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CALIFORNIA'S IT SUPPLY CHAIN

Fixing the broken links in technology procurement



Jason Barrett and Kevin Klowden



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A nonprofit, nonpartisan economic think tank, the Milken Institute works to improve lives around the world by advancing innovative economic and policy solutions that create jobs, widen access to capital, and enhance health. We produce rigorous, independent economic research—and maximize its impact by convening global leaders from the worlds of business, finance, government, and philanthropy. By fostering collaboration between the public and private sectors, we transform great ideas into action.

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Introduction

Technology plays a vital role in how well government does its job. Whether it involves the digitization of paper records, renewal of driver's licenses online, or even ensuring that power outlets work properly, government agencies at every level depend on up-to-date computer equipment and technological strategies.

For California—home to 12 percent of all Americans—the state's size means it must juggle logistical issues as if it were a small country while still offering all the services expected of a U.S. state government. In the private sector, outfitting an office of 50 employees with new computers may seem a relatively simple task, but in the sprawling bureaucracy of California's government, it requires more than just a phone call.

An added obstacle to this challenge is the fast pace of technological advancements. As innovations replace obsolete technology, California finds itself with an outdated IT infrastructure that creates delays and increases costs. To keep up with modern technology, the state must adopt a similarly modern method of technology procurement that can deliver the expediency and cost-effectiveness required by a government representing nearly 40 million Americans.

In 2013, California Secretary of State Debra Bowen was called before a State Assembly committee convened to discuss delays in processing business filings with her office. In the hearing, the secretary described an alarmingly outdated procurement process and “hideously manual” procedure in which, due to delays and red tape, computer software is obsolete by the time it is delivered to her office. She also cited a needlessly complicated procedure to secure vendors for government IT projects.¹

Current procurement procedures have an inherent inflexibility. Public Contract Code 12100 governs procurement processes for most large-scale IT projects, and its continued use is the source of much consternation for both state agency officials and private vendors. In a world of unpredictable budgetary and timeline constraints, such inflexibility is unacceptable.

Procurement, while not a hot-button issue, has a top-down effect that affects everything the state government does on a daily basis. This report will outline several key issues facing IT procurement in California and examine measures being taken to make the process more efficient.

An unnecessarily restrictive process that affects vendor selection, communication, and expectations is the leading cause for IT failures in the state. Unfortunately, there is no quick fix. To optimize IT procurement in the state, a series of reforms is required. And with 44 IT projects currently in various stages of development totaling over \$4 billion,² it is imperative that an efficient system is in place to maximize taxpayer dollars.

1. California Assembly Budget Subcommittee No. 4 on State Administration, “State Administration,” March 2014, http://calchannel.granicus.com/MediaPlayer.php?view_id=7&clip_id=1001 (accessed May 9, 2015).

2. California State Auditor, “High Risk Update—California Department of Technology,” March 2015, <http://www.bsa.ca.gov/pdfs/reports/2014-602.pdf> (accessed August 9, 2015).

Current procurement process

Until 2013, the Department of General Services (DGS) handled all procurement requests for the state of California. Seeking to consolidate the process within one agency and leverage their IT expertise, larger information technology procurement projects now operate within the Department of Technology. Smaller projects are handled by the Department of General Services.

Several state laws have an impact on the process. Competitive bidding from multiple vendors are mandated, except in cases where only one vendor meets the criteria to complete the project. The Department of Technology is also granted a fair amount of leeway in selecting the vendor that will offer the "best value," as opposed to simply going with the lowest bidder.

As ordered by AB 1498, the Department of Technology convened the Procurement Advisory Workgroup, made up of stakeholders from different agencies involved in IT procurement and contracting. The group also engaged vendors to get a sense of obstacles they faced in bidding for and working on government contracts.

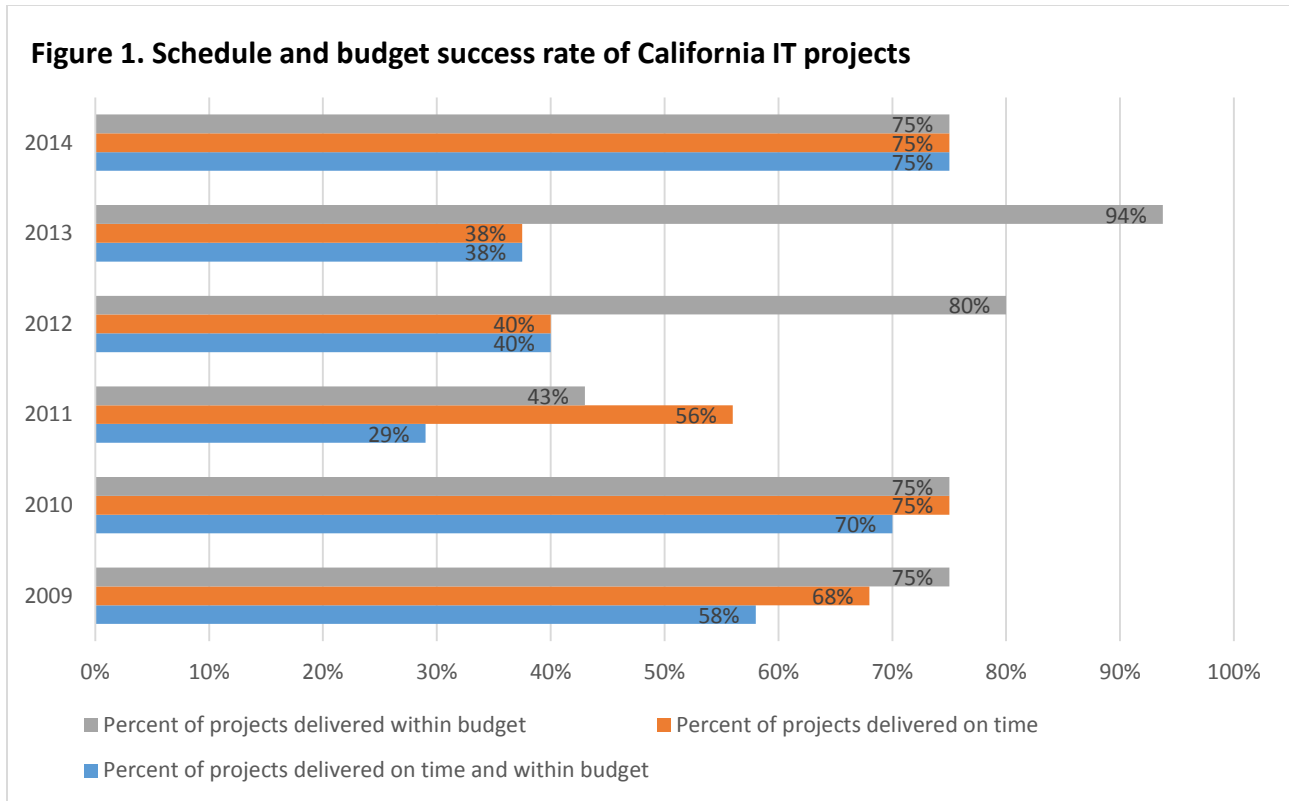
Most complaints about procurement pertain to the length of time between the project's genesis and its completion. In many instances, just like the projects in the Secretary of State's office, software was outdated before it was ever implemented. Too often, an IT project takes several years and excessive costs to implement.

The source of these delays is a redundant and overly bureaucratic process. Miscommunication, unclear goals, and the lack of an "escape valve" in the event a winning vendor is unable to complete the project all contribute to unacceptable delays. There is also a serious lack of accountability when it comes to awarding government contracts. Vendors who have failed to achieve goals on previous projects still continue to receive contracts.

As well, vendors themselves suffer under the current process. Their complaints revolve around costs related to bidding and compliance with strict guidelines, as well the lack of clarity in overall project goals (which often leads to additional costs and delays). The strict contract requirements have stymied innovation particularly from smaller vendors. Furthermore, high turnover rates and excessive vacancies in government agencies make it challenging for vendors to develop projects.

The process also vigorously restricts communication between agencies and vendors. Vendors are not allowed to communicate with agencies without formal written correspondence, which causes additional delays.

Furthermore, delays in the process result in staffing issues. For example, a vendor proposes using an "A-team" to complete the project, but by the time an agency is able to sign a contract with that vendor, only a "B-team" is available to work on the project.



Source: Department of Technology

Successes and failures

There has been no shortage of headlines about the state's IT failures, but it is also important to acknowledge IT successes that haven't received nearly as much attention. Both provide insight into the best way forward. Some examples of what has and hasn't worked:

Success: Franchise Tax Board's Enterprise Data to Revenue Project

In 2011, the state's Franchise Tax Board (FTB) kicked off a project with the goal of modernizing the state's tax collection system. The result of the Enterprise Data-to-Revenue (EDR) project has been over \$1 billion in additional revenue, with an estimated \$2.8 billion gained by project's end.³

The FTB's chief information officer, Cathy Cleek, credits the success of the project to a "crawl, walk, run" approach, consisting of advanced planning and dividing the project into multiple phases before implementation.⁴

3. CGI, "State of California Enterprise Data-to-Revenue," November 2014, <http://www.cgi.com/sites/default/files/casestudies/state-of-california-enterprise-data-to-revenue-e.pdf> (accessed August 14, 2015).

4. Government Technology, "Project Management Lessons from California's Big IT projects," August 2013, <http://www.govtech.com/computing/Project-Management-lessons-from-Californias-big-IT-projects.html> (accessed September 9, 2015).

Failure: BreEZe

Since 2009, California's Department of Consumer Affairs has spent \$37 million on BreEZe, an online licensing and enforcement system. Of 19 licensing and regulatory boards expected to be included in the system, only half are actually using it. Issues with the system include an extensive testing phase of 11 months (as opposed to the eight weeks originally planned), a slew of computer bugs, and vendor contracts that were written in a manner that did not protect the state from financial liability.⁵

Success: DMV Voter Registration

The Department of Motor Vehicles (DMV) proactively developed an independent online voter registration program. The program took just nine months to design and implement, thus showcasing itself as a prime example of streamlined, efficient government. Through a combination of circumventing DGS, the waiving of certain procurement laws by the state legislature, and lack of an overly competitive vendor bidding process, the DMV was able to design and implement its online voter registration process in less than a year.

Failure: UCPATH

A computer system that was initially projected to save the University of California school system \$100 million each year has run two years behind schedule and has cost significantly more than expected. The program, called UCPATH, is intended to unify the university system's payroll system. With the cost and scheduling overruns, the financial benefits of the new program are unclear.⁶

Recent changes

Administrative

Governor's Reorganization Plan No. 2 (GRP 2) of 2012

With this reorganization, Gov. Jerry Brown restructured the agency in charge of IT procurement. This plan eliminated the California Technology Agency and replaced it with the Department of Technology, under the purview of the Government Operations Agency. The Department of Technology is charged with directing and setting statewide IT policy.

Statewide Technology Procurement Division

Another element of the reorganization plan, this newly created branch of the Department of Technology contains branches for both statewide and telecommunication procurement and IT procurement. Since 2013, it has been responsible for facilitating procurement for large-scale IT projects within the state.

5. Government Technology, "California's Licensing Project Expected to Cost \$96 Million," February 2015, <http://www.govtech.com/budget-finance/California-Licensing-Project-Expected-to-Cost-96-Million.html> (accessed September 9, 2015).

6. Sacramento Bee, "UC Computer Project Behind Schedule, Millions Over Budget," March 2015, <http://www.sacbee.com/news/investigations/the-public-eye/article12788234.html> (accessed August 28, 2015).

Legislative

AB 1498

Passed in 2014, this bill requires the director of the Department of Technology to report directly to the governor and lead the transition of IT procurement responsibilities to his or her department. The bill also ordered a "deep dive" into IT procurement and develop a plan for improvement.

Departmental reforms

Based on recommendations from multiple sources and his department's own internal research, Department of Technology Director Carlos Ramos has proposed several reforms to address concerns about the state's procurement process.

Among these reforms is the division of the process into three phases:

Planning

More up-front planning from agencies before bid solicitation.

Procurement

The time period between bid solicitation and the awarding of the contract to the winning vendor.

Administration

Management of winning vendor and verification that goals are met on time and within budget.

Draft request for proposals

The Department of Technology is also employing draft request for proposals (RFPs) to better inform potential contractors of what to expect from stage agencies seeking to implement new IT projects. An RFP also provides the opportunity for earlier communication between the state and contractors who may have other recommendations on how to best implement a new system or program.

Agency reforms are also focusing on updating business practices to ensure maximum compatibility with new technologies. Ensuring government offices are operating at peak efficiency would reduce risks to the vendor (such as agency delays that could cause them to miss deadlines), thus fostering a more competitive bidding process by involving a wider range of participants.⁷

7. California Senate Business, Professions, and Economic Development Subcommittee on California's Innovation, Technology, and Life Sciences Economy, "What Can the State do to Prevent Future IT Project Delays and Cost Overruns," March 2015, http://calchannel.granicus.com/MediaPlayer.php?view_id=7&clip_id=2697 (accessed May 19, 2015).

Implemented “escape valve”

When a vendor fails to perform its contractual obligation to the state, the bidding process starts all over again. So although a vendor may be removed from an IT project for a variety of reasons, what generally happens afterwards reveals the inefficiencies of current practices.

Currently, there is no “escape valve” that would enable an agency to move on to the next preferred vendor identified in the original bidding process. This results in repeated actions, further delays, and increased costs. Through a modified bidding process that provides a solution in the event of a vendor failure, the state can save time and money in these crisis situations.

The Stage-Gate Model

The Stage-Gate Model was adopted to identify clear business objectives, accurate costs, and realistic schedules. By implementing a step-by-step process, where advancement to the next stage (through a “gate”) is prohibited unless a certain set of criteria is satisfied, the state can ensure that projects are divided into manageable phases.

According to the Department of Technology, the state will use the model to:

- Improve efficiencies through performing systematic and strategic analysis without compromising due diligence in carrying out California's IT policies and processes.
- Ensure each step and work product in the life cycle is operationally reusable in subsequent steps.
- Ensure decision points request only the necessary and appropriate level of detail of information needed to make a sound decision, estimate, or product for that particular stage.
- Ensure that a “no” or a “go back and re-think” decision is communicated sooner if the level of detail provided is inadequate.
- Ultimately result in more successful projects.⁸

A blueprint for California

With nearly \$1 billion lost to IT failures since 1994,⁹ several recommendations have been made by a number of groups seeking to improve overall IT project performance in California. Here is a look at some of the more notable proposals as well as key areas for improvement:

The state's own initiative

In light of a crumbling IT procurement process, California Governor Jerry Brown and then-Controller John Chiang commissioned the State of California Task Force on Re-Engineering IT Procurement for Success.¹⁰ The task force consisted of several leading technology innovators from around the country

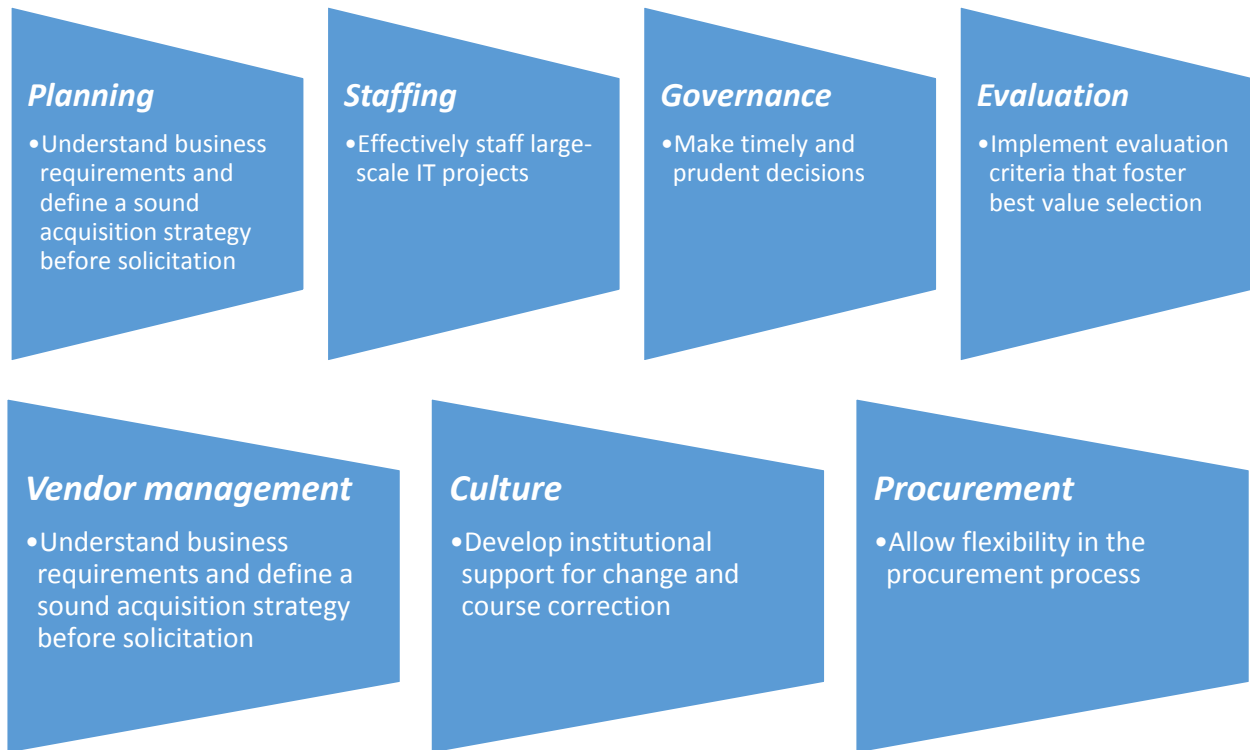
8. California Department of Technology, “The State/Gate Model,” http://www.cio.ca.gov/Government/IT_Policy/SIMM_19/stage_gate_model.html (accessed September 25, 2015).

9. California State Auditor, “High Risk Update—California Department of Technology,” March 2015, <http://www.bsa.ca.gov/pdfs/reports/2014-602.pdf> (accessed August 9, 2015).

10. Task Force on Reengineering IT Procurement for Success, “Recommendations to Improve Large Information Technology Procurement: A Road Map for Success in California,” August 2013, http://www.sco.ca.gov/Files-EO/0813_IT_Task_Force_Recommendations.pdf (Accessed August 9, 2015).

and was chaired by Rosio Alvarez, chief information officer at the Lawrence Berkeley National Laboratory.

The task force's report has been the basis of some reforms and many discussions undertaken since its publication in 2013. They findings center on seven key themes:



Focus on staffing

A state agency is only as good as its employees. Analyses have revealed several concerns regarding staffing in the Department of Technology.

Among them is a lack of hierarchal knowledge resulting in the non-escalation of key problems. This and other factors contribute to an inability of state agencies to suspend or terminate IT projects that are not meeting scheduling and financial expectations.¹¹

There is also a disturbing number of turnovers in the Department of Technology. An analysis by the state auditor revealed a turnover rate of about 81 percent in some of the department's oversight offices, compared with the 16 percent turnover rate in state and local government staff nationwide cited by the Bureau of Labor Statistics.¹²

11. California State Auditor, "High Risk Update—California Department of Technology," March 2015, <http://www.bsa.ca.gov/pdfs/reports/2014-602.pdf> (accessed August 9, 2015).

12. Ibid.

This high rate of turnover leads to a lack of institutional knowledge, which inhibits project management and increases the likelihood of delays. The Department of Technology must engage in more effective talent retention.

Vendor performance scorecard

In order to evaluate vendor performance, expectations of a contract must be fully explained at the onset of the bidding process. With clear guidelines, vendors may tailor their strategic planning while meeting the demands of the state. For this arrangement to work, the state must also be held accountable for any contributing factors to a vendor's failure to meet requirements.

Comprehensive vendor evaluations would allow the state to easily identify contractors with strong performances on past projects. This would also open the playing field to smaller companies that otherwise might not have been considered.

Statutory regulations

Currently, most large-scale IT projects are handled under California Code Section 12100. State agency chief information officers (CIOs) often cite the statute as rigid and inflexible. It allows for little communication between the state and vendors, and is not representative of the latest state regulatory environment.

Many CIOs and private-sector contractors would prefer to work under California Code Section 6611, which they say offers far more flexibility and vendor communication. Section 6611 was never used before 2009, so its relative newness leaves many officials wary of its large-scale application.

By maintaining a legal staff familiar with the complexities of both sections 6611 and 12100, which govern agencies' ability to negotiate with vendors, and by allowing for more budgetary elasticity, the procurement process can better reflect the complexity and unpredictability of IT projects.

Feasibility study reports

California employs a feasibility study report (FSR) to determine the viability of all IT projects. The FSR requires a vast array of information, including budget, schedule, and risk assessment, for a project to be considered. While much of the information in the FSR is relevant, analyses have found that other sections are premature for the initial planning stages. Much of the information included in the FSR will also be outdated by the time the project begins.

A digitized FSR process would allow for faster submission and easier updating as project strategies evolve. It would also allow CIOs to share FSRs with vendors and colleagues earlier in the process so that information is as fresh and accurate as possible.

There is also a demonstrated need for revamped FSR authoring strategies to make clear from the onset the "business needs" of the project—that is, tell vendors your goal, rather than specifying the methods you want them to use. Providing more flexibility would allow vendors to propose alternatives that agency authors may not have considered.¹³

13. Natoma Technologies Incorporated, "Partnering for Best Practices in IT Procurement," March 2015, <http://sbp.senate.ca.gov/sites/sbp.senate.ca.gov/files/Natoma%20Technologies%20Recommendations%20for%20Procurement%20Improvement.pdf> (accessed August 30, 2015).

It also would reduce the rigidity of vendor selection criteria. If an agency spends too much time focusing on specifics rather than desired outcomes in the FSR, it may inadvertently exclude the best vendors for the job by employing criteria that, in the long run, were not optimal.

Alternatively, the Task Force on Reengineering IT Procurement for Success has recommended the discontinuation of FSRs entirely.¹⁴

Low-cost vs. best-value

The bottom line cannot be the only criterion in vendor selection. Far too much emphasis is placed on initial cost when quality and performance must also be considered. With so many IT projects going over-budget during the life of the project, initial cost must be weighed with final cost. A vendor that offers an initially lower cost may eventually exceed the original budget because of poor performance and unsatisfactory planning.

Best practices

To maximize the timeliness and effectiveness of the procurement process, a series of best practices should be implemented by conducting post-project analysis and incorporating the lessons learned from each contract.

This involves a systemic review of vendor and agency performance, a thorough evaluation of whether the business goals of the project were met on time and on schedule, and a summary of the positive and negative outcomes.

Open data and IT procurement

As a formal statewide open-data policy nears implementation, it is important to examine the relationship between procurement and the ability for open data to be utilized to its full extent. At present, state agencies possess the technological ability and hardware to publish government data in forms consistent with state policy. One of the biggest advantages of state-level open data is that the most valuable component—the data sets themselves—are already owned by the state. This leaves only the relatively smaller tasks of data-format standardization and web-portal development to state agencies, which today already can be accomplished using outside vendors like Accella and Socrata.

However, the *benefits* of open data will be more keenly felt in state agencies with up-to-date computer technology capable of processing and using expansive sets of complex data. Many private-sector technology firms will be in a better position than the state government to take advantage of open data due to their modern computer capabilities.

Open data is inevitable, and the state currently has the ability to release data sets effectively and efficiently. And through a reformed and modernized IT procurement process, California agencies can position themselves to take full advantage of open data when it is fully implemented.

14. Task Force on Reengineering IT Procurement for Success, "Recommendations to Improve Large Information Technology Procurement: A Road Map for Success in California," August 2013, http://www.sco.ca.gov/Files-EO/0813_IT_Task_Force_Recommendations.pdf (accessed August 9, 2015).

Conclusion

The fact that one of the state’s recent IT success stories—the DMV’s online voter registration program—required a vast number of workarounds and exemptions from the current IT procurement process illustrates precisely why the system is in need of serious reform.

California can no longer afford to accept the status quo of IT procurement mismanagement and the costs that come with it. While the Department of Technology is to be praised for efforts in improving the process, it is clear that there is still work to be done.

Through a combination of expanded flexibility, enhanced agency-vendor communication, and reforms aimed at reducing bureaucratic hurdles, California’s government can live up to the reputation that innovators within its borders have established. These improvements will also enhance overall job quality by expanding the number of interested vendors, who will be encouraged to place bids due to improved processes. The end result would be a more efficient, higher-quality IT project with increased chances of success.

Table 1. Number of California IT projects

Criticality rating	No. of current projects (as of October 20, 2015) ¹⁵	Cost*
High	22	\$4,059.0
Medium	17	156.8
Low	4	20.5
Totals	44	\$4,236.3

Source: California Department of Technology

*in millions

Given the sheer size and financial implications of California’s current IT portfolio, it is imperative that the state’s procurement system is as up-to-date as the technology systems it is designed to install. These reforms will result in an improved government IT infrastructure equipped to handle the problems facing California in the 21st century.

15. California Department of Technology, “IT Project Tracking,” October 2015, http://www.ocio.ca.gov/Government/IT_Policy/IT_Projects, (accessed October 20, 2015).

About the authors

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Jason Barrett is a public policy analyst at the Milken Institute. He monitors political activity in Sacramento and Washington, D.C., and analyzes its effects on economic, financial, and regulatory policies. Barrett seeks to provide decision-makers and Institute stakeholders with key information regarding relevant legislation and policies at the city, state, and national levels. Recent projects focus on examining good government policies in local and state governments and identifying practices that could help California cities improve competitiveness and attract businesses, such as expanded access to government information through the implementation of statewide open-data policies.

Previously, Barrett worked for Congressional Quarterly, a group dedicated to summarizing and providing analysis of the latest legislative activity in Washington, D.C. He also worked in the Capitol Hill office of U.S. Senator Bill Nelson. Barrett received a bachelor's degree in corporate communications and political science from Elon University and a master's degree in legislative affairs from George Washington University.

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Kevin Klowden is managing director of the Milken Institute's California Center and a managing economist at the Institute. He specializes in the study of demographic and spatial factors (the distribution of resources, business locations, and movement of labor) and how these are influenced by public policy and in turn affect regional economies. His key areas of focus include technology-based development, infrastructure, the global economy, media, and entertainment.

Klowden was the lead author of "Strategies for Expanding California's Exports," which focused on the vital role trade and exports play in the state economy and its underperformance relative to the country over the past decade. He has also written on the role of transportation infrastructure in economic growth and job creation in reports such as "California's Highway Infrastructure: Traffic's Looming Cost" and "Jobs for America: Investments and Policies for Economic Growth and Competitiveness," as well as in publications including The Wall Street Journal.

He has addressed the role of technology-based development in publications such as the "2014 State Technology and Science Index," "North America's High-Tech Economy," and location-specific studies on Arkansas and Arizona. In addition, Klowden was the lead author of several studies on the economics of the entertainment industry, including "A Hollywood Exit: What California Must Do to Remain Competitive in Entertainment—and Keep Jobs," "Fighting Production Flight: Improving California's Filmed Entertainment Tax Credit Program," "Film Flight: Lost Production and Its Economic Impact in California," and "The Writers' Strike of 2007-2008: The Economic Impact of Digital Distribution," each of which analyzes the changing dynamics of the entertainment industry.

Additionally, he coordinated the Milken Institute's two-year Los Angeles Economy Project, seeking public-policy and private-sector solutions to challenges the region faces amid a growing unskilled labor pool. Klowden is a frequent speaker on state fiscal issues and has served on multiple advisory boards on business growth, economic development, and infrastructure. He holds graduate degrees from the University of Chicago and London School of Economics.



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