California has an enormous backlog of infrastructure investment needs, estimated to be in the range of $80 billion over the next decade. The state also faces substantial shortfalls in tax receipts due to faltering economic conditions, so its ability to finance this investment is not certain. To attempt to fix this state of affairs, Governor Schwarzenegger announced a Strategic Growth Plan in 2006; in the same year, voters overwhelmingly supported a package of new bond issues totaling $43 billion. Then this year the governor proposed two critical infrastructure policy institutions: The Strategic Growth Council and the Performance-Based Infrastructure Initiative (PBI California). The Council’s objective is to improve interagency infrastructure planning and coordination, and to better align investment proposals with strategic development and sustainability objectives. The proposed PBI California Initiative focuses on infrastructure procurement and project delivery. It has the potential to deliver significant payoffs, such as faster and more cost-effective delivery of projects, value for money invested, and the possibility of attracting private capital for infrastructure investment.

Both of these initiatives are a good start. However, state-level elected officials and key stakeholders have raised broader concerns that also need to be addressed. These include dialogue about how the state’s infrastructure investment priorities should be set, especially when trying to balance investments across different sectors such as transportation, education, water, and facilities. State and local agencies need tools to help them identify the most efficient projects to meet consumer and business demand for services, as well as better manage existing infrastructure services to improve productivity and accountability.
This paper outlines a series of actions that the state might consider to broaden the governor’s current initiatives. Throughout the paper we refer to these proposals as the California Infrastructure Initiative (CII). The overarching goal of CII is to provide customers—citizens, taxpayers, businesses, and other stakeholders—with the most efficient and sustainable infrastructure services at the lowest possible cost, holding public and private sector providers and managers of infrastructure more accountable to customers. CII can also help tap new sources of capital to finance infrastructure.

In broad terms the CII policy framework operates at four levels: 1) helping set infrastructure investment priorities that meet state strategic development goals; 2) identifying which infrastructure projects most effectively provide critical services; 3) determining the most effective project delivery method; and 4) ensuring that existing infrastructure services are provided efficiently.
The CII framework is based on several key premises. First, infrastructure services—mobility, safe and reliable sources of water, sustainable development, knowledge creation and transfer, and personal security—are critical determinants of a society’s current and future well-being. High-quality infrastructure helps businesses compete for expanded economic opportunities in a globalizing world. It also protects our environment from the threats of climate change and natural and man-made hazards, and creates a socially cohesive and high quality of life. Therefore governments like California, Canada, Spain, and the UK are realizing that they must carefully target infrastructure investments to achieve strategic goals.

The second premise is that decisions about infrastructure planning, delivery, and management should be guided by outcome-oriented measures rather than input or budget amounts. Outcomes such as the quality of services and how they are valued by customers should be measured in economic terms so that comparisons can be made across sectors and among alternative projects. This includes new investments as well as existing infrastructure services.

Thirdly, the CII policy framework adopts a flexible and performance-based approach to determining the most efficient method for infrastructure delivery. Should the public sector provide the service? Or should the private sector do so? Which offers the most value for money? CII provides the metrics to make meaningful comparisons across different types of infrastructure investments. It offers tools to ensure accountability and creates incentives for infrastructure service providers to deliver value for money. It also helps policy makers identify the most effective and efficient means for project delivery.

The CII framework includes eight interrelated activities. The activities include visioning, determining what infrastructure services are needed, choosing the best method of project delivery, ensuring value for money, promoting demand aggregation, providing technical and policy assistance, helping negotiate, and sharing knowledge. Each of these elements is outlined below. Some of them can be implemented individually, in clusters, or as an integrated package.

**Visioning**

Currently, California does not engage in the preparation of strategic development plans, visioning processes, or multi-sector investment planning. Fortunately both the legislature and the administration recognize these shortcomings. The governor’s office has acknowledged the limits of the current “silo approach” to capital investment planning, and the legislature has adopted several important pieces of legislation to improve cross-sector coordination and to more closely link investments with statewide strategic development goals. AB 1473 and AB 32 lay the groundwork for more strategic, coordinated, and outcome-oriented capital investment planning. These intentions from the legislature and the administration are very positive and consistent with the types of visioning and strategic planning tools used successfully by other governments to help policy makers set investment priorities, coordinate cross-sector investments, and ensure maximum synergies.

Canada, for example, prepared a long-term strategic economic plan, called Advantage Canada, that outlines several areas the government will focus on in the years ahead. Areas include a “tax advantage” (lower, more competitive rates), a “fiscal advantage” (reduce and eliminate debt), an “entrepreneurial advantage” (lower taxes, less red tape), a “knowledge
advantage” (highly-educated and trained knowledge workforce), and an “infrastructure advantage” (ensuring the seamless flow of people, goods, and services).

The Government of Canada then developed a comprehensive, long-term infrastructure planning and development initiative, Building Canada, that provides a framework for the federal government to manage and coordinate federal investments and collaborate with provinces, territories, and municipalities to meet goals of supporting the well-being of Canadians and competing internationally. Federal government representatives met with leadership from provinces, territories, and the municipal sector to discuss and design the plan. Provincial governments also prepared their own strategic plans, based on explicit core values and naming specific goals.

The Australian provinces of Victoria and New South Wales, the city of New York, and the state of Washington have also recently launched processes to engage constituents in defining a baseline for service provision upon which a comprehensive infrastructure plan can be developed. These processes have delivered significant benefits, including defining goals for service delivery; ensuring consumer-based service delivery by engaging a diverse range of constituents; creating the basis for setting investment priorities and balancing competing needs across sectors; providing a natural framework for measuring performance and accountability; and earning broad-based public support and responding to public concerns early on.

Each city, state, and province has crafted the visioning process to inform its larger program for improving infrastructure and service delivery. Victoria, for example,
developed a plan called Growing Victoria Together (GVT), which offers a broad framework to guide government planning and decision-making over a ten-year period. It spells out ten broad economic, social, and environmental goals for Victoria. Each goal is matched with a set of clearly defined “progress measures” to guide government policy and action, inform the annual budget process and long-term capital investment plan, and provide the means for tracking progress to 2010 and beyond.

Citizen involvement lies at the heart of GVT, both in shaping the plan and in ensuring its long-term success. The Victorian government led discussions with community and stakeholder organizations and established an interactive website, asking the public for feedback on an initial draft of GVT.

Unlike other initiatives, the state of Washington did not engage the public at large in its visioning exercise, demonstrating one example along the spectrum of approaches that California has at its disposal in developing the CII. This spectrum highlights some of the tradeoffs associated with public engagement: as the intensity of public engagement increases, the need for greater management and oversight is likely to increase, as does the expense of public engagement. On the other hand, as demonstrated by Victoria, high levels of public engagement may ensure a more accurate representation of demand for services and provide a stronger foundation for performance-based planning and accountability. Regardless of the selected method, however, there are dynamic and compelling examples of how visioning and strategic planning can be used to enhance infrastructure outcomes and performance.

**Determining what infrastructure services are needed**

The next step of the CII is to determine which critical infrastructure services are necessary to achieve goals by examining alternatives. Can objectives be met through adjustments and enhancements to existing facilities and services? AB 1473 provides the legal and administrative framework for preparing capital investment plans, and much of the groundwork was established in California’s Performance and Results Act. The Department of Finance developed a performance budgeting pilot project, which proposed using a value-for-money analysis process to determine the most cost-effective method of service delivery.

An outcomes-oriented approach to infrastructure service provision allows governments to explore various ways of delivering desired outcomes, including alternatives that don’t involve capital investments. Prior to proposing new facilities, the CII would encourage—or perhaps require—project proponents to explore the full range of options available. Unfortunately, California agencies are not currently required to prepare such evaluations as a component of their capital budgets. The US federal government as well as other countries and governments offer some useful examples of how this can be done.

At the federal level, the United States Office of Management and Budget (OMB) and the Government Accountability Office (GAO, formerly the US General Accounting Office) prepared the 1997 Capital Programming Guide, which provides detailed guidance to federal agencies on planning, budgeting, acquisition, and management of capital assets.

It recommends that federal agencies consider a wide range of alternative approaches to satisfy their needs before purchasing or constructing facilities. It suggests that agencies consider options beyond direct service provision supported by capital assets, such as regulation, user fees, and human capital. Frequently, opportunities for achieving greater efficiency and efficacy can be identified by analyzing and comparing various means of providing services.
This CII element could be implemented independently. Visioning and strategic planning would of course be helpful, but requiring agencies to consider all options for meeting targets could be accomplished as a stand-alone initiative.

**Choosing the best method of project delivery**

There are a range of possibilities to consider when building new facilities or systems, including public provision, public private partnerships (P3s), outsourcing, leasing, and privately-built turnkey arrangements. The objective of this element is to explicitly consider all options and then select the one that is the most efficient. Current California law does not require state agencies to consider alternatives. The United Kingdom, Australia, and Canada are leaders in facilitating, implementing, and developing a market for P3s as an alternative method for delivering infrastructure services.

In 1992, the United Kingdom established the Private Finance Initiative (PFI), a national-level vehicle for facilitating public P3s, intended to open up opportunities for more private sector involvement in public services. Under PFI, the public sector procures services to the quality standards required by the government, rather than the government procuring a capital asset or other equipment and then operating it itself. PFI also entails transferring the risks associated with public service projects to the private sector in part or in full.

The Province of Victoria, Australia, developed Partnerships Victoria based on the UK’s experience. The policy focuses on whole-of-life costing and full consideration of project risks. As the first of its kind in Australia, the policy aims to use the innovative skills and abilities of the private sector in a way that will most likely deliver value for money and improved services.

In Canada, the government established the Public Private Partnerships Fund to develop and facilitate P3s to finance and deliver infrastructure projects throughout Canada. The $1.25 billion fund is geared toward expanding infrastructure financing alternatives in Canada, providing incentives for private investment, and increasing knowledge and expertise in alternative financing.

**Ensuring value for money**

Certainly, trying to choose the best method of project delivery is a significant step toward ensuring value for money. However, the process should be an ongoing one at all stages of government procurement, management, and operation. Some countries even require value-for-money audits. California does not currently have legislation requiring value-for-money audits or assessments of alternative procurement methods. The concept can be applied to all approaches to infrastructure delivery—public provision, design build, outsourcing, and P3s.

Washington state, for example, supports design-build as an alternative means for project delivery. Design-build involves bundling design and construction services by the private sector, whereas traditional methods typically separate design and construction into two distinct phases. A relatively new form of contracting, design-build can expedite delivery and potentially save costs, and it has been accelerated by federal programs in recent years, particularly in the transportation sector. More than half the states use this form of contract, but California currently does not. In 2003, Washington completed a highway interchange project via design-build that was equivalent in cost to a similar, traditionally delivered project, but saved about half the time. However, potential time savings may come at the expense of other values, including environmental review and organized labor, and thus ➔
design-build should be assessed against other delivery options to determine which alternative offers the most value with respect to the state’s goals and priorities.

As a platform for exploring alternatives, CII would provide a framework to assess the potential value and viability of delivering California’s infrastructure projects through design-build versus traditional and other alternative methods. Value-for-money assessments could be independently initiated by the state of California through legislation or changes to the State Administrative Manual.

**Promoting demand aggregation**

One piece of low-hanging fruit, in terms of ensuring value for money, is demand aggregation. When multiple locations are buying similar products or services, demand aggregation—coordinating and consolidating purchases—offers benefits for both buyers and suppliers. Demand aggregation can lower infrastructure service costs in several ways, including volume discounts and reduced transaction costs—the costs of searching for providers, evaluating bids, and negotiating contracts. In California, demand aggregation is practiced, but not to the fullest extent possible. PBI California could expand demand aggregation across state agencies and promote it at the local and regional level.

The British experience demonstrates the advantages of demand aggregation, often referred to as bundling. In 2003, the UK Department of the Treasury introduced a system of bundling together smaller projects and then matching the bundles with a range of appropriate procurement models that offer value only on a larger scale.

Demand aggregation could be independently implemented without other CII elements and could achieve cost savings. However, an institution or agency will be needed to oversee the process and to facilitate and encourage it. The scope of the agency could be limited to aggregating demand, or it could be expanded to include other elements of CII.

**Providing technical and policy assistance**

CII will need to provide ongoing support to state and local agencies. The state should consider forming a CII office to build management capacity within state agencies and local governments. Comprehensive assistance programs are invaluable elements of the most successful initiatives to improve service delivery, including the United Kingdom’s Partnerships UK initiative, Canada’s Building Canada, and Partnerships Victoria programs.

The United Kingdom offers a sound model for providing technical assistance. Partnerships UK gives technical assistance to public sector partners and formal training in the technical skills and knowledge base needed to launch, manage, and evaluate public private partnerships.

**Helping negotiate**

Support for state agencies and local governments negotiating complex procurement contracts is not now offered in California, but it is an element of the PBI California proposal. CII can look to several international examples to see how to offer effective support. For example, Building Canada promotes knowledge management with incentives to promote research, planning, and capacity-building with capital infrastructure funding. It also oversees a $45 million program to support research, planning, and feasibility studies at the national level. Through these investments, the government of Canada aims to increase the knowl-
edge base available to support policy development and decision making at the provincial, territorial, and local levels, with the idea that this will reduce the cost of future infrastructure capital investments across Canada.

Sharing knowledge

For the CII to succeed, agencies and leaders with knowledge about best practices and successful experiences must disseminate this knowledge across agencies and supply it to practitioners. At present, California does not have an agency tasked with knowledge leadership or technical assistance. The UK offers a useful example of how it can be done. Its departmental Private Finance Units have been structured to supply best practice information and support to procuring authorities, provide strategic management of the department’s projects, and serve as centers of expertise on policy. The UK’s PFI Operational Taskforce also offers a range of skills relating to financial, legal, and operational management. These include monitoring and maintaining a record of issues raised by the public sector, providing a help-desk facility for public sector managers, and gathering information on trends in issues that have been raised by the public sector and using this to inform guidance and best practice. The task force also responds to contractor difficulties, provides advice and guidance to the public sector, and gathers information across sectors on potential issues and conflicts so as to give early warning of problems.

Implementing the CII

Fortunately, the Governor’s Office and the legislature have already taken a number of important steps to lay the groundwork for implementing the CII. Assembly Bill 1473 requires the administration to prepare a five-year state infrastructure plan. AB 857 requires any revision to the State Environmental Goals and Policy Report to be reviewed to ensure that changes are consistent with state planning priorities. The bill defines those priorities, including an emphasis on infill development and redevelopment, cultural and historic resources, environmental and agricultural resources, and efficient development patterns. AB 32 offers strong incentives to develop smart and sustainable infrastructure plans and programs that reduce greenhouse gas emissions. The Governor’s Office has proposed a Strategic Growth Council to coordinate cross-sector infrastructure investment planning and programming, and the PBI California Initiative to foster performance-based infrastructure planning, project delivery, and management.

Now, the main challenge will be for the administration and the legislature to agree on how to build on existing legislation, and how to adopt CII’s eight elements to foster efficient and sustainable infrastructure development. Since the details of the composition and work-scope of the Strategic Growth Council and the PBI California proposal are not fully developed, it would be possible for the administration and the legislature to collaboratively develop an acceptable model for implementation.

What we are proposing is not radical. CII is a comprehensive strategy, policy framework, and implementation tool for improving infrastructure planning, provision, and management. The CII builds on existing administrative and legislative initiatives and provides a road map for developing a more sustainable and efficient platform for building California’s future. It can be used to help implement existing laws in a cost-effective manner. Most importantly, CII is based on tried and tested methods that have been successfully pioneered elsewhere.

Further Reading
