



Background

LAO Findings

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“E-Government” in California

Providing Services to Citizens Through the Internet

California has begun to experiment with “e-government”—the provision of government services directly to citizens via the Internet. The Legislature has appropriated funds to begin e-government projects and the administration has taken a number of organizational and planning steps intended to significantly expand the use of e-government in California.

Potential Benefits. There is limited data available to document the actual benefits of e-government. However, it appears that there are a number of *potential* benefits from e-government implementation, including reducing the costs of government, streamlining governmental operations, and making government services more accessible and convenient to the public.

Concerns with Current State Direction. We raise a number of concerns about the direction that the state is taking with respect to e-government, specifically, the lack of (1) public input in determining the services to be provided through this initiative, (2) information on the administration’s priorities for this initiative, and (3) executive-level sponsorship from the state’s program areas whose services are to be provided through e-government.

Qualities of a Good E-Government Proposal. We outline specific qualities that we think the Legislature should look for before approving future e-government proposals. Good e-government proposals should (1) reduce the cost of government or increase efficiency and/or program effectiveness, (2) demonstrate the public’s interest in and the public’s ability to access the proposed service, (3) protect private confidential information, (4) implement re-engineered processes, (5) be piloted first and operational in a short period of time, and (6) have strong leadership and sponsorship from the state’s program areas.

Policy Issues to Address. Expanding existing computer programs in schools, libraries, and community-based organizations would provide potential opportunities to ensure that all Californians have access to e-government services. We also recommend that the Legislature direct the administration to (1) develop policies related to user and credit card fees and authentication for services, and (2) identify the need and the costs associated with modifying the existing state information technology (IT) systems to operate efficiently with the newer e-government systems.

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WHAT IS “E-GOVERNMENT” AND HOW DOES IT WORK?

A Definition. Electronic government, or “e-government,” is the process of transacting business between the public and government through the use of automated systems and the Internet network, more commonly referred to as the World Wide Web.

Most federal, state, and local government agencies have had some sort of presence on the web for some time, such as providing information about the role of the agency, published reports, printable forms, and data files. In addition, some agencies, such as California’s Franchise Tax Board (FTB), have the capability to allow the public to enter information and then receive back information concerning the status of a particular activity. We do not consider these types of activities to be e-government services as we have defined them. This is because the public is not transacting business but simply receiving a service also accessed through other means, such as interactive voice systems or speaking directly to staff.

How Does an E-Government Service Work?

An e-government service allows the public to initiate a request for a particular government service and then receive that government service through the web site. The government service is delivered without the public going into a government office or having a direct in-person or telephone contact with a government employee.

To conduct an e-government interaction, a citizen generally needs to:

- ◆ Use a personal computer (PC) connected to the Internet through a telephone line.
- ◆ Understand how to use a keyboard and a mouse to both type and “point and click.”
- ◆ Understand how to access and use web sites.
- ◆ In some cases, use a unique identifier such as a social security number or personal identifier number (PIN) to either access or provide private confidential information.

For the public to request and receive e-government services means that they must have access to PCs with Internet connections. Studies show that roughly 60 percent of Californians have access to the Internet through PCs either in their homes, at work, or in public libraries, schools, or community-based organizations. The public can gain the basic understanding of how to use a keyboard, a mouse, and also how to use web sites by reading books, attending classes, or through “trial and error.”

Theoretically, once the public has connected to the Internet and located the appropriate web site, e-government services become available. Figure 1 displays some of the services most frequently available through e-government in various states throughout the nation.

In order to receive these kinds of e-government services, the public generally needs to provide:

- ◆ A unique identifier to ensure that government is providing the service to the correct person or business.
- ◆ Personal information concerning the person or business to ensure eligibility to receive the service.
- ◆ Financial information, generally a credit card number, in those cases when a payment is necessary.

Once the public has provided the necessary information, government must be able to:

- ◆ Process the information to ensure that the information being provided is accurate, that the service is being provided to the correct person, the person receiving the service is entitled to the service, and that payment can be made.

- ◆ Respond to the public concerning any problems encountered during the processing of the provided information.
- ◆ Provide the appropriate service and then issue a verification that a service was rendered, such as providing a printable fishing license or e-mailing a confirmation that a tax return was received.

E-government consists of both the ability for the public to interact sufficiently with government to receive a service, and then government to sufficiently interact with the public to provide a service.

What Are the Potential Benefits of E-Government?

There is limited data available with which to conduct a definitive cost-benefit analysis of providing services through e-government. This is primarily because no state is providing a full range of e-government services as we have defined it. However, it is likely that there are benefits to

e-government systems based on government's overall experience with improvements achieved through the implementation of automation systems.

Since government at all levels started using information technology (IT) to solve operational problems, overall benefits have been (1) reduced or avoided

Figure 1

State E-Government Services Referred to Most Frequently

- Filing personal income tax return.
- Reserving a campsite in a state park.
- Applying for a state fishing or hunting license.
- Renewing a professional license.
- Submitting employment information.
- Registering a complaint against a business or professional licensee.
- Renewing a driver's license.
- Requesting a government loan.



operational costs, (2) reduced time frames to deliver services, and (3) improved services. We believe these same type of benefits could be achieved with properly implemented e-government systems. Ultimately, whether these benefits are realized depends on whether e-government systems incorporate qualities we describe later in this report.

Potential benefits of full-scale implementation of e-government are summarized in Figure 2 and described in more detail below.

Reduced Costs and Increased Interest.

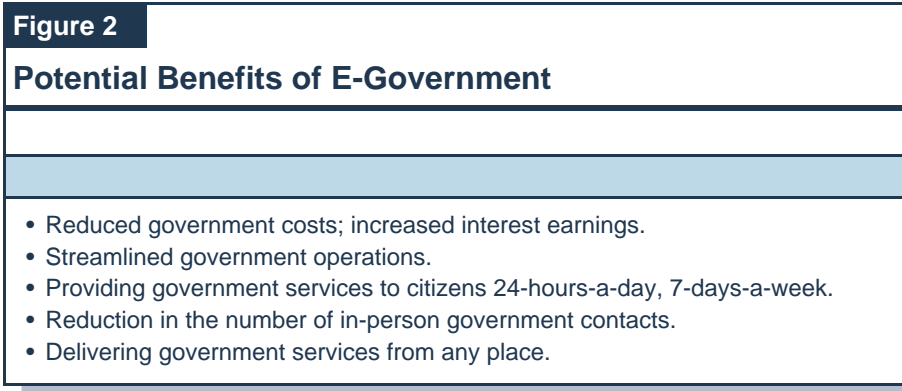
E-government has the potential to reduce the size and cost of government. These savings can take many different forms. For example, government agencies should be able to provide e-government services to the public with less staff than would be required to provide the services through in-person contacts, thereby reducing personnel costs. Similarly, fewer or smaller offices would be needed in which in-person services will be provided, thereby reducing capital outlay costs. Also by allowing the public to enter information on-line as opposed to filling out a paper form, govern-

ment organizations can reduce certain operating costs.

Another potential benefit of e-government solutions is to conduct monetary transactions more efficiently, resulting in increased interest earnings on state revenues. Most Californians make payments to the state through the mail. Currently, when state agencies receive these payments, they must process those payments through a series of activities—opening the mail, gathering the payments into batches, entering data into departmental IT systems, and then providing the batch to the bank which is responsible for further processing. This entire process of mailing in payments and handling checks can take anywhere from a few days to a few weeks.

However, if e-government solutions were implemented which allowed direct payment without the mail-in and check batching processes, funds could be immediately transferred and posted to the state treasury. The sooner the funds are deposited, the more interest the state earns and more revenue is generated.

Streamlining Government Operations. E-government solutions can potentially help streamline the operations of government. Most government processes have been operating for a substantial amount of time, having evolved over many years. These processes



usually involve many steps, tasks, and activities. Many of the processes that support government programs generally undergo few in-depth reviews or changes. In some cases, this means that state

government may not be operating as efficiently and effectively as it could, and therefore could benefit from a reexamination. This reexamination process and the resulting improvements are

REENGINEERING THE TEACHER CREDENTIALING PROCESS

The Commission on Teacher Credentialing (CTC) is responsible for issuing permits and credentials to all classroom teachers, student services specialists, school administrators, and child care instructors and administrators. The commission's workload has increased significantly since the implementation of class size reduction. It must process more credentials, respond to more questions from applicants, and review more discipline cases. It takes between 4 to 12 weeks for CTC to perform its primary task—processing a request for a teaching credential or permit.

In the *1999-00 Budget Act*, the Legislature appropriated funds for a comprehensive review of the credentialing process. The major recommendations from this review placed particular emphasis on modifying CTC organizational structure and using IT to improve its operations. The review recommended that the commission:

- ◆ Eliminate the CTC credentialing renewal process and allow local administrators to verify professional development course work.
- ◆ Create a formalized staff training program that allows CTC staff to specialize in particular types of credentials.
- ◆ Create an Institute of Higher Education training program to improve the accuracy of forwarded applications.
- ◆ Consolidate the fingerprinting process and use fingerprinting live-scan technology to decrease credential processing times.
- ◆ Provide counties with electronic access to check application status to reduce mailing costs.
- ◆ Allow electronic submission of applications to streamline processing.

We believe this review provides a good example of what a reengineering study should demonstrate—suggested improvements to the current process and recommendations on how IT can be used to assist in those improvements.



commonly referred to as “business process reengineering.”

Ideally, state government should review its operations on a regular basis. Generally, this does not occur unless a significant change in the underlying program occurs. The emergence of e-government, with its emphasis on the use of IT and the delivery of services using the Internet, presents the state with the opportunity to fundamentally rethink how it delivers services to its citizens. Specifically, e-government offers the state the opportunity to:

- ◆ Examine its current operations.
- ◆ Identify business processes and practices that could be streamlined.
- ◆ Implement those streamlined business processes.
- ◆ Implement new technologies that enhance those improvements.

In the process of streamlining its business operations, a properly implemented e-government solution provides the state the opportunity to focus its resources on those service delivery efforts that are most efficiently provided through direct contact versus other means. For example, for the past few years, Employment Development Department (EDD) has posted all job openings available through their field offices on the CalJobs web site. This statewide posting has enabled job seekers to view EDD job openings without going into an EDD office. It has also allowed EDD to focus its staff on those activities that are best

delivered through more direct contacts with both employers and job seekers.

We believe that this use of e-government offers benefits to both Californians and government. Citizens receive services that offer the most value at the time they need it, and government has the opportunity to focus its staff resources on those services that are best provided through direct in-person contact.

“Open for Business—All Day Every Day.” The Internet phenomenon has changed the way people and businesses interact. Transactions, such as purchasing merchandise, conducting banking activities, and receiving news, no longer occur during specific hours of the day as they once did. Web transactions are basically available any time of the day, as long as the IT system is up and running. E-government systems can also offer this same type of availability. However, being continually available does have important policy implications which we discuss later in this report.

“On-Line, Not In-Line.” A successful e-government system could provide citizens the convenience of not having to go into a government office to receive a service. This provides such tangible benefits as reducing the amount of time that citizens have to take away from their jobs or reducing traffic to and from government offices.

“No Wrong Door.” Finally, e-government can potentially enable citizens to receive government services from a single point of entry or from “one stop.” Currently, to locate an on-line service, the public must know *which* department at *what* level

of government is responsible for providing the needed service. Then the public must locate the department either in the telephone directory or on the department's web site. Most citizens and businesses know *what* they need but not necessarily *who* provides it. A "no wrong door" strategy

means that a citizen's ability to receive a service is no longer dependent on knowing "who" provides the service. Rather, once a citizen knows what service is desired, he/she will be able to locate it from a general government website.

WHAT IS THE STATE DOING WITH RESPECT TO E-GOVERNMENT?

The Administration's Approach

E-Government Planning Efforts. Since spring 2000 the administration has been developing a plan for how e-government will be implemented and operated in the state. The plan is being developed under the direction of the staff in the Office of Planning and Research (OPR) with input from Chief Information Officers in state departments and the state's two major data centers.

Based on our discussions with the administration, we understand that the planning effort will result in the following documents:

- ◆ ***Vision.*** This document will be released first and it will describe the administration's overall vision for e-government.
- ◆ ***Implementation Planning Guidelines.*** This document which is expected to be released 60 days after the vision document, will consist of guidelines which departments will use when developing plans to implement e-government systems.

- ◆ ***Technical Approach and Standards.*** This document will describe the state's technical approach and standards for e-government systems. The document is expected to cover such topics as information privacy, security, maintenance, and interface standards, and is expected to be released 60 days after the implementation planning guidelines.

The administration has not provided estimated release dates for these documents. It is unclear how these three planning documents will fit together and provide direction to individual state agencies and departments. At a minimum, these documents should describe how the state will approach e-government, how departments will be expected to implement this new policy, and how all of the planning documents and budget proposals will fit together.

Governor's E-Government Executive Order. In September 2000, the Governor issued Executive Order D-17-00 announcing the state's direction for e-government. The Executive Order:



- ◆ Established a Director of E-Government, within the Governor’s office, responsible for policy direction and coordination between the Department of Information Technology (DOIT) and OPR.
- ◆ Described the oversight roles of DOIT, the Department of Finance (DOF), and the Department of General Services (DGS).
- ◆ Required that departments submit e-government implementation plans to DOIT as the agency responsible for reviewing those implementation plans.
- ◆ Mandated the creation of a statewide portal (that is, a “one-stop” web site).

In a subsequent announcement, the Governor established a Governor’s E-Government Business Advisory Council composed of representatives from the state’s IT firms. The purpose of the council is to advise the state on e-government architecture and policy.

Roles and Responsibilities. Based on our discussions with the administration, Figure 3 summarizes the roles and responsibilities for the oversight and implementation of the state’s e-government systems.

State’s Current E-Government Systems

Although the administration’s overall e-government planning efforts are still underway and the organizational structure for e-government was

Figure 3

E-Government Oversight Roles and Responsibilities

Department	Role and Responsibility
Director of E-Government, Governor’s Office	<ul style="list-style-type: none"> • Sets the state’s policy direction. • Coordinates the activities of DOIT and OPR.
Office of Planning and Research	<ul style="list-style-type: none"> • Ensures project focus is on customer service. • Monitors customer service. • Acts as executive sponsor for specific Governor initiatives.
Information Technology	<ul style="list-style-type: none"> • Reviews e-government implementation plans. • Provides project reviews and oversight.
Finance	<ul style="list-style-type: none"> • Provides project fiscal analysis reviews.
General Services	<ul style="list-style-type: none"> • Administers procurement activities.
Teale Data Center and Health and Human Services Agency Data Center	<ul style="list-style-type: none"> • Provides operational support to e-government systems. • Develops e-government systems for smaller departments. • Supports and operates core e-government components for common state business functions.
Individual departments	<ul style="list-style-type: none"> • Prepares e-government implementation plan. • Manages e-government projects. • Develops and implements e-government systems.

only recently developed, the state has already undertaken a number of e-government efforts.

Department Web Sites. California state government, like all other states, has its own web site, and each state agency and department has its own web site. Each of these various web sites has a distinctive appearance, including different colors, screen layouts, and web technology features.

For the most part, the majority of the information provided through department web sites covers informational items such as descriptions of what the department does, how to contact the department, and regulations and data of general interest. Some departments, such as FTB, provide additional features described earlier in this report.

The EDD's CalJobs. In 1996 the U.S. Department of Labor required all state employment security agencies (SESA)—EDD in California—to establish web sites to post SESA job openings. In response to this requirement, EDD began piloting an interactive on-line system in 1996 to allow job seekers to review EDD job listings and employers to directly enter information about job openings. In 1997, EDD began the full scale implementation of these interactive services with a project titled CalJobs. The total project cost for CalJobs was \$10 million over five years.

The DMV's On-Line Vehicle Registration. In 1999, the Department of Motor Vehicles (DMV) began a project to permit the on-line registration of vehicles. To participate in the on-line vehicle registration (VR) system, vehicle owners must (1) have a valid credit card with which to pay

registration fees, and (2) possess automobile insurance issued by one of the three companies set up to electronically transfer insurance data to DMV. By accessing the DMV web site, California vehicle owners who meet this criteria can then register their vehicle on-line. The current cost for this project is estimated to be \$5.5 million over three years.

E-Government Projects Funded in 2000-01

Budget Act. In addition to CalJobs and DMV's VR, the Legislature provided funds for three new e-government projects in the *2000-01 Budget Act*, as shown in Figure 4 (see page 10). Both the E-Business Center and the Government to Citizens projects are required to submit reports to the Legislature by April 2001, describing the results of the various studies.

How Do California's E-Government Efforts Compare?

Overall Government Efforts. Much has been written concerning government's overall progress towards implementing e-government systems. Most government entities at the federal, state, and local levels have all done relatively well in establishing web sites containing static or unchanging information. However, our review found that relatively little has actually been implemented that meets our e-government definition—the process of transacting business between citizens and government agencies.

State Government. We found that 25 states have not implemented any e-government systems, while 25 states (including California) have implemented at least one e-government system. Califor-



Figure 4

**New E-Government Projects
Funded by the 2000-01 Budget Act**

(Dollars in Millions)

Project Name	Responsible Department	Budget Amount	Project Purpose
E-Business Center	General Services	\$4.6	<ul style="list-style-type: none"> • Conduct studies to determine opportunities to develop a “one-stop” web site for California businesses.
Government to Citizens Studies	Finance	1.2	<ul style="list-style-type: none"> • Conduct studies to determine opportunities to develop e-government systems for employer tax filing, expanding Department of Motor Vehicles on-line services, and state permits.
California Enterprise Project	General Services	5.1	<ul style="list-style-type: none"> • Redesign the California Home Page. • Enhance e-mail system with citizens. • Upgrade the supporting network.

agency have some form of e-government service available by 2002 and the Maryland Legislature has mandated that 80 percent of its state services be on-line by 2004.

The State of Washington was the first state to establish statewide IT policies and standards for e-government systems. South Dakota embarked on an e-government education technology initiative as a means to deal with problems being encountered in such areas as

nia is on par with most other states with respect to implementation of e-government, as shown in Figure 5. In addition, we found that most states:

- ◆ Are in various stages of developing and implementing an e-government vision and plan.
- ◆ Are making attempts at providing e-government services, with DMV-type services being the most commonplace (14 states have an operational VR system).

In addition, some government jurisdictions have established mandates in which e-government must be implemented. For example, federal government organizations have been mandated to provide some form of e-government services by 2003. The Utah Legislature has mandated that every state

education reform and rural service delivery. Pennsylvania, North Carolina, and Utah are in the beginning phases of implementing “one-stop” web sites where the public can receive most services through entering from a single site.

Local Governments. A small number of California’s cities and counties have made some government services available on the Internet. For example, Orange and Los Angeles Counties have established web sites through which the public can request birth, marriage, or death certificates, although there is an additional fee to receive these services on-line. The City of Sunnyvale has established a web site through which building permits can be filed on-line. But, overall, widespread use of interactive e-government systems are not yet available at the local level.

Figure 5

States With E-Government Services

State	Renewing Vehicle Registration	Renewing Driver's License	Applying for Hunting/Fishing Licenses	Filing Personal Income Tax Returns	Other On-Line Services Available
Alaska	✓		✓		
Arizona	✓				✓
Arkansas	✓				
California	✓			✓	
Colorado				✓	✓
Delaware				✓	
Georgia			✓		✓
Idaho			✓		
Illinois			✓		
Indiana	✓				
Kansas			✓		
Kentucky			✓		
Louisiana	✓				
Maine			✓		
Maryland	✓				
Massachusetts	✓				✓
New Jersey	✓			✓	
New Mexico	✓				
New York	✓				
North Carolina	✓				
South Dakota					✓
Virginia	✓	✓			✓
Washington					✓
Wisconsin	✓				
Totals	14	1	7	4	7

Note: Review conducted in September 2000. States not listed above do not have these on-line services available as of September 2000.

provide e-government services that the public wants and finds valuable. So far the state's current approach has failed to obtain public input to determine the types of services which will be provided through e-government. Ascertaining the level of public interest in receiving e-government services—and which specific services are the highest priority—is important to ensure the system will actually be used once it becomes operational.

The Legislature has recognized the importance of citizen input and has directed the administration to seek such input. We understand that the administration intends to meet this requirement and report to the Legislature by April 1, 2001.

Concerns With the Administration's Current Approach

Our review identified three concerns with the administration's current approach to e-government.

State Needs to Identify the E-Government Services that the Public Wants. In order for e-government to be effective, the state needs to

Administration Has Not Set Statewide Priorities. It appears that the administration has not yet established statewide priorities for its various e-government projects. For instance, it is unclear if issuing fishing licenses or renewing driver's licenses have the same or different priorities for the



administration. It is important that the administration clearly identify its statewide priorities so that the Legislature, when making budgetary decisions, can determine if those priorities are consistent with its policy choices.

Programs, Rather Than Technology, Should Drive E-Government Initiative. One of the primary reasons that state IT efforts have failed in the past is due to the lack of “ownership” and involvement by the staff of the program that is being automated. Because the chief benefits derived from the e-government initiatives will fall in pro-

gram areas, it is imperative that the program staff, not IT staff, lead the initiative. It is important that the Legislature ensure that e-government initiatives are not “IT initiatives,” but rather program initiatives that will result in improved government operations resulting in improved services to the public.

It appears that the majority of the administration’s involvement in the e-government initiatives has been from the state’s IT organizations. In particular, input has been primarily provided by IT professionals, not program and policy specialists at the department level.

WHAT QUALITIES SHOULD THE LEGISLATURE LOOK FOR IN A GOOD E-GOVERNMENT PROPOSAL?

It is likely that the Legislature will continue to receive e-government proposals from the administration over the next few years. Figure 6 summarizes the qualities that we believe the Legislature should look for in a good e-government proposal.

Proposal Reduces Government Cost or Increases Government Efficiency and/or Effectiveness. E-government projects, like other state automation projects, should result in some clear benefit. Projects should either reduce the cost of govern-

ment, increase government efficiency, and/or improve the effectiveness of government programs.

Figure 6

Qualities of a Good E-Government Proposal

- Reduces government costs or increases efficiency and/or effectiveness.
- Demonstrates that the public wants it and has access to it.
- Protects private confidential information.
- Identifies “customer support” during business and nonbusiness hours.
- Identifies fees to be paid by public.
- Implements a reengineered process.
- Tests a new service delivery model.
- Was piloted first.
- Operational in a short time frame.
- Uses IT best practices.
- Has executive sponsorship.

Public Demonstrates an Interest in Receiving On-Line Services. It is important that the e-government services provided are those that the public has expressed an interest to use. Without interest from the public to use the on-line service, the project could result in limited usage at a potentially high cost. For this reason, proposals provided to the Legislature should demonstrate, based on surveys by independent objective parties, that the public wants to receive the proposed service on-line. For example, Texas conducted a statewide study assessing the public's interest in using e-government services. The results of this study are being used to set the priority and direction of the state's e-government initiative.

Public Being Served Has Access to the Internet. Studies have demonstrated that there are some sectors of California's population that do not have access to the Internet from either their homes or places of work. For these Californians, it is necessary to provide access through other means, such as in libraries or community centers. Since access is a vital component for going "on-line," we believe that it is important for the Legislature to know *who* actually will be served by the e-government proposal and then *how* the administration proposes to ensure that the target populations have access to the proposed on-line service.

Proposal Protects Private Confidential Information. Several recent independent studies have found that the public is concerned about the collection and protection of private confidential information gathered by commercial web sites. Studies have shown that a large majority of

Internet users, in some cases up to 85 percent, have concerns about *how* information is being collected, *why* information is being collected, *what* happens to the information once its been collected, and *how* information can be changed after it is collected.

One of the major issues for the Legislature to address over the next few years will be to ensure that the private confidential data collected by e-government systems is properly administered and protected. We note that the Legislature included budget control language in the *2000-01 Budget Act* specifically related to information privacy and confidentiality. The language requires that each department post a privacy policy that describes why data is being collected, how the data will be used, how the data will be protected and who within the department is responsible for the privacy policy. The Legislature should only approve those e-government services proposals that address these privacy concerns.

Proposal Needs to Describe Customer Support Services. Although typical state business hours are Monday through Friday, 8:00 AM to 5:00 PM, the public uses the Internet 24 hours a day, 7 days a week. This means that as the state moves towards using the Internet to deliver services, methods must be implemented to provide customer service to the public when its needed. For this reason, we recommend that the Legislature determine for each e-government proposal how customer support will be provided for the on-line service—during both business and nonbusiness hours—and how much that customer support will cost.



Proposal Identifies Fees to be Paid by the Public. For many government services, users of services are charged a fee to offset the cost of those services. Under this principle, the costs associated with delivering services through e-government would be passed along to the users of those services.

However, under certain circumstances, it may be desirable to actually reduce charges as an incentive for individuals to use e-government services if that results in governmental or societal benefits (for example, reduced traffic congestion). We recommend that the Legislature determine if some e-government proposals would benefit from such a strategy of reduced fees.

Proposal Includes Reengineering. Some state government processes are viewed as cumbersome and difficult “to navigate” by the public. For these types of government processes, “reengineering” the way government works could be beneficial. Simply automating the current state business process will in some cases only perpetuate current inefficiencies and ineffectiveness. Therefore, we recommend that the Legislature only fund those e-government proposals that are the result of a re-engineering study that includes not only the automation solution, but also changes in the way the state conducts business.

Proposal Tests New Service Delivery Models. E-government proposals, if constructed properly, could test new models of how government provides services in a more efficient and effective manner. E-government proposals could test service delivery models that:

- ◆ Cut across organizational lines—the public would receive the service without having to know which department actually provided the service. For example, a nurse could renew a professional license without having to go through the Department of Consumer Affairs.
- ◆ Build upon private sector investments—the proposal incorporates the use of systems already used in the private sector and does not require government to “reinvent” the wheel. For example, if software companies have developed a “generic” on-line loan application, the state could use those software solutions in lieu of developing one specifically for the state.
- ◆ Complement federal or local level efforts—the proposal builds upon e-government services being offered through other governmental entities and leverages that investment with the state’s investment. For example, if both the Internal Revenue Service and FTB allowed on-line tax filing, the public could file both taxes at the same time.

Proposal Should Be Piloted First. Piloting e-government systems, in particular, could prove beneficial to ensure that the proposed e-government service actually meets the needs of the public. We believe that piloting first will:

- ◆ Provide data on potential cost savings.
- ◆ Help identify issues that may result with statewide implementation.

- ◆ Ensure that the proposed e-government service will truly meet the needs of those it was intended to serve.

As the Legislature evaluates e-government project proposals, we recommend that (1) proposals that have been piloted with documented positive results be considered for funding, or (2) for those proposals that have *not* been piloted, that the Legislature direct the administration to do so prior to receiving funding.

Proposal Is Operational in a Short Time Frame. One of the problems encountered in state automation projects is the amount of time it takes to develop and implement an automation system. The longer it takes to develop and implement a system, the higher the cost to the state. In our view, properly implemented e-government systems should result in reducing the cost of government and/or making government more efficient. E-government proposals should therefore have relatively short time frames to both design and implement the on-line system.

We recommend that the Legislature consider funding those proposals that will be piloted and operational for the public within one year of start-up. However, we do recognize that some e-government projects due to complexity may take longer to implement. For these projects, we recommend that the administration utilize a multi-phased approach with some operations being offered in a short time frame with full implementation coming later. We believe that this overall approach will allow cost savings and efficiencies

to be realized earlier as opposed to later in the implementation process.

Proposal Includes IT Best Practices. E-government projects, like other state automation projects, will experience significant problems and be at risk of failure unless they incorporate IT best practices into their design. Generally, these best practices include use of project and contract management and measurable project objectives. We recommend that the Legislature evaluate e-government projects as it would any other state automation effort and make sure that they incorporate IT best practices. (For a discussion of IT best practices, see our December 1998 report entitled *State Should Employ "Best Practices" on Information Technology Projects.*)

Proposals Demonstrate Program Leadership. Successful automation projects have strong executive sponsorship and leadership from the program staff. E-government projects share this key to success. Since the majority of the process changes resulting from an e-government proposal will be in the program area, it is vital that the program staff lead and sponsor the e-government proposal.

For these reasons, we recommend that the Legislature determine program commitment and leadership by asking:

- ◆ Who is pursuing the proposal?
- ◆ What program changes will occur as a result of the proposal?



- ◆ What commitment has the program area staff made to implement the changes and support the automation effort?

Hopefully, the answers to these questions would reveal a strong commitment by program staff to the e-government proposal. Without such a commitment, the likelihood of success is reduced.

WHAT ARE THE FUTURE ISSUES?

Several of the qualities of a good e-government proposal have embedded in them issues for which the Legislature will need to provide direction relatively soon. Figure 7 summarizes these issues which are discussed below.

Ensuring Access. Much has been written in recent years about how some segments of the population lack access to home computers and the Internet. This phenomenon is usually referred to as the “Digital Divide.”

In our view, this is a problem largely related to income, educational attainment, and age. Statistics indicate that Californians without a college education and incomes under \$20,000 are least likely to have home computers and access to the Internet, while Californians with higher incomes and higher educational attainment are more likely to have home computers and access to the Internet. In addition, studies have found that Americans over the age of 50 are less likely to use the Internet than younger Americans.

As the state expands e-government services, the issue of access and the ability to fully use the available systems will become more important. We believe that expanding existing programs that provide the public access to PCs and the Internet through schools, libraries, and community-based organizations, provide the most near-term promise to meeting public needs in this area.

Protecting Information Privacy. As we noted earlier, protecting personal confidential information is a key concern. The advent of Internet technology with its capability to provide improved services offers both opportunities and challenges for government. The Legislature will need to ensure that the:

Figure 7

E-Government Issues That Will Need to Be Addressed

- Ensuring access.
- Protecting information privacy.
- User and credit card fees.
- Customer support.
- Authentication.
- Modifications to existing systems.

- ◆ Collection of private confidential information is appropriate.
- ◆ Sharing of information both within and outside of government is consistent with how that information was originally collected.
- ◆ Information collected can be changed by those who provided it.

User and Credit Card Fees. The most common method to pay for financial transactions through Internet systems is with credit cards. However, credit cards are *not* the most common method used to pay for government services. Cash, money orders, and personal checks are currently the most common methods used by the public to make payments to government.

Processing credit card payments is more costly because of a transaction fee imposed by the credit card companies on the businesses that accept payment by credit cards. (These transaction costs may be absorbed by the business or passed along to the consumer.) These transaction fees are a percentage of the total payment. The average percentage is 1.5 percent.

If the state moves more payment activities to the Internet, then there will be a shift from the traditional modes of payment to credit card payments. This means that the state will have to determine how to pay these transaction fees. The options are to either pass the fees back to the public or for the state to pay the fees, which ultimately increases government costs.

Credit card fees like user fees, generally, are appropriately charged to the users of services. However, as discussed earlier, there may be circumstances under which it would be appropriate for government to absorb these costs if in so doing it achieves other governmental or societal objectives. Therefore, we recommend that the Legislature direct the administration to develop an “e-government fee” policy that describes *when* user and credit card fees are appropriate, how much these fees will cost the public, and the circumstances under which fees should *not* be imposed.

Authentication. When the state provides services to an individual, it must authenticate that the person receiving the service is eligible to receive the service. When a service is provided in-person, this is easily achieved through identification cards, birth certificates, et cetera. When the service is provided through other means, authentication becomes a challenge. As e-government systems expand, new means such as digital signatures or use of a PIN for authenticating service recipients will have to be explored. The Legislature will need to ensure that these new methods protect both the rights of Californians while ensuring that government services are provided to those who are eligible. Therefore, we recommend that the Legislature direct the administration to develop an e-government authentication policy that describes the methods which will be used to authenticate services and how these methods will protect Californians’ rights and eligibility to services.



Modifications to Existing Systems. E-government systems are based on a relatively new technology—PCs and the Internet. Most state IT systems, however, are based on an older technology which relies mainly on large mainframe technology. It is unclear what impact the newer technology will have on the older technology. It is likely, however, that the older systems will require

modifications, but the costs of such changes is unclear. Therefore, we recommend that the Legislature direct the administration to examine the need to modify the existing mainframe systems to operate efficiently with the e-government systems and identify the additional costs to implement any necessary modifications.

CONCLUSION

E-government services are in their infancy. Data does not yet exist as to what the true costs and benefits will be of this new service delivery mechanism; however, it appears that e-government systems have some potential benefits which are worth exploring. For this reason, we recommend that the Legislature evaluate future e-government proposals by determining how these systems will assist in making government operate

more efficiently and effectively in delivering services to the public.

We believe that the Legislature will be faced with a number of issues over the next several years concerning e-government systems. These issues will touch upon both the rights of citizens and the long-term cost of government operations.



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