on the high-speed grid, into the new system, and greatly increasing transport efficiency.

China also has built the world's only commercial maglev train, in Shanghai, capable of running over 400 km/h, but it rarely reaches that speed due to the very short length of the track. Although no decision has been made, at present, on any significant extension, a new, lower-speed, 27 km maglev line, is now being built in Beijing.



Transrapid

China's Shanghai maglev, the only commercial magnetic-levitation train operating in the world today, is capable of speeds above 400 km/h; a new, lower-speed, 27 km maglev line, is now being built in Beijing.

China has already signed memoranda of understanding for high-speed rail cooperation with Russia and the United States, although the latter has yet to be given substance. China has now become the international leader in a vital technology, which can power international development. Over the past 20 years, passenger train speed has risen from 43 km/h in 1978, to 100 km/h in 2001; by 2010, it was possible to triple that to 350 km/h, Xu Fangliang, general engineer for the Wuhan-Guangzhou line, told Xinhua Dec. 27. The average speed of the high-speed railways is: 243 km/h in Japan; 232 km/h in Germany; and 277 km/h in France.

As Russian Academician Mikhail Titarenko, director of Russia's Institute of Far East Studies, said in an interview with *Global Times* Nov. 9, after the breakthrough visit by Prime Minister Vladimir Putin to Beijing, "Russian officials have also begun to follow China's experiences with interest. This indicates an upgraded Russia-China relationship. In the past, it was the former Soviet Union which provided China with advanced technologies, while now, it is China exporting them to Russia. China has indeed become an equal partner."

Developing the Whole Nation

As the world economy collapsed in late 2008, China launched a RMB4 trillion (\$586 billion) two-year stim-

ulus plan, with over 40% to be invested in infrastructure. The nation had been striving for a decade, to make a strategic shift away from its dangerous dependence upon exports to Western markets, especially in the foreign-invested and -controlled “processing trade.” When those Western markets collapsed, it created the necessity, as well as the opportunity, to begin this shift in earnest. The expanded rail system is essential to develop the domestic economy.

China sharply increased its rail investment in 2009, to RMB600 billion (\$88 billion), almost 80% more than 2008, and more than the total amount from 1995 to 2005. “Another 33,000 km of railways are now under construction. This will need RMB2.1 trillion of investment in the years to come,” Railway Minister Liu announced at the annual national rail conference in Beijing Jan. 7. Some 70 projects will begin this year.

To carry out investment on this scale, Beijing has brought provincial and local governments into the planning, as well as the state-owned enterprises which have interests in expanding the rail system. The national pension fund and other such funds are also investors, and the government also issues special rail bonds. Private sector investment is also being developed, but the government plays the central role in funding and allocation.

Liu also emphasized China’s international role. “Based on our technology and industrial integration advantages, we should try to boost international cooperation this year,” he said. Representatives of over 100 countries have seen the 120 km Beijing-Tianjin high-speed rail line, the first to regularly travel at 350 km/h, which opened in August 2008, and there is broad interest in cooperating with China. As the *Taiwan Commercial Times* noted Jan. 2, Taiwan’s capability to create a “technology industrialization system,” would be extremely useful for these Chinese projects.

China wants to develop medium-size cities across the country, to reduce the pressure of massive internal migration on big coastal cities. The high-speed corridors will be integrated into the rapidly expanding light-rail connections around major cities. China will also build a transport circle which will cut travel between central cities, such as Shanghai, Zhengzhou, and Wuhan, to 30-60 minutes, and similarly for their surrounding cities.

“In the next decade, 400 million people will migrate to cities and the urban population will increase to 900 million,” *The Australian* quoted Prof. Ji Jialun of Bei-

jing Jiaotong University Jan. 5. “China’s areas are more concentrated, so only fast and more capable trains can fundamentally solve the transportation issue.... Besides, China is short of resources, so railways—which take less land resource and are more energy efficient—have an important [role to play in the country’s] economic development. Chinese train manufacturers can learn and introduce express train techniques from Western countries to promote their own innovative abilities, so [that more orders can be fulfilled domestically]; train manufacture can also promote other industries, such as electronics, mechanics and steel. Railway will be the iron backbone to China’s development.”

Construction of the new high-speed line to link Wuhan, one of China’s biggest industrial regions in the lower Yangtze valley, to Guangzhou, the southern coastal manufacturing center, began in 2005. The key rail links between Guilin, capital of the poor, interior Guangxi Zhuang region in the Southwest, to the coastal Guangdong Province, and one between Lanzhou, Gansu province, a city on the Euro-Asian Continental Bridge, to Chongqing, the biggest city in south-central China, were also begun. In the interior, the Urumqi Railway Bureau announced that Xinjiang, in China’s far West, plans to build nine, 2,000 km railways to link the region to the rest of China and to the rest of Asia by 2020. Among projects under discussion are the strategic China-Kyrgyzstan-Uzbekistan railway, which would link far-western China with Central Asia, and a China-Pakistan railway, to add to the famous Karakoram Highway. Xinjiang only opened its first rail line in 1962, and now has over 3,000 km of rail, including the Euro-Asian Continental Bridge, which connects China to Kazakhstan, Russia, and Europe.

China Needs More Nuclear Energy

Rail development will require another massive development in China: building nuclear power plants. China is caught in an economic bind—some half of freight transport is coal, which is used to generate some 66% of China’s electricity. This is a tremendous burden on the rail system, a serious pollution problem, and inefficient. Rail will help free China from over-dependence on petroleum imports to fuel cars, trucks, and airplanes, but beyond this, the greater dependence upon coal must also be reduced. In addition, electrification not only allows faster speeds, but also greater freight volume, which can increase from 3,500 tons to 6,000 tons by each train.



pmindia.nic.in

Chinese Railways Minister Liu Zhijun (seated, second from right) and Shri K.S. Jena, chairman of the Indian Railway Board (seated, second from left), sign an MoU in Beijing, Jan. 14, 2008, as Indian Prime Minister Manmohan Singh and Chinese Premier Wen Jiabao look on.

This dependence was demonstrated most drastically, because China was hit with a century snowfall in early 2008, and this Winter looks likely to repeat the disaster. The worst snowstorms in 50 years struck China during the 2008 Spring Festival, forcing shutdown of vital industry just to ensure enough energy supply to move the passenger trains.

China's trains will carry 1.64 billion passenger journeys in 2010, an increase of 120 million over last year, Minister Liu said Jan. 7. China has a migrant labor force of at least 200 million people moving around the nation: During the two-week annual Spring Festival alone, 210 million people, especially migrant workers and students, will travel home. At these times, many passengers have to stand over long distances due to the shortage of transport.

China had focused on highway building, up until the 11th Five-Year Plan, 2006-10, but it became ever clearer that highways would never meet China's transport needs. The Ministry of Railroads has estimated that a single high-speed rail link has the same transport capacity as five four-lane expressways; and that a double-tracked fast train can carry 160 million people a year, compared with 80 million for a four-lane highway—much more cheaply and efficiently.

The current rail network is not only far too small, it has an "irrational layout," according to Rail Ministry spokesman Wang Yongping. There is constant friction between priorities for passenger and freight transport. Some 95% of freight transported by rail is coal, grain, cotton, oil, and chemical products. Daily freight volume only makes up about 35% of demand, cramping the

economy. The new rail grid will also enhance freight transport. As the high-speed lines start operating, freight transport will take over more of the current rail system, and North-South and East-West freight corridors will be created. China's rail lines carried 3.5 billion tons of freight last year, over 5% more than in 2009. China is also producing its own new, 70-ton freight trains, capable of travelling at 120 km/h, 33% faster than the 60-ton trains currently in use.

The expanded freight transport will be especially important for western China, where the rail system remains far sparser than the rest of the country. China will extend railways to more than 50,000 km in its vast western regions by 2020, Yan Hexiang, deputy director of the development planning department of the Ministry of Railways, said Nov. 23. Currently, a 1,758 km railway between Lanzhou and Urumqi is under construction. Other projects include the new Chengdu-Guiyang, Chongqing-Guiyang, and Kunming-Nanning railways. When China began its "West Development Strategy" in 2000, the population was only 370 million, in over 70% of the country's total land area. Operating railways in the West were expanded 50% from 20,000 km in 2000 to nearly 30,000 km by 2008, but this is still just 36% of China's total.

The High-Speed Grid

The high-speed rail grid is a gigantic project. There will be eight trunk lines, four North-South and four East-West, and another 34 lines. Every important city in the eastern, western, and central regions will be included. Some 8,000 km of track are designed for train speeds of 350 km/h, and the rest will accommodate 250 km/h travel. The new system will be able to carry 7 billion passengers a year. Travel times will be cut in half or more: Wuhan-Guangzhou was cut from 10 to 3 hours; when the centerpiece Beijing-Guangzhou line opens in 2012, travel time will be cut from the current 20 hours to just eight.

Yan Hexiang, deputy director of the development planning department of the Ministry of Railways, announced the network Nov. 23.

The four North-South trunks are:

- Harbin, Heilongjiang to Beijing, via Dalian and Shenyang;

- Beijing-Shanghai;
- Xiamen, Fujian Province-Shenzhen, Guangdong;
- Beijing-Wuhan (Hebei Province)-Guangzhou.

The four East-West trunks:

- Taiyuan, Shanxi Province-Jiaodong Peninsula via Shijiazhuang, Hebei Province;
- Xi'an-Zhengzhou (Henan Province)-Lanzhou;
- Chongqing-Shanghai, via Wuhan and Hefei;
- Hangzhou, Zhejiang Province-Kunming via Nanchang, Changsha and Guiyang.

Regional high-speed railway networks will be built among the cities of the key eastern economic centers of China: the Bohai Bay area, the Yangtze River Delta, and the Pearl River Delta, in the same time period. The potential is enormous: Zhejiang province, by Shanghai, now has a high-speed rail line from the port of Ningbo to Fujian, the province opposite Taiwan. Hong Kong will be linked into the high-speed rail system; after Fujian is integrated into the national system, it could potentially be linked to Taiwan by tunnel. This project is already under discussion. Urban rail systems are also being built. Fifteen big cities are building some 60 subway and light rail lines, to reach 1,700 km by 2015.

New interior rail hubs will be developed, as is planned for China's central Sichuan province—which has a population of over 115 million people. At least six main lines will be built from Sichuan. Such planning, as Lyndon LaRouche pointed out, “shows an understanding of real economics, physical economics. This is how you develop the economy of the interior of Eurasia, not just the coasts. You don't just build Eurasian land-bridges from the Pacific to the Atlantic coasts, but you also build dense hubs of this continental rail network, within the interior regions.”

New rail lines will link Sichuan, to the Euro-Asia Continental Bridge; to southern China via the new Chengdu-Guiyang Railway, and eventually to Kunming, Yunnan province, the gateway to Southeast Asia. There will be a second rail link to Lhasa, capital of Tibet, which could become the gateway to India and South Asia. India is building rail lines to its Himalayan state of Sikkim, and to Bhutan, for the first time. China is planning to extend the Lhasa rail line to Xigaze, which is 270 km closer to the borders of India, Nepal, and Bhutan. Bangladesh is also committed to expanding rail links both to India and to China.

China has proposed to India, building a rail link

from Lhasa to Kolkata, the capital of India's West Bengal state, with a population of over 80 million people, Singapore Foreign Minister George Yeo wrote in September, after travelling to Lhasa by rail.

Investment in railways helped spur China's steel production in 2009, after the devastation caused by collapsing steel exports in 2008-early 2009. By November, China had produced 5.475 million tons of railway steel, up 30% year on year. Overall output of steel products was up 17.4% at 628 million tons in the same period. Construction will require 550,000 tons of rails alone. China has reduced its dependence on rail imports over the past ten years to raise self-sufficiency, and also exported about that same amount to Asia and Africa. Production of cement, locomotives, and other equipment will be massive. China produces half the world's steel and cement.

Turning the Crisis into an Opportunity

Beijing launched this policy in 2004, with the “Mid- and Long-term Plan for Railway Network,” produced by the Ministry of Railways and approved by the State Council in January that year. At the time, high-speed rail was defined as trains with a design speed of more than 200 km/h. For the first time, “To speed up railway construction” was written into the 11th Five-Year Plan, 2006-10, when it was launched. By then, the policy was to build and put into operation 17,000 km of new railways, 7,000 km of that high-speed, of which half would be for trains capable of running 330 km/h or more. Rail construction had grown at just under 1.5% per year until then, although other economic growth was much faster. When the world crisis struck in Summer 2007, the response was not only to upgrade the project, but get it built fast.

At the January 2008 national rail work conference, Railway Minister Liu announced that China will enter a “new railway era” by 2010, investing RMB1.2 trillion (\$176 billion) in railways and expanding international cooperation. By October, the State Council had approved 2 trillion yuan (\$292 billion) to speed up development. The rail system would grow to 90,000 km by end-2010. Annual spending has been increased about 2.5 times to meet the expanded goal. Senior government policy advisor Zheng Xinli said at the time: “In 1997, we dealt with the Asian financial crisis by stimulating domestic economic growth by investing in the construction of highways. This time the money will go on improving the rail network.”

No to the 'Clash of Civilizations'!

The Anglo-American financier oligarchy is trying to unleash a "Clash of Civilizations," to block the vast potential for Eurasian development. Instead, the Western powers should join in the great project of the new millennium, the Eurasian Land-Bridge.

The Eurasian Land-Bridge

The 'New Silk Road'—locomotive for worldwide economic development

including studies of:

- High-technology infrastructure development corridors
- China and Europe as Eurasia's development poles
- Crucial infrastructure projects in China
- The Eurasian Land-Bridge and development around the great ocean basins
- Financing an economic miracle: Hamiltonian credit generation
- The Eurasian Land-Bridge and the economic reconstruction of the United States



EIRNS
Helga Zepp-LaRouche known as "the Silk Road Lady," has played a major role in organizing worldwide support for the Eurasian Land-Bridge. She is shown here at Lianyungang Port in China, October 1998.



A special report
from
**Executive
Intelligence
Review**

260 pages **\$50**

EIR News Service

P.O. Box 17390 Washington, D.C. 20041-0390 Phone (toll-free): 1 800-278-3135

ORDER ONLINE at www.larouchepub.com