Public Works Management & Policy
1–6

DOI: 10.1177/1087724X16667728
pwm.sagepub.com

More Than Money: Infrastructure and Governance

Emil Frankel[1] and Martin Wachs[1]

Keywords
infrastructure, governance, finance, economy, politics

In the early 1980s, a popular paperback by Pat Choate and Susan Waller shouted that America was in ruins. Neglect of transportation, water, and other infrastructure for decades had by then placed our nation at risk of economic and social decline. Unless the crisis was addressed soon, deterioration would accelerate in coming decades leading to steadily worsening conditions of roads, bridges, water supply, and sewage systems. Lives could be lost, and the economic costs of recovery would continue to escalate. More than three decades later, the problem persists. The word "crisis" has been used too often and recitation of the problem has become rote. Presidential candidates all mention infrastructure and talk simplistically of spending billions, but are unconvincing because their pronouncements neither lead to action nor reveal an understanding of the problem.

At about the same time that Choate and Waller wrote about infrastructure, Paul Peterson wrote in *City Limits*, that we can no longer solve complex urban problems unless we work collaboratively across boundaries at the regional level. Cities try to maximize benefits and revenue at the expense of their neighbors, but to achieve real success, they must collaborate. The structures and charters of infrastructure agencies discourage that. Thirty years have passed, but Peterson's insight still seems central to addressing our failing infrastructure. We need to grasp the ways in which the functions served by infrastructure are changing and how they relate to our nation's growth and governance. Infrastructure comprises a huge portion of our shared wealth, and it crosses political boundaries. Effectively managing and enhancing our collective assets are among the most pressing challenges to contemporary government and require actions beyond merely spending more money.

[1]University of California, Los Angeles, USA

Corresponding Author:
Martin Wachs, Institute of Transportation Studies, University of California, Los Angeles, P.O. Box 951656, Los Angeles, CA 90095-1656, USA.
Email: mwachs@ucla.edu

America's largest metropolitan regions are increasingly the engines of national economic growth and the locations of its most significant social and demographic challenges. Over the last half century—and at an accelerating pace in the last two or three decades—the American economy has become ever more focused on the nation's major metropolitan regions. Today, approximately 65% of the American people live in the 100 metropolitan regions with populations of more than 500,000, and more than 160 million Americans, or 40% of the nation's population, live in metropolitan regions of more than one million residents. America's 51 largest metropolitan regions generate 65% of the nation's output and about 70% of all wages. All indications are that these demographic and economic trends are continuing, if not accelerating.

As their economic importance grows, America's major metropolitan regions have changed dramatically in the past half-century, and they continue to evolve. Labor-intensive manufacturing, at the core of the economies and cultures of America's cities for almost a century, has declined as the driver of growth and the shaper of urban development. Today, America's most prosperous and rapidly growing metropolitan regions are more frequently defined by knowledge—and service-based sectors and are centers of ideas and innovation.

Related to these changes in economic function and purpose, the physical forms of our major metropolitan regions have changed from what they were as recently as the last years of the 20th century. The population and commercial decline of many of the nation's major central cities appears to have been reversed. Logistics functions once located at the core of metropolitan areas have at the same time moved to the edge, often replaced by luxury housing and commercial centers downtown. Disadvantaged populations and those unequipped by training and experience to take advantage of these changes face increasing problems of social and economic isolation, even in those metropolitan regions that are growing and prospering most rapidly.

Bringing water, power, and information, and moving people and goods into and out of those centers cost-effectively is enormously challenging as the technology for doing so changes ever more rapidly. It is especially difficult to renew systems while they are heavily used in developed and densely populated regions that spill over jurisdictional boundaries. The growth and prosperity of metropolitan areas were facilitated by investments made by earlier generations in roads, ports, railways, water supply, and energy systems. The legacy networks and facilities of the nation's older and more densely developed metropolitan regions are aging, heavily used, deteriorating, and often failing. They are widely seen to be incapable of serving current and future needs. Faced with the challenge of bringing existing infrastructure to a state of good repair in the context of expanding demands of evolving metropolitan regions, operating and planning agencies struggle to identify the necessary resources to meet these diverse challenges and to make "wise" decisions about the investment of scarce capital.

But those agencies are not well structured to do the jobs we ask of them. Do we have institutions capable of strategic planning and capital programming, of appropriately analyzing potential and competing infrastructure investments, and of implementing project financing and delivery once investment decisions are made? The challenges to address needed change are both national and regional. Technology to help solve these problems is evolving rapidly and, while its application to infrastructure systems is gradually increasing, the adoption of technology for system management still lags private-sector applications.

The claim is frequently made that funding is inadequate to support operations, maintenance, and capital investment to improve transportation, water, and energy infrastructure. However, funding gaps are more typically attributable to political differences, than they are to the absence of potential funding solutions. User fees, for example, are traditional forms of infrastructure funding and can be used effectively both to produce needed revenue and to manage system demand.

Problems that are presented as technological inadequacies and funding shortfalls arise primarily because of failures related to governance. These funding and management issues will not be resolved until governance and decision making are improved, but our current institutions seem structured to resist the necessary changes.

For a century, federal infrastructure politics were largely dominated by bipartisan interest in maximizing the flow of resources into the jurisdictions of elected officials, regardless of party. Intent on bringing home the bacon, both Republicans and Democrats sought highway and water system investments to benefit their jurisdictions. Seeking to serve their own interests, members of both parties and representatives of urban, suburban, and rural areas often agreed to infrastructure allocations through deals that satisfied the wants of others to get what they wanted for their own districts. There were sometimes grotesque misallocations of resources—exemplified by the famous “bridge to nowhere,” and the Tennessee Tombigbee Waterway. But valuable compromises also were reached, for example, leading to a national system of interstate highways that depended on a funding partnership between national and state agencies.

However, as noted by Robert Atkinson in the *Washington Post*, in the past few years, the political environment has changed, even as it relates to infrastructure policy and investment, so that these debates have seen an increase in partisanship, unwillingness to compromise, and a decreasing focus on the developmental roles of infrastructure. The political right increasingly argues that infrastructure should be delivered by state and local governments and by the private sector. This overlooks the fact that many interests are national in nature and that the benefits of infrastructure investments are often diffuse and spread across multiple jurisdictions. Federal incentives are often necessary for state and local governments to recognize the national and/or multi-jurisdictional nature of certain projects and programs.

At the same time, the political left increasingly argues that environmental and climate concerns require us to decrease national investment in infrastructure, for example, by arguing that road building induces sprawl and generates traffic. This polarization is a major cause of the long-standing infrastructure impasse. Significant contributions undoubtedly can be made by private sector and local government actors, but coherent national policy is needed to orchestrate them. Although there are indeed negative externalities associated with infrastructure, they need to be carefully addressed in national policy rather than becoming points of argument thwarting public investment.

Federal infrastructure politics are compounded by the trends noted above occurring in our increasingly important metropolitan areas. Local, regional, and state governments were structured to reflect dominant concerns of past centuries and are not able to fill the vacuum left by an absence of federal attention. Traditional political boundaries no longer match the functioning of our increasingly dominant metropolises. As noted eloquently in recent writings of Parag Khanna, economic regions include many cities and counties and often extend over several states. The seven most populous states are largely urban and have huge infrastructure system needs. They contain 45% of the nation's population but their 14 senators are only 28% of the Senate. And while "metropolitan planning organizations"(MPOs) and multi-state agencies that focus on major infrastructure systems have proliferated, they rely mostly on voluntary cooperation and lack the political authority to govern or the power to tax which they would need to effectively plan, build, and manage infrastructure.

Scholars and legislative bodies have urged infrastructure agencies to manage public assets in more businesslike fashion, by, for example, taking inventory of their assets, accounting for the depreciation of public assets over time and providing for their replenishment, investing on the basis of more formal applications of benefit cost analysis, and measuring the performance of infrastructure systems against stated objectives that are widely publicized. Failure to adopt such practices is not the result of ignorance or recalcitrance, but rather reflects the outmoded structures that govern American infrastructure and that seem to have been created to resist change.

There are more than 400 MPOs, including several in each of the largest and most challenging metropolitan regions. The planning, capital programming, and investment decision-making processes of many such agencies have become politicized, and competing investments are often inadequately analyzed. Few of these agencies are geographically aligned with the functional regions within which infrastructure requires coordination and management. Fewer still can cope effectively with power grids and intercity rail networks that define corridors in which movement and commerce are concentrated. Water districts, transit agencies, and power authorities often have separate and single-purpose governance structures and fail to collaborate even though the systems which they manage interact constantly. Few metropolitan areas are considering combining or realigning metropolitan planning bodies, strengthening their financial capacities, and linking them with the power to coordinate across municipal and county boundaries.

Recent disputes that have torn apart the Port Authority of New York and New Jersey and those that have immobilized efforts to modernize the Washington, D.C., Metro system are vivid local examples that reveal a systemic national problem. Agencies intended to operate across older jurisdictions have instead become sparring grounds on which those jurisdictions seek to gain benefits at the expense of others. Staffs of, and consultants to, these agencies have deep expertise and a growing arsenal of technological resources to address their needs. But they can do so only when their governing bodies focus more effectively on shared system-wide regional needs and interests rather than solely on those of their constituent jurisdictions. Infrastructure is failing because under American governance systems, nobody at the national or regional level is speaking for the collective regional interest.

Although embedded in a world of changing technology and a new economy, the purposes of infrastructure investment and services have not changed. Those continue to be assuring the health and nourishment of the population, market and job access, enable business growth, labor market flexibility, and to expand employment, cultural, and recreational opportunities. The regional environments in which these purposes must be satisfied have greatly altered, and the range of programs and projects best suited to meeting the continuing goals of sustenance, connectivity, resilience, accessibility, and sustainability have changed and expanded.

The challenge for America is to reform and strengthen old institutions where they already exist and to establish new ones that are capable of making and carrying out those programs, projects, and investments that will best serve the changing economic, demographic, and social environments of the nation's major metropolitan regions. Many have called for larger budgets with which to pursue investments in the maintenance, renewal, upgrading, and expansion of our water, transportation, energy, and information infrastructure. Although resources are of course critically needed, larger appropriations and the investment of private capital in infrastructure will be insufficient to energize the necessary structural changes.

Moving American infrastructure into a new era also will require new forms of decision making and governing that recognize the boundary-spanning metropolitan scale of the problems that we confront. This is ultimately a deeper problem than can be resolved with money alone. The challenge of addressing the governance, institutional, and decision-making inadequacies that lie at the heart of the nation's failure to invest adequately or wisely in infrastructure will increasingly have to be faced by state and local agencies. Solutions will likely have to bubble up from metropolitan regions and state agencies that will benefit by experimenting with many different institutional innovations. However, federal policies and programs can play key roles in assuring that these institutional reforms occur.

In the transportation infrastructure sector, revisions to federal planning laws and rules can drive change in capital investment programming processes. For example, the U.S. Department of Transportation (US DOT) recently issued a Notice of Proposed Rulemaking (NPRM) that seeks to address metropolitan governance. This NPRM would require the preparation and production of unified planning programs for each urbanized area, even where multiple MPOs operate. It would also strengthen coordination and enhance region-wide planning and decision making.

Similarly, federal incentives could stimulate reforms in state and metropolitan planning and capital-programming processes and to support more thoughtful and analytically based investment decisions.

No single form of governance will be appropriate for all metropolitan regions, and planning, capital programming, and investment decision-making processes will—and should—vary, depending on the unique political environments of each state and region. But the goals of comprehensive and strategic planning, of developing business or economic cases for major investments, and of analyzing the comparative benefits and costs of competing projects should be universal.

Investing wisely is a necessity in an environment of overwhelming infrastructure needs and constrained resources. We will likely not get very far toward resolving the national infrastructure crisis in the absence of experimentation coupled with a national dialogue recognizing that we must invent new approaches to metropolitan and regional governance.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the authorship and/or publication of this article.

Funding

The author(s) received no financial support for the research and/or authorship of this article.

Author Biographies

Emil Frankel is a senior fellow at the Eno Center for Transportation and was formerly assistant secretary for transportation policy, U.S. Department of Transportation and commissioner of Connecticut Department of Transportation.

Martin Wachs is distinguished professor emeritus of Civil and Environmental Engineering and City and Regional Planning at the University of California, where he formerly directed the University of California Transportation Center.