

# The Next American System

*To thrive in a twenty-first-century economy, America needs a new physical and financial infrastructure.*

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romoting American competitiveness. Rebuilding America's infrastructure. Redesigning American finance. These three themes are currently the subjects of three different conversations in American politics. Over here is the discussion of the package of tax policies, R&D, and skills education required to maintain America's edge in technological innovation and manufacturing in the global market. Over there is the debate about how to repair and replace America's crumbling infrastructure. And nearby, at a distance from both, is yet a third discussion of how to regulate the U.S. and global financial systems, shaken by the home mortgage securities meltdown and other market crises.

Each is different, but none of these debates can be useful without reference to the others. American global competitiveness depends in part on an efficient national infrastructure and a suitable and sound financial sector. Infrastructure

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needs, in turn, are determined in part by the kind and location of industries in the United States. And one of the goals of reforming and regulating finance is to ensure that American industry and American infrastructure have access to the private and public investment they need. Industry, infrastructure, and finance form a system—an American System. And a new American system, well-designed and well-implemented, will be crucial in revitalizing American economic prosperity in the twenty-first century.

The term “American System” was used in the first half of the nineteenth century by the great Kentucky Senator Henry Clay and his allies to describe their program of using federal policy to promote a dynamic, industrial, capitalist economy: infant-industry tariffs to promote fledgling American manufacturing enterprises; the sale of public lands to subsidize “internal improvements”

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like roads, canals, and railroads; and a centralized national banking system. Likewise, a number of reforms that strengthened American industrial capitalism in the twentieth century—from the creation of the Federal Reserve in the early 1900s to the interstate highway system and the creation of a global market for American exports following

World War II—can be thought of as a “Second American System.”

Many of the policy tools used by these earlier American systems are obsolete today. But the idea is not. Now, as in the nineteenth and twentieth centuries, national economic development rests on a mutually reinforcing triad of policies to encourage American industry, national infrastructure, and adequate finance. We need to replace three isolated conversations about these critical subjects with a single national debate about how to bring about the next American System.

Today, as in the past, the idea of an American system of economic development is rejected in part or in whole by some Americans. A dwindling remnant of states-rights conservatives, such as former Republican presidential candidate Fred Thompson, on principle opposes a strong and activist federal government. Then there are market fundamentalists like John McCain’s economic adviser Douglas Holtz-Eakin, who has argued against the evidence of history that public investment in infrastructure contributes nothing to productivity growth, compared to tax cuts for the rich. Some on the left, sensing corruption in all government policies to help private enterprise, make the opposite mistake. The architects of the First and Second American Systems answered similar objections and overcame similar opposition in their eras. Their successes and occasional

failures offer valuable lessons that can be applied in creating a New American System and rebuilding America in the emerging century.

## **The First American System**

As an aide to George Washington during the Revolutionary War, Alexander Hamilton became convinced that the United States needed its own manufacturing industries for reasons of military defense. In his 1791 “Report on Manufactures,” Hamilton, then the first secretary of the Treasury, sought to persuade Congress of the need for federal support of industrial capitalism, by measures including subsidies and tariffs, to foster “infant industries” until they were strong enough to compete with the established industries of commercial and military rivals. Hamilton also recommended the creation of the first Bank of the United States, which was established by Congress in 1791 with a 20-year charter.

A version of Hamilton’s program for promoting industrial growth in the U.S. was championed by Henry Clay, who served both as Speaker of the House and as a long-time senator from Kentucky. In a detailed speech in the House of Representatives on March 30 and 31, 1824, entitled “In Defense of the American System, Against the British Colonial System,” Clay linked the need for the United States to have a machine-based economy of its own with the military and economic threat posed by the industrial supremacy of Britain, noting that “Britain is herself the most striking illustration of the immense power of machinery . . . In the creation of wealth . . . the power of Great Britain, compared to that of the United States, is as eleven to one.”

In Clay’s American System, tariffs would protect infant U.S. industries from British competition. The sale of federal lands would finance “internal improvements,” that is, infrastructure projects like harbors and roads and canals and later railroads. Fiscal order would be provided by the Second Bank of the United States, which was chartered in 1816. Clay democratized Hamiltonianism by connecting the dynamism of the American System with upward mobility for “the self-made man”—a phrase Clay coined.

In 1860, the South’s secession gave proponents of the American System their chance. President Abraham Lincoln, a member of the new Republican party who described himself as “an old-line Henry Clay Whig,” signed one law after another to promote industry, infrastructure and sound finance. High tariffs protected infant American industries. In 1862, Congress passed legislation spending millions on a Pacific rail line to be built and operated by two companies, the Union Pacific and Central Pacific, while other railroads were given federal lands as subsidies. The Legal Tender Act of 1862 and the National Currency Acts of 1863, revised as the National Bank Act in 1864, created a new

federal banking system, eliminating state bank notes and creating nationally chartered banks.

On the back of such investments, as well as the war itself, American industrial growth accelerated rapidly. In 1860, Britain had 19.9 percent of world manufacturing output, compared to only 7.2 percent for the United States and 4.9 percent for Germany. By 1900, the United States had 23.6 percent, while Britain had fallen to the second position, at 18.5 percent. By 1913, the United States, with more than 1.6 times the industrial power of Britain, had become the largest economy in the world.

### **The Second American System**

The First American System was designed to transform the agrarian economy of a collection of former British colonies into the industrial economy of a modern nation-state. By the late nineteenth century, it had succeeded—only to become obsolete by the first few decades of the twentieth. Major American manufacturers no longer needed infant-industry protection, and they sought the opening of foreign consumer markets, a goal that American policymakers finally achieved by creating a global economy following World War II and spurring the decolonization of the European empires. Electrical power and the internal combustion engine created the need for public-private partnerships in new kinds of internal improvements: electrical utility grids, national highways, and commercial aviation. In finance, enlightened American statesmen built upon earlier achievements, adding the Federal Reserve system to the regime of national banking sought by Clay and enacted under Lincoln, along with the Securities and Exchange Commission (SEC) to regulate the increasingly complex financial sector.

Unlike Clay and his disciples, the architects and builders of what I am calling the “Second American System” did not think of it as such. The policies that shaped American industry, infrastructure, and finance in the twentieth century—from opening foreign markets to U.S. exports to rural electrification and the interstate highway system to the Federal Reserve—were enacted piecemeal, from the Progressive Era to the 1960s, in response to particular crises or opportunities. Even so, from this distance in time, a pattern emerges, one in which Woodrow Wilson, Franklin Roosevelt, and Dwight Eisenhower reprised the roles of proponents of the First American System like Henry Clay, Daniel Webster, John Quincy Adams, and Abraham Lincoln.

If the Second American System had a central figure, it was Franklin Roosevelt. Although a Democratic politician, Roosevelt was the heir to the Federalist-Whig-Republican tradition of Hamilton, Clay, and Lincoln through his cousin Theodore.

All his life he was entranced by visions of abundance and freedom made possible by technological advances. It's no surprise, then, that first as governor of New York and then as president, Roosevelt campaigned to bring electricity to rural Americans, whom metropolitan electrical utilities had ignored. In 1935, he created the Rural Electrification Administration (REA), now the Rural Utilities Service, to provide interest-free loans for rural electric systems. Roosevelt's belief in infrastructure-led development was symbolized by regional public-private hydroelectric cooperatives like the Tennessee Valley Authority (TVA) and the Lower Colorado River Authority (LCRA), which acted as engines of economic growth in distressed areas of the rural South. And his most enduring contribution to the American landscape may be the interstate highway system, which is often credited to Eisenhower. In a meeting at the White House in February 1938, Roosevelt sketched three east-west and three north-south transcontinental highways on a map of the United States. The result was the Federal-Aid Highway Acts of 1938 and 1944. (Funding, however, was slow in coming, and it was left to Eisenhower, a fiscal conservative on most issues, to push for the realization of Roosevelt's vision.)

The Second American System also entailed a re-envisioning of U.S. trade policy. The protection of infant industries proposed by Hamilton and promoted by Clay and Lincoln had fulfilled its purpose by the early twentieth century. After that point, American manufacturing concerns were less interested in maintaining tariffs to protect themselves than in dismantling foreign tariffs that kept their exports from foreign consumers. One of the goals of the Roosevelt administration during World War II was the postwar system of multilateral trade liberalization under the auspices of the General Agreement on Trade and Tariffs (GATT), which during the Clinton years became the World Trade Organization (WTO). But while it repudiated tariffs as an instrument of public policy, the United States after World War II fostered American industries by other means, directly and indirectly.

Most importantly, beginning in World War II the United States began to fund the R&D that led to breakthroughs from atomic energy to the jet engine to computer technology. Cooperation among government, academia, and industry continued after 1945, laying the groundwork for the technology industry. A federal system to connect university campuses collaborating on projects for the Pentagon's Defense Advanced Research Projects Administration (DARPA), for instance, evolved into today's global information infrastructure—the Internet. The history of the tech industry, one of America's greatest contributions to the global economy, is a story of government-industry-academic collaboration, with its beginnings during World War II in the Roosevelt years.

## Building the Next System

The Second American System, like the first, was a victim of its own success. By the end of the twentieth century, two of its greatest achievements—the post-1945 world economy and the information technology revolution fostered by the U.S. military-industrial complex—were shattering the ingrained patterns of mid-century life and forcing Americans, in Lincoln's words, to "think anew." New strategies are now needed to bolster American industry in the global market and to use information technology to make America's infrastructure "smart." And achieving these goals requires equally dramatic innovations in finance. Together, these add up to a Third American System.

Skeptics may ask: Why a system at all? Why not let the market do the work? For one, infrastructure can only be provided by government, which has to use its power of eminent domain to clear right-of-ways even for private toll roads. Basic R&D is another public good that is consistently underfunded by the private sector, because private companies have no incentives to finance breakthroughs in science and engineering that benefit their rivals as well as themselves. Industry too is affected by numerous restrictions, from tax laws to labor laws. It is therefore not a question of whether government should influence the composition and structure of industry in the United States, but how.

Furthermore, the integration of infrastructures by high technology makes it imperative to keep an eye on the system as a whole, not just the parts. For example, in the interest of efficiency and homeland security it is important to track all goods containers from their point of origin to their point of sale. This requires complementary manufacturing, shipping, and storage systems, and perhaps even new kinds of business entities. It no longer makes sense to think of shipping, air travel, and trucking as completely different realms, governed by different agencies.

The big picture matters in other ways as well. If technology continues to integrate, in the future a single computer system might run everything from smart highways to traffic-monitoring drone airplanes to energy utilities to telecommunications. That kind of integration promises enormous advances in efficiency and productivity. But it also magnifies the dangers that accidents, natural disasters, or terrorist attacks might shut down many systems at once. Only if the transportation, communications, and utility systems are designed together can their promise be realized and dangers minimized.

The Third American System should be built around three components: a strategy for retaining and attracting high-value-added industries, high levels of public investment in high-tech infrastructure, and the creation of innovative new federal financial institutions that can issue debt to fund infrastructure modernization and basic R&D.

To start, a new national strategy is likewise necessary to combine the benefits of globalization with the benefits of high-value added production. The American architects of the post-1945 global system assumed that wholly national U.S. corporations would export finished products to foreign consumers. But the combination of globalization and information technology has made possible truly transnational enterprises with production, management, and marketing distributed across different continents. In this new environment, the challenge is to persuade global corporations and networks to choose the United States as a location for high-value-added production, which, although it employs only a minority of Americans, contributes disproportionately to U.S. productivity growth.

For guidance, we must look not to national programs of the past but to what might be called a “state-level American System.” States in the United States, unable to use tariffs or separate currencies to promote their industries, have long relied on subsidies and other strategies to encourage investment inside their borders. While some states in the South have relied on cheap, non-union labor as a source of comparative advantage, other states have more wisely followed a “high road” strategy, attracting business with first-rate infrastructure and educational systems, publicly funded R&D, business-friendly tax policies, and in some cases tax abatements, “research parks,” and public-private partnerships.

Similar high-road economic development strategies make sense for the country as a whole as it competes for private investment in high-value-added production—a policy known as “onshoring.” Many possible policies are relatively familiar, including educational reform, an increase in skilled immigration, improvements in infrastructure, and an increase in government R&D in basic science and technology. Others, such as the reduction or abolition of the federal corporate income tax, which is now among the highest in the world, would be more controversial—but nonetheless a good idea. Ralph Gomory, the former head of the Sloan Foundation and former chief scientist of IBM, has proposed reducing the corporate income tax for corporations that locate high-value-added production in the United States. A similar result could be achieved if the corporate income tax were replaced by a federal value-added tax (VAT), a reform that many support for other reasons, like the need to pay for higher entitlement costs. Many of the industrial nations of Europe and Asia indirectly subsidize their manufacturers by rebating the VAT for exports while imposing

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VAT on imports, and the United States could level the playing field by adopting its own VAT.

But these steps alone won't be enough. As the architects of the previous American systems understood, a competitive, productive economy cannot function without an efficient and safe infrastructure. And America's infrastructure, once the envy of the world, is literally falling apart. On August 29, 2005, the federally constructed levees in New Orleans broke under the pummeling rains of Hurricane Katrina, flooding New Orleans, killing nearly a thousand people, and displacing most of the city's inhabitants. On July 18, 2007 in midtown Manhattan, an 80-year-old steam pipe exploded, killing one, injuring 45, and costing New York City up to \$30 million. Then, on August 1, 2007, an interstate highway bridge in Minneapolis crumbled and fell into the Mississippi River, killing 13, injuring dozens, and costing up to \$400 million.

This is the direct result of underinvestment. In the middle of the twentieth century, the United States spent lavishly on infrastructure, but today it spends less than 2 percent of the federal budget—less than India (4 percent) and China (9 percent). While traffic has doubled since 1980, highway capacity is roughly the same. In 2005, the American Society of Civil Engineers, in its latest periodic report card, assigned the elements of American infrastructure grades of C and D.

The infrastructure challenge goes beyond repair to replacement. Even as we invest the necessary minimum to maintain our existing transportation, energy, and communications grids, we must be prepared to build entirely new networks employing radically new technologies. Just as canals gave way to railroads and then highways while telegraphy was eclipsed by telephony, radio, and television, so today's methods of moving people, goods, and messages may be marginalized or, in some cases, entirely replaced by new forms of transportation and communications. In other words, before the United States starts rebuilding existing infrastructure, it needs to ask what sort of infrastructure it will need in the coming century.

Radical changes could be on the horizon. If the price of oil goes up permanently, the implications for U.S. infrastructure are likely to be profound. A large-scale shift to telework from physical commuting might be a beneficial result, but only if almost all Americans have access to free, universal wireless high-speed broadband. According to the OECD, however, in rankings of broadband availability the United States sank from fourth place in 2001 to 15th place in 2007.

High fuel prices might reshape our transportation infrastructure in more ways than added support for mass transit. Smart highways and congestion pricing, along with high-speed rail and other forms of mass transit where they are

relevant, can conserve energy even while increasing efficiency and speed. Congestion and delays at increasingly crowded airport hubs are also drags on the U.S. economy. James Fallows of *The Atlantic Monthly* has described attempts by NASA and various manufacturers like Eclipse and Cessna to use GPS technology to promote short-range “air taxis” that could relieve airport gridlock. Not every idea may be practical, and the options should be evaluated carefully to avoid premature commitment to particular technologies. One thing is clear, though: The next American transportation system should incorporate advanced and perhaps even revolutionary technology.

The U.S. energy system, too, needs to be replaced, not just rebuilt. To combat global warming by means of carbon abatement while ensuring an adequate supply of energy for a growing U.S. population, flexible, smart, distributed electrical grids need to be able to transmit energy from a variety of sources, including renewable energy like residential solar and wind power as well as nuclear and clean coal power plants.

Whatever form they ultimately take, the new transportation, communication, and energy grids are likely to be far more decentralized, flexible, and intelligent than the comparatively dumb systems of the first and second industrial ages. Hub-and-spoke systems in industries as different as electrical power generation and air travel may be succeeded by new architectures that have the distributed and user-friendly features of the Internet.

## **Making It Work**

The next American infrastructure will also be expensive. According to the American Society of Civil Engineers, the United States needs to spend \$1.6 trillion over five years merely to make the nation’s infrastructure adequate again. But the present system for funding U.S. infrastructure is broken. The attempt in 1956 to end the dependence of road construction on pork-barrel politics by creating a highway trust fund fed by dedicated federal gasoline taxes has failed. The federal gasoline tax has not been raised since 1993, and inflation has whittled away its value. In the next few years, the fund may go into the red, with spending on highways exceeding revenues. To make matters worse, members of Congress increasingly use thousands of earmarks to channel money from the fund to pet projects in their districts.

Afraid of provoking public backlash by raising gas taxes and lacking adequate help from the federal government, state governments are adopting measures that resemble the anti-state libertarian mantra of “sell the streets.” Many are turning to private corporations to build private toll roads. Others are licensing off vast chunks of public property. The potential dangers of this approach are

many. Investors in search of short-term profits may create infrastructure patterns that do not promote long-term metropolitan or regional development, or sell off valuable assets like rail lines. Existing areas of dense traffic would be favored, at the expense of suburban and rural areas. And democratic accountability is impossible in a system in which private investors, rather than public authorities, decide whether transit networks are to be built and where.

Private investment is an important part of the solution—but it needs to be combined with public decision-making. The public authorities that make decisions, in turn, need to be insulated from immediate political pressure while remaining indirectly accountable to elected officials in the long run.

A bipartisan consensus on the need for major public investment in both old and new infrastructure has developed, symbolized by a coalition formed by

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California Governor Arnold Schwarzenegger, New York Mayor Michael Bloomberg, and Pennsylvania Governor Ed Rendell. Their support for more public investment is shared with business leaders like Leo Hindery and Bernard Schwartz of the Horizon Project, leading economists like Lawrence Summers, and leaders of the nonprofit

community like Judith Rodin, president of the Rockefeller Foundation.

The question is where the money comes from. Proposals for a separate federal capital budget to fund infrastructure projects have always failed, thanks to the not-unreasonable fear that such a budget would be warped by congressional politics. In 2005, investment banker Felix Rohatyn and former senator Warren Rudman, members of the Commission on Public Infrastructure, proposed a federally funded National Investment Corporation (NIC), an idea also favored by prominent investment experts like Bernard Schwartz and John Whitehead of Goldman, Sachs. In 2007, on the very day that the Minneapolis bridge collapsed, Senators Chuck Hagel and Chris Dodd introduced a bill, still pending, to create such a bank, and the idea, via Hillary Clinton, is now part of Barack Obama's campaign agenda.

A number of state infrastructure banks (SIBs), some of which are authorized by their state legislatures to issue bonds, already exist. A National Infrastructure Bank, inspired in part by the European Investment Bank that has funded high-speed rail in Europe, would allow the federal government to issue bonds for infrastructure projects, as many state and local governments have long done. Replacing existing highway and airport trust funds, the bank would issue

long-term bonds to fund a variety of state and local projects, from power systems to bridges, highways, mass transit, and water projects.

The similar problem of chronic federal underinvestment in R&D might have a similar solution: a new National R&D Bank. Most basic research in the United States is performed by universities with federal grants. However, federal R&D is skewed toward defense or research into diseases with large political constituencies, like cancer. Investment in basic science that produces breakthroughs in productivity in the private sector is a classic example of capital investment which, by accelerating economic growth, makes it easier for borrowing to be repaid. Some state legislatures already issue R&D bonds, like those issued by California to support its stem cell research initiative. The National R&D Bank could issue similar bonds to pay for research grants to academic institutions and corporate consortia based in the United States, on the basis of impartial reviews of grant proposals by scientists and administrators. Like the NIB, the National R&D Bank would be ultimately accountable to Congress, which would have to authorize the total amount of debt that it could issue, even as it would be insulated from direct political pressure from Capitol Hill and the White House.

The infrastructure and R&D banks should find their place in a much-needed new financial architecture. Ill-advised deregulation has contributed to the formation and then collapse of the housing bubble. In the aftermath of the financial meltdown, a new system of regulation of financial markets is needed to resolve conflicts of interest among the Fed, the SEC, and other agencies and to provide a stable environment for long-term economic growth.

The regulation of infrastructure, like finance, also needs to be reconsidered. It makes no sense in the twenty-first century for different agencies to supervise highways, aviation and shipping, when these increasingly form elements of a single multimodal transportation system. The Department of Transportation (DOT), the Federal Aviation Administration (FAA), and other agencies should be consolidated in a new, Cabinet-level Department of Infrastructure (DOI) that can plan and supervise projects funded by the national infrastructure bank. A patchwork is no longer sufficient; we need a unified plan.

The three elements of the Next American System—onshoring, infrastructure, and a new financial architecture—cannot succeed without each other. Growth industries need adequate transportation, communications, and energy networks. Conversely, there would be little point in building a high-tech infrastructure for a low-tech, low-wage, menial service economy. The particular shape of the next financial architecture, in turn, should depend to a large degree on the specific needs of U.S. industry and infrastructure.

The Next American System can provide progressives with the economic growth agenda that they lack. Too often progressives have focused on health insurance and other safety net programs while neglecting to put forth a program for long-term growth. Promoting American competitiveness through skills education, a policy that many progressives advocate, makes sense only as part of a larger strategy that includes onshoring, infrastructure and financial reform.

If the goal is preserving and enhancing America's high-productivity industries, then promoting onshoring by means of tax incentives and infrastructure is far more likely to achieve results than doomed attempts to use trade agreements to impose labor and environmental standards on foreign countries. Nor can the Third American System be dismissed as "protectionism" or "industrial policy." The government would not "pick winners." Rather, it would provide uniform incentives and infrastructure for all companies, regardless of their ownership, that are engaged in high-value-added production in the United States. Rather than treating foreign investment in the U.S. as a menace, the national infrastructure and R&D banks would welcome and recruit global capital to promote American prosperity on American terms.

The next president, Congress, and state governments have a historic opportunity to rebuild America. Doing so means creating a twenty-first-century national system as suited to our time as its predecessors were to the days of Hamilton, Lincoln, Roosevelt, and Eisenhower. **■**