

Rethinking Infrastructure Policy for the 21st Century

Over the next ten years, California faces a daunting infrastructure challenge. Current facilities have not kept pace with urbanization, community development, surging enrollments, business formation and expansion, and other developments fueling huge infrastructure demands. Congestion, both on highways and in classrooms, is now commonplace. Urban and rural roads are in poor condition, water supply and sanitation standards are threatened, and many college and university facilities are in poor or unsafe condition.

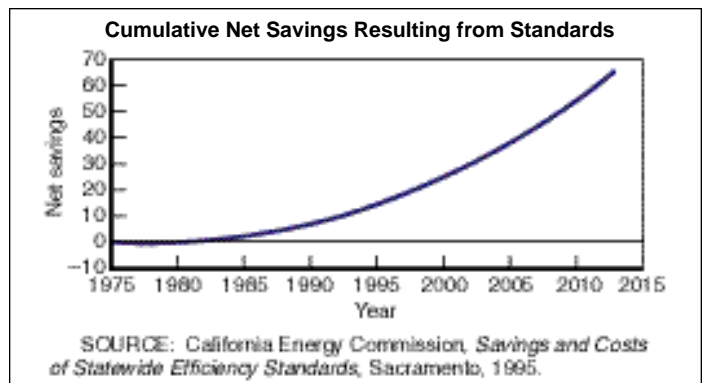
Although the State Treasurer's Office estimates that California will need to invest \$82 billion over the next decade to maintain current structures and build new ones, projected state and local revenue sources will meet only half of this need. The infrastructure planning and financing process seems to be broken as well. According to the Legislative Analyst's Office, the state lacks a stable funding source for infrastructure programs, reviews these programs on an ad hoc basis, and does not evaluate infrastructure investment requirements on a statewide basis. To address these and other problems, Governor Davis established the Commission on Building for the 21st Century, which issued its initial report in May 1999.

Although California's infrastructure problem is partly the result of inadequate funding, planning, and budgeting, other deep-seated issues have contributed to the problem as well. In *California's Infrastructure Policy for the 21st Century: Issues and Opportunities*, David Dowall examines some of these issues, giving special attention to market-oriented solutions. Citing successful experiments in infrastructure provision and financing in California and elsewhere, Dowall recommends that the state focus on infrastructure policy and management rather than on the direct provision of infrastructure. He also urges specific reforms to meet California's infrastructure challenge.

Demand Analysis and Management

According to the author, planners too often rely on per capita consumption estimates to forecast infrastructure needs. This kind of forecasting fails to consider whether and how much the public is willing to pay for infrastructure. It also overlooks the effects of conservation and technological change, which also determine the need for public works. Because infrastructure needs tend to outstrip available funds, the author urges policymakers to prioritize those needs by focusing more on demand: that is, on how much the public is willing to pay for particular projects and services. He also encourages the state to implement strategies for reducing or managing demand in such areas as energy, transportation, water supply, and solid waste treatment.

Demand-management strategies include, but are not limited to, flexible pricing and more efficient use of existing facilities. For example, Dowall estimates that year-round scheduling at state colleges and universities would increase their capacity by 33 percent. He also credits statewide energy efficiency standards for saving utility customers more than \$22 billion since 1975 (see the figure). If widely implemented, such strategies would allocate resources more efficiently and reduce the cost of new infrastructure investment.



Statewide energy efficiency standards have saved utility customers more than \$22 billion since 1975. The cumulative savings are expected to reach \$50 billion in the next decade.

Public and Private Sector Contributions

Although governments often assume full responsibility for the provision of infrastructure, policymakers around the world have begun to design and implement new models of service delivery that blend the efforts of public, private, and nonprofit organizations. These models include

- Coordination and cost-sharing cooperation,
- Public enterprises,
- Competitive procurement,
- Management contracting,
- Leasing and concessions,
- Public-private partnerships, and
- Privatization.

Dowall discusses these models and their advantages and notes that no single model is universally successful. Rather, policymakers should assess conditions carefully and proceed with the most suitable models and reforms. He also observes that cooperative arrangements do not relieve the government of its responsibility to ensure fair prices, adequate quality, and access to infrastructure services.

Financing Infrastructure Investment

In California as elsewhere, local governments have been shifting infrastructure costs to user and beneficiary groups. User fees are structured in a variety of ways, including flat monthly rates (as with garbage collection) and rates that vary according to consumption (as with water and electricity). Flexible pricing can also help shift the demand for infrastructure services to off-peak hours. For example, many governments have experimented with congestion-sensitive toll systems to reduce peak-hour traffic on intercity highways. Proponents argue that such systems allocate road space efficiently, produce additional revenues for transportation improvements, and reduce emissions more effectively.

Whether or not user fees are levied, governments finance infrastructure investment in two basic ways: pay-as-you-go and long-term financing. No borrowing takes place with pay-as-you-go. Instead, the government procures infrastructure services by paying the full cost of the facility at the outset. Proponents favor this method because it is the least

expensive in nominal terms. However, it limits infrastructure investment to cash on hand and does not exploit the benefits of financial leveraging. For example, if a gas tax generates \$100 million per year, the pay-as-you-go approach allows government to build \$100 million worth of highways. If the \$100 million is used to finance development (by borrowing at 6 percent over 30 years), the government can build over \$1.3 billion worth of highways. Another limitation of pay-as-you-go is that current taxpayers pay for facilities that will benefit future generations.

Long-term financing is based on government borrowing and can be carried out in various ways. The most common way is for the government to issue bonds. An advantage of long-term financing is that it allows government to move rapidly to meet increasing demand. If the term of a bond matches the economic and physical life of the project, long-term financing also balances intergenerational equity. A third advantage of this approach is that revenue streams created by user fees can help make bond payments.

Infrastructure Management

If the state government moves from providing infrastructure to managing how it is provided, California's institutional and regulatory environment will need to be restructured to foster demand-oriented service delivery, competition, and efficiency. Although the state itself would provide fewer infrastructure services under the proposed model, it would still be responsible for

- Setting the policy framework for infrastructure,
- Facilitating local government, private sector, or nonprofit provision of infrastructure,
- Regulating providers of infrastructure services to ensure that standards of service and quality are met,
- Ensuring fair prices and tariffs, and
- Guaranteeing that low-income households, rural residents, and rural businesses have adequate access to infrastructure services.

Although these policy options call for a dramatic shift in the way California plans and finances its infrastructure projects, they may help close the gap between the state's infrastructure needs and costs.

This research brief summarizes a report by David E. Dowall, California's Infrastructure Policy for the 21st Century: Issues and Opportunities, 94 pp., \$10.00, ISBN: 1-58213-023-X. The report may be ordered by phone at (800) 232-5343 [mainland U.S.] or (415) 291-4415 [Canada, Hawaii, overseas]. A copy of the full text is also available on the Internet (www.ppic.org). The Public Policy Institute of California is a private, nonprofit organization dedicated to independent, objective, nonpartisan research on economic, social, and political issues affecting California. This project was supported by PPIC through an Extramural Research Program contract.
