THE UNITED STATES JOINS THE NEW SILK ROAD

A HAMILTONIAN VISION FOR AN ECONOMIC RENAISSANCE

$20 SUGGESTED CONTRIBUTION

LAROUCHE | PAC

A Hamiltonian Vision for an Economic Renaissance

THE UNITED STATES JOINS THE NEW SILK ROAD

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The United States Can Stop Killing and Dying, and Start Building Again

The world stands on the brink of thermonuclear war, due to the provocative actions and intent of United States murderer-in-chief Barack Obama.

On November 24, with Obama's approval, a Russian Su-24 bomber was shot down by a Turkish F-16. This occurred in the context of Russian military action against ISIS oil being transported to Turkey, evidence for which was presented by President Putin to the Ankara G-20 meeting one week earlier. This provocative action by Turkey, which could not have been made without U.S. support and knowledge, was followed by bellicose statements from President Obama and from NATO Secretary General Stoltenberg. Russia has responded, so far, by deploying major air-defense systems, including jamming technology, closing its military hotline with Turkey, and imposing economic sanctions on that nation.

Such confrontations, in the climate of Obama's unhinged insistence that Assad is the greatest problem in the region, raise the spectre of all-out nuclear warfare, between the United States and Russia, both of whom have a launch-on-warning system for their strategic nuclear arsenals, creating a situation in which decisions on launch of nuclear missiles must be made within minutes of perceived enemy launches seen on early warning radar.[1] And now, for the first time since the 1950s, an American-made fighter jet has shot down a Russian plane.

Why is this dangerous and provocative course being adopted by the U.S. administration, and tolerated by its people? Why are we not, instead, rebuilding our shattered and fragile economy with the firm foundation offered by a return to Franklin Roosevelt–style policies? Obama must be removed from effective power over the U.S. government, to prevent thermonuclear war, and to allow a return to the Hamiltonian policies which created our nation originally.

While this Dark Age of thermonuclear war looms menacingly on the horizon, the Dark Age of national economic disintegration is *already here*.

It is here, in the utterly unprecedented leap in the death rate among white Americans 45-54 years old (some 44 million people) between 1999 and 2014—on Bush and Obama's watch—a rate which has risen by at least 15% during that time, and by nearly 25% for the poorer segment of that layer. The two Princeton economists who authored an early November 2015 study which discovered this shocking reality, say that "*half a million [Americans] are dead who should not be dead"* by all historical experience, and show that the causes are overwhelmingly drug and alcohol intoxication, suicide, and liver diseases associated with substance abuse. These Americans "are the first to find, in mid-life, that they will not be better off than were their parents." These are largely formerly skilled industrial workers, who have been thrown on the scrap heap along with their industries.

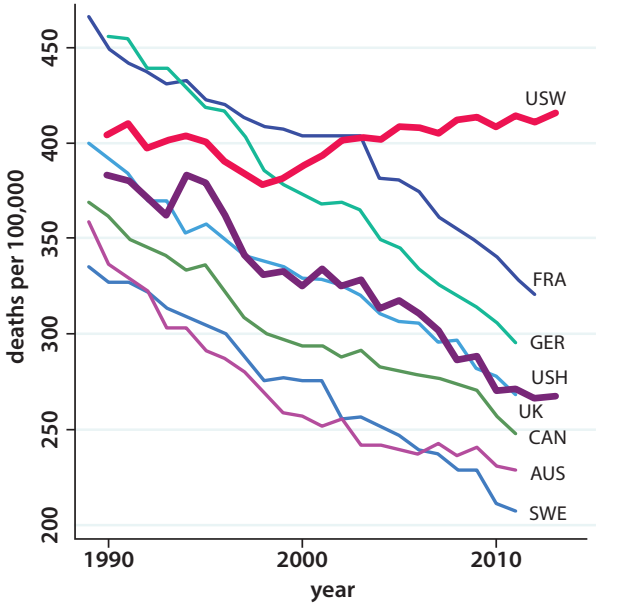
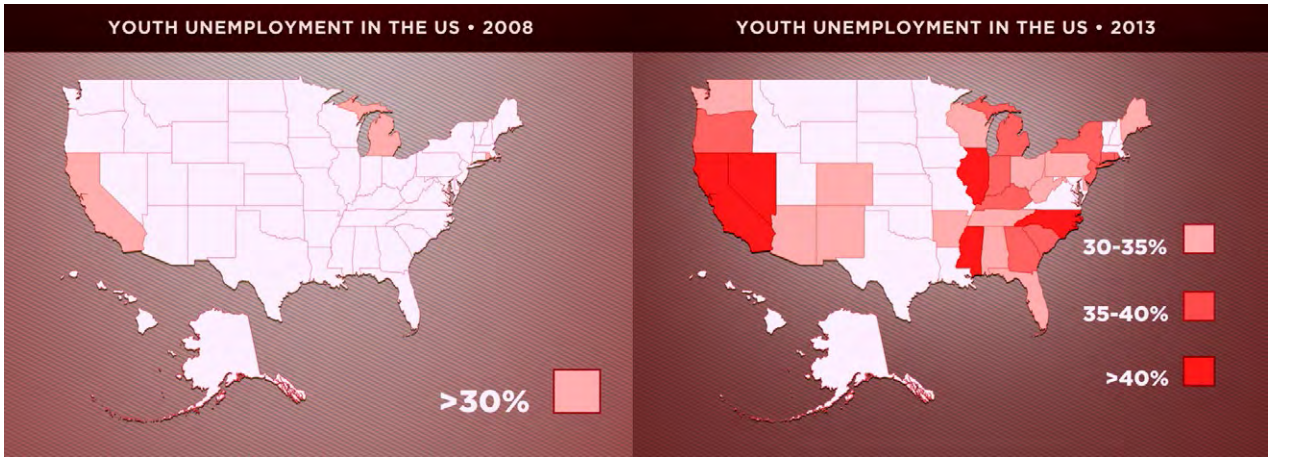


Chart representing all-cause mortality of persons between ages 45–54 for U.S. White non-Hispanics (USW), U.S. Hispanics (USH), and six comparison countries. Source: A. Case and A. Deaton, "Rising morbidity & mortality in midlife among white non-Hispanic Americans in the 21st century" *Proceedings of the National Academy of Sciences*, 112, 49, 15078–15083, Dec 8, 2015

1. See Bruce Blair's "Could U.S.-Russia Tensions Go Nuclear?" in *Politico* Magazine.

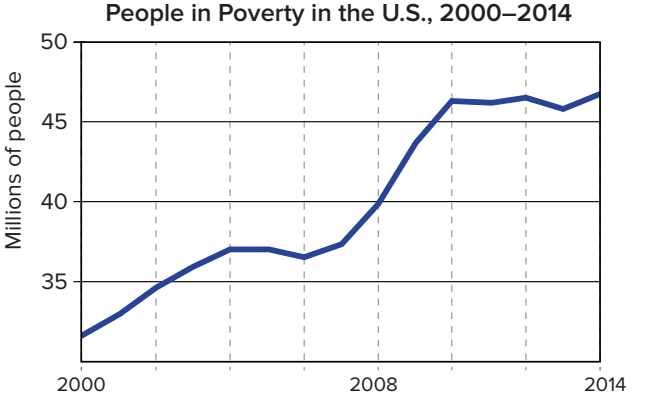


Youth unemployment has exploded under Obama's presidency. In 2013 (the last year for which reliable data is available), a majority of U.S. states had youth unemployment of over 30%, compared to only two in 2008. Source: Dennis Small, *Executive Intelligence Review*

No such sharp spike in mortality rates happened during the Great Depression of the 1930s, nor at any time in the 20th Century; and no such thing has happened in any other Western industrial country since the Second World War. But such a demographic implosion *did* happen in Russia after the collapse of the Soviet Union in 1991; and it emphatically did happen with the 14th Century New Dark Age, in which an estimated one-third to one-half ofthe population of Europe succumbed to the Black Death and to rampant, stinking cultural pessimism, a disease which was only reversed by the Golden Renaissance.

It is here, in the shocking rise in heroin and other drug addiction and drug-related deaths sweeping the nation. The number of Americans using heroin nationwide is now increasing by 50% per year. In one city crushed by 25 years of deindustrialization—the port city of Baltimore, Maryland—the Department of Health estimated earlier this year that *one out of ten residents is using heroin*: there are 50–60,000 heroin addicts in a population of 645,000. On Nov. 4, the Drug Enforcement Administration (DEA) issued an annual report detailing that, between 2000 and 2014—on Bush and Obama's watch—the number of Americans dying of drug overdoses increased so dramatically that this, at 46,000 deaths per year, is now *the leading accidental cause of death*, surpassing guns and automobile crashes. Obama's de facto legalization of marijuana has opened the doors wide to this new British Opium War against the American people.

It is here, in the poverty and the devastation of the U.S. industrial economy, which has created what Mayor Steve Williams of Huntington, West Virginia called "the disease of hopelessness." While the Bush and Obama Administrations have been killing hundreds of thousands in wars and drone murders since 2001, Americans at home have been dying from the policies of deindustrialization of a nation which once had the leading industrial "middle class" in the world, which under presidents such as Lincoln, Roosevelt, and Kennedy always conquered new frontiers with science, classical culture and can-do optimism. But on Bush and Obama's watch, we have lost crucial capability in our aerospace and nuclear energy sectors, and a third of the automobile/machine tool workforce.



Under the Bush and Obama presidencies, poverty in the U.S. has increased dramatically. There are 50% more Americans in poverty than at the beginning of the millennium. Source: U.S. Census Bureau

Forget the lying official statistics: real unemployment is closer to 15%, when you take into account the millions who have become so demoralized that they are no longer even looking for jobs (and so are no longer considered to be part of the labor force), and those with part-time employment only because they can't find a full-time job. And among youth, real unemployment now exceeds 30% in *most* American states.

And for those fortunate enough to still have a job, real wages have been dropping (median incomes are 20% lower in real terms than they were 40 years ago), and actually productive employment has fallen to only 8% of the employed workforce.

Poverty and hunger are rampant today in the United States, even though we are often referred to as "the richest nation on Earth." During Obama's Presidency, the number of Americans living in poverty has risen from 37 million to 47 million, and those receiving food stamps has jumped from 28 million to 47 million. One in every five children in the United States lives below the federal poverty line; among Blacks, it is two out of every five.

A nation that tolerates this level of unemployment and poverty among its youth, is a nation that is willfully destroying its own future. Such skyrocketing youth unemployment wipes out the future potential of the productive economy. It leads to soaring drug addiction, worsening health conditions, and an explosion of criminal activity, including epidemics of deranged homicides/suicides. It is the perfect circumstance for terrorist recruitment. And above all, it leads to the rampant cultural pessimism which has always been fascism's breeding ground.

And *it is here*, in the dejection and pessimism with which most Americans tolerate the snake-oil salesmen of greenie "climate change," and their unscientific, nihilistic conclusion that the human race has somehow exceeded Earth's "carrying capacity," and must therefore reduce the planet's population down to one billion people or less—perhaps starting with *you*.

Like the satanic bestiality of British/Saudi-spawned terrorist groups such as ISIS, these are the various features of the face of the New Dark Age which the British Empire and Wall Street would usher in as mankind's fate. And all to sacrifice humanity on the altar of a $2 quadrillion speculative financial bubble, which is the lifeblood of the City of London and Wall Street.

So, do not think that you can escape from this onrushing Dark Age by running from it, or pretending it doesn't exist. Your only human option is to wage this fight, and win.

LaRouche's Manhattan Project

Having long warned of this oncoming breakdown, and provided solutions, Lyndon LaRouche is uniquely qualified to address the immediate crisis. Over the past year, LaRouche has created the foundations of a process that can save the United States, his "Manhattan Project."

The future survival of our nation lies in the principles of its founding. Alexander Hamilton's genius in creating a single, unified nation is the only basis for the continued existence of the United States in the current conditions of existential breakdown. Manhattan, as Hamilton's base of operations, then, was the true capital of the nation, and remains the center of the principle of the nation, now.

Just as Franklin Roosevelt was a self-conscious New York-centered echo of this Hamilton principle, LaRouche's Manhattan project is today reviving the soul of the nation. As Hamilton created a unified nation dedicated to productivity and progress, so must we recreate it today. As Roosevelt fought to defeat Wall Street, so must we do so again.

The New Dark Age: LaRouche Warned You

In June 2001, in testimony before the Russian State Duma's Economics Committee, Lyndon LaRouche warned about the then-coming breakdown crisis:

"Presently, the world as a whole is dominated by the fact, that we are in the end-phase of the International Monetary Fund (IMF) system, at least as it has existed in the form it developed following U.S. President Nixon's introduction of a so-called 'floating exchange-rate' monetary order in mid-August 1971. Contrary to some hysterical propaganda coming out of the now deeply troubled U.S. Bush Administration, nothing can save the present world financial and monetary system in its present form.

"A continued refusal to accept certain necessary, sweeping reforms in those systems, would bring about not only an economic catastrophe worse than the worst period of the 1930s economic depression. The present crisis, unless it is stopped by drastically needed reforms, will also be a demographic collapse more or less comparable to what is called by historians 'the New Dark Age,' which dominated Europe following the 14th Century bankruptcy of the so-called Lombard banking system. Therefore, to speak of any economic policy which does not include an early and sweeping reform of the IMF system, is worse than a waste of time.

"We can overcome this collapse, but only if we are able to bring about a certain degree of international cooperation."

— Lyndon LaRouche, June 2001

In the pages below, you will find the LaRouche movement's battle plan for the fight to save the nation—a fight to be waged on the battlefield of ideas and policy, of a return to the classical cultural and scientific ideas which have been the foundation of all of mankind's great Renaissances, and which can be nurtured and spread once again—as Lyndon LaRouche and his movement are doing in their Manhattan Project. That Manhattan Project, as we discuss below, is the leverage point for the policy changes needed for the United States to jettison Wall Street and the British Empire, and join with the New Silk Road that the BRICS and allied nations are now building.

The New Silk Road

We must build the future—we must build tens of thousands of miles of high-speed rail corridors; nuclear power development leading into the era of fusion; the construction of hundreds of new Renaissance cities across the country; controlling rainfall based on insights gained from the Galaxy; space exploration and research; and so on. And all of this must be done in tight coordination with the BRICS and allied nations, led by China and Russia, who are already engaged in such a process of building a New Silk Road, and turning it into the World Land-Bridge.

The United States has to join this effort, not only in its international dimension, but also to extend it into the U.S. itself, both economically and culturally. It is the only way to create a future for our youth, to give them back a sense of hope and mission which is their birthright.

The New Silk Road, the inland and maritime corridors of infrastructure development being built across Eurasia, offers a reversal of the collapse now underway. The international development banks which have been formed by the BRICS nations are potential new sources of credit for serious, modern infrastructure building in North America, for the first time in half a century. A high-speed rail corridor coming across the Bering Strait by tunnel and down through Alaska and Canada into the Western United States, and beyond into Central and South America, offers America's first connection to the New Silk Road pioneered by China. A new United States National Bank which Congress can organize for productive projects, will provide America's connection to the new international credit institutions, which will issue credit for development and banish the hated austerity conditionalities which are the hallmark of the IMF system.

But many Americans are so deeply infected with the bacillus of pessimism and despair, that they will respond to such an optimistic vision of the future with a shrug: "Yeah, yeah. That's nice. But it'll never happen. It can't be done. Get real."

Very well. Here's real: China has lifted 600 million people out of poverty over the last 30 years. They have built 11,000 miles of high-speed rail lines in scarcely a decade, and they are planning to have triple that amount by 2020. The U.S., by comparison, has a grand total of 456 miles of high-speed rail lines—and even that's stretching the definition of high-speed to the limit. Besides its national high-speed rail grid, China is developing an indigenous nuclear power industry, aerospace industry, fusion power research, and it has what is becoming the leading lunar and space exploration program internationally.

China is also the nation whose national banks have provided most of the productive credit to keep the world's industry going since the 2008 Wall Street crash, while the U.S. Federal Reserve and its international partners in crime have done nothing but provide trillions in quantitative easing to bail out the bankrupt banks, while destroying the physical economy.

Going beyond that, through the Asian Infrastructure Investment Bank (AIIB) and the whole series of New Silk Road development banks and funds, China has begun to build new economic development corridors beyond its borders, across Eurasia by both land and sea, and in areas of Africa. It is ready to participate in building those corridors into North America, and in the United States. At the APEC meeting in Beijing in November 2014, Chinese President Xi Jinping, with President Obama standing at his side, formally invited the United States to leave confrontational geopolitics aside, and join the BRICS and allied nations in these endeavors, on a win-win basis.

Don't expect Obama to take up that offer, however. He won't. But the United States can and should—starting by removing Barack Obama from the White House by Constitutional means, and adopting the Hamiltonian development and credit policies which Lyndon LaRouche has championed for decades.

Americans can stop dying and killing themselves with "the disease of hopelessness" which has grown from our country's collapse as an industrial nation. We must start building again; building our parts of the "world landbridge" of infrastructure development, to replace the onrushing New Dark Age with a new Golden Renaissance.

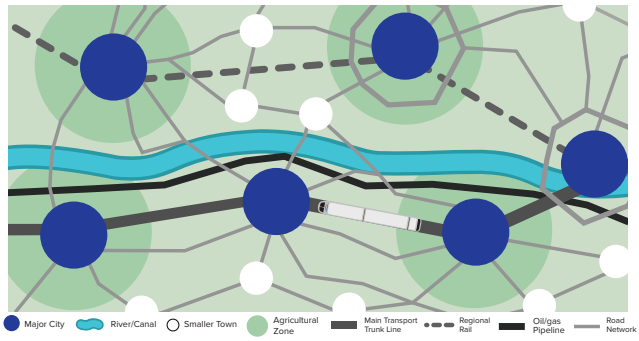
SEE MORE: www.worldlandbridge.com

GATEWAY TO EURASIA:
LINKING THE U.S. TO THE NEW

BERING STRAIT CROSSING

Plans to build a Bering Strait crossing, to link North America to Eurasia, have been on the books for over a century. Today, China and Russia stand ready to cooperate with the U.S. to build such a connection. This would revolutionize world transportation, opening up entirely new routes of efficient high-speed shipping and travel, making rail the the most efficient (and most comfortable) way to get from Beijing to destinations all across North America.

DEVELOPMENT CORRIDORS



High speed rail lines are not simply a practical way to get people and goods from here to there. These new rail corridors will become corridors of *development*, concentrating people and resources for the most efficient utilization of basic economic infrastructure, thus raising the living standards and productive powers of labor of each individual. New major cities, zones of agriculture, and smaller municipalities concentrated along the roughly 60-mile-wide corridors will benefit from the higher platforms of infrastucture in these regions, creating a chain of productive centers from North to South, East to West across the territory.

major hub

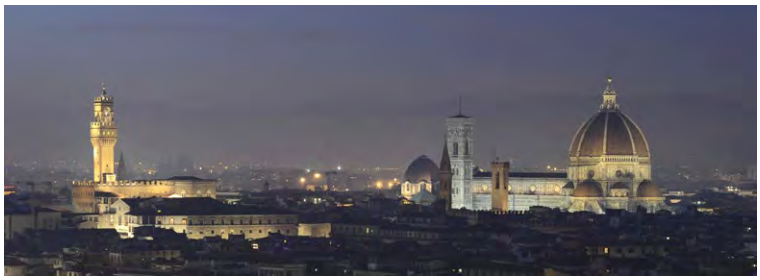
main trunk line high speed rail

proposed U.S. high speed rail

SILK ROAD

NEW RENAISSANCE CITIES

In joining the New Silk Road, the United States will commit itself to building dozens of new renaissance cities, strategically located along the planned development corridors of a newly-built, integrated high-speed rail network. The design of these cities will be carefully mapped out such that each is a beautiful and efficient center of 500,000–1 million people, with a high density of scientific research, industry, energy resources, education, and cultural activity serving to facilitate the greatest cross-collaboration among various fields, to elevate the productivity of each individual resident, and to contribute something to the progress of the nation and the world as a whole.



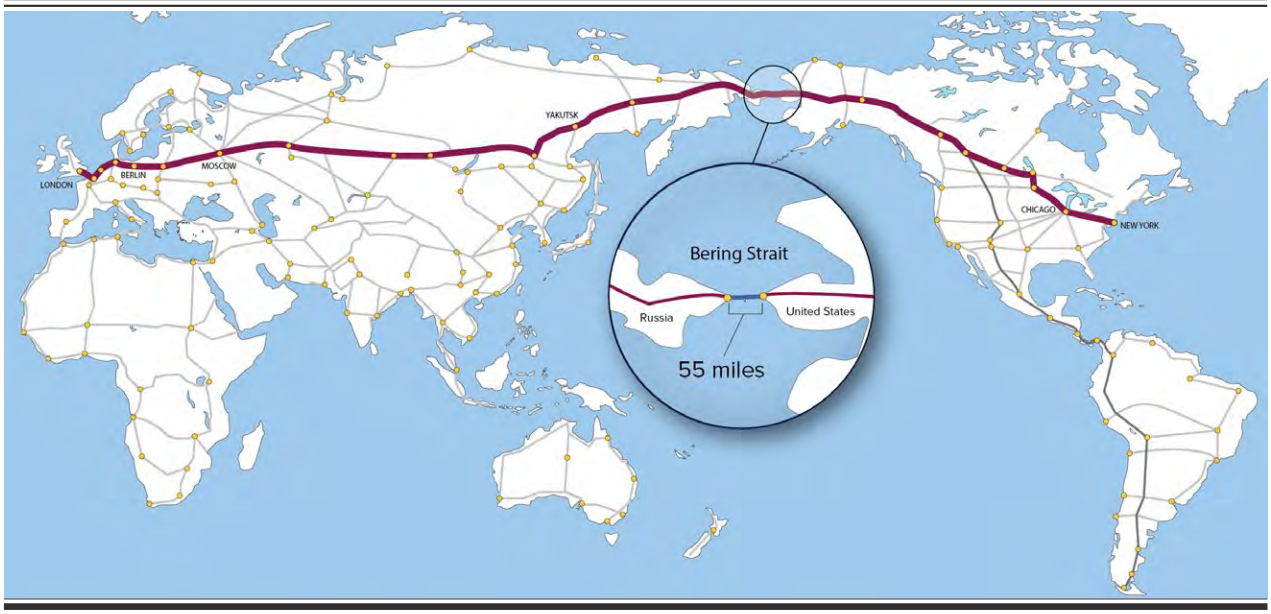
REVIVE INDUSTRIAL CENTERS

Places like Detroit and other formerly booming industrial centers will be put to work with retooled manufacturing facilities, producing components for high speed rail, nuclear power plants, and everything needed for the construction of new cities. Programs similar to FDR's Civilian Conservation Corps could serve as the entry-point training programs for youth, turning them into valuable members of the skilled labor force.

HIGH SPEED RAIL

Tens of thousands of miles of high speed rail are needed to bring the U.S. transportation grid into the 21st Century. Both an upgrading of the existing lines to modern high speed systems (150+ mph), plus the addition of thousands of miles of newly built lines will link up major city centers with agricultural and industrial hubs. Magnetically levitated systems (250+ mph) can be installed along major long-distance trunk lines, making rail once again the fastest and most efficient mode of intercity travel for both passengers and freight. Getting our people and goods off of clogged and dilapidated highways and outdated rail, and onto fast and pleasant trains will increase manyfold the productivity and happiness of the nation.

1. The Bering Strait Connection



The ancient Silk Road linked two great centers of civilization—Asia and Europe—uniting the landmass of Eurasia into a single continent and opening the interior of this continent to human settlement and a cross-fertilization of culture. The New Silk Road, which is already in the process of being built, promises to far supersede the historic accomplishments of its namesake. It is integrating Eurasia through modern modes of high-speed transport and other types of development, but can also be extended on a global scale.

The New Silk Road can become the World Land-Bridge by means of the construction of a Bering Strait rail connection, uniting the two great landmasses of the planet, Eurasia and the Americas, just as the original Silk Road bridged the East and West. Imagine boarding a magnetically-levitated train in downtown Paris or Berlin, travelling at 250 mph across the steppes of Siberia, through an underwater Bering Strait tunnel across more than 50 miles of ocean, emerging on the other side in Alaska, and ultimately arriving in New York City!

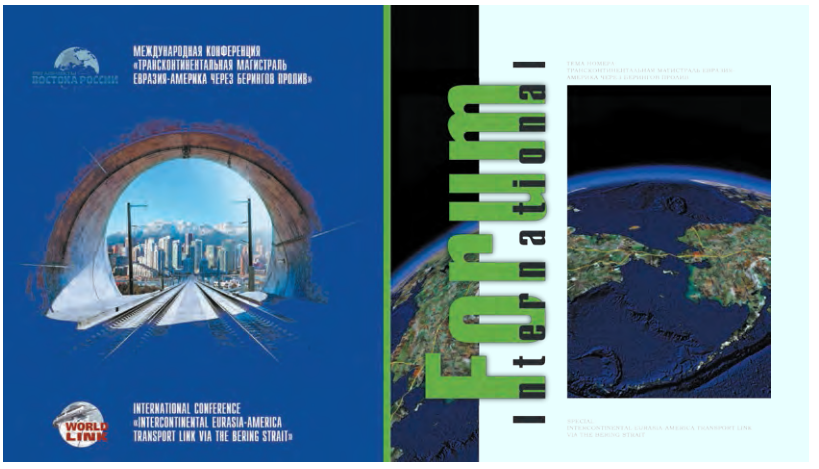
Not only would the completion of the Bering Strait rail connection connect these two great landmasses and place them in direct economic, cultural, and commercial communication with each other, but it would definitively shift the center of global civilization away from the trans-Atlantic and towards the Pacific basin, as well as opening up the Arctic, mankind's modern-day frontier, to human exploration and development.

Overcoming the engineering challenges involved in bridging the gap between Alaska and Siberia would represent a feat of human accomplishment. By means of 55 miles of tunnels under the Bering Strait, the transportation systems of Eurasia and the Americas could be linked, allowing the development of two of the most neglected regions of the planet. Some 2,000 miles of new railway in Eurasia and more than 600 miles in North America will need to be built, under rugged northern conditions on both continents, to complete the connection with the transport systems which already exist.

This vital transportation corridor would be more than merely a means to get from point A to point B; it will open up vast potential for mineral and raw materials development in the Far North. It is not merely a high-speed replacement for shipping across the Pacific; it is an opportunity to develop this severely underdeveloped region of the U.S., Canada, and Russia, allowing its fallow riches to benefit the people of the planet, including through the development of new cities and research centers in this region, unlocking a new opportunity for human discovery and endeavor.

LaRouche's movement has campaigned for a Bering Strait connection since the 1970s. This project served as a critical link in a global chain of development projects envisioned by the LaRouche movement at the time, to be the foundation of a new international economic order and financed through investments by the International Development Bank and related institutions of international credit. With the collapse of the Soviet Union in 1990, Lyndon and Helga LaRouche's vision of a Productive Triangle to integrate the economies of Western and Eastern Europe was expanded to become the Eurasian Land-Bridge, spanning the entirety of the Eurasian territory.[1]

1. *The Eurasian Land-Bridge: The 'New Silk Road'—Locomotive for Worldwide Economic Development*, special report by *Executive Intelligence Review*, 1997.



Cover of FORUM magazine which published a special bilingual edition containing the proceedings of the 2007 Moscow conference on the Bering Strait project, including the text of Lyndon LaRouche's paper and former Alaska Governor Walter Hickel's speech.

The development of a great network of modern successors to old forms of rail transport, must be spread across continental Eurasia, and across the Bering Strait into the Americas: the economically efficient development of presently barren and otherwise forbidding regions in entry into the urgently needed future development of the planet as a whole... To this end, the tundras and deserts of our planet must be conquered by the forces of science-driven technological development of the increased productive powers of labor. Development must now proceed from the Arctic rim, southwards, toward Antarctica. The bridging of the Bering Strait becomes, thus now, the navel of a new birth of a new world economy.

The LaRouche movement campaigned vigorously to bring this perspective of mutually beneficial development to the governments of every major country on the planet, as the foundation for a new strategic order of peace through progress, as opposed to a perpetuation of geopolitical war.

During the 1990s, a number of critical studies were commissioned to explore the possibility of extending this Eurasian Land-Bridge idea to encompass the Bering Strait connection, bridging into the Americas, including most notably a 1995 visionary overview study co-authored by American engineer Hal B.H. Cooper, Jr. and Professor Sergei A. Bykadorov of the Siberian State Academy of Transport in Novosibirsk.[2] In the recent decade, additional plans for this project have received renewed interest.

An April 2007 conference convened by Russia's Council for the Study of Productive Forces titled "Megaprojects of Russia's East: A Transcontinental Eurasia-America Transport Link via the Bering Strait" called for detailed feasibility studies of the project. The conference was addressed by numerous leading Russian academicians, as well as by the former Governor of Alaska, Walter Hickel, who delivered a speech titled "A Transcontinental Eurasia-American Transport Link via the Bering Strait: Megaprojects as the Alternative to War"[3] in which he called the Bering Strait connection "a project that may change the world, a project of joining creative energies, replacing missile defense systems with a territory of international cooperation."

The conference was also addressed by Lyndon LaRouche in the form of a paper which was presented to the gathering titled "The World's Political Map Changes: Mendeleyev Would Have Agreed"[4] in which LaRouche stated:

The design for the Bering Strait connection which was produced by this conference won a Grand Prize at the World Expo–2010 in Shanghai, China. In May 2014, Prof. Wang Mengshu of the Chinese Academy of Engineering stated that China and Russia were discussing its implementation.

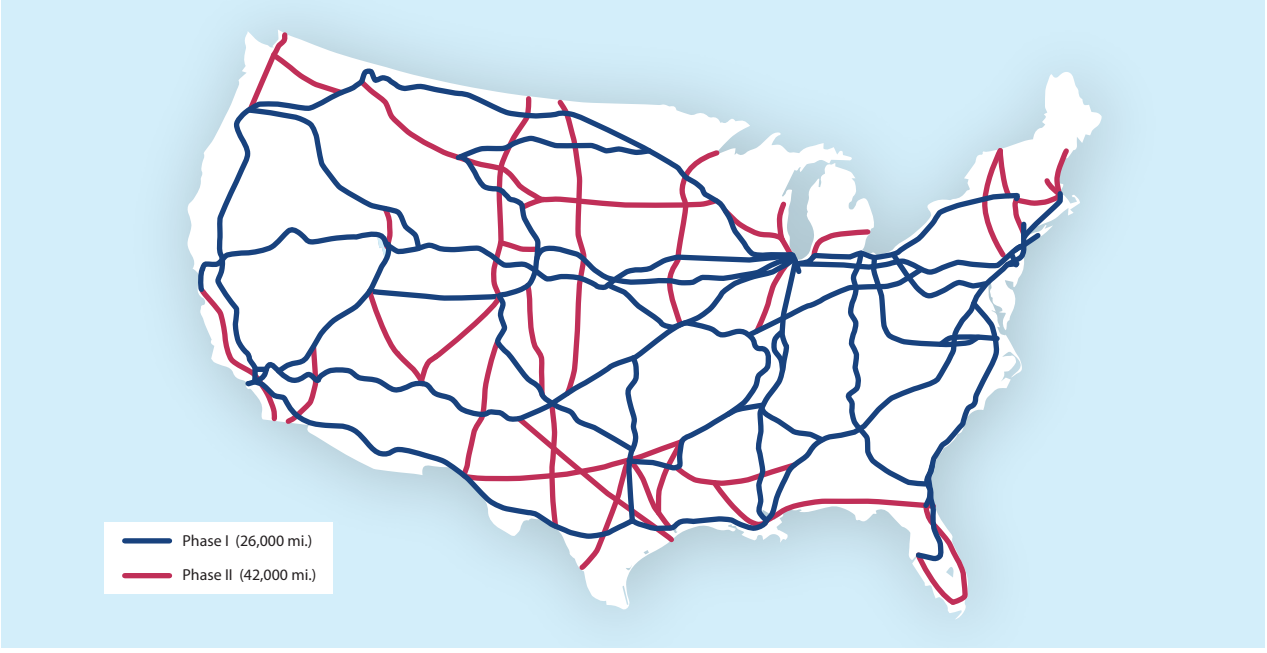
However, the idea of bridging the Bering Strait is not a new one—it is an idea which has captured imaginations *for over 150 years*. Even before Russia sold Alaska to the United States in 1867, there was support in the U.S. Congress for a telegraph line across the Bering Strait to Russia, which had been a key U.S. ally against the British during the Civil War. And later, in 1890, as Russia was initiating the construction of the Trans-Siberian Railway modelled on the Transcontinental Railroad of Abraham Lincoln, Governor William Gilpin of the Colorado Territory promoted a "grand scheme of a Cosmopolitan railway," reaching "north and west across the Strait of Bering; and across Siberia, to connect with the railways of Europe and all of the world."

While Russia and China are reviving discussions of completing this long overdue project, the United States has yet to reciprocate and take the neccesary steps to turn this great vision into a reality.

Map published in 1890 by William Gilpin, depicting the Bering Strait rail connection, titled "The Cosmopolitan Railroad: Compacting and Fusing Together All the World's Continents."

2. Hal B.H. Cooper, Jr., Sergei A. Bykadorov, "North Eurasian Rail Systems & Their Impact on Siberian Economic Growth," *Executive Intelligence Review*, May 19, 1995
3. www.larouchepub.com/pr/2007/070425hickel_moscow.html
4. www.larouchepub.com/lar/2007/3418mendeleyev_bering.html

2. High-Speed and Maglev Rail

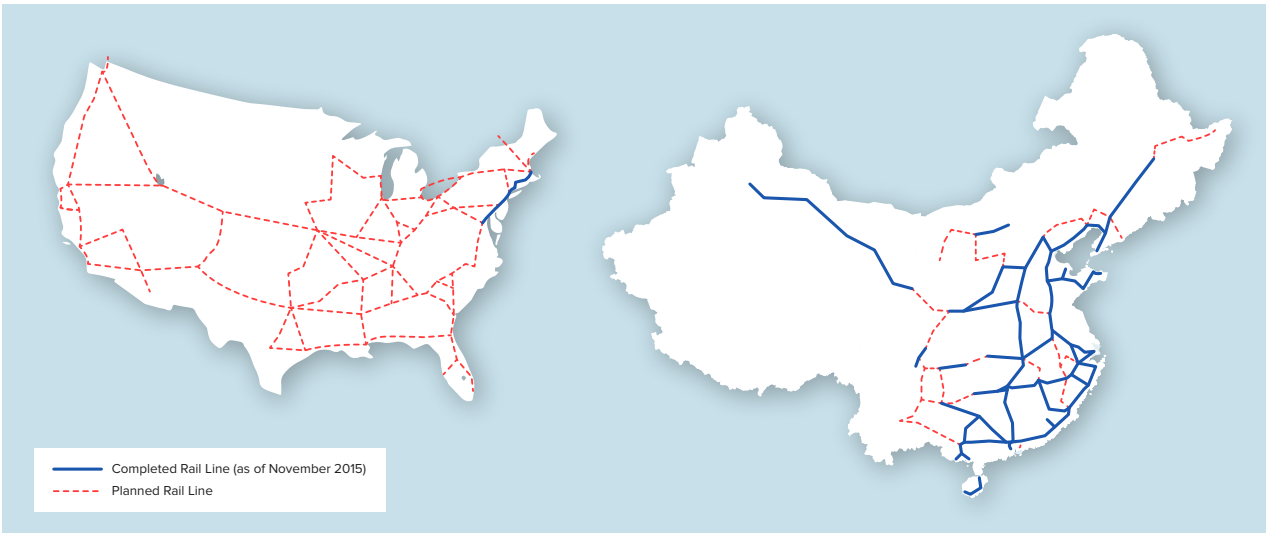


In blue, the proposed first 26,000-mile phase of a new electrified and high-speed rail grid, concentrating on the most heavily-traveled lines. In red, the second stage of building out to 42,000 miles. This proposal includes the addition of three north-south high-speed corridors in the Great Plains, from the Mexican to Canadian borders, the most obvious missing element of the current transportation system of the United States. The Alaska Railroad corridors would connect these continental rail lines to the Bering Strait Tunnel to Russia and on into Eurasia.

Few Americans realize just how far behind their country is when it comes to the development of infrastructure. Visitors from abroad are often appalled at the shameful state of the transportation systems of the United States, especially those which connect highly-populated urban areas and upon which the nation's commercial, freight, and passenger transit depends. Not only are the existing roads, bridges, and rail in a dangerous state of disintegration and disrepair, but the caliber of America's mass transit systems is far inferior to that of most other developed countries in the world. When it comes to rail especially, many other nations on the planet have moved well into the 21st Century, while much of the rail transport infrastructure in the United States remains that of the 20th Century, if not the 19th. In many regards, the United States has actually moved backwards, while other nations have long since overtaken us and progressed.

Americans would be shocked to learn that China, a nation of comparable territory to that the United States, has *25 times as much* high-speed rail as we do, much of which has been built over the course of the last decade. With 11,000 miles of high-speed rail already built, China intends to triple that number by 2020 to complete a 30,000-mile national high-speed rail network. Currently, in terms of mileage, the Chinese high-speed rail system accounts for over 60% of the world's total high-speed rail. One can board a high-speed train in Beijing and travel a distance of just over 800 miles to Shanghai, at an average speed of 185 mph, and be there in *less than 5 hours*. For comparison, traveling by train from New York City to Chicago, a comparable distance, takes over 19 hours!

With a population four times the size of that of the United States, China's aggressive pursuit of modern, high-speed transportation infrastructure to support the economic productivity of its vast and growing population is a matter of national policy, with the financing for its construction provided by credit directly from its national development banks, which invest $130 billion per year. Meanwhile, China also is extending these rail development projects beyond its borders to neighboring countries in Asia, as well as financing similar projects on other continents across the world, including South America, Eastern Europe, and most notably, Africa, where practically all prior rail which existed had been built merely to service colonial raw material extraction and export, and not to increase the productivity and standards of living of the African peoples. Among other sources of financing for these projects internationally, China has set up a $16 billion "Silk Road Fund" specifically to promote infrastructure connectivity and to build what



The United States and China have similar land areas, yet China has over twenty times as much high-speed rail (11,000 miles), with a network of 30,000 miles planned by 2020. In the graphic, blue lines depict currently existing high-speed rail, and red lines depict potential future routes. While in China these future routes are already on the books and slated to be built, in the U.S. they remain only proposals.

it terms "economic corridors" as a key facet of its "One Belt, One Road" strategy to build the New Silk Road. Russia has also specifically stated that it intends to coordinate its own vision of a Eurasian Economic Union which integrates the economies of Russia and its neighbors, with China's policy of Eurasian development through the New Silk Road, thus establishing a basis for a unified system of modern high-speed transport across the entirety of Eurasia.

As discussed above, the completion of a rail tunnel from Siberia to Alaska under the Bering Strait will extend this Eurasian network into the Americas and provide a gateway for the United States to join this newly emerging Pacific-centered world. However, to connect this new gateway to Eurasia into the rest of the continental United States, we will need to vastly improve and expand the Alaska Railroad corridors through Canada, and create a new and highly modernized rail transport system across our own continent to match what is now being built in China and the rest of Eurasia.

The U.S. rail grid—once the primary mode of intercity freight transport in this nation, carrying three-quarters of the nation's freight during World War II—has been systematically dismantled, beginning in the post-War period and accelerating after the rail industry was deregulated in 1980. Today, the remaining aging rail infrastructure, in varying states of disrepair, is heavily clogged with diesel trains carrying coal and oil cargo, recently even to the exclusion of agricultural products. Passenger transport is no better, as the increasingly frequent breakdowns, delays and derailments on the heavily-traveled Northeast corridor show. Instead of riding fast and efficient modern trains, our goods and people remain stuck on congested highways!

To join the New Silk Road, the United States must immediately launch a crash project to rebuild, expand, and modernize its dilapidated rail grid. One proposal is for a two-phase plan to build 42,000 miles of modern, electrified rail, 17,000 miles of which will be high-speed rail, to be accomplished in about 15 years. With modern high speed rail (over 150 mph) and magnetically levitated, or maglev train technology, with average speeds of 250 mph, we can begin to move goods and people efficiently and safely at speeds 2-3 times faster than we do with today's outdated, broken, and congested rail and highway system.

The proposed 42,000-mile project will require an enormous mobilization of industrial production to supply the necessary goods and materials, as well as advanced workforce training to create the necessary skilled labor needed to complete such a task. Currently less than 1% of the existing U.S. rail network is electrified, and the tracks of the freight rail system absolutely cannot support high-speed or even moderate-speed travel by passengers or high-value freight (the average speed of a freight train today is less than 25 mph).

REQUIREMENTS FOR 42,000 MILES OF ELECTRIFIED RAIL

10,000
locomotives

1,000
power substations

15.5 million tons
high-tensile steel

22 million tons
cement

50 gigawatts
power production

Therefore, the new high-speed rail system will require its own electrified track, each mile of which requires 370 tons of steel, 535 tons of cement, and a mile of electrical transmission line. All of this will need to be produced, as well as the rolling stock for the train itself, including modern, aerodynamically designed, electric locomotives. To produce all of this, we will need to reverse the decades-long trend towards deindustrialization, and a national mobilization to reindustrialize the formerly productive areas of our country will be needed.

Retooling America's Industry

In 2005, when the American automobile industry went bankrupt, LaRouche had proposed intervening to save the machine-tool capacity of this sector by retooling it and repurposing the plant floor which it occupied to build the components for this high-speed rail system—much in the way Franklin Roosevelt had worked with Walter Reuther during World War II to retool the auto plants at that time to build tanks and planes. Although LaRouche's proposal was not adopted, and as a consequence much of that industrial capacity as well as skilled labor has been lost, the necessity still stands.

We will need to retool many of the remaining factories, as well as create vast new industrial capacity, to produce much of the materials and components needed, including the production of new electric locomotives, 10,000 of which would be required just to equal current capacity. An additional 50,000 megawatts of electric power production will be needed to to power the trains, requiring widespread construction of advanced nuclear reactors; thousands of miles of electric power transmission lines will need to be built to transmit that electricity; 1,000 power substations and other power distribution systems will be necessary; and 26,000 double-tracked miles of rail will need to be built, requiring nearly 10 million tons of high-tensile steel and 14 million tons of cement. The revitalization of much of the unused industrial capacity in the heartland of the United States for this purpose will mean a rebirth of these dismally economically depressed regions of the country, providing hundreds of thousands of new, skilled jobs and a renewed national sense of future and mission akin to that which the country experienced during Franklin Roosevelt's great New Deal. Large-scale training and education programs will also be needed for the largely unskilled and unemployed youth generation, resembling what Roosevelt accomplished with his Civilian Conservation Corps (CCC).

This national high-speed rail network must be seen in the context of the reconceptualized economy and world of which it will be a part. An economy whose profit derives from physical production and scientific discovery will have a much greater need to transport industrial materials and manufactured goods (including intermediate goods); a nation fueled by the power of the nucleus will have much less need for transporting coal and oil (which today account for over half of rail freight tonnage). With the Bering Strait crossing built, a tremendous quantity of cargo that would otherwise be shipped to the BRICS-oriented Eurasia by sea would take advantage of the speedier transit offered by rail. Passenger transport between cities (including the dozens of new cities which must be built with populations of 500,000 to 1,000,000) will be by rail for short-haul trips under 300–400 miles as opposed to the dramatically inefficient air and highway transport which we depend on today. Building a solid transportation platform for this new national economy is the basis for eliminating bottlenecks, inefficiencies, and slow transit times, and will serve to further integrate the United States as a single nation with a unified sense of cultural and economic purpose.

A New Civilian Conservation Corps

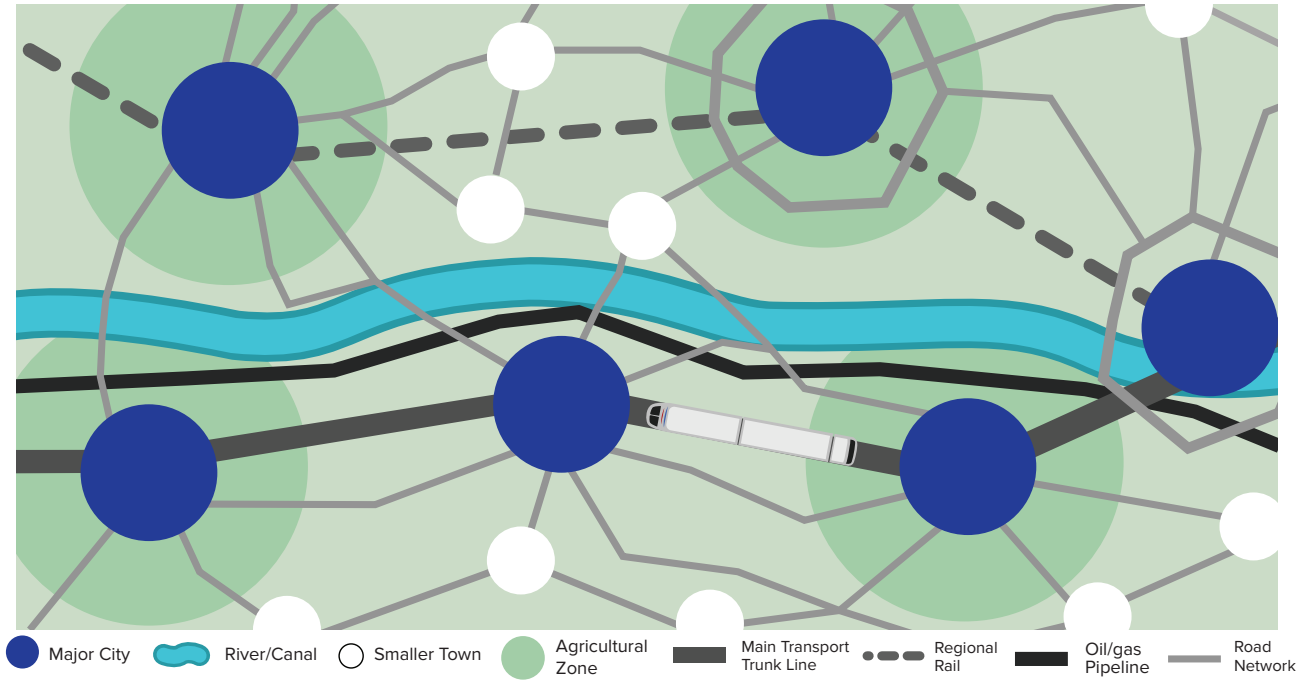
In a message delivered to the Civilian Conservation Corps (CCC) in July 1933, Franklin Roosevelt called the CCC "the greatest peacetime movement this country has ever seen," a mobilzation "which is so vital a step in the Nation's fight against the depression." Launching the CCC within days of assuming office, Roosevelt viewed this program as a critical element of his overall New Deal, created to address the dire lack of skills and employment among the nation's youth, who had been relegated to idleness and poverty as a result of the Depression. Employing over three million young men over the course of its existence between 1933–1942, the CCC engaged in crucial projects such as flood control, land management, forest preservation, the construction of national parks, and restoring historic sites, with over 4,500 camps in total, in every state of the union. Enrollees were paid a regular salary, much of which was sent back to their families. Over 40,000 members of the CCC who had been illiterate when they enrolled were taught to read.

On April 17, 1936, to mark the third anniversary of the program, FDR delivered a radio address in which he described the beneficial effects of the CCC, much of which can be applied directly to today:

"Idled through no fault of your own, you were enrolled from city and rural homes and offered an opportunity to engage in healthful, outdoor work on projects of definite practical value to all the people of the Nation... Although many of you entered the camps undernourished and discouraged through inability to obtain employment as you came of working age, the hard work, regular hours, the plain, wholesome food, and the outdoor life of the CCC camps brought a quick response in improved morale... You grasped the opportunity to learn by practical training on the job and through camp educational facilities... Since the corps began, some 1,150,000 of you have been graduated, improved in health, self-discipline, alert, and eager for the opportunity to make good in any kind of honest employment."

Statue of a Civilian Conservation Corps worker at the Red Rocks Amphitheatre in Colorado, which was built by the CCC and the WPA. *Photo credit: Meghan Rouillard*

3. Development Corridors



High-speed rail lines are not simply a practical way to get people and goods from "here to there." These new rail corridors will become corridors of development, concentrating people and resources for the most efficient utilization of basic economic infrastructure, thus raising the living standards and productive powers of labor of each individual.

For purposes of conceptualization, the typical infrastructure corridor can be visualized as a continuous strip of land, approximately 60 miles wide, centered on a major railroad line. Parallel to the rail line, is other needed infrastructure: high-capacity electric power lines, oil and gas pipelines, water supply systems (including new irrigation canals and aqueducts where needed), fiber-optic communications lines, and so forth. In this way, the most essential preconditions for every kind of industrial, mining, agriculture, and urban construction activity are created within the corridor. From the core can come any number of branches or arteries, supplying surrounding areas.

As new urban centers grow up within the corridors, the eventual result will be a "pearl necklace" effect, of cities and towns, surrounded by regions of intensive agriculture, gardening, forestry, and recreational areas, interspersed with smaller towns and villages. The economic advantages of such corridor development include vastly increasing the efficiency and economic impact of the infrastructure lines themselves. A dense fabric of population centers and agricultural and industrial activities located along a rail line actually creates an economic multiplier, in the sense of increasing the degree of utilization, and thus reducing the per-unit cost.

Unlike sea-routes or air travel, such a land-bridge connection allows for development along the way, in contrast to the approach of oases, or islands, of investment activity, connected by expensive transportation to simply fill the gaps. This bundling of transport, energy, water, communications, and other basic infrastructure along a given route, provides ideal conditions for the growth of a band of intense agriculture, industrial, and population centers along that route.

Through this kind of development, a railroad between two points actually takes on the role of a giant production line, in which value is added to a portion of the goods as they move from one point to the other. In this way, the railroad takes on much of the character that river systems originally had in facilitating the spread of settlement and civilization into the interior of otherwise inaccessible landmasses, and creating long chains of interlocking industries from the coast to the continental interior and back. In effect, infrastructure corridors along these "artificial river" systems of rail and other transport provide a higher platform for the development of populations and territory, multiplying the value of the interdependent economic activities which takes place along them, and as a result, increasing the potential productivity of both the populations along those routes, as well as increasing the potential population density which the territory can support as a whole.

4. New Renaissance Cities

Fra Carnevale, *The Ideal City*, c. 1480-84.

As the population of the planet continues to grow, mankind has an opportunity to build inspiring new cities, constructed according to principles of beauty and efficiency to allow for the greatest expression of creativity and culture among their residents. The United States must abandon the tendency towards the anomie-inducing suburban sprawl which has dominated much of the last half-century and encouraged the alienation and social isolation which we see among so many young Americans today, and instead take a fresh approach to planning and designing new urban centers which will place classical science and artistic education at the center of the culture of these new "renaissance cities" as they may be called

India under Prime Minister Narendra Modi has committed to developing 100 new "smart" cities, each to be a "lighthouse" example of development; Russia can boast of advanced "science cities" such as Dubna, built in 1956 and centered around the Joint Institute for Nuclear Research. In the United States, there are hundreds of thousands of square miles of virtually empty or severely underdeveloped territory, most of it between the Rocky Mountains and the Mississippi River, and throughout the South. The existing resources of these areas could be put to great use in developing numerous modern renaissance cities, which concentrate together the best of the nation's scientists, artists, researchers, and industrialists for a unity of purpose and a collaboration around great achievements in their fields. Useful examples include the cities which were built up around the national labs and other research centers involved in both atomic research during Roosevelt's Manhattan Project and space research during Kennedy's Apollo Project,[1] although prevailing trends in architecture and building practices at that time unfortunately tended to produce aesthetically less-than-inspiring results.

Rather, the greatest achievements in architectural design over the course of human history—those accomplishments that we still admire today, such as the great dome of Florence, or the beautiful public buildings of Greece, or the majestic shrines and temples of India and other cultures in the East—can be emulated and further developed, with modern construction techniques employed to build new symphony halls, museums, schools, parks, public squares and forums, residential housing, and commercial districts, recognizing the aesthetic principles which underlie the greatest and most beautiful architectural achievements of the past. As opposed to mere novelty for its own sake, or the nihilistic celebration of ugliness and rejection of the past which dominates much of today's culture, a nation which has the maximal development of its citizens as its core mission will provide the most uplifting living conditions for those citizens in order to best facilitate their creative and social endeavors for the benefit of the nation and its people in its entirety.

1. One dramatic example was Huntsville, Alabama, which was transformed from being a backwards Southern town, where poor black sharecroppers still picked cotton, to becoming the center of space research during the Apollo era. Largely because of the influence of the German rocket scientists such as Werner von Braun, the culture of the city blossomed through the creation of a symphony orchestra and numerous chamber music groups, the establishment of a university, the construction of libraries and a science museum near the Marshall Space Flight Center, and an astronomical observatory. Unfortunately, the architecture of the city is not classical, but reflects the style of the 1960s. However, as an example of how modern, scientifically and culturally advanced cities can be vectors for uplifting formerly downtrodden populations, Huntsville was to became virtually the only city in Alabama that willfully became racially integrated before there was a federal law (and federal troops) requiring it. This type of transformational effect is urgently needed today throughout much of the United States.

In joining the New Silk Road, the United States will commit itself to building dozens of these new renaissance cities, strategically located along the planned development corridors of a newly-built, integrated high-speed rail network. The design of these cities will be carefully mapped out such that each is a beautiful and efficient center of 500,000–1 million people, with a concentration of scientific research, industry, energy resources, education and cultural activity: serving to facilitate the greatest cross-collaboration among various fields, to elevate the productivity of each individual resident, and to contribute something to the progress of the nation and the world as a whole.

A city's purpose and mission includes providing its residents an education connected to research of potentially world importance. This, with the arts, creates a truly *human* culture.

Cities are infrastructure in two ways: as a physical nexus for transportation of goods and of people, and as a cultural platform for the most essential aspects of wealth creation: discovery and education. At the city centers will be universities and research centers, museums, theaters, concert halls, and public parks. The central pedagogical museum and research center would provide a means for children (and their parents) to physically recreate the discoveries of the past, through guided lectures, educational programs, and experimental demonstrations. To teach science is to teach the principles of discovery. This is the basis of an educated and flexible workforce, able to master new technologies throughout their careers. To give vitality and direction to the educational process, this zone must be engaged in some aspect of scientific work which is potentially of global and revolutionary importance.

Around this core (which will also include a research-oriented medical center) will be located residential and commerce areas, and central hubs for transportation. Major industries will be concentrated in zones along the outskirts of the city, with lands surrounding the city dedicated to agriculture and other uses. The city will not be allowed to grow beyond its bounds; rather, additional cities of finite size will be built.

Underground will be a durable platform for infrastructure such as mass transit, utilities, and sewers, in as modular a way as possible to allow for change and expansion of such technologies. A city built for human living could have average commute times of 15 minutes or less, and access to shared venues, cultural and scientific, for a society oriented around promoting productive and creative activity among its people.

Not only would these cities provide beautiful and inspiring new places to live and work; building them would require the revival of many idled or imperiled manufacturing and industrial facilities, and also labor, to produce the varied components of resource management systems, energy and other infrastructure, residential, commercial and public construction, and everything else that would go into the completion of such new "pearls" along the American Silk Road.

Photo credit: SamWolff, flikr

The dome of the Santa Maria del Fiore cathedral dominates the entire city of Florence, Italy, the center of the great Golden Renaissance. The dome, which was designed by Filippo Brunelleschi, one of the greatest geniuses in human history, was and remains an unprecedented artistic, scientific and engineering accomplishment, and is a testament to human creativity itself. Brunelleschi's Dome, and its relationship to the city of Florence, provides a beautiful example for the design and construction of future renaissance cities to be built.

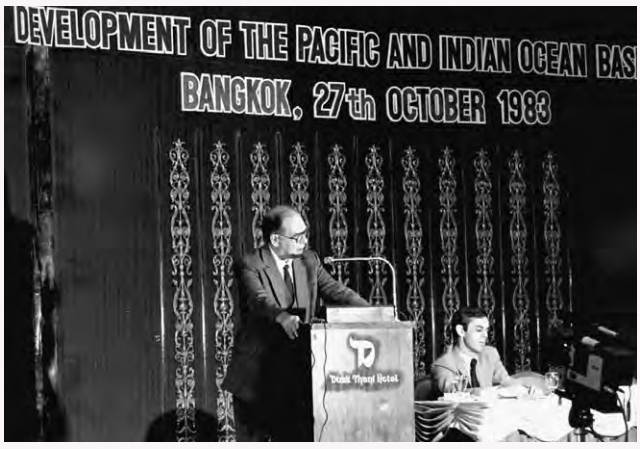
Towards a New International Order: LaRouche and the New Silk Road

Both Lyndon LaRouche and his wife, Helga Zepp-LaRouche, have played a central role in conceptualizing and promoting the idea of the New Silk Road as a means to creating an entirely new paradigm of international development and mutually beneficial cooperation for the planet. Beginning as early as 1975, when Lyndon LaRouche proposed the creation of a new international economic order by means of the establishment of an International Development Bank (IDB), this vision was contingent on the development of the planet through great projects involving rail transportation, energy development, new oceanic canals and seaways, a crash program for technological breakthroughs in the fields of fission and fusion research, and the concomitant increases in productivity and labor power for both the developed and the developing world which such projects would entail. On this basis, Lyndon and Helga LaRouche developed very close working relationships with leading international figures, including the Prime Minister of India, Indira Gandhi, as well as other leaders within the Non-Aligned Movement. Travelling to India, Thailand, Japan, and other Asian nations throughout the early 1980s, the LaRouches met with heads of state, industrialists, scientists, and engineers to discuss the development projects necessary to lift hundreds of millions of people in the so-called Third World out of poverty and allow these formerly colonialized regions of the planet to become sovereign, leading economic centers of power in the future, while warning that the IMF system which dominated the Western developed world was in a process of decay and disintegration.

Corollary to LaRouche's warnings of the imminent collapse of the Western economic system if crucial reforms were not adopted and if the growing influence of the post-industrial zero-growth ideology were not challenged and overthrown, were his efforts to overcome the thermonuclear standoff between East and West, which was embodied in his proposal for a joint, space-based missile defense system employing new laser and directed-energy technologies, a program which would both serve as a driver for scientific breakthroughs, and as the basis for a new system of peaceful relations between the superpowers of that time to eliminate the threat of a third world war. Although President Ronald Reagan adopted LaRouche's program in what became known as the Strategic Defense Initiative (SDI), the leadership of the Soviet Union rejected it and instead poured vast amounts of resources into further military expansion, prompting LaRouche to warn of the coming collapse of the Soviet system. One year before the fall of the Berlin Wall, in October of 1988, LaRouche travelled to Berlin and forecast the disintegration of the Soviet Union and the reunification of Germany. To prepare for such a development, LaRouche proposed the establishment of a Marshall Plan-type program for the rapid modernization of Eastern and Central Europe and as a locomotive for the reindustrialization of the West. One year later, the fall of the Berlin Wall marked the end of the Iron Curtain, and LaRouche proposed the creation of a Productive Triangle of rail development and industrial corridors to unite Eastern and Western Europe.

Lyndon and Helga LaRouche initiated an international campaign for this program, quickly expanding the Productive Triangle concept to include the former Soviet territories in Russia and central Asia, and stretching all the way to the Pacific coast. This proposal, which became known as the Eurasian Land-Bridge, was described by LaRouche as an "integrated Eurasian development network stretching from the Atlantic to the Pacific," opening up the development of vast inland territories and uniting the entire Eurasian continent. To promote this vision, Lyndon LaRouche traveled numerous times to Russia throughout the 1990s, meeting with leading academicians, economists, and scientists, participating in forums sponsored by the Russian Academy of Sciences, testifying before the Duma, and conducting regular dialogues with leading members of Russia's intelligentsia. At the same time, Helga Zepp-LaRouche traveled to China, participating in a 1996 conference in Beijing titled "International Symposium on Economic Development of the New Euro-Asia Continental Bridge" sponsored by the Chinese Ministry of Foreign Trade and Economic Cooperation. At that conference she delivered a speech titled, "Building the Silk Road Land-Bridge: The Basis for the Mutual Security Interests of Asia and Europe," in which she stated:

> The governments of Eurasia should agree on an integrated infrastructure program, which connects the industrial centers of Europe and Asia with the population centers in South and Southeast Asia, through "development corridors." The development of those main axes of traffic, through Great Projects for infrastructure in transport, energy, water, and communications, is the precondition, to lay the groundwork for the industrial development of the Eurasian land-mass, and can thus become the motor for overcoming the world economic crisis.



Left: Helga Zepp-LaRouche, the "Silk Road Lady" speaking in Lianyungang, China in 1996 at the eastern terminal of the Eurasian Land-Bridge. Right: Lyndon LaRouche speaking in Bangkok, Thailand in 1983, on financing international development projects, such as the Kra Canal, one of many great projects which LaRouche has long advocated, all of which play a crucial role in the now emerging World Landbridge.

The proceedings of that conference, along with detailed blueprints and maps of proposed rail routes and development projects across Eurasia, were published in a 1997 special report by *Executive Intelligence Review* titled *The Eurasian Land-Bridge: The 'New Silk Road'—Locomotive For Worldwide Economic Development*, which was circulated widely internationally among governments at the highest level and within the leading diplomatic, scientific, industrialist, and academic communities.

In 1998, Helga Zepp-LaRouche returned to China to participate in a second conference on the Eurasian Land-Bridge, called "Asia-Europe Economic and Trade Relations in the 21st Century and the Second Eurasian Bridge," where she delivered a speech at the keynote session titled "Principles of Foreign Policy in the Coming Era of the New Eurasian Land-Bridge." Over the following decade, the LaRouche movement organized literally hundreds of conferences, seminars, forums, lectures, and meetings on the subject of the Eurasian Land-Bridge as the cornerstone for a new international economic and security order. In 2007, at a conference held in Kiedrich, Germany which was titled "The Eurasian Land-Bridge Becomes a Reality," Helga Zepp-LaRouche declared:

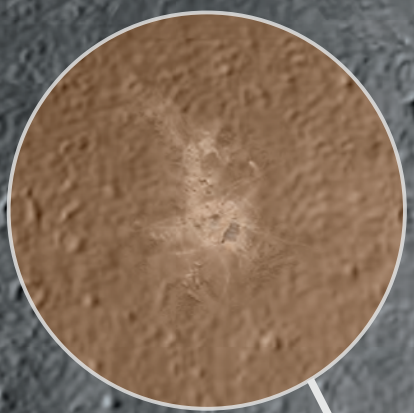
> This conference is the beginning of a worldwide dialogue of people who want to reconstruct the world; of putting together the combination of people who want to fight for the old idea, for example, of the Non-Aligned Movement, to build a just new world economic order. And the key to this is building the Eurasian Land-Bridge, which, from the beginning, never was meant to be limited to Eurasia, but the cornerstone of a global reconstruction program... Either we establish a new world economic order based on the Eurasian Land-Bridge, and go for global reconstruction, or we will plunge into a dark age... The question of the new world economic order has been our life's work, and it is now time to implement it.

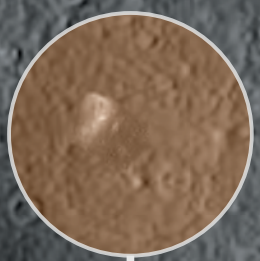
In September 2013, Chinese President Xi Jinping announced that the Chinese government was officially adopting a policy he called the "New Silk Road Economic Belt" as the basis of a "new vision of cooperation" among the peoples of Eurasia. Less than a month later, President Xi augmented his program by also calling for the creation of a "Maritime Silk Road." In the form of this "One Belt, One Road" policy, the Eurasian Land-Bridge, as it was conceptualized over the course of more than two decades by the LaRouche movement, has become the official policy of the most populous nation on the planet.

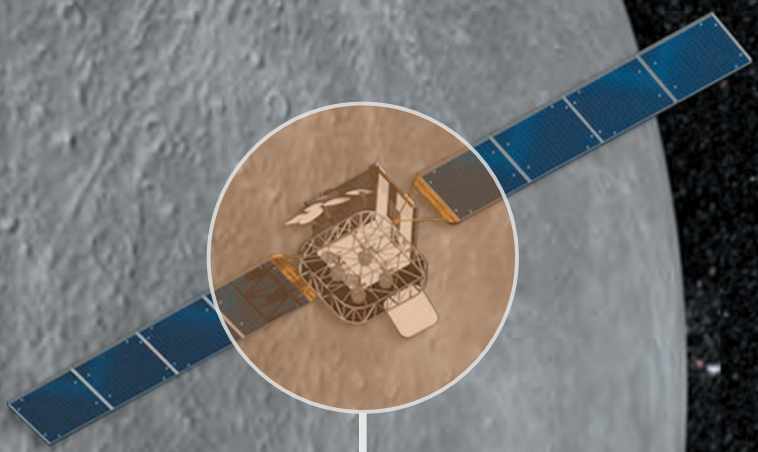
After this announcement by Xi Jinping, the LaRouches commissioned a new updated *EIR* report entitled *The New Silk Road Becomes the World Land-Bridge*, a 370-page book outlining all major projects around the world waiting to be implemented. This report was highly regarded by scholars in China and was soon translated into Chinese, with the newly formed think-tank, Chongyang Institute for Financial Studies based at the prestigious Renmin University, asking to co-sponsor it. At a book launch in Beijing in September 2015, Helga LaRouche presented the book to the Chinese public.

The determination of the Chinese government to carry forward this program beyond the limits of Central and Southeast Asia to the Middle East and Africa has put on the agenda what Helga LaRouche, who has traveled to China five times in the last two years, has called a "new paradigm for humanity," based on mutual respect and cooperation around projects of global development which can begin to eliminate the poverty, disease, and desperation that have engendered that religious and ethnic hatred and the violence and terrorism which have become such a dominant feature of our political horizon. For the policies of the United States and Europe to be shifted away from the present confrontational course of war, and toward a policy of "win-win" cooperation with Russia, China, India and others, it will be thanks to the decades-long commitment to the vision of a new international order by Lyndon and Helga LaRouche, and their continuing efforts for such up to the present day.

CREATING THE FUTURE:
A SCIENCE DRIVER MISSION







DEVELOPMENT OF SPACE

There are approximately 5 million tons of the advanced fusion fuel, helium-3, on the Moon. Mining operations could provide enough to power Earth for millenia.

Rovers and robotics can extend man's presence, activity and influence to other bodies in our Solar System, allowing man to take control of processes far beyond the reach of his physical body.

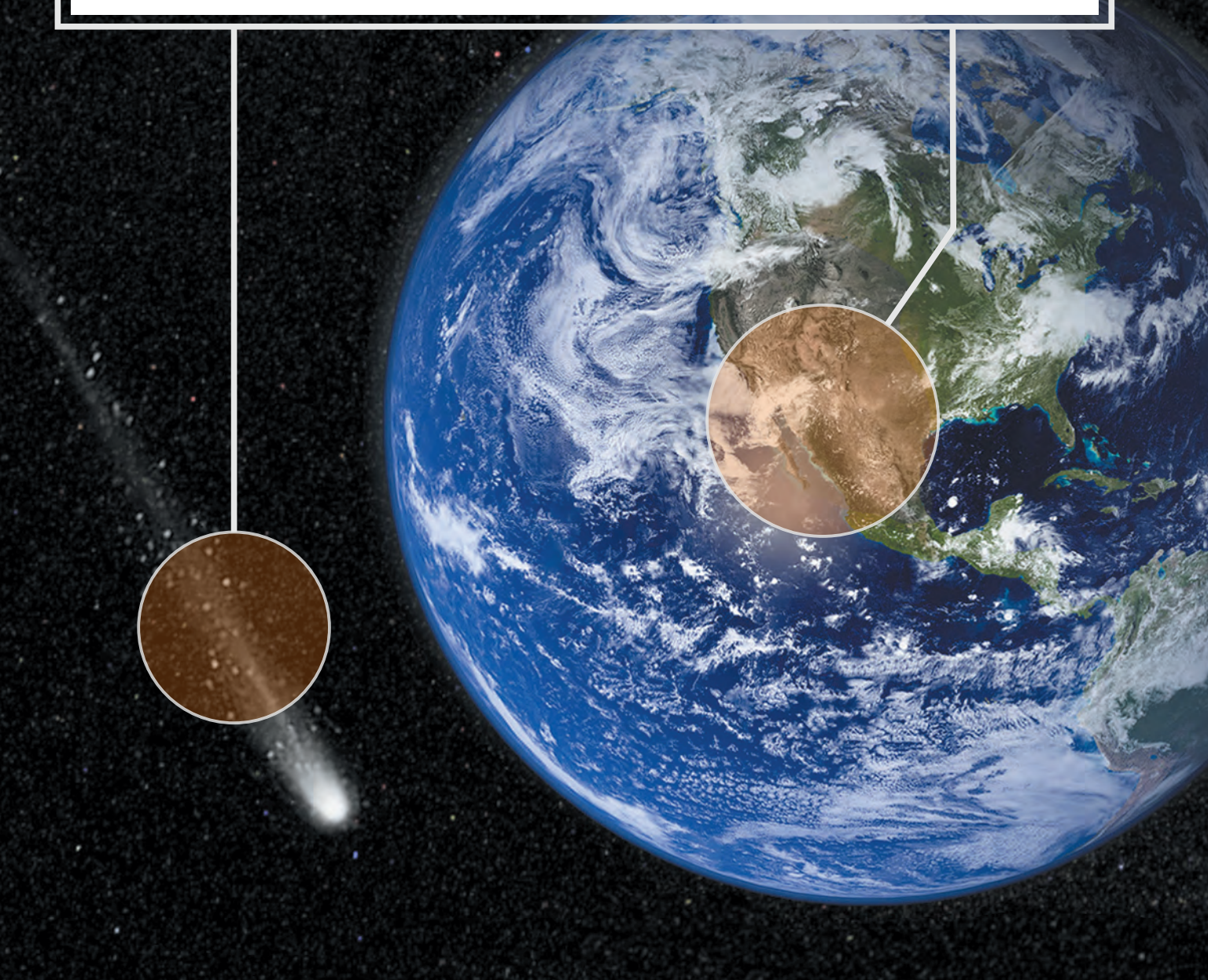
Expanding our fleet of satellites both around the Earth and to other locations in the Solar System will allow us to better observe phenomena in our Galaxy and beyond.

DEVELOPMENT OF EARTH

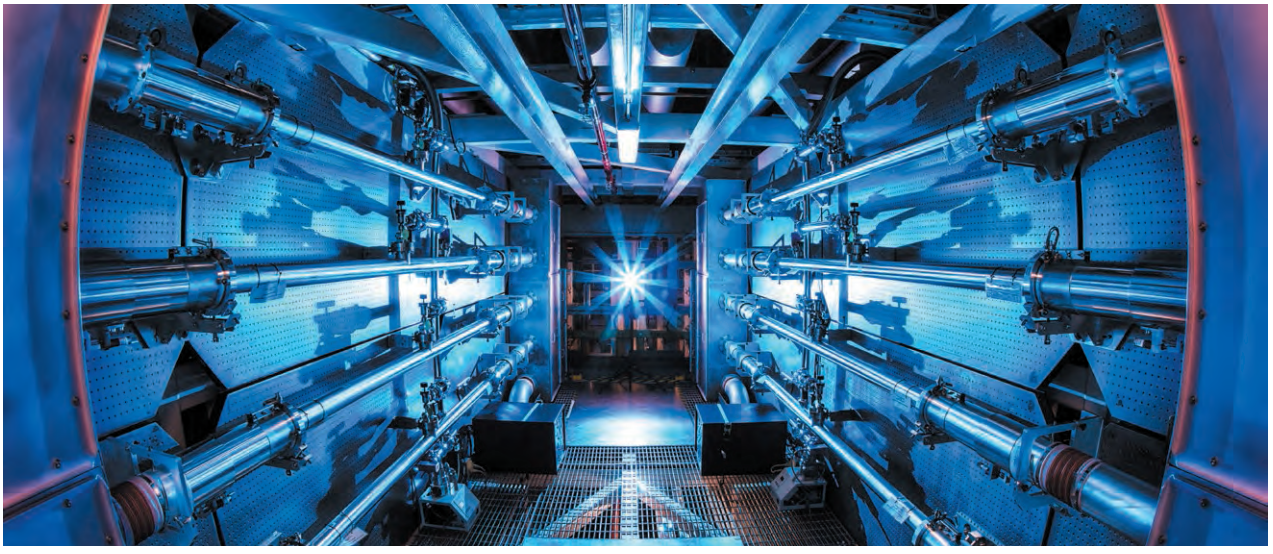
Increasing our control over the global water cycle, and creating new sub-cycles, with a layered approach of atmospheric ionization, desalination, and water transfer, will allow mankind to effectively address crises such as great periods of drought, ensuring abundant water supplies for a variety of needs.

Fully mastering the power of the nucleus with advanced fission and the development of fusion power will provide abundant energy to power an advanced industrialized economy, and will also give mankind power to master space, and create new materials, medical resources and states of matter.

Millions of Near Earth Objects, and countless comets on the edges of the Solar System, which could pose a threat to Earth, remain undetected. Mankind must work together to detect them, and to develop systems to protect the Earth from the danger of devastating asteroid and comet impacts.



1. Promethean Fire: Fission & Fusion



The preamplifier of the laser inertial confinement fusion project at the National Ignition Facility, located at the Lawrence Livermore National Laboratory, Livermore, CA. By achieving controlled and sustained fusion reactions, mankind will be harnessing the virtually unlimited power of the Sun. A crash program to develop fusion power will secure the next great leap in energy flux-density for man.

The United States needs much more power! The development of a national high-speed rail system will alone require a significant increase in the amount of electrical power available for the nation, with initial estimates indicating 50 gigawatts of electricity required to power this advanced transportation system (a roughly 5 percent increase over current electrical generation). Add in the energy requirements of a revived and expanded manufacturing base, and the requirements to power the development of new water resources (as well as the need to replace existing power plants which are reaching the end of their lifespan). Taken together this will require a massive build-up of nuclear fission power, concurrent with a crash program for the development of fusion power.

While the exact number of plants required will depend upon the design and capacity of each plant, the total could easily be in the range of a few hundred.

Providing the increased electricity to power a national high-speed rail grid will reduce our dependence on oil to power the transportation of people and goods. This will be part of a natural process of economic growth, as measured by increases in energy flux-density.

Energy Flux-Density

Economic growth, and human progress more generally, has always been associated with a general increase in the energy flux-density of the process as a whole (as can be measured by total power per capita and per square kilometer of a national economic territory). A more refined measure includes a focus on the qualitative phase-shifts associated with transitions to new domains of physical chemistry—typified by the transition from chemical forms of power to nuclear forms.

The history of the United States displays this reality quite clearly. From the nation's founding to the early 1970s there was an overall growth in the power per capita, supported by transitions to fuel sources with greater energy density (more energy per weight of the fuel) and demanded by the new processes unleashed by processes of higher energy-flux density (more energy flow per unit area through the relevant productive process). With the rise of the British-Malthusian zero-growth policies in the 1970s this growth stopped, and the conditions of life of the general American population stagnated and began to decline. Had the natural growth process continued with the full development of nuclear power—as President John F. Kennedy's administration had forecast—we'd have a more productive, power-rich economy today, easily capable of supporting the level of infrastructure presently needed.

The fact that today's power grid would be taxed simply by the power requirements for the type of advanced high-speed rail system needed in the United States merely underscores the reality of the failed policies of the past decades, and the need to overcome this loss with a major driver to develop nuclear power.

Fission

A single railway car of uranium nuclear fuel provides as much energy as a coal-carrying freight train stretching the entire length of California—from San Diego to the Oregon border. This is a reflection of the immense qualitative advance of nuclear reactions over chemical reactions.

While fission power already provides the world with the safest electricity source (contrary to popular opinion, nuclear power has resulted in far fewer deaths than other sources of energy), an array of new designs for nuclear fission power systems are ready to further improve nuclear power. Smaller modular reactor designs might offer benefits for rapid mass production. New fourth-generation systems offer greater efficiency and safety. Breeder reactors can ensure the entire fuel cycle is fully exploited, and what is now considered nuclear "waste" becomes additional fuel. There is also the prospect of developing the thorium fuel cycle (in addition to the current uranium fuel cycle). All this is simply waiting to be implemented and developed.

Fusion

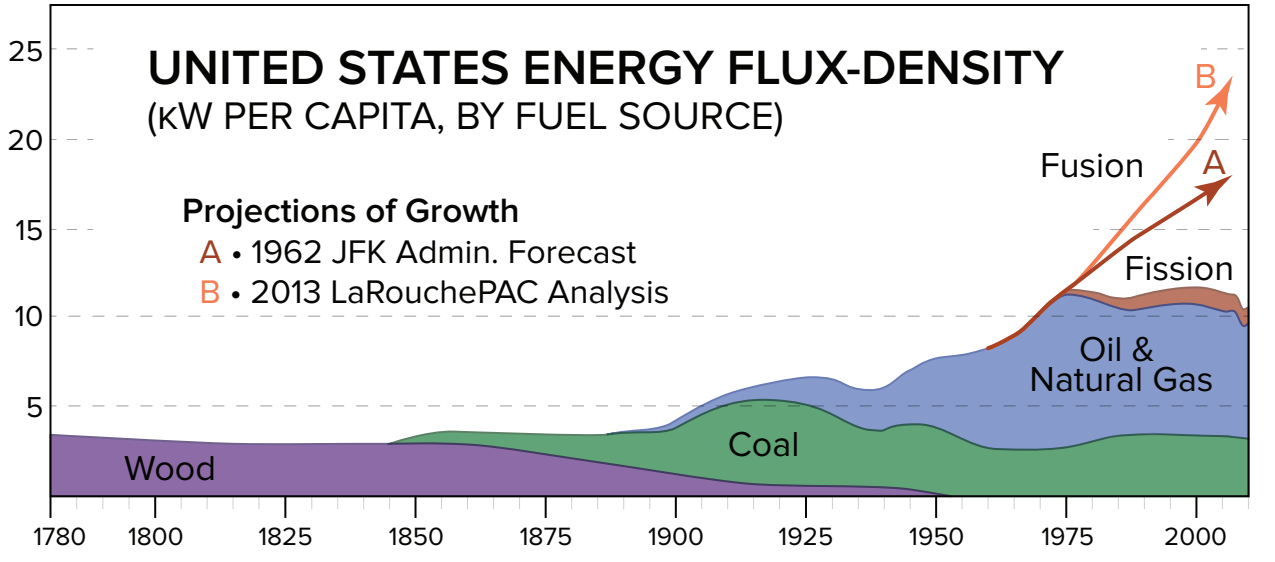
At the same time that the capabilities of nuclear fission are being fully developed, a crash program for the development of fusion power will secure the next leap in energy flux-density. The development of fusion power has been long delayed in the United States due to dramatic under-funding (with the fusion budget being consistently an order of magnitude below the required levels). With a concerted effort a functioning demonstration fusion power plant could be as little as 10 to 15 years away.

Even with minimal support, slow but steady progress is being made in the construction of the International Thermonuclear Experimental Reactor (ITER)—a joint effort between the European Union, India, Japan, China, Russia, South Korea, and the United States, currently being built in France. While ITER is not designed to generate electricity, when it comes online in the late 2020s, it is expected to generate ten times more energy than is put in.

Additionally, China and South Korea have strong and ambitious domestic fusion programs. They are pursuing various types of designs and are rapidly working towards fusion power demonstration systems, fully capable of putting electricity on the grid. There is also a surge in private efforts across the United States, focused on developing new ways of generating controlled fusion reactions (designs that were abandoned by the U.S. government program in the 1970s).

Nuclear Platform

While much can be said about the details of different systems (fission and fusion), it must be stressed that they are all aspects of a single process: the full-scale development of the capabilities provided by the nuclear domain. This is truly an entirely new level of physical chemistry (including the frontier areas of low-energy nuclear reactions). This is not only about providing effectively limitless power (obviously incredibly important in itself), but also opens up new methods of processing raw materials, creates new resource bases, enables new manufacturing methods, and allows for the creation of new materials. With the control of the atomic nucleus—the power of the stars—mankind has the potential to reach an entirely new level.



Total per capita primary power use in the U.S. from 1780-2010, divided by energy source. Two projections indicate what could and should have occurred under the continuation of a healthy growth process. Curve A is a 1962 projection made by the Kennedy administration, which focused on the then-coming role of nuclear fission power. Curve B is an estimation of what were possible had the Kennedy vision been pursued, followed by the development of controlled fusion (following the 1970s realization of its feasibility). Sources: U.S. DOE, EIA, *Annual Energy Review 2011*; Atomic Energy Commission, *Civilian Nuclear Power: A Report to the President*, 1962.

2. Managing the Global Water Cycle

While California is the face of the water crisis, other regions are not far behind. In the Northwest, Oregon and Washington have suffered drought in recent years. The entire Southwest—from California to Texas, Utah to Arizona—has long struggled with water shortages. The main water supply of the High Plains states—the Ogallala Aquifer—is being diminished each year.

Water, however, is not a finite resource on this planet (relative to any conceivable level of human use). We simply have to use existing freshwater cycles more productively, when possible, and create entirely new freshwater cycles as needed. All of this is within our grasp.

Weather Control from a Galactic Perspective

Start with a 21st Century understanding of the water cycle. While our star—the Sun—powers the entire cycle by pumping freshwater into the atmosphere via evaporation of ocean water, it is our Galaxy which closes this atmospheric component of the water cycle via the effects of high-energy galactic cosmic radiation.

In the past two decades new scientific studies have shown that the ionization effects of high-energy galactic cosmic radiation play a critical role in triggering the condensation of atmospheric water vapor—leading to cloud formation and precipitation. On the one side, this is connected with understanding why the Earth's climate has changed in response to our Solar System's travels throughout the Galaxy. On the other side, this is a clue as to how mankind can manage the ionization conditions of the atmosphere to control the behavior of water vapor, weather, and precipitation.

Can we control the rain?

It is already being done! As discussed in more detail in the 2015 *EIR* special report, *The New Silk Road Becomes the World Land-Bridge*, ground-based atmospheric ionization system pilot projects have increased precipitation in Mexico, Israel, Australia, the United Arab Emirates, Russia, and other locations. These technologies can be further refined and expanded, giving mankind the revolutionary control over the water cycle needed to permanently solve droughts, in California and other locations.[1]

Desalination

A more energy-intensive, but well-developed option is mass-scale desalination of ocean water. This is already being utilized in many places around the world—including Saudi Arabia and Israel, for example. With the higher energy flux-density levels of a nuclear economy, the United States could easily afford large-scale desalination as needed.

For example, if we wanted to provide all of the domestic water needs for California's largest coastal metropolitan areas (65% of the state's population) the power requirements would be less than 100 watts per capita.

Surface Water Transfer

For the interior regions of the nation, we will also likely have to consider various water transfer or river diversion options. Perhaps the grandest scheme seriously considered was the 1960s North American Water and Power Alliance (NAWAPA) program, including its later upgrades and op-

1. For more information, see "Atmospheric Moisture Control" *EIR*, April 17, 2015.

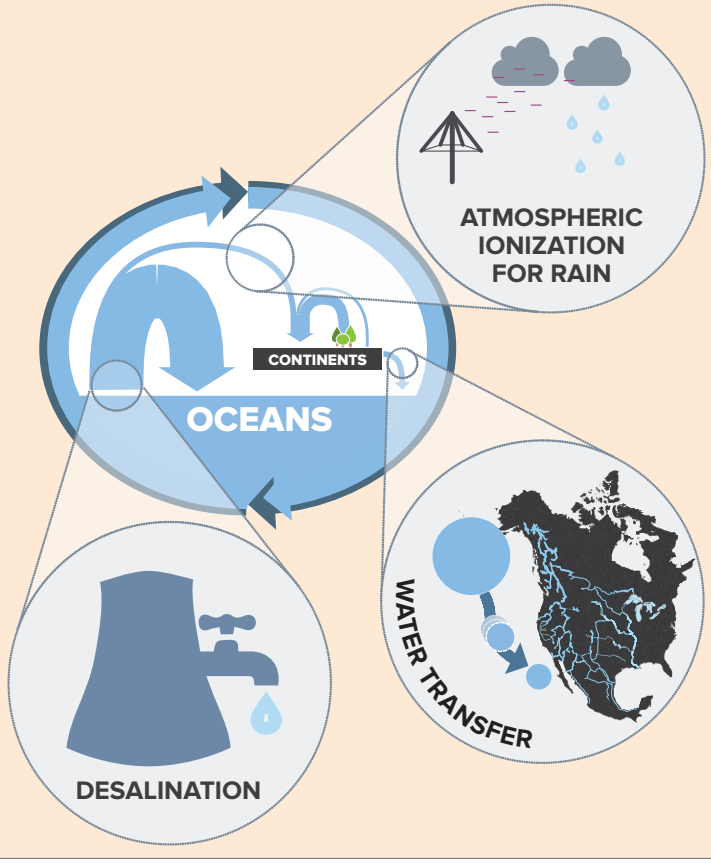
tions for expansion, designed to divert ten to twenty percent of the abundant and excessive freshwater runoff from the Northwest coast of the North American continent (Alaska, Yukon, and British Columbia) down throughout the Southwest. Such a program would greatly improve the productivity of the entire North American water cycle, ensuring the water flowing through the continent accomplishes more work per cycle before it returns to the ocean.

Various other water transfer options also exist (for California, for the Missouri River basin, and for other locations) which could be done on their own, or, better, in conjunction with a continental program.

Man Improves What He Touches

Ionization-based control of precipitation, desalination of ocean water, and transfer of surface water, together, give mankind the capability to improve and expand the water cycle in ways never before seen. Perhaps most importantly, not only will this address existing water shortages, it will enable *new growth and development*. The Great American Desert, encompassing the Southwest, can finally be tamed, and a greener, more prosperous future can be created for that entire region.

California's Folsom Lake in July 2011 at 97 percent of capacity, and January 2014 at 17 percent of capacity. *Credit: California DWR*



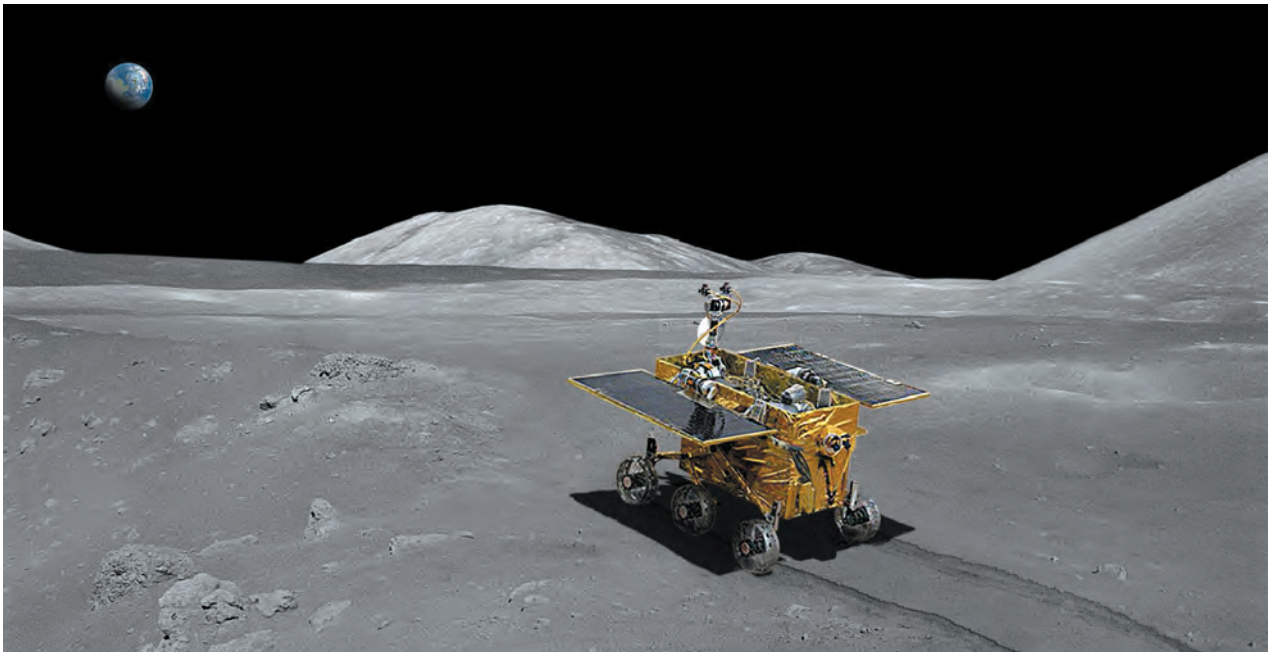
Dimensions of the Water Cycle

The Earth's water is not a finite resource: it is part of a cyclical system. Mankind never has, and never will simply use up water supplies—the challenge is to manage the water cycle in ever-improving ways.

The cycle is fueled by the immense amounts of solar energy going into the evaporation of ocean water. Only a small fraction of this evaporated water precipitates over land, creating all the groundwater, rivers, and lakes mankind has depended upon for millennia.

The necessary future of mankind's management of the water cycle depends not only upon massive **water transfer** projects on a continental scale, but also creating new sources of freshwater through **desalination**, and managing the precipitation of water in the atmosphere through **ionization** technologies.

3. Space: The Extraterrestrial Imperative



Artist's vision of China's Yutu rover exploring the lunar surface. With its successful landing as part of the Chang'e-3 mission in Dec. 2013, Yutu became the first lunar rover to explore the Moon in four decades, establishing China as a leader in space exploration. *Credit: CNSA*

Mankind's expansion into space is an imperative.

In a very direct way, the survival of advanced human civilization on this planet will depend upon mankind's ability to defend against threats from space. The inner Solar System is filled with millions of near-Earth asteroids, of which we have located less than 1%. Long-period comets come into the Earth's neighborhood from regions far outside our best detection capabilities. The Sun regularly releases explosive outbursts of high-energy radiation which can devastate large sections of our electrical and satellite infrastructure in a single blast. The Sun also goes through longer-term fluctuations, changing the Earth's climate. On a larger and longer-term scale we must better understand how our Solar System's travel through the Galaxy affects processes on Earth.

These realities force mankind to realize that he must rise to the level of the Solar System and the Galaxy.

On a more fundamental level, this is necessitated by mankind's nature as a creative species. Aside from these more practical considerations of defense, mankind is characterized by continual progress to higher levels of existence in the Universe. Failing to continue to pursue new creative levels of development is a negation of mankind's very nature, leading to cultural and moral degeneration. Mankind must continue to re-define the nature of his existence by recreating his own relationship with the Universe on more fundamental and deeper levels. Today, this takes us to the Solar System, and beyond, into the Galaxy.

Some of this may involve the travel of human beings to other regions in the Solar System, but the principle is much more fundamental than where we do or do not send people's physical bodies. The continued development of remote-operated satellites and robots will be an improving and critical aspect of expanding mankind's active presence throughout space. However, this too is just a shadow. As Johannes Kepler demonstraed with his discovery of the principle of gravitation, the creative discoveries uniquely generated by the human mind are the substance of mankind's progress in the Universe.

Target Moon

As recognized by the governments of China and Russia, as well as many leading thinkers in the United States, the development of the Moon is a critical platform for mankind's development of the Solar System more broadly. This includes the utilization of resources from the Moon for use on the Moon, in space more generally, and, in certain cases, even back on Earth, as with the superior fusion fuel helium-3, which is abundant on the Moon but nearly absent from the Earth. The Moon also provides unique scientific opportunities, including the ability to develop new types of radio observatories which cannot be located on Earth or in Earth orbit.

The importance of the Moon as the next step to expand mankind's development of the Solar System was recently expressed by Vladimir Solntsev, the President of Russia's leading space company, Rocket and Space Corporation Energia. Speaking with *Executive Intelligence Review* in October 2015, Solntsev said:

> We don't want to just fly to the Moon, land on it, then put a stick on it, and then go back ... We will try to organize an actual operation on the lunar surface. We should use our natural satellite as much as possible. We are ready to cooperate with any country, if it coincides with our goals, tasks, and perspective. It does not depend on their nationality.[1]

The central region of our Galaxy is investigated with the aid of the laser-generated guide star on the European Southern Observatory's Very Large Telescope array. This adaptive optics technique allows astronomers to correct for atmospheric distortion in real-time. The picture was taken in August of 2010. *Credit: Yuri Beletsky*

And it is no secret that China is making the most rapid advances in pursuit of these goals.

China's National Space Administration (CNSA) has been carrying out a well-planned, increasingly challenging program of robotic lunar exploration since 2007. This has included orbiters, and the celebrated Yutu rover on the 2013 Chang'e-3 soft landing mission. The next step will be a lunar soil sample return mission in 2017. In 2020, China plans a "first" in lunar exploration—landing a craft on the far side of the Moon.

These initial lunar exploration programs—along with China's development of manned space capabilities, a family of launch vehicles, and other supporting infrastructure—is laying a solid foundation for that nation's leadership in the development of the Moon. Perhaps most interesting, Chinese scientists have been in the forefront of proposing the mining of helium-3 on the Moon, which fuel could play a leading role in China's future fusion industry.

With fusion power for space travel and the Moon as our first outpost, mankind will be situated to begin our control and development of the inner Solar System, looking to our changing position in the Galaxy.

1. www.larouchepub.com/pr/2015/151105_intl_astronautics_cong.html

Left: China's Yutu rover on the Moon's surface, taken shortly after disembarking from the landing craft, Chang'e-3 on Dec. 14, 2013. Right: Chinese scientists inspect the re-entry capsule of Chang'e-5-T1, in preparation for a mission to return lunar material to Earth.

New Manhattan Project: Alexander Hamilton's New York

A December 20, 2015 performance of Handel's *Messiah* at All Souls Unitarian Church in Manhattan, performed by the Schiller Institute Choir at the Verdi tuning of A=432Hz, cosponsored by the Foundation for the Revival of Classical Culture, conducted by John Sigerson.

> If you establish the principle of Manhattan as being a rallying point for the nation as a whole, a rallying point based on principle, based on a passion into which people are captured, *then* you can beat the enemy!
>
> – *Lyndon LaRouche, November 2014*

While many New Yorkers would, in typical New York hubristic style, tell you that the above is "obvious," it took Lyndon LaRouche to provide the creative leadership to re-establish Manhattan, in the tradition of Alexander Hamilton, as the unifying principle of the United States of America.

Ever since British Tory traitor Aaron Burr murdered Alexander Hamilton in the infamous Weehawken "duel" in 1804, the question of the actual identity of the United States has been a hard fought battle which has yet to be won. Aaron Burr was serving as Vice President, at the time, to Thomas Jefferson, who really should be known as the father of the Confederacy for his racist, states-rights ideology.

And so it has been for over two centuries in our nation: a handful of brilliant leaders, like John Quincy Adams, Abraham Lincoln, Franklin D. Roosevelt—several of whom were assassinated before their full potential could be realized—have been preceded and superseded by a much greater number of mediocrities and downright traitors.

Now, we have reached a point of no return: either the American people decide to embody the spirit of our Declaration of Independence and our Constitution, and act to constitutionally expel the current occupant of the White House from that office, or, the most likely outcome, is that mankind will be annihilated in a very brief, global thermonuclear war. Manhattan is the key.

Retaking Manhattan

In October of 2014, LaRouche collaborators held a town hall meeting in the heart of Harlem on 125th Street—the first time the LaRouche Movement had met in Harlem in decades. The venue was a public library and the topic was releasing the 28 pages of the Joint Congressional Inquiry on the September 11, 2001 attacks. The room was filled to standing room only, with about 100 people present to mobilize to get to the truth of the matter of the Saudi/British role in perpetrating these attacks, and the Obama cover-up. The meeting was opened with a musical performance of spirituals and patriotic songs by New Jersey-based political organizers, which had a profound impact on the audience and speakers.

It was shortly after this meeting that Lyndon LaRouche announced his intent to relocate the center of his association from Virginia to Manhattan, and that Manhattan, because of the legacy of Hamilton, was the location from which to unify the nation.

At a demonstration in front of the United Nations, activists with the Manhattan Project rally against Obama's policy of nuclear confrontation with Russia, which threatens World War III. Similar rallies sponsored by LaRouchePAC occur on a regular basis throughout Manhattan and the greater New York City area.

Over the ensuing months, Helga Zepp-LaRouche, the founder of the Schiller Institute and wife of Lyndon LaRouche, addressed a series of New York City conferences dedicated to the creation of a "new paradigm" in which the United States would return to its Constitutional identity and collaborate with the BRICS nations for global development and progress, including by joining the New Silk Road.

Each of these conferences brought together a unique combination of leaders, including diplomatic, cultural, and academic figures from China, Russia, South Africa, Syria, and a dozen other nations, along with American patriots who have had the courage to speak out against the policies of the Bush and Obama Administrations, such as former U.S. Attorney General Ramsey Clark, constitutional law expert Bruce Fein, former CIA analyst Ray McGovern, and most recently former U.S. Senator Mike Gravel, who courageously released the Pentagon Papers.

In December of 2014, after a Staten Island grand jury concluded there was no reason to indict a police officer captured on video killing a middle aged African-American man in an illegal choke hold, and as Obama and his Soros-funded minions were fanning the flames of rage over injustice of which he, Obama, is the primary perpetrator, the Schiller Institute organized a sing-along of Handel's *Messiah*, dedicated to the principle of the sanctity of human life, and the distinct nature of man from beast. Over one hundred people assembled on a week's notice to participate, including a handful of extremely dedicated and talented musicians who had worked with the Schiller Institute years ago on restoring the scientific Verdi tuning. Participants in the sing-along urged the formation of a New York Community Chorus, which had its first rehearsal in January 2015.

LaRouche Returns to Manhattan

Lyndon LaRouche has frequently recounted his experience upon hearing the news of the death of President Roosevelt while he was stationed in Burma during World War II. When asked by fellow soldiers what he thought the future held, the 22-year-old Lyndon LaRouche said, "I fear a great man has been replaced by a very little one," referring to Harry Truman. At that moment, the mission of Franklin Roosevelt for a post-war world free of the imperial, oligarchical legacy of Zeus—a mission which had also been that of Alexander Hamilton,—became the mission of Lyndon LaRouche, from which he has never wavered. In the mid-1960s he formed the philosophical association which became the original International Caucus of Labor Committees (ICLC), to carry out this purpose. The ICLC was based in Manhattan.

In June of 2015, over thirty years after his work in developing key policies of the Reagan administration, including the Strategic Defense Initiative (SDI), for which he was politically targeted for elimination (and for which Reagan was shot), LaRouche has returned to Manhattan, holding a regular Saturday afternoon dialogue via live video with a growing cadre of developing leaders who meet on the Upper West Side. These meetings have occurred every week since. The meetings begin with a solfege class, designed to introduce people to the principles of Classical music composition, led by LaRouchePAC Policy Committee member Diane Sare. This class serves to "tune the minds" of the participants who then participate in a Socratic Dialogue with Lyndon LaRouche, who listens carefully to each of them, and then masterfully draws the seemingly divergent voices into a chorus of souls, now emboldened to intervene more and more effectively against the lying "narratives" of Bertrand Russell's philosophical heirs, who dominate most political discourse today.

Verdi Tuning: A=432Hz

The musical performances by the members of the Manhattan Project are unique in their standard of tuning to the so-called Verdi pitch of A=432Hz, as opposed to the currently customary but arbitrarily high tuning of A=440Hz and higher. The scientifically determined tuning of A=432Hz is ideal for the proper registration and resonance of the human voice, as has been acknowledged and affirmed by many of the most prominent leading opera singers of the world, including Piero Cappuccilli, Carlo Bergonzi, Renata Tebaldi, Montserrat Caballé, Dietrich Fischer-Dieskau, Plácido Domingo, and Luciano Pavarotti, as well as the great violinist Norbert Brainin. The composer Giuseppe Verdi himself advocated legislation to standardize tuning in Italy at A=432Hz. A return to this standard of tuning today is required for a renaissance in classical musical performance and composition, and a return to the proper technique of widespread vocal and musical training among the population in general, as is being demonstrated in the Schiller Institute choral project in New York City.

This choral process has resulted in an escalating series of effective political interventions and public demonstrations where the brainwashing schemes of British Wall Street bankers and pro-Nazi Putin bashers have been very effectively countered by the sharp wits of these activists.

As a result of these bold interventions, like-minded representatives of international institutions, American businesses and bankers, students, professors, and others are identifying themselves and stepping forward to become part of the mission to restore the United States to Hamilton's intent, and join LaRouche's new "Manhattan Project."

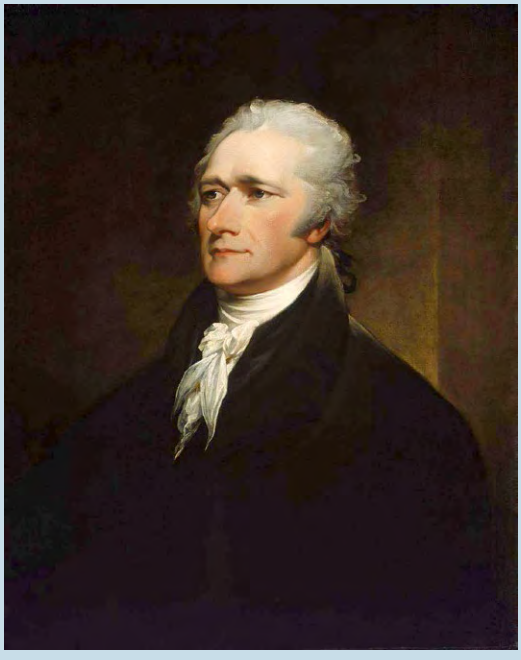
The weekend of December 19-20, 2015, on the one-year anniversary of its inception, the Schiller Institute NYC Chorus, in collaboration with the Foundation for the Revival of Classical Culture, performed Handel's *Messiah* at the Church of the Sacred Heart in Brooklyn and at All Souls Unitarian in Manhattan before standing room only crowds, reaching a combined audience of over 1,000 people, with a 75-voice chorus and chamber orchestra. The rich quality of the singing at the Verdi tuning was apparent to all, even if they were not able to articulate exactly what they were hearing, with dozens of audience members signing up on the spot to join the chorus.

Lyndon LaRouche commented that the events, and their implications, "have changed the character of the United States." It is his view that this process should grow to about 1,500 people—of whom about 100-plus will end up in the chorus, with the rest comprising the core of a growing qualified musical audience. It is not a coincidence that the activists who are carrying out the ironic and blistering attacks on the British agents and representatives of the Wall Street system speaking and lecturing all over the city are also singers in the chorus.

Between the musical chorus, which is recruiting the most impassioned and talented musicians in the tradition of the Italian legacy of proper bel canto placement and Verdi tuning, and the political chorus, where well-tuned minds are not only shattering the discordant "narratives" of the voices of evil, but also recruiting like-minded leaders from New York and the world, LaRouche's principle is being demonstrated in reality: Manhattan is the actual capital of the United States, and the torch held high by the Statue of Liberty beckons all Americans to lift their eyes from the hell into which Obama is leading us, and look to Manhattan, and then beyond, to man's proper place and role in our Galaxy.

Alexander Hamilton and Manhattan

Alexander Hamilton came to the United States in 1772, at the age of 15, and by age 16 was enrolled at King's College (now Columbia University) in Manhattan. As a boy, he had witnessed first-hand the evil of the British sugar and slave trade in the West Indies, and was vehemently opposed to this bestial view of mankind. He soon became General George Washington's adjutant, scribe, and trusted advisor, and later was the first Treasury Secretary of the United States, directing the formation of our original National Bank. The intent of Hamilton and his patriotic revolutionary co-conspirators, fellow New Yorkers Gouverneur Morris and John Jay to unify the United States can be recognized in the Preamble to our Constitution: "to form a more perfect union."



Alexander Hamilton (1757-1804)

Hamilton's philosophy had a profound impact on another great American President, Franklin D. Roosevelt (previously Governor of New York), who led our nation out of the Great Depression to defeat fascism in Europe and Asia, and who unified the American people around a common vision for the future of mankind. When he was stricken with polio, Roosevelt revived his childhood study of Hamilton, who had been a compatriot of FDR's great, great-grandfather Isaac Roosevelt. Although Roosevelt's leadership, including emphatically his collaboration with Russia, was not only crucial to winning WWII, but could have spread Hamilton's vision globally, the British willfully delayed the Allied Forces victory in Europe until after Roosevelt had died, to ensure that his vision of a post-war world without empire would not come into being.

Shut Down Wall Street: The Glass-Steagall Principle & National Credit

President Franklin Roosevelt's Glass-Steagall Act of 1933 must be restored to shut down Wall Street's speculative operations and derivatives gambling before the big banks crash again.

Since the late 1990s when Glass-Steagall was effectively no longer in force, Wall Street has produced bubble after bubble, debt collapse after debt collapse; and the worst is coming. Cancers should not be fed; they should be surgically removed, followed by measures to strengthen the patient. By re-enacting Glass-Steagall now, we save the national credit of the United States and create the basis for the revival of the economy with a Hamiltonian credit system.

Beginning with the 1995-99 period when Glass-Steagall ceased to be enforced and was ultimately formally repealed, the total value of securities debt in the trans-Atlantic financial system exploded six-fold in less than a decade (see Figure 1). Almost all of that debt was financial derivatives—Wall Street and London gambling—rather than loans to the real economy. This happened because, without Glass-Steagall, the huge base of bank customers' deposits, previously separated from such gambling, became fuel for Wall Street's financial bubbles, disconnected from the real economy. That led to the financial crash and bank panic of 2008. Wall Street was saved only by bailout programs, which at one point reached a capacity of nearly $14 trillion, according to the then-chairman of the U.S. Federal Deposit Insurance Corporation (FDIC).

Wall Street's bailout not only solved absolutely nothing, but has made the crisis far worse. Lending to the actual economy fell, as the trillions issued as so-called quantitative easing (QE) simply went to the bank's cancerous gambling bubble. This has fueled an even bigger and more explosive speculative bubble, which now totals some $2 quadrillion in totally unpayable financial obligations. So, seven years after the last blowout, the bubble is bigger, the major banks are larger and more bankrupt (see Figure 2), and the conditions of life have collapsed, with roughly 20% more Americans in poverty, nearly twice as many on food stamps, and an unprecedented increase in the death rate among a segment of working-age adults. So, now, the explosive charge of the onrushing blowout is far greater, and the underlying physical economy is far weaker.

In short, the nation will not survive the next "big one." Wall Street has to go, now, and the way to do it—with the stroke of a pen—is by reinstating Glass-Steagall:

> Now, what if we shut down Wall Street, which is what we have to do? And if we don't shut down Wall Street, we'll be dragging along for a long time, and we can't take that. Pull down Wall Street in the United States. Don't give them a nickel of payment! They stole that money, it's not theirs! It belongs to the people of the United States. Shut that down, if you've got the guts to do it. And that's where the fear comes, because how many people in the United States, are living on incomes, which depend upon the grants and concessions of Wall Street? If you shut down Wall Street, you just have one declaration, "Shut down Wall Street now!" Where does all that financial power of Wall Street lie? Shut it down! Kill it! Don't pay it off!
>
> *Lyndon LaRouche, November 21, 2015*

The Glass-Steagall Principle is succinctly and clearly stated in the opening of the original 1933 bill:

> To provide for the safer and more effective use of the assets of banks, to regulate interbank control, to prevent the undue diversion of funds into speculative operations, and for other purposes.

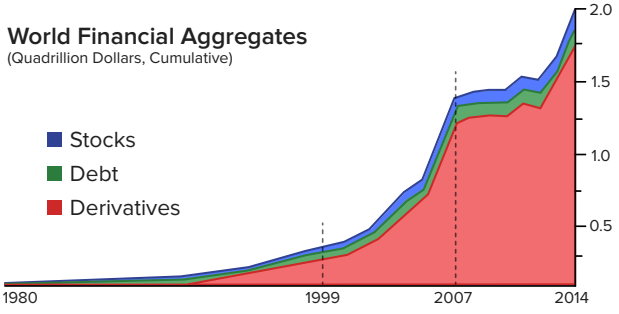


Figure 1: After the systematic weakening and eventual repeal of Glass-Steagall in 1999, total securities debt exploded six-fold in less than a decade. This growth represented gambling, rather than increased physical wealth creation.

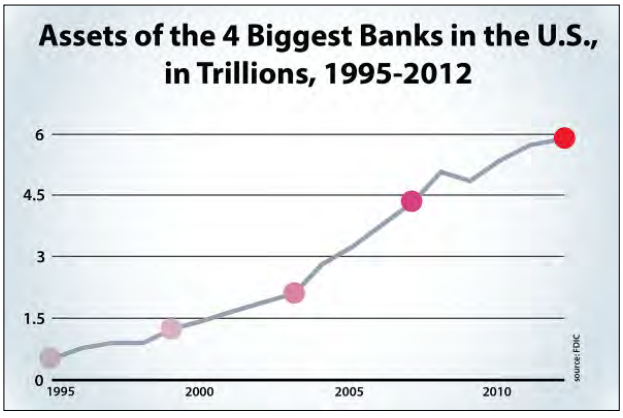


Figure 2: Seven years after the last blowout, the bubble has only gotten bigger, as the so-called assets of the four biggest U.S. banks have steadily increased, totalling now almost $6 trillion.

The way the original Glass-Steagall accomplished this, was to absolutely separate commercial banks from investment banks and insurance companies, not allowing commercial banks to engage in securities trading/speculation or derivatives speculation, either directly or by making loans to entities (such as hedge funds, etc.) to engage in such speculation. Federal deposit insurance was used to support only commercial banks and their depositors. No such federal insurance was provided to investment banks.

In this way, Glass-Steagall ensured that commercial deposits would be used solely for industrial and commercial, household, and personal loans and leases, and all of this supported and regulated by a national banking system.

Glass-Steagall embodies an historically American principle. Under the direction of our first Treasury Secretary, Alexander Hamilton, the government would encourage the formation of certain types of public and private banks, as detailed in his *Report on a National Bank* (1790). Hamilton defined banks as facilitating the investment of otherwise temporarily idle savings into lending to enterprises, serving the great national purposes of the United States: increasing industrial and agricultural production, and increasing the productive powers of labor. Hamilton saw banking not as its own end, but as an essential component for developing the United States into a successful, growing, industrial nation.

U.S. private commercial banks have played this role when well-regulated, especially when in the context of national policies for economic growth. During the 60-plus years of Glass-Steagall regulation, 1933-1995, banking functioned stably, without a single bank panic during that period. The U.S. commercial banking sector had healthy growth into many thousands of regional and community banks serving their communities, with—until the past 20 years—no global Wall Street giants.

After Glass-Steagall was systematically eliminated over the course of 1995-99, the largest banks became entirely interconnected with one another, particularly through their mutual derivatives exposures, and have become highly overleveraged, with less and less actual capital to back up their claimed "assets".

Against intense opposition from Wall Street and the Obama White House, legislation to restore the Glass-Steagall Act now has bipartisan support in both Houses of the U.S. Congress: Senate bill S-1709, with primary sponsors Senators Elizabeth Warren, John McCain, Angus King, and Maria Cantwell, along three other sponsors; and House bill HR-381, primary sponsors Representatives Marcy Kaptur and Walter Jones, along with 68 others to date.

The U.S economy has no future unless we put these bills through both Houses of Congress, now. This will "stop the bleeding," so to speak, but further action is needed for an actual recovery.

Put National Credit to Work

Immediately after Glass-Steagall is restored, sufficient national credit must be created and issued to restore productivity and finance productive work, with the great projects of economic infrastructure mapped out in this report. This will be done by ending the supposed independence of the current banking system, and using instead a Hamiltonian national banking system, possibly supplemented with agencies like the Tennessee Valley Authority (TVA) or President Franklin Roosevelt's use of the Reconstruction Finance Corporation (RFC).

A trillion dollars per year can be invested in the United States to build new economic infrastructure platforms for a rebuilt industrial economy. The American Society of Civil Engineers reports that the country needs to invest $3.6 trillion in infrastructure by 2020, just to fix what we already have. However, fixing what is broken will not be sufficient. Human existence is contingent on continually creating the future and employing physical principles never before applied. Thus, we will need to leap-frog our currently outdated levels of technology and create a new America at a far-higher technological and scientific level than has ever been achieved before.

The new Hamiltonian National Bank can work jointly with the new development banks being formed by the BRICS countries (already joined by many other nations) as it provides national credit for new infrastructure platforms and industrial development. In fact, Chinese president Xi Jinping has proposed that the United States become a founding member of the Asia Infrastructure Investment Bank (an offer that Barack Obama refused), and both China and Japan have already proposed plans to build high-speed rail lines in the United States and to provide significant financing for such projects—this is but one example of the future potential of such joint financing.

This new National Bank could be capitalized at $500 billion by holders of a small portion of the $13 trillion in publicly held Treasury debt, voluntarily investing their Treasury

securities as stock in the bank, in exchange for longer-term bonds of the bank, guaranteed by the Treasury. The Bank's payment of interest on its bonds can be supported by assigning specific federal revenues levied from the expanded growth created by these investments by the National Bank. This mirrors Hamilton's original approach to capitalizing the First National Bank in 1791. The Bank will also buy infrastructure bonds of states and cities—exactly as the Federal Reserve now refuses to do as a matter of Wall Street policy—to provide them the financing needed to participate in the most important new infrastructure projects.

The National Bank will also serve commercial banks making loans to companies building infrastructure projects as well as those making capital investments in new, high-technology equipment, by offering a special, lower interest rate to banks lending their capital to approved categories.

Congress can also establish a new and expanded form of FDR's Reconstruction Finance Corporation (RFC), which, along with the Tennessee Valley Authority (TVA), made possible his Four Corners water management and electricity projects, among other New Deal programs. It loaned the then-huge sum of $36 billion (around $500 billion in today's dollars) in credit to every sector of economic activity during its years of productive lending, 1934–1953, and launched what is called the "golden age of productivity" in the American economy, which lasted through the Presidency of John F. Kennedy.

The connection of many pension and retirement funds to Wall Street, especially with the recent years' zero interest rate pushing retirees out of safe investments and into Wall Street, will mean that as the banking system is cleaned up under Glass-Steagall, many people will lose what they thought was their retirement security. This will require a buildup of the social safety net, to ensure stability as we transition our financial system from one based on gambling and theft, to one based on financing growth for the future.

Create The Future

We can again have a golden age of productivity, though it will take some work. The Hamiltonian credit system will facilitate the physical economic growth needed to save the United States. The new, advanced infrastructure discussed above will increase the overall potential productivity of the nation as a whole. Combined with the reindustrialization of a productive economy, this sets the path to a true recovery.

The total physical economic productivity of the nation must continually reach ever higher levels. This is the principle that guided Hamilton's crafting of his specific policies: to improve the nation, and develop it on a basis of technological and scientific advancement, and improving the power of labor. Such an approach, of seeking to leap-frog the current level of production, can guide us today, allowing greater output both per worker and per land area, including by the development of new resources to expand our capabilities, avoiding the trouble of "scarce resources" that afflicts only stagnant societies.

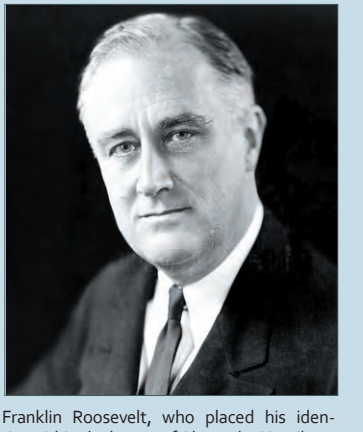
As Hamilton understood, the purpose of a national banking and credit system is to facilitate that creative human process. We have done it before, and we can do it again.

The Reconstruction Finance Corporation (RFC)

Under Franklin Roosevelt, the Reconstruction Finance Corporation (RFC) was the embodiment of directed credit and operated almost exactly as the Hamiltonian Banks of the United States had, under their periods of best leadership and national mission. The RFC operated separately from the authorizations and appropriations of the Federal budget, selling bonds both to the U.S. Treasury and to the public with the Treasury's guarantee. The RFC approximated the Hamiltonian credit system with great success throughout the 1930s, allowing productive corporations, industry, and agriculturalists to obtain credit. Human and productive capital was saved which would have been lost had the loans not been made.

The basis of making good on the credit was the productivity increases achieved. As David Lilienthal, chief of the Tennessee Valley Authority (TVA), remarked on the paying back of TVA loans, while the bonds themselves were directly repaid, the increased income tax collected in the region, by virtue of the tremendous expansion of the economy in the Tennessee Valley region also more than paid back the cost of the projects. And what was the value of having that economic productivity available in World War II? Properly understanding returns on investment requires a larger view than that of the Wall Street gambler.

Financing made available through the RFC, as loans rather than appropriations, were repaid, not only with a financial profit, but more importantly, with a productivity increase for the nation as a whole not measurable in dollars, and certainly not in 1930s dollars. The higher level of economy brought into being by the RFC, was qualitatively superior to that which preceded it.



Franklin Roosevelt, who placed his identity within the legacy of Alexander Hamilton, within whom his ancestor Isaac Roosevelt collaborated in New York to create the first National Bank. FDR utilized the Hamiltonian principle of national credit in his use of the Reconstruction Finance Corporation (RFC).

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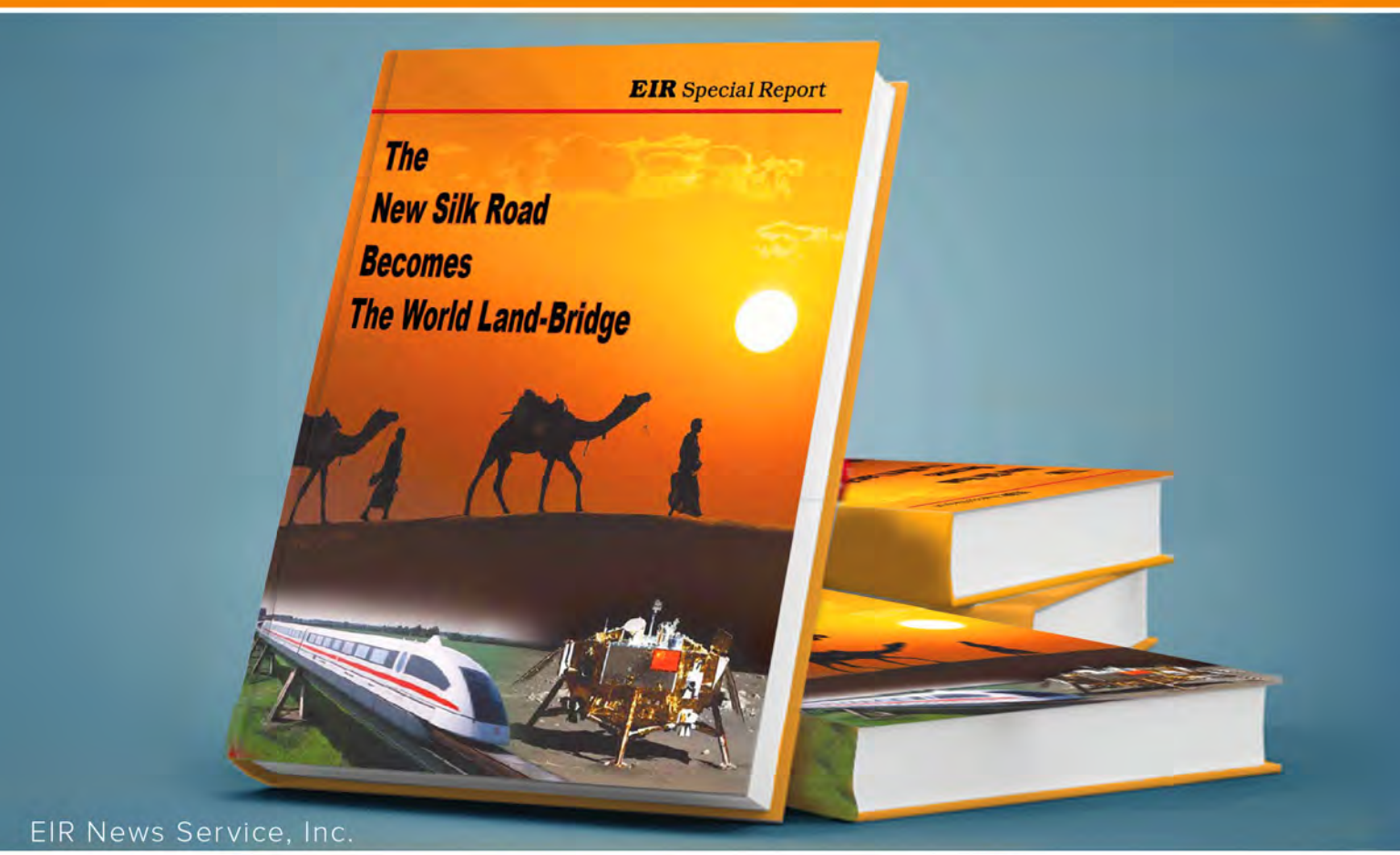

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