The New Atlantis
A Journal of Technology & Society

Infrastructure Policy: Lessons from American History

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For the last several years, dating back to the Iraq War's low point, it has been the vogue to speak of "nation-building at home." It is intended as a pun: usually when we talk about "nation-building" we mean the work of establishing in other countries the institutions and values necessary for political stability. Those who speak of "nation-building at home" imply that the cost of overseas interventions has left the United States in a condition of disrepair. They suggest that money being spent abroad would be better spent on domestic projects, including on a more literal kind of nation-building—the construction and repair of roads, railroads, bridges, dams, pipelines, and the other elements of *infrastructure*.

The question of infrastructure (or "internal improvements," or "public works") has bedeviled the nation since its founding. Problems of infrastructure policy drove George Washington, James Madison, and others to form our constitutional system of government—nation-building in the truest sense. In the antebellum era, a young John C. Calhoun urged his fellow congressmen to "bind the Republic together with a perfect system of roads and canals." In the early industrial euphoria, railroads broke the states and then rebuilt the nation. In the darkest hours of the Depression, FDR designed a public-works program "to put more men back to work, both directly on the public works themselves, and indirectly in the industries supplying the materials for these public works," because "no country, however rich, can afford the waste of its human resources." Twenty years later, amid postwar peace and prosperity, Eisenhower urged that "a modern, efficient highway system is essential to meet the needs of our growing population, our expanding economy, and our national security."

In this, as in all things, history rhymes: where Franklin Roosevelt promised in a fireside chat that Americans would "see the dirt fly," Barack Obama, prior to his inauguration, promised Americans "shovel-ready projects all across the country." But even beyond rhetorical echoes, infrastructure is and always has been seen as both a key to national prosperity and a font of

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national woe. It will "strengthen and perpetuate" the Union; it will bring us the pork barrel and "bridges to nowhere." It will make us rich; it will cost us a fortune. It is the path to progress; it will ruin the environment.

One recent pair of events illustrates perfectly the nation's Janus-faced view of infrastructure. On August 31, 2011, President Obama issued a memorandum for the heads of executive departments, opening with strongly pro-infrastructure language:

> To maintain our Nation's competitive edge, we must ensure that the United States has fast, reliable ways to move people, goods, energy, and information. In a global economy, where businesses are making investment choices between countries, we will compete for the world's investments based in part on the quality of our infrastructure.
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> Investing in the Nation's infrastructure brings both immediate and long-term economic benefits—benefits that can accrue not only where the infrastructure is located, but also to communities all across the country. And at a time when job growth must be a top priority, well-targeted investment in infrastructure can be an engine of job creation and economic growth.

To that end, the president urged, "it is critical that agencies take steps to expedite permitting and [environmental] review." Yet at the very moment that the Obama administration issued that memorandum, it was also delaying action on the most prominent infrastructure proposal in recent memory—the Keystone XL project, a proposed 1,700-mile pipeline that would carry up to 830,000 barrels per day of Canadian crude oil to U.S. markets. Though the State Department had completed a review and found that the project would have no undue environmental impacts, activists disputed those findings. The administration initially announced it would delay its approval decision until 2013 while it re-reviewed the project. When Congress then legislated that a decision be made within sixty days, the administration deemed that amount of time "insufficient for such a determination," and denied the permit outright. Whatever the merits of Keystone XL, the White House's attempt to delay decision on such a major project cast doubt on the sincerity of its call for urgency—and it illustrated how readily infrastructure decisions become enmeshed in broader political debates.

The Keystone XL episode came amidst the latest cycle in Washington's debate over infrastructure policy—a debate rekindled in large part by the 2009 *Report Card for America's Infrastructure* released by the American

Society of Civil Engineers (ASCE). Surveying the nation's bridges, highways, dams, and levees, ASCE concluded that "years of delayed maintenance and lack of modernization have left Americans with an outdated and failing infrastructure that cannot meet our needs." In a report replete with facts and figures, one number stood out: $2.2 trillion. That would be the cost, in ASCE's estimation, of rehabilitating our infrastructure to "good condition" within five years.

Of course, asking civil engineers whether America needs to invest in infrastructure is like asking a barber whether you need a haircut. Still, ASCE's conclusions resonate with an American public that has witnessed in recent years an astonishing series of catastrophic infrastructure failures, including the Minneapolis I-35W bridge collapse in 2007, the failure of the levees in New Orleans after Hurricane Katrina in 2005, and the Northeast blackout of 2003. Even when our infrastructure manages not to fall apart completely, all too often it is worked far beyond its designed capacities. Consider the nation's airports, for example: in 2009, 21 percent of domestic flight arrivals were delayed, canceled, or diverted, and the average delay was 54 minutes. Even if the Federal Aviation Administration succeeds in implementing its long-called-for multi-billion-dollar "NextGen" flight management system, and also carries out its plan to build or expand

Federal Emergency Management Agency

During rush hour on August 1, 2007, the Minneapolis bridge crossing the Mississippi River along Interstate 35W collapsed, killing thirteen people and injuring 145 more.

runways at the nation's thirty-five busiest airports, the agency's own analysis indicates that another fourteen airports will still lack sufficient runway capacity.

And while government frequently attempts to solve infrastructure problems, its planned solutions are frequently delayed or aborted for a variety of reasons. For example, when traffic and rail congestion threatened to grind New York City commutes to a halt in the 1990s, the federal government, New Jersey, and the Port Authority jointly proposed Access to the Region's Core, a project to expand rail capacity into Manhattan, including a tunnel under the Hudson River—at a cost initially estimated to be less than $9 billion. But in 2010, during a time of straitened budgets, when New Jersey officials concluded that the project ultimately would cost billions more than expected and that the state would be responsible for the cost overruns, Governor Chris Christie abruptly canceled the project, even though construction had already begun. Infuriated by his decision, the federal Department of Transportation responded by demanding that New Jersey reimburse the federal government for a share of the design and engineering costs already incurred.

Problems of cost are often tied to problems of accountability, as legislative logrolling often results in substantial appropriations for projects of questionable merit. In 2005, an early version of Congress's omnibus appropriations bill proposed to build a bridge connecting Alaska's mainland to the island of Gravina, saving island residents the trouble of a seven-minute ferry ride. But, as John McCain noted in an impassioned speech on the floor of the Senate, the island was home to only fifty residents. "I don't know what that works out to per capita," he said, "but it is about a million-something per person at least." In fact, this early estimate was far too low: the bill appropriated $223 million, or $4.5 million per island resident. The Gravina Island Bridge budget earmark, which had been sponsored by Alaska's Senator Ted Stevens and Representative Don Young, was promptly eliminated from the bill, but it lived on in infamy as the "bridge to nowhere."

As for President Obama, his August 2011 memorandum was not his first venture into the infrastructure debate. In fact, he highlighted the issue throughout his presidential campaign, regularly identifying the apparently failing state of American infrastructure as a core contributor to and symptom of national economic decline. In a February 2008 speech at the General Motors plant in Janesville, Wisconsin, for instance, he recalled the prior year's Minneapolis bridge collapse, and decried that "we have stood by while our national infrastructure has crumbled and

decayed." "For our economy, our safety, and our workers," he announced, "we have to rebuild America."

The solution he proposed in that speech was an institution dedicated to funding infrastructure projects: a "national infrastructure bank"—a proposal that has found many adherents in recent years. Senator Obama proposed an investment of "$60 billion over ten years," which he claimed would "multiply into almost half a trillion dollars of additional infrastructure spending and generate nearly two million new jobs." The president returned to the proposal in a 2010 speech, calling for "a smart system of infrastructure equal to the needs of the twenty-first century." In advancing this modern scheme for solving our contemporary infrastructure problems, President Obama harkened back to the past:

> There is no reason why we can't do this. There is no reason why the world's best infrastructure should lie beyond our borders. This is America. We've always had the best infrastructure.... Our future has never been predestined. It has been built on the hard work and sacrifices of previous generations. They invested yesterday for what we have today. That's how we built canals, and railroads, and highways, and ports that allowed our economy to grow by leaps and bounds.

President Obama is right in that respect: America's history is in large part a story of infrastructure—roads and canals, railroads and highways, phone lines and data cables. Indeed, we owe the United States Constitution in part to the Founding Fathers' efforts to improve the infrastructure of the young nation. Their visions and debates, and those of subsequent generations, bear startling resemblance to the issues that we confront today. Then as now, infrastructure issues seem inevitably to become subsumed within and dominated by more controversial ones: sectional politics, unemployment, the environment. That history casts substantial doubt on the notion that a financing scheme alone, such as the proposed bank, can solve our infrastructure problems today.

Laying Foundations

The story of American infrastructure, like so many of America's stories, best begins with George Washington. As the Revolutionary War drew to a close, finally securing the independence of the United States, Washington looked forward to returning to Mount Vernon after years of absence—to "become a private citizen on the banks of the Potomac, and under the shadow of my own Vine and my own Fig-tree, free from the bustle of a camp and

the busy scenes of public life," as he often wrote. But despite his desire to return to private life, Washington still saw in the United States the potential to become something much greater. The strength and even survival of the new nation, Washington believed, depended on its infrastructure.

Washington conveyed that belief to his countrymen in his remarkable Circular Letter to the States, dated June 8, 1783. Striking a tone that, in "stepping out of the proper line of my duty," risked alienating Americans who did not share his nationalist view of the Union, Washington celebrated that

> The Citizens of America, placed in the most enviable condition, as the sole Lords and Proprietors of a vast Tract of Continent, comprehending all the various soils and climates of the World, and abounding with all the necessaries and conveniencies of life, are now by the late satisfactory pacification, acknowledged to be possessed of absolute freedom and Independency.

But essential to preserving the blessings of independence, he cautioned, was first and foremost the forging of "an indissoluble Union of the States under one Federal Head." Far from endorsing a loose postwar Confederation, General Washington thought that the creation of a central power "to regulate and govern the general concerns" of the nation was "indispensable to the happiness of the individual States." To choose otherwise, "relaxing the powers of the Union," would risk "annihilating the cement of the Confederation," and ultimately falling prey to foreign powers, one state at a time.

As Washington explained in another letter, to Virginia's Governor Benjamin Harrison, this "cement" must be that of common interest, needed "to bind all parts of the Union together by indissoluble bonds—especially that part of it, which lies immediately west of us, with the middle States." Virginia and its sister states faced difficult terrain and unfriendly waters at the frontier, but they would and must conquer them, establishing lines of trade and communication with settlers and foreigners. A people "who are possessed of the spirit of Commerce—who see, & who will pursue their advantages, may atchieve almost anything," Washington wrote. "In the meantime, under the uncertainty of these undertakings, they are smoothing the roads & paving the ways for the trade of that Western World."

For George Washington, one route held the greatest promise of transporting goods and people inland from the cities to the western frontier: his beloved Potomac River. In his youth, he had surveyed the Potomac backcountry, amassing immense tracts of land along the way. In a 1770

letter to a lawyer from (and later governor of) Maryland, Washington wrote with great excitement of "the immense advantages which Virginia & Maryland might derive (and at a very small comparitive Expence) by making Potomack the Channel of Commerce between Great Britain and that immense Tract of Country which is unfolding to our view the advantages of which are too great, & too obvious I shoud think to become the Subject of serious debate."

Washington's letters reflect the mixed nature of infrastructure development in his day. On matters of expedition, trade, and navigation, the great men of the founding generation saw their private interests and the public interest to be inherently intertwined, in the virtuous sense. As historian John Lauritz Larson writes in *Internal Improvement* (2000):

> Members of a class George Washington called "the monied gentry," these individuals shared a common commitment to the success of the republican experiment, the security of the Union, the preservation of the national government, and the prosperity of their countrymen.... They saw a rising empire of settlement and commerce in the future American West. Canals and river improvements, designed to connect the interior region with the Atlantic trading communities, promised to facilitate growth and insure the loyal integration of the frontier within the Union. When local politicians and taxpayers balked at improvers' grand schemes of public investment, they formed corporations instead.

Washington himself formed the Patowmack Company, a joint-stock company chartered by Maryland and Virginia to improve the river's navigability and collect tolls in perpetuity. A man of Washington's experience

George Washington devoted considerable time and attention to easing navigation on the Potomac River, including around the Great Falls, pictured above. His attention to the Potomac led to the Mount Vernon conference he hosted in 1785, which led ultimately to the Constitutional Convention of 1787.

was not naïvely overconfident in the project's financial prospects: "in general, the friends to the measure are sanguine," he wrote to Lafayette in 1785, "but among those [friends,] good wishes are more at command, than money." Yet the money came: "men who can afford to lay a little while out of their money, are laying the foundation of the greatest returns of any speculation I know of in the world." The company sold 403 shares of stock, for £40,300, and put two fifty-man teams to work.

The charter and capital were necessary, but not sufficient. Washington understood that the weak ties between the states would ultimately doom even the best-capitalized endeavors. And so, as the Patowmack Company began the work of taming and improving the river, Washington began the work of rehabilitating the fast-deteriorating relations among the states. In March 1785, delegations from Maryland and Virginia (including James Madison, George Mason, and Edmund Randolph) met first in Alexandria, and then at Mount Vernon, to frame a cooperative agreement. These meetings produced the Mount Vernon Compact, a set of principles for interstate cooperation "for the purpose of Navigation and Commerce" on the Potomac and Chesapeake, as well as a recommendation that another convention be held with still more states, to further promote interstate commerce and navigation.

Thus the subsequent Annapolis Convention of 1786 brought together representatives from five states, including James Madison from Virginia and Alexander Hamilton from New York. The representatives soon realized that matters of trade and navigation got to the very heart of the defects in the Articles of Confederation. A follow-up meeting was planned for the next year. And so it was that just two years after Washington hosted the Mount Vernon Conference to promote navigation, commerce, and Union, he found himself presiding over the Constitutional Convention of 1787 in Philadelphia, with the goal, as he wrote in a letter to James Madison that year, of building a government of truly "National character," one that "will upon all proper occasions exercise the powers with a firm and steady hand, instead of frittering them back to the Individual States."

At the convention itself, there was little explicit discussion of commerce and navigation—but given the meeting's general purpose and effect of consolidating federal power, Washington and other nationalists had reason to be satisfied. The Constitution's final language granted to the federal legislature at least two powers to promote commerce and navigation: the power "to regulate commerce with foreign nations, and among the several States," and the power "to make all laws that shall be necessary and proper for carrying into execution the foregoing powers,

and all other powers vested, by this Constitution, in the government of the United States." Congress would also have the power "to establish… post roads," and "to…provide for the common defense and general welfare of the United States."

Not every proposal favoring navigation and commerce received the approval of the delegates. Late in the convention, Benjamin Franklin proposed to supplement the "post road" power with "a power to provide for cutting canals where deemed necessary." Madison also saw the need "to secure an easy communication between the states, which the free intercourse now to be opened, seemed to call for." Like Washington, Madison saw that the consolidation of the States into a single Union removed "the political obstacles" to navigation and commerce; accordingly, "a removal of the natural ones as far as possible ought to follow." But Madison went still further, proposing to empower Congress to grant charters of incorporation for canals and other projects. The delegates could not abide the prospect of state-authorized monopolies, and rejected Madison's proposal overwhelmingly; they also rejected Franklin's proposal, an express canal-cutting power. Nevertheless, Washington and his fellow nation-builders left the Convention with great cause for celebration.

After the convention closed and the Constitution was presented to the states for ratification, both Madison and Hamilton hailed the prospects for national infrastructure development in *The Federalist.* Consolidating the national government, Hamilton stressed, would perfect "rights of great moment to the trade of America which are rights of the Union—I allude to the fisheries, to the navigation of the Western lakes, and to that of the Mississippi." And "the veins of commerce in every part will be replenished, and will acquire additional motion and vigor from a free circulation of the commodities of every part." Madison was even more effusive in his optimism, describing the new era of roads and canals that the Constitution would usher in:

> Let it be remarked…that the intercourse throughout the Union will be facilitated by new improvements. Roads will everywhere be shortened, and kept in better order; accommodations for travelers will be multiplied and meliorated; an interior navigation on our eastern side will be opened throughout, or nearly throughout, the whole extent of the thirteen States. The communication between the Western and Atlantic districts, and between different parts of each, will be rendered more and more easy by those numerous canals with which the beneficence of nature has intersected our country, and which art finds it so little difficult to connect and complete.

Considering that the constitutional process for invigorating commerce and navigation began with Washington at Mount Vernon, it was fitting that he returned to the theme once more, just as ratification succeeded and the new Constitution went into effect. In August 1788, Washington wrote to Thomas Jefferson, expressing great hope for the nation's political and commercial prospects. Responding to Jefferson's detailed account of a French canal, he looked forward to the day when America could match them:

> When America will be able to embark in projects of such pecuniary extent, I know not; probably not for very many years to come; but it will be a good example and not without its use, if we can carry our present undertakings happily into effect.

Cementing the Bonds of Union

Given Washington's long-held dream of a strong national government and his energetic leadership in private commercial development of navigation, his countrymen may have assumed that the new president would use his office to lead a broad public program of roads and canals. If so, they were bound for disappointment. Washington's reserved tone in his letter to Jefferson, on the eve of the new constitutional government, was a much more accurate predictor of his ultimate record in office.

The president's first annual message to Congress gave only passing mention of the need for public facilitation of trade—in stark contrast to his private drafts, which had staked out a much more active program for government. Having already succeeded in convincing the nation to consolidate the several states in a single union, he could not plausibly expect the American people to go still further and endorse a major, centralized program of internal improvements.

President Washington, though, did see some small victories for infrastructure. For example, within just three weeks of its first quorum, the House of Representatives already was debating the need for federal promotion of lighthouses. Washington signed the Lighthouse Act into law on August 7, 1789, one day after Congress passed it, establishing an important Commerce Clause precedent that would be cited by proponents of federal nation-building for years to come.

Post roads, however, would have to wait. Congress did not pass a comprehensive plan for post offices and roads until 1794. Two years later, James Madison, then a member of Congress, introduced in the House a proposal for a national survey of the post roads from Maine to Georgia, but the proposal failed under the weight of opposition from both Jefferson

and the Republicans (who opposed northern control over the planning of southern roads) and northern Federalists (who saw the bill as a national subsidy of decrepit southern roads, a point that Madison all but conceded in private correspondence with Jefferson).

But while Washington declined to press the internal improvements issue, his Treasury Secretary Alexander Hamilton, true to character, was much less restrained. In the *Report on Manufactures* (1791), Hamilton urged a program of internal improvement to promote the nation's growing commercial base. Aspiring to match England's roads and canals—the report noted that "there is, perhaps, scarcely any thing which has been better calculated to assist the manufactures of Great Britain"—he applauded early state and local attempts to improve inland navigation, and called for more. Quoting at length from *The Wealth of Nations*, Hamilton reiterated that "good roads, canals, and navigable rivers, by diminishing the expense of carriage, put the remote parts of a country more nearly upon a level with those in the neighborhood of the town. They are, upon that account, the greatest of all improvements." And while Hamilton applauded the states' efforts, he insisted that they alone could not suffice: "There can certainly be no object more worthy of the cares of the local administrations; and it were to be wished that there was no doubt of the power of the National Government to lend its direct aid on a comprehensive plan."

Hamilton's *Report*, in the words of biographer Ron Chernow, "ultimately came to naught.... The House of Representatives shelved the report, and Hamilton made no apparent effort to resurrect it from legislative oblivion." His plan failed to gain traction because, unlike his *Report on Public Credit* (1790), it offered only general principles and no specific plan of action. The executive branch would eventually step forward with precisely such a comprehensive plan—but in a remarkable historical irony, it would be promoted by the subsequent administration led by the erstwhile anti-nationalist Thomas Jefferson.

In many respects, Washington and Jefferson shared common ground on questions of internal improvement. Like his fellow Virginian, Jefferson saw the Potomac as the ideal channel for national commerce. As he put it to Washington in a 1784 letter, in the "competition" between the Hudson, Ohio, Mississippi, and Potomac Rivers, the sum of natural and political advantages favored the Potomac. "Nature then has declared in favour of the Patowmac, and through that channel offers to pour into our lap the whole commerce of the Western world." Urging Washington to push forward with the Patowmac Company's work, Jefferson added, "what a monument of your retirement it would be!"

Yet Jefferson opposed the Federalists' internal improvement proposals—not because he opposed internal improvement *per se*, but because he had long opposed Federalist interference with state prerogatives. As he wrote in a 1796 letter to Madison, he did not trust the Federalists to prevent the "boundless patronage to the executive, jobbing to members of Congress and their friends, and a bottomless abyss of public money" that would result from their infrastructure program. But once Jefferson assumed the presidency in 1801, his fears about federal corruption disappeared. John Lauritz Larson writes that, with control of the government by his Republicans, "Jefferson showed extraordinary confidence in national exertions—when they served correct ambitions."

Jefferson's first opportunity to promote internal improvement came in 1802. At the behest of his Treasury Secretary, a Swiss-born former congressman named Albert Gallatin, he signed the Ohio Enabling Act, which provided that five percent of the proceeds from public land sales in Ohio would be saved for the future construction of a National Road. As that fund accumulated, Jefferson called on Congress to devote future budget surpluses "to rivers, canals, roads, arts, manufactures, education, and other great objects within each state." As Larson succinctly describes it, "Jefferson was sketching for his listeners an activist agenda of national development by republican means."

The "republican means" was a proposed constitutional amendment: unwilling at first to embrace the Federalists' interpretation of the Constitution's implicit grant of power, Jefferson demanded an amendment to expressly grant Congress the power to support internal improvements. But the amendment never arrived, and in 1806 Jefferson signed into law the plan to begin building the National Road—a 130-mile stretch connecting the Potomac River at Cumberland, Maryland to the Ohio River at Wheeling, Virginia (now West Virginia). The conflict between the project and Jefferson's constitutional rhetoric was unavoidable. Whether he had been convinced by Treasury Secretary Gallatin—who believed road projects to be constitutional—or had simply bowed to political expediency as he had done three years earlier for the Louisiana Purchase, Jefferson "gave up his Virginia dogmas," as Henry Adams put it in his 1889 *History* of the Jefferson administration.

And so began the nation's first large-scale internal improvement program. The National Road (or Cumberland Road) promised, Gallatin proudly wrote, to "contribute towards cementing the bonds of Union between those parts of the United States whose local interests have been considered as most dissimilar." Soon other federal projects were under

consideration in Congress. But in the absence of any firm leadership by the Jefferson administration, what ensued was just the clamor of pork-barrel projects that Jefferson had feared all along.

The prospect of chaos and corruption repulsed Senator John Quincy Adams. The nationalist Republican prevailed upon his fellow Senators to issue a resolution calling on Treasury Secretary Gallatin—also a nationalist Republican—to prepare a systematic plan for the building of roads and canals. Gallatin did not disappoint. In 1808, he delivered the *Report of the Secretary of the Treasury on the Subject of Public Roads and Canals.* It was, in historian Carter Goodrich's estimation, "the earliest and most distinguished attempt to formulate a comprehensive national plan of internal improvements." The contrast between Jefferson's hesitant, unruly vision and that of his Treasury Secretary could not have been starker. "The President spoke for the Administration that was passing away," Henry Adams recounted, "while Gallatin represented the Administration to come."

Gallatin rejected the Jeffersonian view that Congress lacked constitutional power to support internal improvements. While a constitutional amendment might be appropriate to empower Congress to establish projects in non-consenting states, a state's consent to a project, in Gallatin's opinion, eliminated any constitutional objection. He called for a sum of $16.6 million (approximately $240 million today) to be invested in a specific set of canals and roads. His report accounted for myriad roads and canals with astonishing detail, yet he presented them together as a truly national system, arguing: "The national legislature alone, embracing every local interest, and superior to every local consideration, is competent to the selection of such national objects."

In Gallatin's opinion, the federal government was indispensable for more than merely political or financial reasons, as "the inconveniencies, complaints, and perhaps dangers, which may result from" the nation's vast territory could be alleviated only "by opening speedy and easy communications through all its parts." The nation's prize for this federal effort would be the very same "cement of interest" that Washington foresaw a generation earlier:

> Good roads and canals, will shorten distances, facilitate commercial and personal intercourse, and unite by a still more intimate community of interests, the most remote quarters of the United States. No other single operation, within the power of government, can more effectually tend to strengthen and perpetuate that union, which secures external independence, domestic peace, and internal liberty.

To appeal to those who would oppose direct government control of infrastructure projects, Gallatin also identified a less direct method of potential government support: the federal government could inject capital into state-chartered corporations through stock subscriptions. This method would combine overarching governmental direction with the efficiencies of private industry, which could execute the project "on a more economical plan."

Gallatin's report was the finest, most comprehensive statement on national infrastructure that the young nation had seen. But there remained one problem. As John Lauritz Larson explains, the report "was received by politicians, not statesmen, who interpreted it, not so much as a design for a system, but as an invitation to the public trough." Petitions began to arrive for scattered projects of dubious national benefit, accelerating the abhorrent trend that John Quincy Adams had hoped to thwart by commissioning the report in the first place. Even Gallatin's alternative proposal to remove direct governmental control and instead merely interject federal capital sparked opposition in Congress to "stockjobbing," "executive patronage," and "pernicious copartnerships," as Carter Goodrich recounts in an article in the *Political Science Quarterly*.

As James Madison succeeded Thomas Jefferson, supporters of a Gallatin-style internal improvement program surely had great expectations. In the *Federalist* he had extolled the value of national projects; in the Virginia legislature he had promoted Washington's Patowmack Company; and in Congress he had eagerly supported Washington's own nascent proposals. But like Washington's supporters, Madison's, too, would be disappointed.

Madison's first term was dominated by war with Britain, leaving little opportunity for internal improvement. However, as Paul Chen writes in an article in the *Whittier Law Review*, "the war revealed even more poignantly to Madison…the importance of an efficient system of internal transportation and communication," and spurred the president to press strongly for a federal improvement program. In 1815, in his seventh annual message to Congress, Madison stressed "the great importance of establishing throughout our country the roads and canals which can best be executed under the national authority." While "the States individually" have attempted local projects, Congress "is the more urged to similar undertakings, requiring a national jurisdiction and national means, by the prospect of thus systematically completing so inestimable a work." He repeated this call to action in his final annual address, a year later. In each of those addresses, President Madison made oblique reference to the

possible need for constitutional amendment—though he did not go so far as Jefferson in insisting on an amendment before any national program could commence. If anything, his constitutional caveats read on their face to be no more substantial than Gallatin's.

Madison's message stirred Congressman John C. Calhoun, then a fierce young nationalist. Calhoun introduced the Bonus Bill, which proposed to earmark the "bonus" and dividends paid to the government by the National Bank, as "a permanent fund for internal improvement." In language worthy of Washington and Gallatin, Calhoun urged his colleagues, "Let us…bind the Republic together with a perfect system of roads and canals. Let us conquer space."

The familiar constitutional and sectional debates resumed, with Speaker of the House Henry Clay joining Calhoun as a lead advocate of the Bonus Bill. Louisiana Representative Thomas Bolling Robertson attempted to mitigate the federal prerogative—though not the federal funds—by allocating those funds to the relevant state in proportion to population, rather than project merit. And Representative Timothy Pickering of Massachusetts proposed to subject any federal project to the state's veto power. Both amendments passed, over the objections of Calhoun and Clay—though this was probably for the best, as even with those limitations on federal power, the Bonus Bill only barely passed the House by a vote of 86 to 84.

With just days remaining in Madison's second presidential term, Clay and Calhoun's accomplishment seemed perfectly timed. The Bonus Bill was a core component of their "American System," a Hamiltonian reinvigoration of national commerce.

So Calhoun had reason to be in good spirits when he joined his fellow Republican congressmen to visit President Madison on his second-to-last day in office, to personally offer their congratulations and farewell. As the cheerful occasion wound to a close, Calhoun bid Madison goodbye and started for the door—only to be called back by Madison. There, according to Madison biographer Drew R. McCoy, the president privately informed Calhoun that he would veto the Bonus Bill. Calhoun and his fellow nationalist Republicans were stunned; according to Speaker Clay, "no circumstance, not even an earthquake that should have swallowed up half this city, could have excited more surprise."

Clay urgently wrote to Madison, appealing to his past pro-improvement sentiments and pleading with him to defer the bill to incoming President James Monroe: "Knowing that we cannot differ on the question of the *object* of the Internal Improvements bill, however we may on the Constitutional

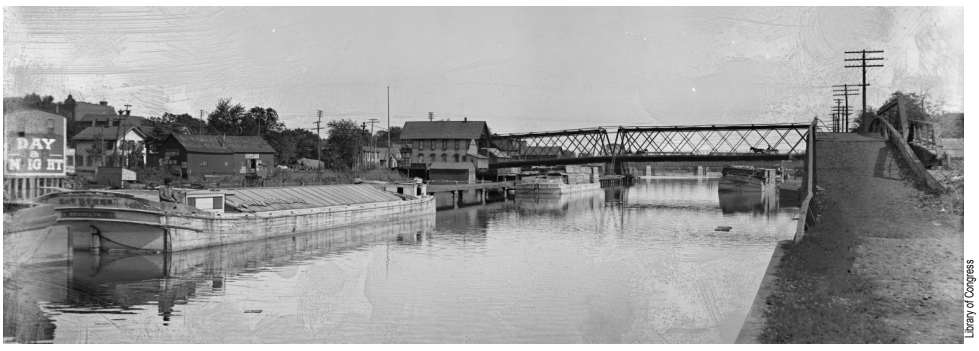
point, will you excuse me for respectfully suggesting whether you could not leave the bill to your successor?"

But Madison would not be moved. In his veto message to the House, Madison rejected the suggestion that Congress had the constitutional authority to build canals:

> I am not unaware of the great importance of roads and canals and the improved navigation of water courses, and that a power in the National Legislature to provide for them might be exercised with signal advantage to the general prosperity. But seeing that such a power is not expressly given by the Constitution, and believing that it can not be deduced from any part of it without an inadmissible latitude of construction and reliance on insufficient precedents; believing also that the permanent success of the Constitution depends on a definite partition of powers between the General and the State Governments, and that no adequate landmarks would be left by the constructive extension of the powers of Congress as proposed in the bill, I have no option but to withhold my signature from it.

With his veto, Madison effectively ended the prospect for comprehensive national infrastructure reform.

The day after Madison's veto, President Monroe delivered an inaugural address that ironically echoed Madison's previous calls for a federal internal improvements program. Monroe himself would later have occasion to put great thought into the question of the constitutionality of infrastructure. The completion of the long-awaited National Road early in his presidency had been marked with widespread rejoicing. But in 1822, when Congress passed a bill that would have funded repairs to the National Road by a toll system created and enforced by federal officials, Monroe vetoed it. In a message to Congress explaining the



Library of Congress

The Erie Canal as seen in Tonawanda, New York in the early twentieth century.

reasoning behind his veto—a message as extraordinary for its length (25,000 words) as for its clear-eyed appreciation of both desirable policy and constitutional limits—Monroe argued that Congress did not have the authority to exercise any constitutional "jurisdiction or sovereignty" over the National Road project—though it did have the power to appropriate funds. Two years later, Monroe was true to his word and signed bills funding repairs and internal improvements when Congress devised a method he considered constitutional.

The decades of uncertainty in the new nation over the constitutionality of infrastructure projects kept each successive administration from attempting to implement an ambitious infrastructure plan. Presidents Monroe, John Quincy Adams, and Andrew Jackson continued to increase federal infrastructure spending but, as Paul Chen writes, "rather than culminating in a coherent system of infrastructure that would benefit the entire Union and its long-term prosperity, Congress and the presidents authorized piecemeal projects that served local and private commercial interests." A turning point was reached in 1830 when President Jackson vetoed, on constitutional grounds, a bill that would have funded construction of a turnpike in Kentucky. Never again would Congress make a serious effort to develop a comprehensive program for internal improvements.

Subsidy and Monopoly

Notwithstanding that 1830 veto, President Jackson was a major supporter of internal improvements, appropriating more funds than any other antebellum president. But Jackson, the frontier president, focused less on eastern roads and canals than on "territorial roads and river improvements, especially in the West," as Stephen Minicucci notes in the journal *Studies in American Political Development.*

That shift in emphasis was also followed by a change in the means of funding. The years after Jackson saw the federal government increasingly prefer to fund infrastructure projects not by giving money but by giving land, which especially benefited the newest form of infrastructure development—railroads. Federal support of the railroads through land grants began with the Illinois Central Land Grant Act of 1850, which was quickly followed by similar land grants in other western and Gulf states.

The smaller projects supported by land grants were only the beginning. By the late 1850s, Carter Goodrich writes, "the center of interest had been taken by a much greater project that was advocated with particular urgency on grounds of patriotism and national interest": the

transcontinental railroad. The project would enjoy unprecedented federal support, even though it could not turn the tide in favor of direct federal control. The Pacific Railway Act of 1862 created the Union Pacific Railroad, the first federally chartered corporation since the ill-fated Bank of the United States.

But Congress's eagerness to see the railroad built was not matched by a willingness to pay for it. "Having expended so much blood and treasure to restore the South to the nation," explains Richard White in his 2011 book *Railroaded*, "Congress hoped to connect the West without expending either." Congress offered land grants—"the land equivalent of small countries," as White puts it—and other subsidies. Also, Congress funded the railroad with what we would today call "loan guarantees":

> It was taxless finance at its most grandiose. [In 1862 and 1864, Congress] lent the companies $50 million worth of government bonds for thirty years. . . . The government guaranteed both the interest and the principal on the bonds. In making this promise, the majority of congressmen did not anticipate that it would cost the government any actual money.

The government's generosity relieved the railroads' own owners of the responsibility to actually pay for the project themselves. In White's words, "The promoters of the Union Pacific and the Central Pacific later claimed that they had risked their honor and fortune on these roads, yet in most cases they possessed relatively little of either."

The transcontinental railroad ultimately came to embody both the best and the worst of public infrastructure investment. The public cost was great: Congress's loan to Union Pacific was structured in such a manner as to effectively cost the government $43 million over thirty years. And that was in addition to the land grants and other benefits, as well as the intangible costs that the nation paid in the resulting Crédit Mobilier scandal, in which Union Pacific relied upon a surreptitiously affiliated construction company to vastly overcharge the federal government for the cost of the project, and then used some of those ill-gotten gains to bribe political friends.

Of course, these costs were not without benefit. As Steven Hahn put it in a review of White's book in *The New Republic*, the transcontinental railroad was "not only an immense economic project, but an immense political and cultural project, too. . . . It was an element of nation-state formation." Nevertheless, by outsourcing the project to private industry, the government necessarily relinquished control and most of its oversight.

East meets west: The transcontinental railroad was completed on May 10, 1869 as locomotives from the Union Pacific and Central Pacific lines met at Promontory Summit in Utah. A ceremonial rail spike made of gold was driven to complete the linkage of the two lines.

No matter how the federal government fared in this era, the states certainly fared worse. The losses endured by state and local governments brought many of them to insolvency. The economic downturn caused by the Panic of 1837 forced the states to curtail their own investments. In the 1840s, several states abruptly abandoned their improvement programs, with a few even passing laws explicitly prohibiting spending on construction projects. Many states' solution was outright default; there was no appetite for the alternative, taxation. Several western states would later repudiate their antebellum debts, and southern states would default on Reconstruction-era bonds.

Still, states would find ways to continue to fund seemingly attractive projects, even when their laws nominally prohibited it. For example, Iowa's constitution, adopted in 1846, specifically prohibited the state legislature from creating "in any manner" public debts or liabilities exceeding a total of $100,000, except during war or in other extraordinary circumstances. But when the state incorporated the city of Dubuque, it authorized the city to borrow money—and the city certainly did so, issuing $250,000 in bonds to support the Dubuque Western Railroad in 1857. The city refused to pay interest on its debt, and it took years of litigation before the U.S. Supreme Court finally settled the matter.

Given all of the troubles that emerged from that era's mix of private enterprise and public funds, hindsight may obscure the benefits that the public perceived at the time. Infrastructure-project proponents argued

that the best projects would be identified not by government bureaucrats or politicians but rather by private enterprise; it was best to take advantage of private investors' professional judgment and self-interest, and to direct public investment where private investments already wanted to flow.

Unfortunately, that theory too often failed to match reality: private projects often managed to secure public investment far in excess of their owners' own stakes. "In extreme cases," Goodrich concludes, "mixed enterprise came close to representing simply the private control of public investment." Here, too, the transcontinental railroad provides the best example: according to one estimate that Richard White cites, "the Associates of the Central Pacific Railroad took an actual investment, not all of it theirs, of about $275,000 and leveraged it into a corporation capitalized at $135,346,964 in 1873" (roughly the equivalent in today's money of turning a $5 million investment into $2.5 billion).

While the railroads illustrated the public's unappealing choice between outright public ownership of public works and the often-corrupted public-private-partnership model, another novel industry was showing what the purely private model could look like. In the years immediately following the construction of Edwin Drake's original 1859 oil-drilling rig at Titusville, Pennsylvania, oil was brought from well to market in the same way as coal: by rail and, for shorter distances, by road. But to avoid the high cost of freight—exacerbated by the monopoly on road shipping held by the teamsters with their horse-drawn wagons—oil drillers developed their own alternative: pipelines. By 1866, as Daniel Yergin recounts in *The Prize* (1991), "pipelines were hooked up to most of the wells in the Oil Regions, feeding into a larger pipeline gathering system that connected with the railroads."

And just one decade later, another exertion of crippling market power forced oil producers to become even more innovative. In order to circumvent the near monopoly of the Standard Oil Company over oil refining, producers built the first long-distance pipeline—the Tidewater Pipeline, carrying oil 110 miles east to the railroads. "It was a major technological achievement," Yergin writes, "comparable to the Brooklyn Bridge four years later." Of course, Standard Oil responded by beating the Tidewater Pipeline at its own game: In addition to buying into Tidewater's ownership, Standard promptly built four long-distance pipelines of its own, achieving near-total control of oil transportation in the region.

Standard Oil's pipelines, and the others that followed, had no need for public support, because the economic model was completely different from traditional infrastructure projects. Unlike roads, canals, and even

railroads, pipelines were able to thrive on the rates paid by people using this means of conveyance, because they were a captive audience with much to lose. Purveyors of normal goods might have alternatives to shipping their products on rail or on canals—but oil drillers had one and only one productive use for their oil: sending it to the refiner, on the one pipeline that connected them to the market.

And so this market produced infrastructure without public support, but at a cost. Standard Oil's monopoly brought the company vast power. The company, co-founded by John D. Rockefeller, first used this power to cripple its rivals, as Henry Demarest Lloyd memorably explained in a seminal 1881 essay for *The Atlantic Monthly*: "Commodore Vanderbilt is reported to have said that there was but one man—Rockefeller—who could dictate to him." It then used its power to control state politics: "The Standard has done everything with the Pennsylvania legislature, except refine it."

The federal government ultimately asserted power over Standard and the other pipelines. A 1906 law gave the Interstate Commerce Commission jurisdiction to regulate the rates and services of interstate oil pipelines. And five years later, in the wake of a federal antitrust suit, the Supreme Court broke up Standard Oil. This monopoly, too, had proved a powerful but short-lived means of infrastructure advance.

Aims in Conflict

The precedent established by the busting of the monopolies eventually became the basic model for federal regulation of energy infrastructure: whether for hydropower generation, interstate natural-gas pipelines, or the interstate power grid, private industry would build the project but the federal government would regulate its subsequent rates and terms of service. Yet in the early twentieth century, the federal government largely withdrew from active participation in national infrastructure development. While federal agencies continued to regulate interstate rail and oil-pipeline rates, and agencies such as the U.S. Army Corps of Engineers oversaw inland waterway maintenance under laws such as the Rivers and Harbors Act of 1899, the push for strong federal direction of national infrastructure had largely subsided. Even when Congress sought to support the nascent automobile age by promoting road and highway development, it did so only tentatively and indirectly: in the Federal-Aid Highway Act of 1921, Congress gave the states matching funds to cover half the cost of road construction, but left the states solely responsible for maintaining those roads. There were exceptions, of course—the grandest

being the Hoover Dam—but they stood out against the overarching theme of government restraint.

Soon enough, however, starkly different circumstances dictated a much different approach. Delivering his first inaugural address amidst the economic wreckage of the Great Depression, President Franklin Roosevelt pressed for infrastructure development not as an end in itself, nor as the means toward more general ends of national union, westward expansion, and general economic welfare. Instead, he called for public-works projects as a direct aid to short-term employment:

> Our greatest primary task is to put people to work. This is no unsolvable problem if we face it wisely and courageously. It can be accomplished in part by direct recruiting by the Government itself, treating the task as we would treat the emergency of a war, but at the same time, through this employment, accomplishing greatly needed projects to stimulate and reorganize the use of our natural resources.

These ends would be achieved primarily through the National Industrial Recovery Act, which Roosevelt signed into law just three months into his first term. At the bill's signing, FDR reiterated that his administration's public works projects would bring immediate jobs, but he further added (consistent with his campaign pledge of fiscal restraint) that the projects would be sound in and of themselves:

> The second part of the Act gives employment through a vast program of public works. Our studies show that we should be able to hire many men at once and to step up to about a million new jobs by October 1st, and a much greater number later. We must put at the head of our list those works which are fully ready to start now. Our first purpose is to create employment as fast as we can, but we should not pour money into unproved projects.

One month later, when the public-works program had already exceeded $3 billion, Roosevelt added a third point during one of his fireside chats: not only would the projects create jobs yet avoid waste, but now they would also (in part) pay for themselves:

> Two points should be made clear in the allotting and administration of these projects—first, we are using the utmost care to choose labor-creating, quick-acting, useful projects, avoiding the smell of the pork barrel; and secondly, we are hoping that at least half of the money will come back to the government from projects which will pay for themselves over a period of years.

In truth, however, FDR recognized that these three aims would not always align, and that ultimately his focus on jobs would entail serious public costs. Barely a year later, in another fireside chat, he characterized waste as a necessity, if not a virtue: "To those who say that our expenditures for Public Works and other means for recovery are a waste that we cannot afford, I answer that no country, however rich, can afford the waste of its human resources."

The Roosevelt administration's conflicting aims were embodied by its two main public-works relief agencies and the two men that led them—a story that Michael A. Hiltzik tells masterfully in his recent account, *The New Deal* (2011). The Federal Emergency Administration of Public Works, later and better known as the Public Works Administration (PWA), was created in Roosevelt's first hundred days by the National Industrial Recovery Act. Instead of chasing short-term employment boosts, the PWA prioritized sound infrastructure projects and relied on private companies to get the work done. Its good-government mission was the vision of the man FDR chose to lead the agency: Secretary of the Interior Harold Ickes. Ickes was "painstaking to a fault," Hiltzik writes, despite the president's public call for quick jobs. "He subjected every proposal, large or not so large, to a rigorous examination that often reduced state and local officials—and their Washington representatives—to apoplexy."

But the PWA's restraint could not bear the weight of massive unemployment. As Ickes's agency methodically reviewed public-works proposals, another FDR confidant, Harry Hopkins, pressed Roosevelt to react more swiftly to the public's need for jobs, and the president agreed. Hopkins would lead a small alternative agency focused above all else on the employment emergency during the winter of 1933-34: the Civil Works Administration (CWA). Its initial $400 million budget was drawn from Ickes's $3.3 billion budget, where (in Hiltzik's telling) those funds had been "still waiting to pass through Ickes's fine sieve." The contrast between Ickes's PWA and Hopkins's CWA could not have been starker: "While Ickes pinched every penny," Hiltzik writes, "Hopkins continued to shovel out every dime as fast as it came in," providing jobs for four million Americans during the agency's short existence (November 1933 to March 1934).

For his success with the CWA, Hopkins was rewarded with an even greater machine for job creation: the Works Progress Administration (WPA), a $4.9 billion program administered from within the White House itself. By creating twin agencies with overlapping mandates, Roosevelt inevitably created tension between Ickes and Hopkins, as well as their respective agencies. FDR attempted to alleviate this by a presidential

order distinguishing the agencies' respective jurisdictions: the WPA, headed by Hopkins, would focus on construction projects costing $25,000 or less and non-construction jobs "of a type designed to assure maximum employment principally to clerical, professional and white-collar classes." By contrast, the PWA, headed by Ickes, would focus on big-ticket construction projects. But FDR also provided that projects rejected by the PWA could immediately apply for public support through the WPA.

Together, the PWA and WPA succeeded in vastly increasing the nation's infrastructure. As Jason Scott Smith notes in *Building New Deal Liberalism* (2005), his scholarly study of the New Deal's political economy, the WPA's portfolio of smaller projects ultimately reached 78,000 bridges and viaducts and 572,000 miles of rural roads. And in its first six years, the PWA completed 11,428 street or highway projects, totaling nearly 37,000 miles. "As far as infrastructure was concerned, the PWA was a resounding, and nationwide, success," Smith concludes.

But, whereas the WPA employed millions of Americans, the PWA's record of generating employment was comparatively poor. Ickes's concern with spending government money effectively on major construction projects reduced the speed at which projects would be able to hire new workers. Ultimately, Hiltzik observes, "the New Deal required both a construction

Urbana Courier

Relieving the unemployment crisis was the primary purpose of the Works Progress Administration (WPA), created by Franklin Roosevelt in 1935 and headed by Harry Hopkins. In the above photograph from December 1935, a ditch gang is at work in Champaign, Illinois.

program of large-scale public works and a work relief program emphasizing spending on labor with a short-term horizon." Still, FDR's priorities are evident from his clear favoring of Hopkins and the WPA over Ickes and the PWA. The focus of the construction boom under FDR and the New Deal was unmistakably on saving the Union from economic ruin; infrastructure creation was a happy side effect—but a side effect it was.

Progressives Against Progress

The investments in infrastructure during the 1940s by and large had military purposes and were connected to the nation's participation in the Second World War. In the 1950s, Dwight D. Eisenhower drew on some of his experiences during that war in advocating the creation of the U.S. interstate highway system. In 1956, he signed the Federal-Aid Highway Act, authorizing the construction of 41,000 miles of interstate highway, paid for by a gasoline tax deposited into the federal Highway Trust Fund. And aside from governmental infrastructure projects, private projects, such as pipelines and the increasingly nationalized power grid, were built and put into operation.

But Eisenhower's program would mark the end of an era in which the federal government could swiftly plan, fund, and execute major infrastructure programs. Not long after Eisenhower signed the highway bill, infrastructure proponents were confronted by an unprecedented challenge: a fast-growing, wide-ranging body of federal environmental laws. The Clean Air Act of 1970, the Clean Water Act (enacted in several stages from the 1940s through the 1980s), the Coastal Zone Management Act of 1972, and other laws effectively eliminated the government's capacity to quickly roll out public or private infrastructure programs. These laws set mandatory environmental quality standards that must be satisfied during a project's construction and operation phases—requiring lengthy environmental reports, rounds of complex public comment and agency response, and often pre-construction litigation to challenge the adequacy of the agency's environmental analysis.

Perhaps the most consequential but least publicly known environmental statute is the National Environmental Policy Act (NEPA) of 1970. Unlike the Clean Water Act and other statutes, NEPA does not create specific, substantive environmental quality restrictions, such as prohibitions against depositing certain chemicals into public waters. Rather, NEPA's requirements are, in the Supreme Court's words, "essentially procedural": they prohibit federal agencies from approving infrastructure

projects without first undertaking lengthy environmental reviews, culminating in a comprehensive environmental impact statement outlining not just a project's possible environmental impacts, but also the comparative impacts of hypothetical alternative projects.

NEPA's lack of substantive environmental standards might in theory seem favorable to infrastructure proposals. But in fact, by setting requirements generally rather than specifically, it creates a stifling uncertainty by empowering opponents of an infrastructure project—especially environmentalists—to file lawsuits arguing that the relevant agency's review was not sufficiently thorough. For that reason, NEPA has long been nicknamed "the Magna Carta of environmental law" by its critics and proponents alike.

And something else was changing, deeper and more pervasive than the liberal environmental laws. In the second half of the twentieth century, infrastructure increasingly fell victim to a shift in political culture, spearheaded by progressive activists. Perhaps no writer has more clearly depicted this problem than Joel Kotkin, in his 2010 *City Journal* essay "The Golden State's War on Itself," a description of the decline of California that in many ways speaks to the broader ills of the nation. Kotkin draws a generational contrast of California's governance in terms of its famous gubernatorial father and son: Edmund Brown, Sr., who governed California from 1959 to 1967, and Edmund "Jerry" Brown, Jr., who governed from 1975 to 1983 and returned to office in 2011.

Brown *père* (along with his Republican predecessor, Governor Earl Warren) embodied the "old progressivism," a "nonpartisan and largely middle-class movement that emphasized fostering economic growth… and building infrastructure." That generation of leaders, Kotkin writes, created the "California Dream" that loomed large in America for much of the century. But Brown *fils* is of a much different progressivism—an interest-group amalgamation that persistently demanded increased social spending and the imposition of environmental regulations that made further infrastructure development effectively impossible. As a result, modern California can no longer afford substantial infrastructure development—and even if it could, its regulators would prohibit it.

What an Infrastructure Bank Cannot Do

As California went, so went the nation—at least, that is the diagnosis of the American Society of Civil Engineers and others who decry the state of American infrastructure. But given the multifaceted character of the

modern infrastructure issue, the policy response has been remarkably uniform. Virtually everyone proposing a strong national infrastructure program has one remedy in mind: an "infrastructure bank."

The idea of an infrastructure bank is relatively straightforward: the government would deposit seed money—billions or tens of billions of dollars—into a bank controlled either by the government itself or a hybrid public-private organization. The bank, in turn, would "leverage" that seed money into a greater fund by offering bank stock to the general public, or by offering long-term debt to international markets at the low interest rates that the government ordinarily enjoys. Then the bank's available funds would be applied toward infrastructure projects that could not obtain financing through traditional means, due to the long time horizons and ultimate uncertainty that are characteristic of infrastructure projects. The bank would then, like any other bank, accrue income from the interest paid by these borrower projects.

The infrastructure bank proposal dates back at least to 2006, when a blue-ribbon commission on infrastructure issues, co-chaired by former Senator Warren Rudman (R.-Mass.) and famed investment banker Felix Rohatyn, and with members spanning the ideological spectrum from then-Senator Christopher Dodd (D.-Conn.) to Governor Rick Perry (R.-Tex.), issued a set of "guiding principles" for infrastructure reform, including the creation of an "infrastructure financing agency." Senator Dodd and another participant, Senator Chuck Hagel (R.-Neb.), later sponsored the National Infrastructure Bank Act of 2007, an attempt to implement the panel's recommendations.

Senators Dodd and Hagel's legislative efforts failed, and they are both now out of office. But others continue to carry the bipartisan banner of the infrastructure bank—most recently, Senators John Kerry (D.-Mass.) and Kay Bailey Hutchison (R.-Tex.), with the support of the AFL-CIO and the U.S. Chamber of Commerce. And among policy thinkers focused on infrastructure issues—William Galston, David Brooks, and Michael Lind, to name a few—the infrastructure bank's virtues are conventional wisdom. For his part, President Obama has spoken of the "smart investments" that his version of the idea would support—investments that would be decided "not by politics, but by what will maximize our safety and homeland security; what will keep our environment clean and our economy strong."

But when viewed in light of the nation's long, difficult history of infrastructure reform, the infrastructure bank proposal underwhelms: it solves virtually none of the problems that have repeatedly hampered

infrastructure programs, and it would likely recreate problems we have seen many times before.

First, infrastructure bank proposals rarely offer any advance indication of exactly which projects, or which kind of projects, would actually be supported. The Treasury Department report that laid out the Obama administration's infrastructure-reform plans reads almost as a caricature of this deficiency:

> a National Infrastructure Bank would develop a framework to analytically examine potential infrastructure projects using cost-benefit analysis, and would evaluate the distributional impact of both the costs and benefits of each project.... A National Infrastructure Bank would select projects along a sliding scale of support that most effectively utilizes the bank's limited resources, targeting the most effective and efficient investments.

A classic Washington case of kicking the can down the road. It is all too easy to imagine this bank's project decisions being arbitrary—or, worse yet, that the guise of objectivity would easily turn into number-fudging designed to satisfy outside political and financial actors who have a strong interest in certain projects getting selected. By not defining in advance the types of projects that would be funded and the public good that would be achieved, the administration's proposal would only exacerbate the public's traditional suspicion that government-supported infrastructure is just pork barrel, intended more to benefit the well-connected than the national interest. This perception (or reality) ultimately doomed Hamilton's designs, Gallatin's program, and the Clay-Calhoun Bonus Bill; it likely dissuaded President Washington from pursuing an infrastructure program in the first place; and it hampered federal and state investment in railroads during tough economic times. In the twentieth century, by contrast, FDR succeeded in overcoming this suspicion by stressing in advance that his program would reach across the nation, benefiting the public at large; and as his administration implemented the New Deal, it took pains to repeatedly point out how many communities and workers the program had benefited.

Also, since an infrastructure bank would rely heavily on private industry to drive the process, it might be susceptible to the problems that pervaded the nineteenth-century railroad programs. Then, as today, policymakers presumed that public-private partnership would deliver the best of both worlds: the expertise of private enterprise in identifying and carrying out the best possible projects, and the resources of the federal

government in supporting those projects. But for railroads, as Carter Goodrich observed, "mixed enterprise came close to representing simply the private control of public investment," especially when project promoters were able to secure government financial backing without first taking on a substantial financial stake of their own. To that end, both the Obama administration's American Jobs Act and the Kerry-Hutchison BUILD Act would limit the government's investment to no more than 50 percent of total costs, requiring private enterprise to fund the other half. Perhaps that is a sufficient private stake in the project's success. Then again, even a 50 percent public stake ensures that private enterprise faces only half the losses that it would otherwise suffer for imprudent projects.

Finally, an infrastructure bank would do nothing to transform today's regulatory landscape, which offers too many opportunities for environmental activists and others to tie up even environmentally sound projects in interminable litigation. Government-supported projects should be environmentally sound, of course, but the determination that they meet that standard cannot be left entirely in the hands of courts and environmentalists if a large infrastructure program is to succeed. To continue with today's state of affairs would be to set up any such program for defeat. None of the major infrastructure bank proposals seriously grapples with the problem of regulation.

A bank not built to address these fundamental problems would not be an infrastructure policy—it would be the absence of policy. "Nation building," from the early internal improvements to Eisenhower's highway system, requires what Alexander Hamilton described as "energy in the executive": strong national leadership, popular legitimacy, and the ability to carry a policy through to successful execution. The federal checkbook is not enough.