

# Don't 'Repair' the System; Join the Belt and Road Initiative

by Robert Ingraham

May 29—In a series of writings and actions between 1789 and 1793, Alexander Hamilton defined and promulgated a new, revolutionary Principle of National Public Credit. His urgent concern was to secure the survival of the new nation. He was successful. But Hamilton was also driven by a higher purpose, a future-oriented vision. Hamilton created an economic approach which subsumed, within its species dynamic, the questions of Labor, Productivity & Creativity. This, in Hamilton's view, would become the bedrock for the new Republic.

It is precisely this issue of human productive and creative potential which has defined much of Lyndon LaRouche's life work and which is set forth most succinctly in his 2014 economic action plan, [The Four New Laws to Save the U.S.A. Now!](#) The principles, as developed by LaRouche in the *Four New Laws*, are fully coherent with the vision set forth by Alexander Hamilton at the time of the nation's founding.

Today, we are presented with an historic opportunity, one which holds out the promise for a global realization of the vision which Hamilton represented in his own time. The proceedings of the May 14-15 Belt and Road Forum in Beijing have now placed on the table—for all of humanity—a perspective for world-wide peace and economic development: not incremental development held hostage by the monetary *diktats* of London and Wall Street, but boundless leaps in the development of the human condition. The staggering progress that has been made by China within less than a decade almost blinds the eye as a beacon demonstrating what is now possible on a global scale.



*The Long Island Rail Road concourse at Penn Station.*

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The subject of this article is the transportation crisis which is now affecting the New York Metropolitan Area, particularly as that relates to rail transport. What must be kept in mind throughout the reading of this article are the global developments, and the enormous potential for economic development, within which this New York crisis must be viewed. The New York rail system is at a point of breakdown, and is increasingly dysfunctional and dangerous. Yet, only a fool would propose as a goal to “make the trains run on time,” and even many of the necessary improvements which have been proposed remain too timid and limited compared to what is actually needed. A bolder vision is required, and is now possible.

In this article we will look first at some aspects of the crisis in New York. This will be followed by a brief overview of some of what has been accomplished in China, concluding with some remarks as to what should be the actual approach to both New York's and the nation's transportation needs.

## I. The New York Mess

New York City's Penn Station is the busiest rail terminal in the world.<sup>1</sup> It handles 650,000 commuters per day, which is greater than the entire population of Baltimore or Milwaukee and is more than double the combined daily traffic through JFK, LaGuardia, and Newark airports. It is also triple the capacity the station was designed for. Currently, it is teetering on the brink of total breakdown. In his January 2016 State of the State speech, New York Governor Andrew Cuomo described Penn Station: "Penn Station is decrepit and it's an affront to riders to use it. It is dirty; it is dingy; it is dark; it's terrible." Cuomo's remarks are an understatement. Penn Station and the trains and system it services are dangerous, operate under conditions that are increasingly inhuman, and function day-to-day under near-crisis conditions.

Not only is Penn Station during rush hour a terrifying, other-worldly experience in which the human herd becomes indistinguishable from cattle in the stockyards, but the real rot is hidden below the surface, underground in the tunnels and along the tracks. Much of the infrastructure—the tracks, the roadbeds, the ties, the signals, the drainage systems—are seventy-five or one hundred years old, or in the case of the tunnels and bridges, even older.

Earlier this year, on March 24 and April 3, there were two derailments in Penn Station, one of which caused a crash between two trains. The most revealing thing about these derailments is that they both took place at very low speeds. This was not a case of trains traveling too fast for conditions. It was simply that the underlying track, ties and ballast were worn out and could no longer support the trains. These two derailments combined, resulted in delays and cancellations up and down the corridor between Boston and Washington, D.C., disrupting the entire transit system of the



Xinhua/David Torres

*Rescue personnel are busy working above-ground near the site of derailment, May 2, 2014. A train carrying some 1,000 passengers and heading towards Manhattan ran off the tracks, resulting in 19 injuries.*

Northeast. In addition, almost half of the local rail lines to Long Island and New Jersey were knocked out of commission for four consecutive days, resulting in transit chaos throughout the region.

Even earlier this year, on Jan. 4, more than 100 people were hurt when a Long Island Rail Road train struck a bumper at Atlantic Terminal in Brooklyn.

These incidents are portents of a disaster that is certain to come unless something is done. In 1940 the total population of the greater New York Metropolitan Region was ten million. By 1960 it was over sixteen million, and today, the figure is twenty-three million, and that figure is expected to rise to thirty million within the next twenty to thirty years. Yet, the combined rail and subway system which services the region is not much different than what existed in 1940. Track mileage, the number of stations, the number of trains are nearly the same. The only thing that has increased—dramatically—is the number of passengers. If anything, despite some improvements here and there, decades of decay, cost-cutting, and austerity measures have rotted out the rail system from the inside.

Massive population and economic growth has taken place in Hudson, Essex, and Bergen counties, Westchester, Rockland, Nassau, and Suffolk. Yet the transit system to service it travels over infrastructure that is both woefully inadequate and old and dangerous. Historically, much of the damage that was done to the com-

1. Penn Station is the terminus for both the Long Island Rail Road (the busiest commuter railroad in the world) and New Jersey Transit (the second busiest commuter railroad in the world). It also services all Amtrak trains traveling between Boston and Washington, D.C.

muter lines servicing New York City occurred following the 1970 bankruptcy of the Penn Central Railroad, which resulted in a decades-long process of cost-cutting, asset-stripping, and a failure to maintain even basic infrastructure. This policy of enforced decay has never been fully reversed.

### The New York City Subway

The New York City Subway currently handles 1.8 billion passengers per year. For the entirety of the 20th Century, it serviced the largest volume of passengers of any urban subway system in the world, until it was recently surpassed by both Shanghai and Beijing. Daily ridership is near six million passengers (larger than the populations of Houston and Chicago combined).

The current state of the New York subway system is far worse than the commuter railroads. The subway system is 110 years old. It is decaying. A significant portion of the infrastructure is more than seventy-five years old. Since 2000 there have been six major train derailments and many minor ones. Following a deadly crash between two trains on the Williamsburg Bridge in 1995, speeds were reduced on all of the subway lines, and today the entire subway system operates at an average speed of 17 mph (27 km/h). Rails break, trains break, and tracks and stations get flooded out during heavy rains. Power outages and other electrical problems now regularly cause shutdowns of entire lines. Parts of the system are even closed during snow storms, something which never occurred during its first seventy-five years of operation. Stations are awash with garbage and rats. Massive delays, which disrupt the commutes of hundreds of thousands, are increasing.

One of the worst problems within the system is the signal system, much of which was built before World War II. The signal system directs traffic for the entire schedule of thousands of trains. Most of New York's subway system still relies on antiquated technology, known as "block signaling," to coordinate the movement of trains. Signaling problems are one of the major causes for train delays within the New York system.



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*Flooded subways after Hurricane Sandy: MTA Bridges and Tunnels workers pumping 43 million gallons of water out of each of the tubes of the Brooklyn-Battery Tunnel.*

Most modern subway systems outside of the United States have switched to using a computerized signal system known as Communications-Based Train Control, or CBTC. CBTC is a railway signaling system that makes use of the telecommunications between the train and track equipment for traffic management and infrastructure control. CBTC is far more precise, makes it possible to reduce the amount of space between trains, and is safer because trains can be stopped automatically.

New York's quest to install the new system began in 1991, after a subway derailment at Union Square in Manhattan killed five people. Now, twenty-six years later, only one line (the Canarsie L line) has installed the modern signals. A second line, the No. 7, is slated to begin operating with the new signals by the end of this year. At this rate it will take more than fifty years to upgrade the entire system. It is estimated that the entire upgrade could cost more than \$20 billion. Complicating the problem is the fact that none of the subway cars built before 2000 are CBTC compatible, so a great deal of new rolling stock will have to be purchased.

In October 2012, Hurricane Sandy delivered a near death blow to the subway system. Many subway tunnels were inundated with floodwater (seawater). The

subway closed completely for two days and then reopened with limited service, but a great deal of the infrastructure was seriously damaged and much of it has still not been repaired. The storm flooded nine of the system's fourteen underwater tunnels, many subway lines, and several subway yards, and completely destroyed a portion of the IND Rockaway Line and much of the South Ferry terminal station. Whole sections of the system were closed for months, and several stations and lines have yet to reopen.

Despite the obvious and precarious condition of the subway system, that same system is now being forced, like Penn Station, to deal with a massive surge in ridership. Whole sections of the system, particularly in Manhattan, are operating every day way beyond capacity, carrying far more passengers than the system was designed for even under optimum conditions. In addition to the daily flood of commuters who use the subway once they are in the city, New York City's own population is growing, rising 4.4 percent from 8.18 million in 2010 to 8.54 million in 2016, with expectations that a future population of 9 million is a certainty. Facing this reality, no limited approach to "repair" the subways will prevent the entire system from grinding to a halt.

## II. China's 'Decade of Miracles'

Less than a decade ago, China had yet to connect any of its cities by bullet train. As of today, China has completed the construction of 22,000 km (14,000 miles) of high-speed rail (HSR), a length that is more than the rest of the world's high-speed rail tracks combined. HSR now extends to twenty-nine of the coun-



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try's thirty-three provinces and carries more than 1.44 billion passengers per year. But this is just the beginning. China is planning to build another 16,000 km by 2025. China has a four-by-four grid at present: four big north-south and east-west lines. Its new plan is to construct an eight-by-eight grid by 2035, encompassing an eventual network of 45,000 km of high-speed track.

China is building a "high-speed rail economy." A major focus is to extend the lines westward into the interior, to develop many new cities and economic centers. As a result of this effort, in the more thinly populated regions of Xinjiang, Gansu, Qinghai, Sichuan, Yunnan, Guangxi, Inner Mongolia, and Heilongjiang, there has already been astonishing urban growth alongside the tracks. At regular intervals—almost wherever there are stations, even if seemingly in the middle of nowhere—thickets of newly built offices, factories and residential blocks are rising from the ground. All of this has been accompanied by the development of energy grids and water, communication, and other infrastructure.

China's efforts to improve rail service actually date

from 1997, when it initiated a series of “Speed-Up” campaigns, which lasted—in a series of stages—for ten years, as preparatory to the launching of true high-speed rail construction in 2007. In 1997 Chinese railroads operated at an average speed of 48 km/h (30 mph), and no two major cities were connected by a high-speed rail line. Beginning with the construction of the Guangzhou-Shenzhen Railway, and then moving through a series of other projects, China began to upgrade the speed of its railways, first to 160 km/h and then to 200 km/h. Today, China defines high-speed rail as trains that operate at a minimum of 250 km/h, and the average speed on its system is 300 km/h.

Initially, China’s early high-speed trains were imported or built under technology transfer agreements with foreign train-makers including Alstom, Siemens, Bombardier, and Kawasaki. As of today, Chinese engineers have re-designed train components and the newer indigenous trains are manufactured in China by the CRRC Corporation—the world’s largest supplier of rail transit equipment.

A stunning accomplishment was the completion of the Beijing-Shanghai High-Speed Railway (Jinghu High-Speed Railway), a 1,318 km (819 mi) high-speed railway that connects China’s two largest cities. Construction began on April 18, 2008, and the line opened on June 30, 2011. The whole project took just over three years. This is the longest high-speed line ever constructed in a single phase. Although capable of going faster, the non-stop train from Beijing South to Shanghai Hongqiao currently operates at an average speed of 300 km/h, and the trip takes four hours and forty-eight minutes. Additionally, a slower class of trains running at 250 km/h (155 mph) operates along the line, making more (local) stops and charging lower fares. By comparison, in 1990 the fastest rail link between Beijing and Shanghai took more than seventeen hours.

Almost all rail operations are handled by the China Railway Corporation (CR), a state-owned company created in March 2013. China’s high-speed lines are operated by China Railway High-Speed (CRH), a subsidiary of CR. In addition to the high-speed Passenger Dedicated Lines (PDLs), one of China Railways’ primary concerns has been to increase freight hauling.



Xinhua/Liu Yongzhen  
*The first commercial bullet train set off from Beijing South Railway Station on the Beijing-Shanghai High-Speed Railway, June 30, 2011.*

Much of this effort has already been integrated with the HSR lines, resulting, for example, in an increase in freight capacity by fifty million tons per year on the Beijing-Shanghai line.

Much of these developments have been accompanied by significant technological and engineering improvements throughout the system, including double-tracking, electrification, and the introduction of ballastless tracks, which allow for smoother train rides at high speeds and can withstand heavy use without warping.

### Subways

China is a nation of almost 1.4 billion people, and it has fourteen cities with a population of more than five million. Simultaneously with its development of HSR during the last decade, China has also acted aggressively to deal with the challenge of urban gridlock.

Before 1990, just three of the country's cities had subway lines: Beijing, Hong Kong, and Tianjin. By 2020, that number is expected to grow to more than forty cities. Shanghai and Beijing have seen tremendous growth, their subway lines now serving 2 billion and 1.84 billion riders respectively a year, the two busiest in the world.

In the past four years alone, Beijing's subway added three brand new lines and significantly expanded five existing ones, opening more than 100 stations since 2012. Currently, the Beijing subway has 19 lines, 345 stations and 574 km (357 mi) of track in operation, and they are currently constructing six new fully automated lines which will add another 300 km (190 mi). All of this is being done with the most advanced technology, including the use of domestically developed communications-based train control systems (CBTC), discussed above. In Beijing, China is in the process of creating the longest fully automated subway network in the world.

In addition to the escalating construction of thousands of kilometers of subway rail lines, China has also embarked on the development of low- and medium-speed maglev trains for urban and suburban use. The first of these lines in Changsha, Hunan province, has now been operating for a year, and a second line in Beijing will begin operation this year.

These two lines are just the beginning. In Hunan province, the manufacturing company CRRC Tangshan Co, Ltd. has begun mass production of these systems. Other companies, in Hebei province and elsewhere, are also involved in this production. These trains, along with the infrastructure which supports them, are all domestically designed and manufactured. Negotiations are now ongoing to expand the use of these "medium-low speed" maglevs to many other cities throughout China.

The Changsha maglev is able to reach speeds of 120



Xinhua/Long Hongtao

*China's first domestically produced middle-to-low-speed magnetically levitated (maglev) rail line in Changsha shuttles between Changsha's south railway station and the airport.*

km/h, but its average operational speed is 100 km/h. Some might consider this slow, but when one compares this to the average speed of a New York City subway train (27 km/h), it is quite respectable. According to a recent statement by a representative of CRRC Tangshan Co, it will deliver the first of a next generation of medium speed maglev trains later this year with a top speed of 160 km/h, a development which can only accelerate the deployment of these systems.

These medium-low speed maglev systems cost less than twenty-five percent of the cost to build traditional subways, and they are even less expensive than the much slower and inefficient "light-rail" systems. In addition, they are quieter, take up less space, and are safer.

### **The Return of Maglev**

Since the opening of the Shanghai Maglev in 2004, maglev has failed to penetrate China's high-speed rail development despite an unmatched advantage in speed, and since 2007 all of the high-speed rail projects have utilized traditional wheel-to-rail technology. One of the reasons for this has been the high cost of construction and maintenance for the ultra-high-speed (430 km/h) maglev systems, but an even bigger obstacle stems from the refusal by Siemens and ThyssenKrupp, the German manufacturers of the Shanghai line, to share

technology with their Chinese clients or to source production into China. This was something that the Chinese refused to accept, and was likely the primary consideration in their decision to not move forward with maglev after 2004.

This situation has now changed. The successful work in the domestic (China-built) development of medium-low speed maglev trains has contributed greatly to China's mastery of the technology, and earlier this year the Chinese government announced that it will be spending 3 billion yuan in 2017 to develop high-speed maglev systems. China's CRRC Corp has also announced that it is beginning research and development on a 600 km/h maglev train and would build a 5 km test track, with a target date of 2020 for the development of an operational system. China's ultimate goal is to export this technology, including both medium-low speed and high-speed maglev systems. An official at the Hunan maglev project recently stated that observation teams have already visited such countries as Singapore, Germany, and Brazil.

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### III. New York Must Join the Belt and Road

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There are several initiatives now underway, both official and unofficial, to address the transit crisis in New York. These include Amtrak's current Gateway Project, centering on the construction of a new tunnel for rail lines under the Hudson River, which would double the capacity of Penn Station; and the Jan. 13, 2016 announcement by New York Governor Andrew Cuomo of his \$100 billion "Built to Lead" infrastructure initiative for the State of New York, which includes \$3 billion to rebuild and rehabilitate the Penn Station complex. There are also significant private initiatives and proposals, including that put forward by ReThinkNYC which focuses on a proposal to transform Penn Station from a terminal to a "through station," linking up New Jersey Transit with the Long Island Rail Road as part of one "through" transit system. Unlike many other "transit planners," the ReThinkNYC proposal envisions a truly integrated regional transit system.

In his recent presentation to the LaRouche PAC Manhattan Meeting on [May 27](#), international rail expert Hal Cooper stated the necessary approach this way:

The subway system is in an increasingly fragile state. The signaling and communications systems are going to have to be repaired; the tunnel problems that were talked about on the Number 7 line are certainly very, very real and have to be addressed. I understand that the East Side access project, building from Sunnyside Yard over in Queens to 63rd Street and Park Avenue in Manhattan is moving ahead. It's been started, and that is a critical element.

We are going to have to build train loops in New Jersey, and we're going to have to build a new tunnel under the Hudson River. We have a similar problem over at the tunnels on the East Side, but not as serious. And we have an electrification problem in that we have non-compatible systems for the Long Island Rail Road, Metro North, and Amtrak and New Jersey Transit, that we're going to have to fix at some point.<sup>2</sup>

We have to make Penn Station a completely through station and we're going to need to be able to go from Grand Central to Penn Station and in reverse, and also be able to have a loop. And we need to expand the Long Island Rail Road connections. One of those possibilities is taking the present PATH from the World Trade Center, extending under Lower Manhattan, extending it under the southern end of the East River so that it ultimately connects with the Brooklyn Borough Hall and Jamaica Station in Queens, which then gives people direct access to the airport and also takes some of the pressure off the trains coming into Penn Station. And we're going to have to align railroads whether we want to or not, and that's a very important factor.

We've got to fix the subway system; we've got to fix the Amtrak; we've got to have new bases for turning trains around and maintaining them; we have to make Penn Station completely a through station, and that means we've got to build a lot of new infrastructure. At Penn Station we've got to get the Farley Post Office converted into the Amtrak facility, and the present Penn

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2. Trains in the New York metropolitan region run on five different types of power. What this means in practical terms is that the train cars used by Metro-North and Long Island Rail Road can't run in New Jersey, and vice-versa, making a unified system very difficult to integrate.



Xinhua

*China is working with other nations to transform the world. Workers lay track during the celebration of the completion of 100 km of track for the Chinese-financed and -designed railway project linking Abuja and Kaduna, Nigeria, June 14, 2014.*

Station for the commuter rail. It needs to happen, rather than talking about it needing to happen. And that's a very critical thing, that right now it isn't on the agenda for being discussed in the way that it should be. And all that needs to be taken care of.

### Think Like the Chinese

Were he alive to witness today's events, Alexander Hamilton would immediately recognize the genius driving the recent transformation of China. China's development of its high-speed rail systems, its maglev systems, and its subway systems should not be viewed as a "transportation" policy. All of the advances that have been made, have taken place over a ten-year span during which the Chinese have lifted 700 million of their own people out of poverty; during a span where they have initiated the most ambitious space program of any nation since the demise of the U.S. manned space program; and during a span in which they have now joined with scores of other nations and billions of human beings in the Belt and Road Initiative for worldwide physical economic development.

China is not simply building transit. They are building the world and building up the people of the world. Hamilton would recognize this. Lyndon LaRouche and

his wife Helga Zepp-LaRouche recognize this. The problem in America today is two fold. First, there is simply a lack of vision. A smallness. Even those, like Gov. Cuomo, who talk about "great projects," think too small. Most infrastructure proposals aim to fix immediate problems, or at best, to deal with projected demand twenty-five years into the future. Any competent approach to infrastructure must include a study of LaRouche's concept of "economic platforms" and must plan for where we need to be at least one hundred years (a minimum of three generations) into the future. This in-

cludes transportation, energy, water, and all other forms of infrastructure, science and industry.

The second, even bigger, problem is that almost all of the people on the American side, who are involved in these types of discussions, are prisoners of the Wall Street monetarist system and mentality. They can't figure out how to finance great projects. They constantly ask, "Where is the money going to come from?" They don't understand Hamiltonian Public Credit. They don't understand how Roosevelt did what he did. They—and all of us—live within a system in which the interests of financial speculators come first. America needs a minimum of \$10 trillion dollars to transform its infrastructure and to build a future. Under the current financial dictatorship of London and Wall Street, that will never happen.

The concerns raised in this article are not exclusive to New York City. This is not an article for "New Yorkers." All of the issues raised here are representative, in one way or another, of similar crises throughout the nation, and the lack of vision and the submissiveness to the usurious policies of Wall Street are a national phenomenon. Look to China! There they are transforming their nation, their people, their culture, and they are working with other nations to transform the world. We can and must be part of this.



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