

Findings
And Recommendations

Assessment of Connecticut's Implementation of E-Government

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Legislative Program Review
& Investigations Committee

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Introduction

The Legislative Program Review and Investigations Committee (PRI) voted in June 2010 to conduct a study to assess Connecticut's implementation of e-government, which stands for electronic government. E-government is described in different ways, but its general meaning is the "use of information technology to support government operations, engage citizens, and provide government services."¹ The implementation of e-government provides, among other things, the opportunity for self-service government for citizens and businesses, allowing them to conduct transactions at any time during the week, not only during normal business hours. The committee, in particular, expressed interest in Connecticut's efforts to ensure citizens and businesses have online access to desired information and services.

Study Scope

The areas of analysis identified in the PRI study scope are: 1) an examination of the organizational structure in place in Connecticut to prioritize, design, implement, manage, and evolve e-government services; 2) an evaluation of best practices based on existing literature and comparisons to states considered leaders in applying e-government principals; and 3) an examination and inventory of Connecticut's current web presence.

Overview of Findings and Proposed Recommendations

Connecticut has clearly expanded the "use of information technology to support government operations, engage citizens, and provide government services," as e-government is described, since the inception of the state website, CT.gov, in 2002. The PRI committee found, though, that improvements and initiatives appear ad hoc and sporadic rather than systematic. Web-based service improvements most often arise from individual departmental interests instead of an overall e-government strategy that prioritizes online services as a statewide goal. The current structure within which e-government (as well as the broader but closely connected function of information technology) is developed, planned for, managed, and implemented is diffuse. Currently, there is no effective mechanism, formal or informal, to guide e-government in a deliberative, purposeful way that includes all stakeholders—such as agencies, municipalities, businesses, citizens, and customers.

In reviewing Connecticut's current website presence, the committee found that the user-friendliness of Connecticut's website could be improved. Certain features that are considered best practice are missing from the web template used by most state agencies. Further, as Connecticut's web presence mirrors the physical structure of state government, a user is required to know or find out which agency or agencies have jurisdiction over the particular subject or program of interest. This is contrary to best practice that calls for websites to be focused on the user and activities, not on recreating the physical organization of government functions.

¹ Sharon Dawes, *The Future of E-Government*, Center for Technology in Government University of Albany, State University of New York, 2007. http://www.ctg.albany.edu/publications/reports/future_of_egov (April 2010).

Based on the study findings, the report makes a number of recommendations. First, some short-term changes are recommended to improve the functionality of the state's main portal, CT.gov, by implementing best practices related to website usability. The committee believes however, to be like leader states, a long-term strategy must be adopted. The strategy should be guided by an e-government board and e-government director within DOIT so that long-term opportunities can be implemented. Such a focus could replace how services are currently accessed (i.e., on an agency-by-agency basis) and help develop a better approach to delivering "one-stop" online services for those functions that cut across agencies.

The intent of the other recommendations concern ensuring a customer-centered focus to the development of e-government in the state by improving website design and content. The program review committee found that states considered leaders in e-government concentrate efforts on enhancing the main state portal as the gateway to online services for website visitors. By doing so, it is easier for citizens to locate the online services they need and for the state to market the availability of online services to its citizens and businesses.

Methodology

The review of e-government in Connecticut by the program review committee focused on three core areas of analysis:

- In-depth examination of four states considered leaders in state portal development as a gateway to online service delivery.
- Results of an extensive PRI committee survey of Connecticut's executive branch agencies that sought to:
 - obtain opinions and information on state agency experiences in planning and implementing e-government initiatives, and
 - determine responsibility for state agency website design content placement.
- Identification and evaluation of the features and services on Connecticut websites from the viewpoint of citizens and businesses.

Leader states. Maine, Massachusetts, Michigan, and Utah were the four states selected for in-depth review. These states were chosen for a variety of reasons including their:

- achievement of high ranking and evaluation scores in national studies;
- receipt of numerous awards; and/or
- location in New England.

Information on these other states was collected in a number of different ways, including website and literature research, as well as interviews with chief information officers, program directors, and various IT personnel. Each state's main portal was examined for content, design,

and navigation. In addition, Connecticut was compared to each state in a number of areas pertaining to the use e-government including:

- statutory provisions (e.g. definition of e-government);
- governance structure;
- strategic planning;
- management and funding of initiatives;
- availability of online services; and
- collaboration with federal and local government.

Profiles for each state reviewed are provided in Appendix A.

E-governance funding models in other states. States use a variety of sources to fund e-government projects. These sources include general fund appropriations and charging subscription and other user fees for individuals to conduct transactions online. Twenty-three states outsource portal development and management, all with a company called NIC that specializes in developing online services based on a transaction fee approach. Under these outsource contracts, the states do not pay NIC; NIC is compensated from the fees charged by the states. Other states rely on general state funding of e-government projects.

The NIC model, in general, creates a subsidiary based in the state with which NIC has a contract and uses a transaction-based funding approach, if not prohibited by statute. Under this approach, the state government charges a modest fee (in addition to any existing statutory fees, for example, license renewal fees) to provide online services. These fees are primarily targeted at high-volume business users, while broader services for citizens are generally free. NIC is compensated from the fees; the states pay nothing “out-of-pocket”.

In addition to the provision of fee-based online services to their customers, both Utah and Maine use NIC as vendors for portal management. Massachusetts and Michigan manage their own web portals with vendor support when necessary. Further discussion on funding models is provided in Appendix B.

Survey of executive branch agencies. Because e-government responsibilities are spread across state agencies, information about how state agencies handle their activities is currently lacking. To better understand state agency activity and experience, committee staff surveyed executive branch agencies for information and opinions on a variety of topics, including:

- website planning and governance;
- website clientele; and
- technical issues surrounding web-based projects.

The survey was administered electronically and contained 32 questions. The survey was sent to executive branch agencies via email, typically to a legislative liaison, commissioner,

communications director, generic agency address or other staff as deemed necessary. Of 57 possible respondents, 51 replied for an 89 percent response rate. Survey questions and results are provided in Appendix C, along with a list of agencies that did not respond. Several agencies associated with the executive branch were specifically excluded from the study, including the constitutional offices and colleges and universities.

Survey respondents were informed that aggregated results would be presented to keep individual replies confidential. Survey results are noted throughout the report. Some of the survey highlights are:

- one-third of the 50 agencies responding do not have a business plan and, about another third have a business plan but no formal online strategy is contained in it (a business plan should contain operational objectives and contain details on how they are to be realized);
- almost two-thirds of the 50 agencies responding reported DOIT personnel have little to no responsibility for initially developing and planning agency web projects;
- less than half of the 44 agencies responding to the question link to a municipal government site or contact list;
- beyond using the DOIT-established web template, survey respondents stated that a mix of individuals were responsible for determining website content including agency leadership (40 agencies), program personnel (23 agencies), and communication or planning staff (19 agencies); and
- 59 percent of 51 agencies review web traffic statistics, which can be used to improve the agency's website.

Inventory and evaluation of executive branch agency websites. Program review staff systematically reviewed all executive branch agency websites using a set of objective criteria derived from the methodologies of two prominent nationwide reviews of states' web presence. In total, 65 agency websites were reviewed, including the 57 agencies that were sent surveys, the constitutional offices, and DOIT. The questions were divided into five main categories:

- usability;
- privacy and security;
- contact and participation;
- content; and
- services.

The full list of questions, along with a summary of results, is available in Appendix D.

In addition, committee staff also identified all available online transactions in which there was two-way communication between the user and the agency, such as when a license could be renewed online. Highlights of the review are that, of 65 executive branch websites:

- 79 percent use the DOIT created web template;
- 85 percent link to the state’s privacy policy;
- 95 percent have online publications (e.g., newsletters, reports);
- 86 percent offer downloadable forms; and
- 45 percent include two-way online services (e.g., renewing a license).

Report Contents

This report contains three sections. Each section uses a similar approach: a description of the best practices in each topic area as noted in the e-government literature; an examination of Connecticut’s practice with a comparison to practices in top-rated states, and findings and recommendations for each. The sections are as follows:

- **Section I (p. 7):** Presents the results of the PRI committee’s evaluation of Connecticut’s web presence (i.e., CT.gov and agency websites) and online services. It also provides information on implementation of best practices for standards and policies.
- **Section II (p. 25):** Discusses e-government development including the topics of governance structure; strategic planning process, collaboration efforts; and project development.
- **Section III (p. 45):** Describes ways to create a more customer-centric focus for providing electronic information and services to website visitors. This includes the use of tools to assist in better website design and content management, and marketing the state’s main portal, CT.gov. The report also contains eight appendices.

Section I: CT Web Presence and Best Practices

The use of information technology for the delivery of government services to citizens, transactions for business and industry, and access to government information shows itself primarily through websites as the gateways to the information and services. One of the goals of this study was to identify the current status of Connecticut state government's web presence, as a key indicator of the state's utilization of e-government. The identification of the current status of the state's web presence allows for comparison with best practices and model states. This section discusses website ease of use and content, describing and comparing both Connecticut's features and best practices.

Website User Friendliness

User-friendly websites are those sites that help the user have a positive experience when visiting a state website. This includes ensuring that users can quickly locate the information they are seeking and feel confident any personal information revealed will remain private and secure. Many publications outline basic usability principals. Agreement has coalesced around a number of best practices to follow when designing and managing a government website.

One of the most concise statements of best government website practices comes from the federal government. In 2008, the Federal Web Managers Council published a report for the Presidential Transition Team entitled "Putting Citizens First: Transforming Online Government." Beyond detailing some of the issues facing federal websites, the paper states that users should be able to:

- "easily find relevant, accurate, and up-to-date information;
- understand information the first time they read it;
- complete common tasks efficiently;
- get the same answer whether they use the web, phone, email, live chat, read a brochure, or visit in-person;
- provide feedback and ideas and hear what the government will do with them; and
- access critical information if they have a disability or aren't proficient in English."

These goals provide the basis for developing a series of best practices, including treating web communications as a core agency function and requiring agencies to regularly review web content to ensure that the information is "accurate, relevant, mission-related, and written in plain language."

This section compares Connecticut's web presence, including the main portal, agency websites and availability of online services, to model states. It also examines Connecticut's use of web standards and policies. Based on these comparisons, recommendations are made to change Connecticut's web portal and modify the web template used by most state agencies.

Connecticut's Web Presence

The State of Connecticut's web presence mirrors the physical structure of state government. That is, Connecticut's current online presence is based not on one single website, but on the content and information available on over 65 individual agencies' websites. This decentralized approach requires the user to know or find out which agency or agencies have jurisdiction over the particular subject or program of interest. An example developed by the Connecticut Economic Resource Center illustrates this point; a new limited liability company grocery store with employees would need to visit ten state agencies, a municipal authority, and four federal agencies to obtain all necessary approval prior to opening for business in the state. While making the ten state functions available online would be an improvement, the best practice goal should be to move to a single transaction that covers all 15 functions.

The current status of providing content and services across many relatively independent websites poses several challenges. First, users may not know what agency website has the information they are looking for. Second, content on individual sites may be organized differently, making it more difficult for users to understand the navigation system. Third, updating or upgrading many websites presents a greater challenge than making changes or upgrades to a single site.

Website features. Through an evaluation of individual agency websites, committee staff found that most include basic usability features, such as links to the state's homepage (i.e., CT.gov) and the agency's homepage – both of which are part of the DOIT web template. However, other navigation features were less likely to be found. Only 26 percent of websites include a sitemap (i.e., a single page listing of the contents, hierarchy and navigation of the website) and less than five percent include a "help" link. The presence of both is a best practice as these are valuable in assisting users of the site. A useful feature for foreign language accessibility is the presence of either foreign language websites or a link to website translation tools.² Only 18 of 65 reviewed websites (28 percent) had content available in a foreign language or linked to translation services. Table I-1 shows some selected features used for the agency website evaluation.

All but two of the 65 examined sites (97 percent) clearly indicate when the homepage was last updated, typically through the presence of recent news and/or a copyright date. Approximately half of agency websites (54 percent) include relevant regulations. Video clips were present or linked to on 21 agency websites (32 percent) and were used for varying purposes (e.g., "how-to" videos, recordings of meetings, video blog). Most agency websites include "relevant links" (92 percent). Typically the links are to other Connecticut agencies (89 percent) or federal agencies (63 percent), though municipal links were less common (23 percent). A complete list of features examined, including a summary of agency use of features, is available in Appendix D.

² Google offers a free website translation tool.

<i>Criteria</i>	<i>Count (of 65)</i>		<i>Percent</i>	
	<i>No/ Not available</i>	<i>Yes/ Feature available</i>	<i>No/ Not available</i>	<i>Yes/ Feature available</i>
Does the homepage clearly indicate when it was last updated?	2	63	3.1%	96.9%
Are regulations available online?	30	35	46.2%	53.8%
Are there video clips?	44	21	67.7%	32.3%
Are there relevant external links to:				
i. other CT state agency;	7	58	10.8%	89.2%
ii. federal agency;	24	41	36.9%	63.1%
iii. municipalities?	50	15	76.9%	23.1%
Source: PRI analysis				

Program review committee staff created indices of types of website features based on the presence of several individual criteria. Table I-2 shows the overall index performance and indicates what percentage of agency websites have at least half the features per index. Most agencies (36) had five of the eight possible usability features while only one agency had all eight features. Most agencies had all five contact information features, but one website had none.

<i>Index</i>	<i># of possible items in index</i>	<i>% sites with half or more items present</i>	<i>Number of websites with this amount of items present</i>									
			<i>0</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	
Usability	8	98.5%	0	0	0	1	4	36	17	6	1	
Site Policies	3	89.2%	5	2	44	14	-	-	-	-	-	
Contact Information	5	98.5%	1	0	0	2	21	41	-	-	-	
Emerging Tech	6	10.8%	13	30	10	5	5	2	0	-	-	
Source: PRI analysis												

Agency websites appear to generally provide static informational features. Usability functions, such as navigation and search functionality, help the user find information within the website. The listing of basic contact information (e.g., physical address, phone number, email address) helps users connect to the agency, especially regarding non-online services.

Emerging technology. The committee also examined the adoption of new or emerging technologies. Emerging technologies represent new ways to connect to users and respond to customer needs. There are many technologies that are established in the private sector and used extensively by other state governments, but are not a systematic part of the Connecticut web presence.

In Connecticut, few emerging technologies have been adopted, though it appears that agencies are looking for new ways to engage customers. According to the committee staff website evaluation, over two-thirds of agencies have taken advantage of the statewide system for signing up for automatic updates of agency websites via email. Also, over 40 percent of surveyed agencies indicated an interest in using RSS feeds to keep users up-to-date on agency news³.

When agencies offer only a website, users are expected to regularly check the agency website to discover what, if any, changes have been made. Email update lists, RSS feeds, and Twitter allow the user to affirmatively choose to receive regular updates. Those updates are then made part of other routine parts of computer use (e.g., checking email, looking at a twitter feed) rather than the standalone activity of visiting a particular agency site.

Mobile technology. Connecticut currently has little-to-no mobile presence online. None of the 65 executive agency websites mentioned the existence of a mobile application or had a mobile optimized website. Based on agency survey results, about one-quarter indicated an interest in developing mobile content. However, over half of agencies believe that porting agency website content to new mediums, such as mobile apps or a mobile optimized website, should be the responsibility of a statewide entity. Making mobile content available is important because research organizations project that accessing the internet over a mobile device, such as a smartphone, is growing and is expected to exceed computer use in five years.⁴

Social media. One of the marketing tools employed by several model states is the use of social media (Facebook, YouTube, Twitter, etc.). States use Facebook and Twitter to post news, announce new services, and provide information to users quickly. State agencies also use social media to provide specific information related to the services they provide. For example, in Rhode Island, the Department of Transportation maintains a Twitter feed of road closures and traffic information, as does Connecticut's Department of Transportation.

Because of the state's acceptable use policy, most social media sites have been inaccessible from executive branch computers.⁵ While this prevents personal use of the sites, a blanket block from such sites also prevented agency employees from using social media for official uses. On November 1, 2010, the CIO established the executive branch's first Social Media Policy, which would allow certain uses of social media conditional upon DOIT approval. As the newly adopted social media policy is so recent and has a series of restrictions, it is unclear how social media will be used by agencies in the near future. Website policies, in general, will be discussed in greater detail later in this section.

³ RSS feeds, or "Really Simple Syndication", are a way to see how a website has been updated without visiting the website itself.

⁴ Greg Sterling, "Pew: 85% of US Adults Have Mobile Phones, One in Ten (High Earners) Own Tablets," Internet2Go, entry posted October 14, 2010, <http://internet2go.net/news/data-and-forecasts/pew-85-us-adults-have-mobile-phones-one-ten-high-earners-own-tablets> (accessed December 1, 2010).

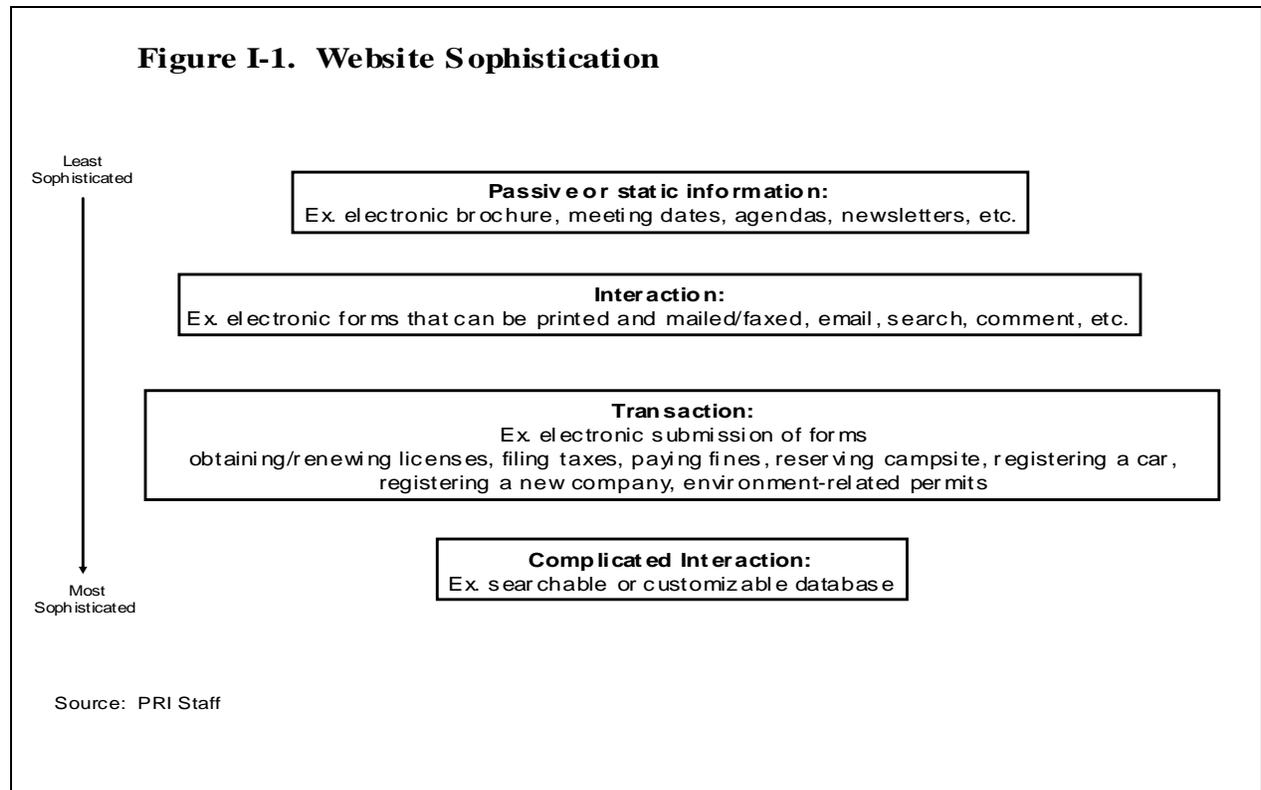
⁵ The state's acceptable use policy defines acceptable use of internet, e-mail and associated systems by executive branch employees.

Over half of surveyed agencies indicated they had interest in using social media, such as Twitter or Facebook, but, as shown in Table I-3, less than 15 percent were currently using either technology. This lack of use is likely due to the absence, until recently, of a state social media policy.

Table I-3. Agency Use of Social Media		
Feature	% of agencies which have considered feature for use	% of agencies with feature
Agency Facebook page	56.9%	13.8%
Agency Twitter account		10.8%
Source: PRI analysis		

The program review committee asked agencies what type of entity should be responsible for emerging technology policies. Less than half (46 percent) of agency survey respondents indicated that a statewide entity should determine proper use of emerging technology, 20 percent believed an interagency council should do this, and only 28 percent of agencies indicated that individual agencies should have primary responsibility.

Sophistication level of agency websites. As described in the committee briefing and shown in Figure I-1, the sophistication level of websites can range from the static or passive presentation of information, to transactions and complicated interactions.



Program review staff developed measures to determine the extent to which agency websites are operating at each sophistication level. Every agency will not necessarily have every feature examined; for instance, some constitutional offices do not have regulations to post – but the use of several of the features within a larger measure suggests that a particular sophistication level has been achieved.

The minimum level of online sophistication is the presence of static or passive information. Staff created an index of static information website features, which included the online availability of regulations, databases, calendar of events, and online publications, such as a newsletter. Staff found that over two-thirds of state websites have static or passive information available. This indicates that the state, overall, has a wide base of information available to the public.

The second level of sophistication is the availability of one-way interaction between the user and the agency. Through the evaluation of agency websites, committee staff found that 86 percent of websites included downloadable forms – meaning that users would be able to print a form, then mail or fax it to an agency, rather than having to call or physically visit the office. However, very few websites featured a way to directly obtain user input, such as a place to post comments or an online poll.

The highest levels of sophistication involve transactions (e.g., making payments, registering for services electronically) and more complicated interactions (e.g., searchable or customizable databases). Slightly under half of agency websites (45 percent) had these types of transactions available – including online services that will be discussed in greater detail later in this section.

State Web Portals

A state web portal generally has two major functions: 1) create an entry point for users, and 2) create and maintain a platform for the state’s online content and services.⁶ While the former is largely achieved through the establishment of a state web domain (e.g., CT.gov), the latter can be accomplished in a number of ways. Online content and services can be offered as part of a single state website, on individual agency websites, or any combination thereof. Besides content and services, the usability of portals (i.e., visual presentation and navigation) can vary greatly.

Best practices. Through staff review of model state websites and interviews with e-government personnel in these states, several common best practices were found:

- To be consistently useful, state web portals should often serve as the primary destination for users while interacting with government online, not as just the first stop.

⁶ Online content can include features such as event calendars, “about us” sections, online publications, FAQs, pictures, video, etc.

- Websites should be focused on the user and activities, not on recreating the physical organization of government functions.
- A state web portal should reflect statewide e-government strategic planning and goals.
- A state web portal should be treated as an independent state program.

These common points among highly-ranked portals suggest that the centralization of online services and information is critical for successful web portals. In model states, the web portal has dedicated personnel that have multiple responsibilities, including: the design and usability of the website; aggregation and centralization of agency content onto the main portal; and operation of web content management systems that facilitate exchange and inoperability of data.

Connecticut’s web portal. First launched in 2002, the CT.gov web portal was created as a way to market and organize state agency information online. The portal, which is maintained by DOIT, serves as the main website for the state as a whole and, more specifically, as the de facto executive branch homepage.

According to DOIT, the goals of Connecticut’s web portal include:

- “Standardizing Web Site Quality across the State Enterprise
- Maximizing the Internet as a Tool for Agencies and the Public through a ‘Service Without Boundaries’ Approach
- Integrating State Information and Services
- Empowering and Enabling Agencies to Adopt and Use Portal Technology
- Preserving Autonomy of Branches and Agencies while Improving the Quality of the Portal on the Whole
- Controlling and Regulating Site-Specific and Portal-wide Quality”⁷

Several of these goals speak to creating a balance between maintaining the state’s web portal and enabling individual agencies. An examination of the CT.gov portal shows it is primarily used as an agency website directory service, which will assist users in finding the agency or agencies with responsibility or authority over relevant program areas.

Usability. As can be seen across the top of the following picture (Figure I-2), Connecticut’s portal features several permanent links, including links to branches of government, “About CT” and a page with contact information for many state agencies. Additionally, the site has several links, seen on the left side of the page, based on types of activity, which are:

- working;
- living;
- learning;

⁷ DOIT: <http://www.ct.gov/cpi/cwp/view.asp?a=938&Q=247520&cpiPNavCtr=#31172>

- doing business;
- visiting; and
- government.

The activity links take the user to a listing of categories with additional links to a specific agency or program.

The body of the homepage includes a linked graphic that scrolls between a set of several featured events, programs, or services. Below this, the page includes a listing of the latest news and popular online services, the latter of which includes a link to a full listing of Connecticut's online services, organized by type of activity.

Figure I-2. Connecticut's Web Portal

Source: CT.gov, taken November 26, 2010

Figure I-2. Connecticut's Web Portal
Source: CT.gov, taken November 26, 2010

The screenshot displays the CT.gov homepage. At the top, the logo for CT.gov is shown alongside the text "The Official State of Connecticut Website". A navigation menu includes "Home", "About CT", "Executive", "Judicial", "Legislative", and "Contact Us", with a "QuickLinks" section on the right. A large banner for "CONNECTICUT'S 375th Anniversary! 1635-2010" features the tagline "Connecticut at 375: Industrious. Inventive. Enduring." and a "MORE INFO" link. Below the banner are two columns: "Latest News" and "Online Services". The "Latest News" column lists several items, including "Judicial Branch Announces Online Payment of Motor Vehicle and Criminal Infractions Tickets", "2010 Election Information", "The Job Fair Schedule for Fall, 2010", "Hurricane Season 2010", "DMV Launches Online System to Verify If a Vehicle is Properly Registered", "Receive emails announcing new Exam/Job Posting", and "Elimination of Registration Stickers". The "Online Services" column lists "CTJobCentral", "Renew Vehicle Registration Online", "Plan for College", "Reserve State Campground Spot", "Purchase a Hunting or Fishing License", and "File State Income Tax". A "More >" link is also present. On the left side, there is a sidebar with a search bar, a "Working Living Learning Doing Business Visiting Government" menu, and several promotional banners for "CT RECOVERY", "CONNECTICUT 888-CTvisit / CTvisit.com", "Connecticut WEATHER", "Connect kids", "2-1-1", and "CT Lottery". The footer contains navigation links, a disclaimer, and the CT.gov logo.

Sophistication level of CT.gov. While a crucial aspect of a transparent government web presence is access to information, a more sophisticated website will give users greater opportunity for online interaction and transactions. As described earlier in this section, an informational clearinghouse type of website can best be described as passive or static. The CT.gov portal fits the passive description because of the focus on directing users to the appropriate agency. In contrast, model states tend to offer high-level interaction on the main portal itself. This is done through value added services, such as aggregation of databases or “frequently asked questions” sections and providing additional user help functions.

Model states. Beyond aggregating existing content and services, high-level web portals also include statewide or cross-agency functions that are unlikely to be present on an agency-centric web portal. The following are examples of statewide services on model states’ websites:

- Massachusetts – site includes a “Connect with us online” feature, which provides a table that indicates whether each agency uses Twitter, YouTube, or Flickr, or maintains a blog.
- Utah – maintains a list of available mobile apps, including the general “Utah.gov” app and several other, more specialized apps.
- Maine – includes a “DataShare” page, which has an index of common free datasets, links to agencies with data pages, and a search function specifically for data.
- Michigan – has a “Forms Finder” service that shows the most popular forms and has a form specific search.

Customization. Beyond making the basic homepage as accessible as possible, some model states also make user customization or personalization of the website available to customers. Customization can help ensure that the user has instant access to the portions of the site which that individual finds most helpful or useful. Several states include a user login that then either automatically shows information based on the users’ expressed preferences (e.g., business owner working with building permits) or allows personal modification of the homepage to include commonly used features. Additionally, Utah.gov features a “local” section, as seen, in Figure I-3, which combines with geographic location data (either automatically provided or manually entered) to provide users with specific local information.

Figure I-3. Utah’s Web Portal
 Source: utah.gov, taken November 26, 2010



Comparing Connecticut to best practices. Connecticut’s portal is minimally customer-centric, as indicated by the use of activity-type links (e.g., “doing business,” “visiting”). However, the functionality of the portal is as a web directory, so *CT.gov* and the larger state web presence continue to focus on the functions of individual agencies and branches instead of the state as a whole. For instance, some model states have comprehensive visitor information that incorporates tourism information from multiple agency sources. The *CT.gov* website is adequate in its presentation of static data, but fails to include any of the higher level functionality that would enable the site to reach greater sophistication levels.

Online Services Overview and Model States

Online services are those functions that allow a client to conduct business with the state solely through use of the state’s websites. When fully implemented, online services can expedite

user transactions by eliminating the need for in-person, phone, or mail interactions. Additionally, online services can sometimes alter or eliminate certain agency functions. Model states have several key factors in common regarding online services, which include:

- provision of a wide range and large number of online services;
- statewide provision of common service types (e.g., a single application for submitting forms between state agencies);
- an exhaustive list of statewide service offerings clearly presented on the state web portal; and
- intuitive navigation of service listing, which may include search functionality and categorization by both audience (i.e., citizen, business, visitor, government) and service area (e.g., recreation, human services, taxes).

Implementation and availability of online services. The reported number of available online services in model states ranges from several hundred to over a thousand. States are able to increase service offerings at a relatively rapid pace through leveraging of interoperable systems. Rather than having multiple disparate databases and forms for registering businesses, Michigan has a dedicated “one stop registration” for businesses that guides users through a series of interactive questions that eventually lead to the necessary electronic forms. Besides saving the user time by eliminating duplicative processes, the one stop registration also acts as a foundation for the provision of many related services, such as applying for environmental permits and tax registration. Connecticut has tried providing one stop registration services multiple times, but efforts have stalled out in part because the underlying services were not interoperable.

Additionally, model states often choose to use a single application for common business functions (i.e., use statewide enterprise services). For instance, a common responsibility for agencies is verification of a license, certification, or registration. Instead of each agency developing or purchasing software that performs this function, the state invests in a single application that is then customized based on specific agency needs. As described in the committee briefing, the Department of Public Health was able to customize online licensing software originally used by the Department of Consumer Protection. Agencies that may not have otherwise dedicated the resources to obtain the necessary software may take advantage of the statewide system and increase online offerings.

Online service comparisons. Defining what constitutes an online service in order to compare the number offered among other states is problematic, as there are many informational transactions (e.g., step-by-step guides, downloading a park map) occurring on a regular basis with little measurable interaction between the agency and the user. Most model states include many purely informational transactions as part of their service listing – which is likely a contributing factor to reports of relatively high service availability. Also, states routinely include partial online services in a list or count of services (i.e., downloadable or printable forms that must be then be delivered in hardcopy to complete a transaction).

Further complicating counts is the possibility that one online service may be used in conjunction with or instead of multiple offline business functions (i.e., one online service may include many traditional agency services). For example, a single database may be used to both license a professional and for license status lookup for employees.

Presentation of online services. Highly-ranked states include a comprehensive list of available services as part of their main web portal. Further, these states often present services in innovative ways that allow intuitive navigation by users. As shown in Figure I-4, Maine.gov includes a list of commonly used services on its homepage along with a search function that is specific to services. The list of services is featured next to other customer-centric features, such as a frequently asked questions feature, a “How Do I” feature, and a listing of upcoming events.

Figure I-4. Maine’s Web Portal

Source: Maine.gov, taken December 1, 2010



Besides an online services search function, Maine's service page includes indices of services alphabetically, by category (i.e., type of service), by agency, and by whether a service is free or fee-based. By including a variety of ways to access services, customers are more likely to be able to easily find and use specific online services.

Online Services in Connecticut. The main web portal lists 65 unique online services in 17 general areas, increased from approximately 40 services in 10 areas in 2006. The current areas of service listed on CT.gov are:

- Appointments to State Boards and Commissions
- Business Registration
- Consumer
- Education
- Elderly Services
- Employment
- Environmental
- Health and Well Being
- Legal
- Motor Vehicles and Transportation
- Online Occupational Licensing
- Outdoor/Recreational
- Public Safety
- Reference
- Register for Notification
- Send Feedback
- Taxes

Of note is that the services listed on CT.gov are overwhelmingly fully online transactions (e.g., file reports electronically, search a database). These services are listed in Appendix E. Because few partially online (e.g., downloadable forms) or informational services (e.g., meeting dates, newsletters) are listed, the number of services available is much lower than comparison states. Also, the CT.gov list of services may under-represent the full list of services, as it had several general listings that did not identify actual service functions (e.g., CT.gov listed insurance license renewal, but not the license verification or change of status functions).

As part of the evaluation of executive branch agency websites, program review staff created an inventory of web services. Approximately half of online services identified by staff through the agency website evaluation were listed on the CT.gov online services list, while the remaining services were either left off the CT.gov list or included as part of a larger service type listing. Program review staff identified at least one online service in several general categories, which can be seen in Table I-4.

<i>Type of Service</i>	<i># of online services</i>	<i># of online services with financial transactions</i>	<i>Service Client Type</i>		
			<i>All</i>	<i>Citizens</i>	<i>Businesses</i>
Apply for a permit	1	1	0	0	1
Register for a list	10	3	3	3	4
Professional license or certification services	7	6	3	2	2
Apply for benefit or service	4	0	1	3	0
Submit a complaint	6	0	5	0	1
Request information (specific request form)	17	2	16	1	0
Request change of information or status	3	0	2	0	1
File reports (business filings)	5	2	2	0	3
File or pay taxes	2	2	1	0	1
Calculator (estimate benefit or cost)	2	0	0	0	2
Submit information or report violation	2	0	0	1	1
Other	3	1	3	0	0
Total	62	17	36	10	16

Source: PRI Analysis *Excludes services specifically for state employees/agencies and database searches

The most common service types were information requests and registrations. While the number of information request services is high, those types of requests generally involve a non-electronic component (e.g., request to be mailed an informational packet). Approximately one-quarter of the online services found on agency websites involve financial transactions, so roughly three-quarters of online services are available free of charge. Most available services are designed for general use, though smaller amounts were specifically designed for either citizens or businesses.

Besides specific services, over 50 searchable or customizable databases were found across 26 (43 percent) of the 65 reviewed executive agency websites. Among others, these databases include license verification functions, mill rate lookup, and school district profiles.

Obstacles to implementation of online services. It appears that Connecticut has a number of online services that fall into several general categories, but a weakness is that there are few inter-agency services available. Further, there appear to be many instances where agencies with similar functions (e.g., filing secure reports, certification or licensing) are not using similar approaches to moving those functions online. In fact, there are several occasions where an agency has moved a particular business function online, while other agencies continue to perform this function completely offline. One example is electronic filing of consumer complaints. The Department of Insurance offers this service, while it is not available for individuals with complaints regarding health care professionals or home improvement contractors.

A notable impediment to the further development of online services is agency use of outdated systems for electronic functions. These legacy systems often hinder communication between agencies and occasionally prevent interoperability between divisions of an agency.

Further, the data contained in the outdated systems may require significant modification or cleaning in order to be part of a new, interoperable system. While the focus of this study has been on the provision of e-government services, these services will be significantly more difficult to implement without upgrading existing IT systems.

Several agencies have already begun a review and redesign of existing IT systems, which includes reevaluating the underlying business processes used by the agency. The reevaluations, such as the modernization project at the Department of Motor Vehicles that was described in the PRI committee briefing, are evidence that agencies are looking to improve efficiency through further leveraging of technology. However, because such efforts are initiated by individual agencies, it is possible that recently upgraded systems will continue to lack the interoperability necessary to communicate information easily on a statewide basis.

State Web Template, Standards and Policies

States issue web standards and policies to: ensure that state websites comply with any applicable laws and regulations; advise the agencies how to manage content; and ensure uniformity in website design between agencies. Templates also make websites more user-friendly since links and content are located in identical areas across web pages. Website visitors can more easily and quickly navigate from one website to another when a standard template is used, making their experience more satisfying and enjoyable.

Current Connecticut best practices. The Department of Information Technology sets statewide policies for several aspects of IT management. Working in collaboration with several other state agencies, DOIT adopted a series of best practices that went into effect in June 2010. “Web/E-Government” best practices were one of nine areas that were adopted by the group. There are 17 adopted best practices for “Web/E-Government,” which vary in nature from outlining which items should be included within the website (e.g., inclusion of all applicable policies and use of DOIT’s website design guidelines) to agency web content management. Several of the listed best practices include links to additional Connecticut policies, external policies developed by other levels of government or non-profit organizations, or guidelines for specific areas of e-government. These guidelines are not mandatory, but may be voluntarily adopted by individual agencies, many of which assisted in their creation. The list of “Web/E-government” best practices is provided in Appendix F.

Adoption of state template and policies for state agencies. Although most state agencies have migrated to the DOIT-promulgated template, many have opted out of certain features. In addition, 11 state agencies never moved to the CT.gov domain and remain on the “state.ct.us” domain name.⁸ Personnel from DOIT report that several of the agencies using the old “state.ct.us” domain are in the process of migrating to CT.gov. One way to present a consistent web presence in a state where the provision of IT services is largely decentralized is to require that all state agencies use a common domain and template, so that users have a similar

⁸ Adoption of a single domain name, like CT.gov, makes “searching for government-related information and services more intuitive to citizens; increases collaboration among levels of government; and creates a trusted domain that hosts only officially recognized government websites.” National Association of Chief Information Officers, *Harmony Helps: A Progress Report on State Government Internet Presence*, 2007, p. 3.

experience on whatever state website they visit. It can be confusing for the public when there is not a common “look and feel,” or if information is located in one area on one website but absent from another.

State web template. The Department of Information Technology currently offers agencies use of a web template, in conjunction with a collection of underlying software known as a content management system, to maintain all the websites using the CT.gov domain. A standard template for state agencies was developed far back as 2002. Updates to the template have been somewhat frequent, with the last major update beginning in 2008. The use of all or parts of the template, however, has always been voluntary.

The web template is based upon a set of website design guidelines for the presence and placement of certain aspects and features of the agency website. For example, the guidelines define what permanent links should be included on every page of the website (e.g., “About Us,” “Contact Us,” and “Programs and Services”). Besides the placement of certain features on an agency homepage, the template also provides a basis for the internal pages of each agency site. In addition to facilitating common design and navigation elements across agency websites, the template can also be used to ensure that certain statewide standards and policies are followed.

Based on program review staff’s evaluation, 80 percent of the 65 executive branch agency websites reviewed use the DOIT-created web template. The remaining 20 percent not using the template include the Higher Education System and Constitutional offices, which are statutorily exempt from DOIT requirements, and several other executive branch agencies.⁹ The non-statutorily exempt executive branch agencies not using the template are shown in Table I-5, along with an indication of the agency’s use of the CT.gov domain.

<i>Agency</i>	<i>Uses CT.gov Domain</i>
Board of Education and Services for the Blind	Yes
The Connecticut Commission on Culture and Tourism	No
Connecticut State Library	No
Department of Administrative Services	No
Department of Labor	No
Department of Insurance	Yes
Freedom of Information Commission	No
Office of Workforce Competitiveness	No
Workers' Compensation Commission	No
Source: PRI analysis	

⁹ Four of the six constitutional offices use CT.gov despite statutory exemption. Three of the six offices use the DOIT-created template.

State web policies. There are two primary types of IT policies in Connecticut: 1) those policies published for the benefit of web users (i.e., website policies); and 2) those policies established for government employees.

It is important for a website to publish up-to-date policies governing use of a particular website. Every state website should have a clearly marked set of site policies, which include a privacy policy, security policy, and accessibility/disability policy. Based on committee staff evaluation of Connecticut state agency websites, 92 percent of the 65 executive branch websites reviewed include a privacy policy, with 85 percent linking to the state’s adopted privacy policy. However, only 22 percent of websites reviewed include a link to a website accessibility policy on the agency’s homepage.

The state’s privacy policy was last revised in 2002, but it should be periodically revisited to ensure it adequately protects user privacy. The link to the Connecticut’s website accessibility policy states that a change was proposed in 2008, under the “What’s New” section of the webpage. However, that was the last update, so it is unclear to users whether the proposed change was ever adopted. Given the ever-changing nature of emerging technology, it is important that such state policies be revisited on a regular basis to ensure that adoption of new technologies is not impeded by outdated policies.

Findings and Recommendations: Website, Portal, Online Services, Standards, and Policies

The State of Connecticut engages citizens and businesses online through CT.gov and a series of agency websites. Highly-ranked state websites tend to focus on the experience of users or clients and provide high-sophistication levels by enhancing user interactions. However, *Connecticut’s web presence replicates the organizational structure of the state, which is not user friendly. Both CT.gov and agency websites in general fail to achieve consistently high levels of sophistication through the use of extensive, coordinated offerings of online services.*

Lack of statewide e-government priorities and actionable strategies, combined with the decentralized IT structure and the current emphasis on agency websites, impedes the state’s ability to efficiently provide online service opportunities from a citizen and business perspective.

The web template should include features that will help ensure that users are able to find what they are looking for, be it information or interactive services. Best practices for usability suggest that online user help should be offered in a variety of ways, including static information, customizable information, and interactive help such as online live chat.

In order to make Connecticut’s websites user friendly and customer-centric, the program review committee recommends **DOIT should amend the state web template to include:**

- **a site map;**
- **translation services for foreign language accessibility;**
- **general and program specific “frequently asked questions” pages; and**
- **user help features.**

The State of Connecticut's portal, CT.gov, trails leader states in availability of value-added, cross-agency and statewide services. In order to make CT.gov comparable to highly-ranked state web portals, the program review committee recommends:

The list of online services on CT.gov should be expanded through the inclusion of all agency transactions and selective inclusion of informational features, such as downloadable guides. In addition, the following features should be made available on the state's web portal, CT.gov:

- **downloadable databases; and**
- **downloadable forms.**

The services, databases, and forms features should be aggregated lists from agency online offerings and should be, at a minimum, searchable by keyword and indexed by customer, by function, by agency, and alphabetically. Where possible, presentation of new and existing features on the web portal should allow for user customization and/or personalization.

Agency adherence to state standards and policies is largely voluntary. To provide a common look and feel, as suggested by best practices, the program review committee recommends:

All executive branch state agencies, except those exempted by statute or the Department of Information Technology, shall use CT.gov for web hosting services and adopt the Department of Information Technology-created template for state websites.

Website policies are not subject to regular review and update. To ensure that state web policies are transparent to the user and up-to-date, the program review committee recommends:

The Department of Information Technology should establish a webpage of policies that includes the state's privacy, security, and accessibility policies as well as any other policies deemed necessary. A link to this policy page should be included as part of the website design template, in place of the separate links to the state privacy policy and website accessibility policy. All state agency websites should contain a link to the state policy page.

The Department of Information Technology, in collaboration with the E-Government Board, should review and revise the state's website policies not less than once a year. The review and adoption date of the latest version of the website policies should be clearly published with the policies along with a summary of any major changes.

The Department of Information Technology should review the social media policy annually and revise it if deemed necessary.

Section II: E-Government Structure

Overview

The successful development of e-government services involves a series of critical components, many which build and depend upon each other. According to the literature reviewed by the program review staff, these components include: 1) leadership; 2) buy-in from the executive branch agencies; and 3) a governance structure that communicates about, directs, and reviews all the activities necessary to implement the e-government goals for the state.

This section discusses and compares Connecticut's features with the best practices exemplified in selected leader states, related to the e-government governance structure, planning and collaboration, and project management.

Leadership. Leadership is frequently noted as the single most important ingredient for successful e-government initiatives. The literature on e-government best practices refers to leadership as the *will* of political leaders, management, and line staff to support e-government implementation as a strategy to provide government services electronically to the state's clients.¹⁰

According to the literature, leadership must involve a diverse group of high ranking officials including the governor, the chief information officer (CIO), department heads, and members of the legislature that collectively endorse and provide the resources to facilitate the transition to e-government. The group must also have a single approach driving the initiative.

Role of the CIO. The CIO plays a key role in ensuring that a state's web presence is technologically sound and that it provides meaningful assistance to the public. According to the best practices literature, the CIO is not merely a technical position; the CIO must also be a strategist for the state's information technology. As such, it is important for the CIO to develop strong relationships with many stakeholders inside and outside of state government. The CIO must address the various organizational dynamics in government that impede information sharing if the state is to make its e-government vision a reality.

Executive branch buy-in. Executive branch buy-in is considered another essential element of successful e-government. To be successful, there must be agreement as to what constitutes the scope of e-government and there must also be acceptance from the individual agencies. Commitment from the executive branch agencies involved in the implementation of the e-services must be ensured by leadership. States frequently mentioned as best-in-class for e-government - Utah, Maine, and Michigan – have enjoyed strong executive branch support for nearly a decade and through various administrations.

¹⁰ Congressional Research Service, State E-Government Strategies: Identifying Best Practices and Applications, July 2007, p. 11

Establishing an e-government culture. The best practices literature also indicates sustained support from the governor and the legislature is essential to establish web-based technologies as a core cultural value. Agency culture can impede or support e-government development. Agencies are often adverse to changes because they can alter employee and agency functions. Ongoing communication with agency stakeholders is a necessary part of establishing and maintaining initial buy-in. It is critical to effectively communicate the benefits and expected results of collaboration and to demonstrate the positive outcomes that will result from the transition from one channel of service delivery (i.e., mail or in-person) to another (i.e., online).

E-Government leadership in Connecticut. Leadership initiation of and follow through for e-government services in Connecticut has been sporadic in recent years. As noted in the briefing, DOIT began a number of efforts regarding e-government services in 2006: focus groups; an inventory of web-related projects and online services; and suggesting e-government initiatives such as the creation of an e-government taskforce to the Governor's Office. However, those efforts all stalled for a variety of reasons, most notably the shift in attention to the state's budget concerns.

Initiatives for e-government projects such as the "one-stop" business portal have also experienced several starts and stops. Although a good foundation has been established through the partnership with the Connecticut Economic Resource Center's (CERC) website "CT-CLIC.com", interviews with various personnel indicate that individual agency resistance to collaborative participation is one of the barriers. More recently, a strong show of leadership can be seen in Executive Order 19, issued in 2008, which established the system development methodology (SDM) for IT projects to assist with keeping projects on time, on budget, and producing the desired outcome. DOIT presents the modernization project for the Department of Motor Vehicles as a SDM success story. Another project, the Criminal Justice Information System (CJIS) propelled by strong legislative support, has encountered some difficulties navigating the existing SDM. (Further discussion of SDM is provided later in this section.)

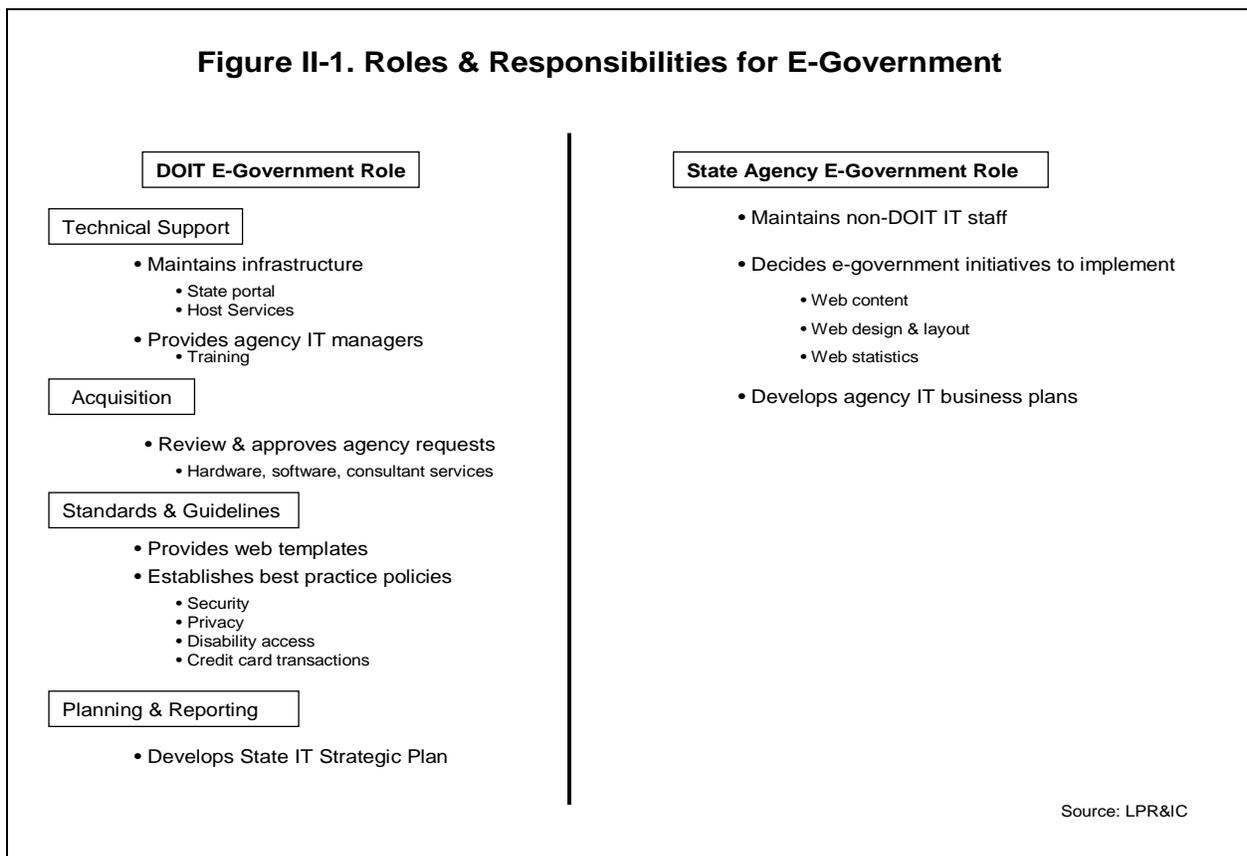
Connecticut's E-governance Structure

Considering the potential breadth of e-government —the use of information technology to support government operations, engage citizens, and provide government services - its governance is challenging. Because it is a concept that covers all areas of state government and combines both technical and substantive spheres, it necessarily requires significant interagency coordination, cooperation, and collaboration, along with the capacity to assess, plan, and implement with a statewide view.

The literature on best practices offers a working definition of web governance. Web governance is *the structure of people, positions, authorities, roles, responsibilities, relationships, and rules involved in managing an agency's [or state's] website(s)*. The governance structure

defines who can make what decisions, who is accountable for which efforts, and how each of the players must work together to operate a website and web management process effectively.¹¹

Figure II-1 was presented in the committee briefing and is shown here to provide a refresher on the basic outline of the primary roles and responsibilities for e-government projects. As described in the briefing report, Connecticut law does not reference a single recognizable statutory authority for all e-government functions. The responsibility for the technical aspect primarily belongs to the Department of Information Technology (DOIT). Responsibilities for substantive business decisions regarding e-government initiatives resides with the individual state entity. The governor appoints the heads of DOIT and all the executive branch agencies, with the advice and consent of the legislature. As with all major areas of state government, the legislature exerts control primarily through its budget authority.



Further examination of the interaction between DOIT and the individual state agencies reveals a diffused approach that appears to impede optimum development of e-government.

Fragmented responsibilities. The program review committee staff survey to executive branch agencies provided additional insight into the governance structure regarding the

¹¹ Federal Web Managers Council, <http://www.usa.gov/webcontent/governance/definition.shtml> (accessed December 1, 2010)

development of e-government initiatives. More than half of the agencies (54 percent) responding to the survey reported that their agency personnel has full responsibility for planning and/or developing agency web projects, with the remaining respondents reported some mix of agency staff, DOIT personnel, and private consultants. Overall, more than sixty percent of the respondents (64 percent) described DOIT personnel as having little to no involvement in planning or development.

Similarly, more than half of the agency respondents (56 percent) reported that agency personnel had full responsibility for implementing and/or maintaining agency web projects while close to 70 percent said that DOIT personnel had little to no responsibility in this area. Approximately 30 percent of the agencies reported private consultants had much involvement with the planning and/or development of agency web projects but little involvement in the implementation and/or maintenance.

Throughout the interviews conducted by the program review committee staff, a common theme evolved: Many state agencies are protective of their jurisdictions and are unwilling to give up or share control of their programs or processes. As a result, there is resistant to dissolving their “silo” functionality. This is further exacerbated by the existing governance approach for decision-making of e-government initiatives that permits individual agencies to develop and implement their own objectives which does not allow for consideration of the needs or objectives of other agencies.

Connecticut’s E-Governance Structure Compared to Leader States

States that are leaders in e-government show strong support at all levels of government. They exhibit steadfast leadership and solid working relationships between those responsible for decision-making and those responsible for implementation. The program review committee staff has identified three aspects of e-government noted in leader states. These include whether the state has:

- a definition of e-government;
- dedicated resources to specific e-government functions; and
- an advisory IT council or web board.

Table II-1 gives a quick overview of these governance components in leader states as well as in Connecticut. Further discussion on these areas is provided below.

Table II-1. Comparison of E-Governance in Connecticut to Leader States					
Components of Governance Structure	CT	MA	ME	MI	UT
Has E-government Definition			X		X
Has Dedicated E-government Function		X	X	X	X
Has Advisory IT Council or Web Board	X	X	X	X	X
Source: PRI analysis					

Lack of consensus about scope of e-government. During the course of this study, committee staff learned there is no consensus on what e-government means and what the scope of e-government covers. Two of the model states examined has adopted either a formal or informal definition, Maine (in statute) and Utah (in its strategic plan). (The definitions are provided in the profiles of other states in Appendix A.) Interviews with the leader states confirm that whether an e-government definition is formal or informal, it is important that all the stakeholders agree on the meaning of e-government. Without a consensus of what e-government covers, it is difficult to properly assign responsibilities and focus efforts.

Limited resources for e-government. Unlike other leader states and the federal government, Connecticut has minimal dedicated resources for e-government. Currently, there are four DOIT employees that make up the state portal group whose primary responsibilities are to maintain and support the underlying system for the state's portal, CT.gov. Interviews with various agency personnel suggest that managing the day-to-day agency IT operations consume much of the group's priorities. The group lacks the time and is not expected to pursue other projects and activities, such as planning for e-government services.

The commitment of resources and clearly defined responsibility for e-government is evident in top performing states. Maine has established a separate board made up of public and private members for the management of Maine.gov, known as InforME. The board has 20 staff dedicated to administration/customer support, marketing/project management, creative services, and development for the portal. This is done through a contract with a private network manager. A similar level of resources is found in Massachusetts which has an Office of Mass.gov within the state Information Technology Division. Its 15 full-time state employees are responsible for maintaining the state's portal, as well as being a service provider to agencies needing to establish online services on a common platform.

The state of Utah conducted a comprehensive baseline study and needs assessment of e-government in 2007. Utah now has an assigned director of e-government as well as a separate strategic plan specifically for e-government separate from the state's overall strategic plan for information technology. Similar to Maine, Utah contracts with a private vendor to maintain its portal, Utah.gov. According to Utah, the state provides direction by working together with agencies to identify needed online services and increase adoption rate of these services. This requires focus on advanced networking and web portal solutions, effective data management approaches, and security and information protection capabilities.

Although the state of Michigan does not have a separate unit for e-government, specific e-government functions are assigned throughout the Enterprise Division, part of the state's central IT agency.

Minimally active steering committee. Connecticut General Statute §4d-12(b) establishes an information and telecommunication systems executive steering committee responsible for reviewing and approving the annual statewide strategic IT plan. Chaired by the CIO, committee membership statutorily consists of representatives from the Office of Policy and Management, the Comptroller, the Treasurer, the Department of Administrative Services and each constituent unit of the state system of higher education. DOIT serves as staff to the

committee. The committee is also responsible for submitting a report on approved variances to the list of approved architectural components for information and telecommunication systems for state agencies.

Although this steering committee was statutorily authorized in 1997, it was not convened by DOIT until July 2008, after two consecutive state auditors' reports identified this as a failure to adhere to statutory reporting requirements.¹² This delay also had an impact on the development of DOIT's statewide strategic information technology plan which is explained in further detail later. Since 2008, the steering committee has met five times.

The leader states examined by program review staff have advisory councils or web boards that have active involvement with their central IT agency. The boards and councils also have a diverse membership drawing from executive, legislative, and judicial entities as well as the private business sector and the public to provide input, as reflected by Table II-2 on the next page.

Best Practices: E-Government Planning and Collaboration Process

E-government initiatives do not happen overnight and are not guaranteed to be successful. There are always challenges, barriers, and opponents working against changes to institutional conventions. As a result, the planning and collaboration processes are critical to the implementation of e-government programs. One of the most significant work products produced from these processes is a strategic plan.

Strategic plan. A strategic plan is an essential part of web management because it provides a vision, goals, and objectives for state agencies. According to the best practices literature, the plan must establish goals and objectives that clearly articulate how they will be implemented and by whom. The major goals should describe what the state wants to do and why. Specific objectives should describe how each goal will be achieved. As an end result, the plan should set priorities, guide what is to be done, and allocate available resources. The strategic plan should be concise and written for a broad audience. In the spirit of government transparency, the plan should be posted online so the public knows what the state hopes to achieve.

Planning process. The best practices literature indicates that the key for e-government planning is to take a long-term enterprise view of how the state can improve operations to fulfill customer needs. In other words, government must make satisfying customer needs the centerpiece of their planning – not just agency needs.

Customer-centric government means enhancing customer service, eliminating obsolete structures, and breaking down the silo thinking that has characterized the way governments have operated (e.g., departments working independently to meet their own goals instead of together to coordinate customer interfaces and services). These tasks are accomplished with detailed strategic planning with collaborative input from all the stakeholders. The planning strategies must include cross boundary collaboration with different levels and branches of government.

¹² State of Connecticut Auditors' Report Department of Information Technology For The Fiscal Years Ended June 30, 2004 and 2005 and State of Connecticut Auditors' Report Department of Information Technology For The Fiscal Years Ended June 30, 2006 and 2007.

Table II-2. Web Advisory Boards/Councils in Leader States

	Utah	Maine	Massachusetts	Michigan
Council/ Board Name	Technology Advisory Board	InforME Web Board	Portal Advisory Board	Michigan Information Technology Executive Council (MITEC)
Membership	<p align="center"><u>7 members</u></p> <p>5 gubernatorial appointments: 3 who are individuals actively involved in business planning for state agencies</p> <p>1 who is actively involved in business planning for higher education or public education</p> <p>1 who represents private sector business needs in the state but is not an information technology vendor for the state</p> <p>1 representative from the legislature appointed by the House Speaker & Senate President</p> <p>1 representative from the judicial branch appointed by the Judicial Council</p> <p>Members select the chair from among the group.</p>	<p align="center"><u>15 voting & 2 nonvoting members</u></p> <p>6 gubernatorial appointments: 3 chief agency officials from the executive branch</p> <p>1 representative from a statewide association of municipalities</p> <p>1 from a nonprofit or user organization advancing citizens' right to access to information</p> <p>1 from a statewide association of public librarians</p> <p>5 legislative appointments of public members</p> <p>1 judicial appointment</p> <p>5 mandatory representatives: CIO, Secretary of the State, the State Librarian, the Commissioner of Administrative and Financial Services, and 1 representative from the private entity contracted as the InforME network manager.</p> <p>Governor appoints the chair from among the members.</p>	<p align="center"><u>14 members</u></p> <p>Director of Mass.gov (chair)</p> <p>9 designated executive branch representatives from: Health & Human Services Public Safety Ethics Energy & Environmental Affairs Education Labor & Workforce Development Housing & Economic Development MassDOT Administration & Finance</p> <p>4 representatives from: Attorney General Comptroller Treasurer MA Sheriffs Association</p>	<p align="center"><u>24 members</u></p> <p>CIO (chair)</p> <p>19 members consisting of deputy directors, administrative officers or comparable level executives or administrators from each of the 19 client departments</p> <p>3 representatives from the legislative branch</p> <p>1 from the judicial branch</p>
Meeting Schedule	As much as needed	Not less than quarterly	Bi-monthly or as needed	At least 6x year
Purpose/ Objective	Advisory	Advisory/voting authority	Advisory	Advisory
Reporting Requirement	Yes	Yes	As needed	Yes

Cross agency collaboration. The literature on best practices refers to cross agency collaboration as a process in which two or more entities agree to cross organizational boundaries and combine resources in order to achieve joint goals.¹³ Crossing organizational boundaries in order to achieve strategic goals is necessary in a customer-centric approach because citizens care about the services they receive, not about which government agency is responsible. As mentioned earlier, cross agency collaboration needs strong leadership to succeed. In addition, strategic planning for e-government must include all the relevant and appropriate organizations to avoid duplicating existing efforts and to ensure cross-agency websites are managed effectively.

Connecticut's E-Government Planning Process and Collaboration Efforts

Since the inception of DOIT, the department has prepared two strategic plans, each covering a four-year period – 2006-2009 and 2010-2013. Both strategic plans were prepared by the current CIO. By statute, the plan is intended to serve as a basis for the decisions that are made regarding the direction of information technology within the state.

Inadequate planning process. State law §4d-7(a) requires the CIO develop, publish and annually update an information and telecommunication systems strategic plan. The statute requires each state agency submit to the CIO any plans, documents and other information for the development of the plan (C.G.S.§4d7(c)). In addition, the statute authorizes the CIO to consult with representatives of business associations, consumer organizations, and non-profit human services providers. The executive steering committee, discussed earlier, is mandated to review and approve the strategic plan.

Inadequate agency IT plans. Each state agency must cooperate and assist the CIO in the strategic plan development, submitting information as the CIO requests (C.G.S.§ 4d-7(c)). The Department of Information Technology uses the statute to request the submission of an annual agency IT plan from every executive branch agency with technology staff. According to the DOIT strategic plan, the department uses agency IT plans to inform the development of the statewide strategic plan.¹⁴ In 2007, DOIT provided agencies a template for the submission of their IT plans (see Appendix G).

The program review committee staff conducted an examination of the agency IT plans filed at DOIT. The plans were reviewed initially for format and content. However, the examination revealed other issues.

¹³ National Association of State Chief Information Officers (NASCIO), *Getting Started in Cross-Boundary Collaboration: What State CIOs Need to Know*, 2007, p.1

¹⁴ State of Connecticut Department of Information Technology Strategic Plan (FY 2010-2013), p.6 and 28.

As Table II-3 shows, a number of the plans were either in the last year of their planning period, outdated, covered long planning periods, or did not conform to the DOIT template. More than half (57 percent) of IT plans reviewed were submitted in 2008, thirteen plans were submitted this year, two were filed in 2009, and five were prepared in 2007. Three plans were completely outdated while 16 plans covered time periods of three or more years. The size of the agency IT plans ranged between 3 and 39 pages in length. Despite the fact that DOIT has established a standard template for agency IT plans, many agencies did not completely follow the format and 12 did not use the template at all.

Recent Agency IT Plans (N=48)		Agencies
Year Submitted:*		
2010		13 (28%)
2009		2 (4%)
2008		26 (57%)
2007		5 (11%)
Number of plans with reporting period:*		
– ended before FY 11 (Outdated)		3
– ends in FY 11 (Last year)		26
– ends after FY 11 (Active)		13
Number of Planning Years Covered:*		
2		29
3		13
4		2
7		1
Range of Plan Length		3 to 39 pages
Followed DOIT Template:		
No		12
Yes		11
Partially		25
Source: PRI analysis		
* Information was not available on all plans		

Upon closer examination, several of the agency IT plans, regardless of whether or not they followed the template format, provided content that was broad and vague. The IT plans of a handful of larger agencies were very detailed and provided a wealth of information. However, there were also a few larger agencies whose plan submissions appeared cursory. Compliance with the plan template was most consistent among the smaller state agencies that share the same couple of DOIT IT managers.

Based on the condition of these IT plans, it is unclear how the individual plans are used by DOIT to inform the development of the strategic plan, if at all. It is also unclear how helpful the plans could be, even if used, given the information in some instances is outdated, vague, and inconsistent. DOIT has acknowledged that some agency IT plans are not current and has indicated to agencies the need to update annual IT plans. Despite having IT managers co-located at the state agencies, the general DOIT response appears to be that managers are too busy dealing with day-to-day operations to make planning a priority item.

Limited involvement of the executive steering committee. As mentioned previously, the executive steering committee is statutorily required to review and approve the statewide strategic plan. Although DOIT has prepared two strategic plans (2006-2009 and 2010-2013), the executive steering committee was not convened until July 2008, as noted by the state Auditors of Public Accounts. As a result of the non-existence of the executive steering committee, the auditors found that DOIT did not formally publish or annually update its strategic plan during two audited periods (FYs 2004-05 and FY 2006-07). The auditors stated that a lack of

administrative oversight appeared to contribute to the situation. In 2006, DOIT's formal response published in the first auditors' report stated in part:

“Due to limited resources and the time to develop the State Strategic IT Plan, DOIT has not made the steering committee a priority. After the State Strategic IT Plan is completed, DOIT will plan to move forward on this effort.”¹⁵

However, the next audited period (FY 06-07) again revealed that the steering committee was still not active. The auditors stated in the second report that:

“The absence of this information may prevent the General Assembly from reaching critical decisions regarding the Department and contribute to a lack of focus regarding the Department's mission.”¹⁶

DOIT's response to the auditors' findings was that although the steering committee was not convened, the state's first strategic plan for 2006-2009 was formally presented to the Office of the Governor, agency commissioners, and other key stakeholders. DOIT's second strategic plan, for 2010-2013, was approved by the executive steering committee in February 2010.

Weak strategic plan. The current strategic plan, for the 2010-2013 timeframe, establishes three strategies. Of the three, Strategy #2 deals most directly with e-government efforts. It states:

“Use technology to improve program effectiveness & resolve business issues, making services more accessible to residents and businesses, and promote shared information across state agencies”¹⁷

The plan outlines some broad future considerations but does not provide specific objectives to achieve the goal. The plan states that objectives are set in the annual agency plans (discussed above), as well as in the department's products and services manual and operating procedures. The plan also lists the names of key technology initiatives by individual agencies. However, the plan explains that the details on the projects are presented in DOIT's Quarterly Technology Reports to the Governor that are not readily available to the public. (The department states that a report containing similar information to the Quarterly Report will be published online in February 2011.)

The current strategic plan does report on the achievements of the last reporting period. Other items presented in the plan include a graphic display of the phases of SDM and some Connecticut statistics produced by the private sector research group Gartner. Interestingly, when the program review committee staff requested the supporting documentation for some of the

¹⁵ State of Connecticut Auditors' Report Department of Information Technology For The Fiscal Years Ended June 30, 2004 and 2005, p.10

¹⁶ State of Connecticut Auditors' Report Department of Information Technology For The Fiscal Years Ended June 30, 2006 and 2007, p. 12

¹⁷ State of Connecticut Department of Information Technology Strategic Plan (FY 2010-2013), p.23

Connecticut-specific IT statistics quoted in the plan, DOIT responded that they did not possess the Gartner information nor could they replicate it.

Contrary to best practices, Connecticut’s strategic plan is broad, provides limited guidance, and portions are not transparent for public consumption. The current strategic plan (2010-2013) serves more as an informational annual report than a strategic document.

Limited cross collaboration. The limited extent of cross collaboration for e-government was revealed by the program review committee staff survey. One question asked state agencies whether they partner on any interagency web functions, such as a shared database of professional licenses. Sixty-three percent stated they did not, while the remainder said they did. The survey also inquired about the extent of web interaction with municipalities. More than sixty percent reported they had no municipal interaction while the rest indicated they had links to municipal websites (23 percent), provided list of municipal contacts (18 percent), allowed municipalities to download agency databases (16 percent), or shared a common database (5 percent).

The program review committee staff examination of agency websites also provided insight to cross collaboration. A majority of the agency websites included external links to the federal government (63 percent) or relevant non-government (79 percent) entity websites, however, only a small number (23 percent) had links to municipal government.

E-Government Planning Process and Collaboration Efforts in Leader States

A comparison of Connecticut’s strategic planning and collaboration efforts to other states considered leaders in e-government reveals a number of differences. As seen in Table II-4, top-rated states draw from various sources in developing and designing strategies with stakeholders to accomplish e-government goals.

Strategic Plans	CT	UT	MI	ME	MA
Recent Period	2010-13	2010-13	2010-14	2010-12	2009-2011
Separate plan for E-Government	-	Yes	-	Yes	-
Prepared by	CIO	CIO	CIO	InforME	CIO
Input from	Agency plans	Advisory board & CIO cabinet	Various*	Web board, private network manager, IT agency staff	Advisory board & CIO cabinet
Approved by	Steering committee	Board	Tacit approval by involvement	Web board	Tacit approval by involvement
*Described below Source: PRI analysis					

Strategic plans. Both Maine and Utah prepare a separate strategic plan for e-government in addition to its statewide plan for information technology. In addition, Utah statutorily sets out the requirements of the individual agency IT plans that must be submitted annually. The leader states examined by the program review committee staff also include specific goals and objectives in their strategic plans. For example, Utah sets annual goals that challenge the state government to expand the number of government online services by a specific percent or increase the percentage of financial transactions that are conducted online.

Planning process. An examination of Michigan’s strategic planning process shows use of a number of tools such as surveys, priority setting exercises, and interviews in the evaluation of current and past performance and in setting direction for a new strategic plan. A brief description of how these tools are used is provided in Table II-5 and discussed further in Appendix A.

Table II-5. Tools Used by Michigan for IT Strategic Planning Process		
Tool	Sample Questions Asked	To Whom
Web-based Survey	<ul style="list-style-type: none"> – How has IT helped or fallen short in meeting your business demands? – What do you see as your biggest challenges today and in the future? – How do you see technology serving your business in the future? – What technologies do you wish you were using? 	MITEC advisory council*
Strength, Weaknesses, Opportunities, and Threats (SWOT) analysis	<ul style="list-style-type: none"> – What is working and what is not? – What should we be doing? – What should we stop doing? 	MITEC, IT leadership & staff
Interviews	<ul style="list-style-type: none"> – How do you see your line of business changing (demand, service types, mandates)? – In which areas do you expect your biggest challenges? – Are you investigating new technology opportunities that will help you meet future business demands? 	Individual Agency Officials
* MITEC advisory council includes all 19 executive branch agencies. Source: Michigan ICT Strategic Plan 2010-2014 (Appendix A: Planning Process)		

Collaboration efforts. Michigan and Utah also provide examples of enhanced collaboration efforts. Utah law requires the CIO to prepare an inter-branch information technology coordination plan that provides for the coordination, where possible, of the development, acquisition, and maintenance of information technology and information systems of the executive branch, judicial branch, the legislative branch, the board of regents, and the state board of education. The plan is considered an advisory document.

Michigan created the Office of Technology Partnership (OTP) within its central state IT agency to foster technology collaboration and improve the way government functions across

boundaries. Michigan's cross collaboration program began with a committee comprised of local and state government IT directors and associations. It now also encourages partnerships with businesses, schools, universities, and non-profit organizations. Its purpose is to leverage existing infrastructure, applications, processes and resources to eliminate duplication of effort and reduce costs. The group works to develop strategies and policies across tiers; identify unique opportunities/barriers and incentives; discover potential shared business processes; and find ways to allocate resources and share costs.

FINDINGS AND RECOMMENDATIONS

Perhaps the single most important element of successful management for e-government is the demonstrated commitment of top leaders. Strong leadership with an evident priority for advancing e-government can provide for broader acceptance, support, and faster growth of e-government programs. States that consistently rank high for e-government all benefit from strong leadership from their top executive.

Top leadership involvement and clear lines of accountability are critical to overcoming organizations natural resistance to change. Leaders must identify, articulate, and advocate the benefits of e-government and its objectives. *The successful execution of e-government objectives requires strong leadership that promotes the value of e-government and works to increase buy-in among stakeholders. Leadership must cultivate an ongoing e-government culture within state government.*

Acceptance of a common e-government objective can only happen when leaders agree on the purpose and potential for e-services to achieve business outcomes. Leadership must make certain that employees involved in the implementation of initiatives understand the move toward e-government, its importance, and what their roles and expectations will be. Through periodic meeting with organization heads and staff, the CIO can help instill a sense of common goals and trust within and between the organizations involved in the effort.

E-Governance Structure

Connecticut's governance structure for planning, developing, and implementing e-government services is inadequate. Primary decision-making responsibilities are fragmented across agencies without focus or direction. Statewide e-government initiatives in Connecticut appear to somewhat lag behind leader states. E-government service development has been slow. Some Connecticut projects suffer from lack of momentum, such as the one-stop business approach. There is limited coordination and collaboration among state agencies.

The leader states of Maine, Massachusetts, Michigan, and Utah all have active councils and web boards that include agency representation that regularly provide advice, give input, and build collaboration among their diverse membership. To follow leader states, Connecticut's e-governance structure must include individuals in defined advisory positions that are involved in strengthening the state's portal, developing and supporting technology, marketing the products and services, and – most of all – defining and achieving the state's e-government vision and goals. Therefore, the program review committee recommends that **Connecticut establish a**

governance structure to facilitate the development, implementation, and evolution of e-government. To accomplish this, an e-government board shall be established, with 19 members consisting of mandatory representatives from the executive branch and constitutional offices, and appointments made by the governor, legislature, and judicial department.

Specifically, the board membership shall consist of:

- **Four mandatory board members: the DOIT CIO; the Secretary of the Office of Policy and Management, or designee; the Secretary of the State, or designee; and the State Librarian, or designee.**

- **The governor shall appoint one executive state agency representative from each of the following eight state service areas:**
 - **Human Services;**
 - **Health;**
 - **Transportation;**
 - **Regulation and Protection;**
 - **General Government Administration;**
 - **Conservation and Development;**
 - **Education; and**
 - **Judicial.**

- **The legislature shall have six appointments:**
 - **The Speaker of the House, the House majority leader, and the House minority leader shall appoint a municipal representative, one representative from the business sector who is not an information technology vendor for the state, and one member of the public, respectively.**
 - **The Senate Pro Tempore, the Senate majority leader, and the Senate minority leader shall appoint a municipal representative, one representative from the business sector who is not an information technology vendor for the state, and one member of the public, respectively.**

- **The Chief Court Administrator shall appoint one representative from the judicial department.**

The Governor shall appoint the chair of the board. The chair, in consultation with the members, shall establish the board's by-laws. The legislative and judicial appointments shall be non-voting board members. The term for appointed members is three years. The

board shall meet no less than on a quarterly basis. Vacancies shall be filled in the same manner as the original appointments. A majority of the board shall constitute a quorum.

The board may form subcommittees on specific topics as necessary for either ongoing, major activities (standing subcommittees) or short-term activities (ad hoc subcommittees) that cease when the activities are completed. The board chair shall task the specific mission, charge, or set of issues to be addressed by the subcommittee(s).

The board shall provide advice on the development of Connecticut's e-government visions and goals, and provide input for strategic direction and priorities. The board shall annually report its recommended strategic proposals and priorities for e-government to the CIO for inclusion in the strategic plan.

The board should serve as an interagency forum for improving agency practices related to the design, acquisition, development, use, and sharing of e-government services. This will allow agencies to share experiences and discover what initiatives are underway or being considered across the state to present potential opportunities for cross collaboration. The board will provide overall leadership and direction to the executive branch on electronic government. It will facilitate ongoing dialogue among government leaders on electronic government in the executive, legislative, and judicial branches - as well as representatives of the private and nonprofit sectors - to encourage collaboration, best practices, and innovative approaches.

Among the board's responsibilities is to identify business and customer service needs and develop recommended strategies and actions to the CIO for guiding e-government initiatives. Specific board responsibilities shall include to:

- **develop and adopt an e-government definition;**
- **provide input to DOIT on the use of CT.gov as the centralized source for state government information and services;**
- **generate priorities for new online services;**
- **recommend common functions among state agencies that could be shared;**
- **consider whether to propose convenience fees for any online services;**
- **assist in the selection and development of web traffic statistics to be compiled; and**
- **develop and adopt an annual strategic plan for e-government.**

DOIT shall provide staff resources for the board.

Within the governance structure, there must be a group of individuals designated to develop and recommend e-government policies, create procedures to implement the policies, determine and operate web management controls, and develop and use performance measures. As the lead agency for state information technology, DOIT should maintain this role. The program review committee agrees that DOIT's role should be primarily to provide technical support; however, it is necessary for there to be a centralized authority to help guide statewide IT

development and assist in the implementation of State's e-government identified priorities. As such, the program review committee recommends that **e-government should be a recognized, dedicated function within DOIT. At a minimum, the responsibilities of statewide e-government services and functions should be assigned to a director. The e-government director must:**

- **support the expansion of the delivery of state online services through the state's main web portal;**
- **advise the CIO on the resources required to develop and effectively administer electronic initiatives;**
- **recommend necessary changes related to strategies and priorities for e-government;**
- **promote innovative uses of information technology by agencies, particularly initiatives involving multiagency collaboration;**
- **coordinate with local and federal government when appropriate for collaborative online efforts;**
- **assist in establishment of policies and standards for e-government services;**
- **examine common performance measures and web trends to determine effectiveness;**
- **participate in DOIT's system development methodology process to become aware of ongoing and proposed e-government projects; and**
- **periodically examine other states who are noted as leader states for e-government to determine if Connecticut needs to revise its strategies.**

The director shall prepare an annual report of e-government projects and services, including a complete list of services offered through the state's main portal. The report should also include potential new online services and summarize results of performance measures and web statistics compiled for e-government. The results shall be provided to the e-government board.

The program review committee believes that augmenting the existing governance structure with a more diverse advisory/coordinating body for e-government will allow for more input and collaboration from the stakeholders. Together with the implementation of the other proposals, DOIT's role of supporting and enabling IT in service and business processes will evolve to a driving role of providing leadership and serving as a catalyst in business process and organizational change.

Planning Process

Connecticut needs to prepare an e-government roadmap showing where it is going and how it will get there through its strategic plan. Contrary to the best practices literature, *Connecticut's strategic plan is broad, provides limited guidance, and is not transparent for public consumption.* The plan appears to serve more as an informational annual report than a

strategic document, likely due to an inadequate planning process. The program review committee finds that *the existing planning process is weakened by inadequate agency IT plans, limited involvement by the executive steering committee, and minimal cross collaboration efforts.*

Therefore, the program review committee recommends that **there should be a strategic plan specific to e-government in addition to the statewide strategic plan for information technology. The CIO should prepare the e-government strategic plan in consultation with the new e-government director and board.**

The state's overall e-government strategic plan should include a clear strategy for providing online services for different user groups according to their needs (citizens, business, visitor, government, etc). To do this, the CIO should obtain input from stakeholders in a variety of methods, in addition to the individual agency documents. Drawing from the planning process in leader states, the program review committee recommends that **Connecticut's strategic plan should be developed in partnership with state agencies and other relevant stakeholders through the newly formed web board. Activities to inform and guide the plan should include:**

- **planning sessions and surveys with the web board and state agency officials;**
- **in-depth participation in and review of leading e-government issues, trends, and web analyses;**
- **strategic planning sessions, discussions, and surveys with Connecticut's IT staff and leadership;**
- **engagement with Connecticut citizens and businesses on preference and needs; and**
- **discussions and feedback from leading researchers.**

Across the four-year planning cycle, annual updates and adjustments should be made, along with reports on progress to stakeholders.

Given the potential informational value of the individual agency IT plans, a specific statutory reference for the agency IT plans' content requirements and mandatory submission must also be made. Therefore, **C.G.S. 4d-7 (c) shall be amended to include a mandate for the annual submission of an agency IT plan by each executive branch agency. The agency IT plan must be prepared in compliance with the DOIT prescribed template unless the CIO has specifically authorized an exemption for the agency. At a minimum, the agency IT plan must include:**

- **the information technology priority objectives of the agency;**
- **major planned or ongoing initiatives related to information technology;**
- **specific IT projects to assist or provide service to the public;**
- **steps taken to conduct transactions electronically;**
- **a summary of web statistics compiled and how they are used;**

- **any IT initiatives to coordinate with other state and local governmental entities; and**
- **efforts the agency has taken to develop public and private partnerships to accomplish the information technology objectives of the agency.**

Collaboration Efforts

Collaboration and partnerships within, and outside, an IT organization are vital in improving efficiency, services, and the overall success of e-government. Agencies still operate in silos and interagency cooperation is minimal. Collaboration and partnering must be done in a strategic sense to find beneficial situations for all parties involved. The newly proposed e-government director can help identify opportunities for collaboration in using web-based technology to increase the efficiency of government transactions. Therefore, the program review committee recommends, **there should be a cross boundary advisory group led by the new director of e-government. The director of e-government should solicit participation in the advisory group to foster various IT partnerships including: intra-agency (state agency-to-state agency), intergovernmental (e.g., state agency to municipal), and public-private (e.g., state and CERC). The group tasks should include to:**

- **facilitate collaborative agreements;**
- **identify opportunities, incentives and barriers;**
- **develop strategic risk management of cross collaboration initiatives; and**
- **communicate potential cross collaboration strategies with the web board.**

E-government Project Management

According to the literature on best practices, e-government strategic plan priorities should be aligned with the project development process. As noted earlier, Governor Rell instituted the system development methodology (SDM) in 2008 as a project management tool for IT projects. The purpose of SDM is to institute uniform procedures that promote consistency in planning and execution of IT projects, resulting in more efficient projects.

Discussions with DOIT personnel indicate that the SDM process includes a Post-Implementation Phase that provides an opportunity for the project team members to conduct a meeting for lessons learned. This meeting allows discussion of what worked well on the project and what should be changed on future projects.

The program review committee staff did not conduct an evaluation of SDM for two reasons. First, SDM applies to all IT projects, not only e-government initiatives. Second, it was recently established, with relatively few agencies experiencing the process. Nevertheless, the program review committee staff considered its survey as an opportunity to solicit some reaction from the state agencies that had experienced the SDM process.

The program review committee staff survey asked agencies to rate the impact of the SDM process on web project implementation. Almost half of the respondents reported that the question

was not applicable, indicating that they had not yet gone through the process for web related projects which was instituted in 2008.

The agencies that did respond reported mixed experiences. The most positive impacts of SDM were that the projects achieved the desired outcome (48 percent) and the collaboration with other (non-DOIT) state agencies (63 percent). Collaboration with DOIT was equally rated as a positive (41 percent) and negative (41 percent) impact on the web project implementation. More agencies responded negatively to rating whether projects are finished on time and on budget. However, an almost equal number of agencies felt the process had no impact on budget.

As mentioned in the briefing, the implementation of SDM could yield several benefits. It allows DOIT to be aware of IT projects across agencies. The process fosters better coordination, eliminates redundant efforts, and helps leverage interagency and statewide investments. It assists in remediating risks and problems, and holding vendors accountable. SDM also helps agencies avoid project scope creep.

For these reasons, SDM may be beneficial tool for the successful development of information technology projects that may include e-government initiatives. However, *continued project team feedback and evaluation at the end of a project completion is critical to identifying improvements to SDM.*

One aspect that appears to be lacking in SDM is consideration of the staff resource impact of e-government projects, according to interviews with various state agency personnel. The SDM process does include a cost-benefit analysis that takes into account the staff resources necessary in the development and implementation of the new project. However, what impact the new e-government project would have on the existing staff resources is not reported or used in the SDM deliberations.

Consequently, *the state agency decision-makers have no reported knowledge of what effect new e-government services will have on the current workforce.* Follow-up discussions with various agency personnel suggest that resource or other cost savings are difficult to calculate. Adoption rates for e-government services are not automatic so it hard to predict what staff resources will continue to be needed for the different channels of service. Agencies are also hesitant to publicly report staff impact due to potential loss of workforce. Several agencies believe that they are already functioning at low staff capacity so the benefit arising from implementing a new e-service would be to deploy existing staff to other functions.

Nevertheless, the potential impact of new IT projects on existing staff resources should be considered in the initiation of the SDM process. Therefore, the program review committee recommends that **DOIT should incorporate a staff resource impact analysis component into the SDM process. Similar to the guidance DOIT provides to agencies to develop cost-benefit analysis, DOIT should assist state agencies to develop criteria and common methodology to estimate resource impact for IT initiatives.**

It is important to note that this resource impact analysis is proposed for project planning and implementation purposes; it is not intended to measure or capture cost savings. The literature

on the use of information technology indicates that the private sector has experienced significant cost savings from shifting customers to self-service web transactions. Unlike the private sector, governments cannot simply eliminate other service channels such as physical offices or mail-in services for its consumers. In most cases, governments must continue to provide other service methods because the Internet is not easily available to all citizens. At best, governments can encourage reduced customer service costs through self-service transactions.

The e-government literature generally agree that the strategic use of information technology can help drive down the administrative expenses of internal functions like printing, postage, sorting, scanning, data entry and error correction. However, this is not an automatic cost-saving. Cost savings are linked to e-government adoption rates. Government will not realize cost savings from most e-government applications until they focus more time and resources on increasing adoption rates for online services. Methods for measuring and marketing usage of online services are provided in Section III.

Customer-Centric Electronic Information and Services

Citizens are looking to government to become more like the private sector. To meet customers' expectations, the state portal will increasingly need to provide more convenient service to Connecticut residents 24 hours a day, seven days a week, through an easy-to-understand web connection to government services and information. The continued development of electronic government services should serve as a catalyst for redesigning better ways of improving citizen access to government.

Section I of this report looks at Connecticut's web presence and discusses user friendliness and content. This section delves further into web development, and examines use and analysis of web traffic statistics, online surveys, and other feedback as ways in which Connecticut could better gauge visitor satisfaction with a state's main portal, as well as individual agency websites.¹⁸ Proposed recommendations are to ensure that the citizen and business perspective is considered as part of a more deliberative approach to creating and presenting online content.

Web Analytics, User Feedback, and Marketing: Best Practices

There are key tools available that help measure how well a state's main portal and individual agency websites meet citizen and business user needs. These tools include: 1) the use of web analytics;¹⁹ 2) feedback links on a state's main portal and agency websites that allow users to electronically submit comments to a webmaster about the website; and 3) the use of online surveys to solicit users' opinions.

Taken together, these three methods provide a mechanism for a state to obtain both quantitative and qualitative performance measurement data that can be used to:

- examine website performance and determine user characteristics;
- gather insight into the needs and wants of website users;
- identify website areas that should be redesigned; and
- manage content based on user need.

Use of these tools on a consistent basis is considered a best practice for managing the overall state portal, as well as individual agency websites. It establishes a system for regular collection, analysis, and evaluation of data that shows how well a website is meeting its

¹⁸ A source of guidance for web development is provided by the federal government website "Webcontent.gov." This website defines website usability as "the measure of the quality of a customer's experience when they interact with your website."

¹⁹ As defined by the Web Analytics Association, "web analytics is the measurement, collection, analysis and reporting of Internet data for the purposes of understanding and optimizing Web usage," www.webanalyticsassociation.org.

objectives, and provides focus on how to improve a website. States that use these tools target site content to meet user need and hone marketing of online services to increase citizen and business satisfaction with online experiences. Even within customer groups of similar demographic characteristics, there can be very different sets of needs, access preferences, and histories of interaction with governments.

Web analytics. The purpose of collecting data and compiling web statistics is to understand how well a website is fulfilling its objectives and meeting the needs of its targeted audiences. In order to evaluate web traffic on a particular website, it is necessary to have analytical software that captures and aggregates a variety of measures, like the ones identified in the Table III-1.

Table III-1. Examples of Key Web Analytics	
<i>Statistic</i>	<i>Definition</i>
Visit	Number of visitors who come to the website
Page view	Number of pages viewed by a single visitor
Average amount of time spent on website	The sum of all times on page for a visit
Top Pages	The most viewed pages in your website
Time on page	Time measured by subtracting the time a visitor hit a page from the time they hit the next page
Top Search Keyword & Top Search Phrases	Terms visitors type into your search box to find information on your site, which reveal specifically what people want from your site
Most Downloaded Files	The most downloaded files to the least downloaded files
Site Bounce Rate	A visit with one page view (visitor likely didn't engage).
Web browsers by type ¹	Identifies which browsers visitors are using to view the website
¹ Web Browsers - a web browser is the program people use to access the World Wide Web, such as Microsoft Internet Explorer, or Apple Safari. Sources of data: Department of Information Technology and Google Analytics Definitions.	

The table shows a few examples of the type of data generated through web analytics. The statistics can be used to improve a website by revealing the most commonly used aspects of a website, which may be enhanced to deliver better customer experience.

Feedback links and online surveys. Best practices regarding website design state that there should be an opportunity for website visitors to provide input about the website to a webmaster, the individual(s) responsible for maintaining a website. Visitors access a “feedback link” on the homepage of a website or, alternatively, or the website offers the visitor the chance to complete an online user survey. One important question that can be asked in an online survey is whether the user was able to complete the primary task for which they came to the site. It also gives the visitor the opportunity to provide comments related to a website’s design, including navigation and ease of website use, as well as location of content. More sophisticated websites use online surveys that ask specific questions and have response categories that the user can check off (and the responses can be more easily quantified) rather than just a link to the

webmaster's e-mail address. Online surveys can be administered either through a link or through a pop-up window that randomly selects a user and asks if they will complete the survey.

Marketing the state portal. Marketing the state portal is an important part of a state's overall strategy because it increases individuals' knowledge of the types of information and services available in a single location. Marketing can also increase the adoption rate of new online services by encouraging people to complete a transaction online rather than continue in the traditional method (i.e., mail in or face-to-face contact). If adoption rates of the new online service are high, efficiencies can be created. Marketing increases citizen and business awareness of online service by informing them that a new, more convenient method exists.

Web Analytics, User Feedback and Marketing in Connecticut

Limited use of web analytics. The Department of Information Technology has had a contract since 2003 with a company, Webtrends that specializes in web analytic software. However, according to DOIT, it is cost prohibitive to run web traffic statistics for the state's main portal (CT.gov). The reason is that the cost of the Webtrends contract is based on page views, and the large number of visitors using the main portal as a gateway to state agency websites would exceed the number of page views allowed for analysis under the current contract.

Because of this contract limitation, no statistics have been collected on the state's main portal since 2005. Individual agencies can either use Webtrends or request these statistics from DOIT. It is up to each state agency whether to collect web traffic statistics on its own website, and if so, how to use this information to improve user experiences.

DOIT has provided written guidance to state agencies on key web traffic statistics to review (see Appendix H), and how to interpret them. The written guidance does not offer specific suggestions on how to improve a website, explain how to evaluate whether program content should be offered or removed, or redesign the location of content based on analysis of web traffic statistics.

During interviews with PRI staff, DOIT personnel indicated that the department intends to switch from Webtrends to free web analytical software. However, DOIT still will not be able to run web analytics on the main portal because the free software also has limitations on the number of page views allowed. In addition, once the switch is made, web traffic statistics cannot be generated historically, but will only track web metrics from the date of the change. DOIT could run these statistics for those agencies that have not ever collected them so each agency could have a baseline. DOIT states that every designated web administrator within an agency will continue to have the ability to run data to generate a report, but the decision to do so and how the data is used, will still reside with each agency.

The PRI committee e-government survey asked each state executive branch entity - agencies, offices, boards, and commissions - a series of questions regarding their review of web traffic statistics, the review frequency, and how the agency used the information. Of the 51 responses received, 30 agencies (59 percent) used web analytics and 21 agencies reported they did not.

For agencies that examine web traffic statistics, the frequency of use varies. Seventeen agencies stated that they examined them for FY 10, and 13 agencies provided a written-in response. Comments varied with one agency examining web traffic in 2009, some performing monthly or quarterly examination, and others only reviewing statistics for specific programs. Additionally, three agencies stated that they review them weekly; nine, monthly; seven, quarterly; and 12, yearly or longer.

The survey also asked agencies that use web traffic statistics to describe how they use the information. In general, those agencies responded that they use them to improve website design and content.

Limited use of feedback. The Department of Information Technology includes among its published web guidelines a recommendation that each state agency identify a “Webmaster Contact.” This guideline has evolved on Connecticut’s main portal into a “send feedback” link that provides the user with the email address of the portal webmaster and allows individuals to submit feedback electronically. According to DOIT, they receive only a few submissions per month through the main portal, and the feedback usually concerns questions for specific agencies or requests for information, not comments on the website.

Limited use of feedback on agency websites. As part of the evaluation of state agency websites, PRI staff found 45 of 65 reviewed agencies (69 percent) include a webmaster contact. In addition, the PRI survey of state agencies asked whether the agency receives feedback via its website. Of the 49 agencies responding to the question, the majority (27 agencies or 55 percent) did not receive feedback, while 22 agencies did. For those receiving feedback:

- the number of user submissions ranged from one or two per month, to more than 50 per month;
- the information was used for a variety of purposes, including improving the agency’s website layout, gauging program interest, and adding or removing specific program content; and
- two agencies had a written policy concerning how to handle feedback.

No statewide marketing strategy. The PRI committee e-government survey of executive branch agencies asked respondents an open-ended question about how the agency markets its web services. There were 49 responses and eight agencies skipped the question. Most agencies include a website address on agency publications (e.g., brochures, posters, fliers), agency letterhead, staff business cards, and staff-mails. Many agencies worked with professional trade associations to insert information into publications. Inserts were also placed into renewal notices by agencies that license individuals and businesses notifying them of the availability of online licensure. Media-related avenues, such as radio and television announcements and press releases, were also frequently cited as ways in which agencies informed the public about a new online service.

Web analytics and feedback in leader states. Program review committee staff interviewed Maine IT officials regarding how feedback is obtained and used to improve its state

portal. Maine has focused on generating and using web analytics for its main state portal. They have done so because they believe promoting the portal will provide easier access to online services for its citizens and businesses. Maine has relatively extensive portal feedback mechanisms. Like Connecticut however, state agency collection and use of web traffic statistics are the domain of the individual agencies.

The Maine Information Network (a private network manager) has day-to-day responsibility for the state portal, including assessing web traffic statistics quarterly for it and preparing a summary report for the InforME Board, the public board for e-government oversight.

Online surveys. Maine’s portal also provides a link to an online user survey that asks visitors to evaluate whether the information provided was useful and rate the quality of specific sites, using drop down menus. As shown in Figure III-1, it also asks for demographic information and provides for open-ended input. A separate survey is offered to users (mainly businesses) that have paid a subscription fee in order to access premium online services.

Figure III-1. User Survey from Maine.gov.

No online user surveys were found on any Connecticut state agency websites or on the state's main portal. Program review committee staff identified several other states with links to online surveys on their main state portals, including Hawaii, Idaho, Indiana, Rhode Island, and Tennessee. Maine and Rhode Island were the only New England states that had online surveys on their main portals.

Maine also recently completed a comprehensive 2009 User Needs Reports that evaluated awareness of and satisfaction with the state's portal, "Maine.gov," by asking respondents about their usage of online services and interest in new online features and services. Customized surveys were sent, in both electronic and paper form, to 5,238 citizens, businesses, and state and municipal government employees to obtain information from each major user group.²⁰ The study found a strong demand for more online government services from all groups surveyed, while younger citizens wanted more mobile services and social media interaction.

Utah's template for every web page viewed has a link at the bottom for feedback. The feedback link brings the user to a "Was this useful?" survey as well as an email address for comments. In addition, Utah.gov logs all calls, chats, and emails, as well as customer feedback tools, and is able to quickly monitor the impact (positive/negative) a customer experiences when using an online service. The goal for each online service is to obtain a 95 percent (or higher) response from citizens who find the online service "very easy" to use. If citizens rate an online service below 95 percent, the reasons why customers might be having difficulty are researched, and changes are made to the service.

Marketing in model states. Web portals provide website users with a single point of contact for online access to state information and online services. Committee staff discussed with IT personnel in other states marketing strategies used for the states' main portals and whether agencies marketed their own websites directly. According to the general manager of Maine's portal, marketing is a key aspect of increasing awareness of the information and online services available through Maine.gov. As part of the marketing strategy, InforME regularly measures the types of services being used online, and then works with state agencies to increase public awareness and create incentives.

Using web statistics, the InforME board analyzes user groups to ensure that the online service meets their needs. InforME focuses its marketing on its portal, and not on individual agencies. Similar to Connecticut's marketing strategies, other states issue press releases, work with industry and trade associations, offer opt-in email reminders, and use targeted mailings.

In Utah, marketing of the state's main portal has also been accomplished through the use of social media. Several states use Facebook and Twitter to post news, announce new services, and provide information to users quickly.

²⁰ Maine Information Network, *2009 User Needs Analysis Report*, December 2009.

Finding and Recommendations: Web Analytics, User Feedback, and Marketing CT.gov

Through interviews with DOIT personnel, agency responses to the survey, and evaluation of state agency websites, PRI staff found that *there is no statewide systemic collection or evaluation of web traffic statistics, use of feedback links or online user survey on state websites to gauge web site visitor experience*. Further, although the main portal and the state website template contain a link for electronic submission of feedback on the home pages, not all agencies have chosen to retain this feature. Finally, no feature exists that allows users to take online surveys regarding their experiences, on either the main portal or within specific agency sites.

A systemic evaluation of state website use – including web traffic data and customer satisfaction – would provide key information to help the state improve its online services. Promoting “CT.gov” without analyzing its users does not give a clear picture of whether citizens are finding the information they need or completing the online tasks they want to perform. To better target web content and to expand public recognition of “CT.gov,” and online government services, the program review committee recommends:

The newly established E-Government Board shall adopt performance measurement goals for the state’s main portal. Such goals shall include targets for implementing new online services, and reaching specific web metric benchmarks, including but not limited to increasing the utilization of existing and new online services (i.e., adoption rates).

The Department of Information Technology, in consultation with the E-Government Board, should develop an online user survey that captures visitor experience and satisfaction with the state of Connecticut’s online presence and offer the feature through the state’s main portal and template.

The Department of Information Technology shall provide the E-Government Board with web analytics for the main portal, including those that measure progress toward achieving any identified benchmarks so the board may determine if goals set by the board for the main portal have been met. The Department of Information Technology shall also semi-annually provide the board with an aggregated report showing the results of the online survey.

Based on its evaluation of web statistics on the main portal and any feedback received through surveys or other methods, the E-Government Board shall recommend changes to the portal’s design and/or content, establish new goals for the portal if previously established goals have been met, and use such information in assisting in prioritizing online service to be offered to the public. The Department of Information Technology shall consider the board’s recommendations when making changes to the state portal, CT.gov.

The Department of Information Technology shall report web traffic statistics for all state agencies not less than annually and post them on its website.

The Department of Information Technology should identify strategies for state agencies to consider in improving location of website content, when appropriate. Each state agency should have a website workgroup that meets periodically to discuss agency website content and presentation and how best to improve it based on web analytics or other feedback provided.

Utilization rates for online services are important to track because they can assist in estimating the expenses incurred to put a service online and help determine whether the online service will be as or more efficient than its offline counterpart while meeting customer expectations. A marketing strategy will help drive up utilization rates if the service is easy to use and the appropriate group who will use it is targeted.

Marketing CT.gov. Connecticut's main portal, CT.gov, serves as a gateway to all three branches of state government, not just the executive branch. Marketing the portal as a single way to access state government information and online services available is an efficient way in which to enhance Connecticut's web presence.

The E-Government Board shall adopt a marketing strategy to brand "CT.gov" as the primary website to enter for information and services about state government. The Chief Information Office within the Department of Information Technology shall implement the strategy.

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APPENDICES

OTHER STATES PROFILES: MAINE.GOV

E-Government Definition

Maine defined “electronic services” by statute in 1998 to mean: “services provided by InforME through electronic means... Electronic services includes, but is not limited to, providing information, processing credential renewals, completing forms and filing documents.” Within the same act, the state legislature adopted the InforME Electronic Access to Public Information Act, which created a self-funded public-private long-term partnership to build a portal network to provide public information and e-government services. NIC, the parent company of Maine Information Network (MIN), was granted the original contract in 1999 and then again in 2008.

Governance Structure

The InforME Board is a 15-member entity that combines government and private business interests, education and association representation, all focused on creating the policy that will drive the portal, Maine.gov. Board members include state agencies who are major data custodians, a representative from the University of Maine System, one member from a municipalities association, a non-profit organization advancing citizens' rights of access to information, and a representative from the libraries. Most Board members are appointed by the governor, with the exception of one public member appointed by the state House and one by the Senate.

The board approves the master contract with MIN, which has 20 employees responsible for developing online services in conjunction with state agencies and day-to-day operation of the portal) and reviews and approves all Service Level Agreements (i.e., development and implementation of online services provided by MIN) with state and municipal agencies. The board also develops InforME's three-year strategic plans and provides input about InforME's priorities and policies. The e-government manager within the Department of Administrative and Fiscal Service's Office of Information Technology provides staff to the board.

Executive Order. In 2005, the governor of Maine issued an Executive Order concerning e-government web services. Under the order, the Chief Information Officer of the Office of Information Technology is charged with identifying and coordinating one-stop services or similar services that can be provided to clients from a minimum of service points. It required the CIO and InforME to develop accessible web service templates for all departments to utilize to ensure unified and appropriate electronic government services to customers and clients.

Office of Information Technology. Although InforME has primary responsibility of delivering electronic government services to the public, state agencies also develop web offerings in conjunction with the Office of Information Technology. All online services however, are marketed through its state portal since identifying the agency within state government responsible for a particular service can be confusing to citizens.

Strategic Planning

The InforME Board establishes a strategic plan every three years. The most recent plan, covering 2010-2012, sets the key goals and direction for InforME, to ensure that it continues to achieve its vision for serving both government and the public. It contains three over-arching goals and the strategies to achieve them. They are to:

- “promote the long-term financial stability and viability of the portal, which includes creating a portal study group to look at current revenue and possible revenue models, and examine web traffic statistics to measure portal strength;
- continue the transformation of Maine.gov into an ever more relevant and useful one-stop portal, which includes strategies to increase online service adoption rates and expand online service offerings; and
- provide leadership in the discussions regarding creation, administration, and delivery of public information, individual privacy, concerns about identity theft or safety, email spam, transparency, freedom of access, and commercial value of bulk data.”²¹

Use of Portal and Citizen Feedback

In addition to tracking web traffic statistics, InforME monitors citizen feedback regularly through online feedback and periodic surveys. Comments and responses received through these methods are incorporated to any website enhancements or redesigns.

In fall 2009, Maine Information Network conducted a Maine.gov/e-Government analysis that included an online survey of more than 5,200 residents and businesses. The study assessed user satisfaction with existing online services, interest in new features and services, and the role of demographic factors such as age group. The survey found high satisfaction among the business users of Maine.gov, but all groups indicated a strong demand for more online government services. Younger users expressed more interest in mobile services and social media, while citizens in their 30s-50s were most likely to request e-democracy services such as online broadcasts of meetings and online tracking of legislation.

Online Services

InforME offers more than 300 e-government online services to citizens and businesses through Maine.gov. The portal provides a citizen-focused gateway to Maine government information, bringing together information and services from across state and local government agencies into a centralized user-friendly format. Information in the portal is organized by topics and tasks rather than by bureaucratic structure. Content is frequently updated which keeps the site useful and encourages repeat visits.

Site visitors may choose from a variety of methods for navigating, including broad topics such as "Business" and "Travel & Recreation ", special features such as Local Government or

²¹ <http://www.maine.gov/informe/board/strategicplan.htm>

eDemocracy, or the search engine. Help is provided to site visitors through Live Help, the Help Center, "How Do I...?" feature, and "Ask a Librarian" feature.

The most visited features of Maine.gov included the Agency Directory, News, and the site search. Some of the most popular online services include hunting and fishing licenses, vehicle registration, traffic ticket payments, and free services such as foliage reports, lottery numbers and unclaimed property search.

Awards and Recognition

Since 2001, Maine has received 35 national accolades for website development with four awards in 2010. These include awards for best of the web, government transparency, top government website, demonstrating a standard of excellence. In September 2010, Maine.gov was ranked fourth in the 2010 Best of the Web Awards for state government Web portals. Maine was also ranked number 1 in a 50-state study of government websites by Rutgers University completed in 2008. A similar study examining government websites by the Brookings Institute ranked Maine 6th.

OTHER STATES PROFILE: MASS.GOV

E-Government Definition

Massachusetts does not have a definition of e-government.

Governance Structure

Massachusetts's official web portal is Mass.gov. The state's central information technology agency is the Information Technology Division (ITD) within the larger Executive Office for Administration and Finance. The portal is maintained by the Office of Mass.gov, which is a distinct office within ITD.

In 2000, there was a e-government task force, the results of which led to the creation of the web portal and the semi-centralization of website services. In 2009, Governor Patrick issued Executive Order No. 510 which, among other things, called for the formal centralization of all IT services within the state. The executive order also altered the IT planning structure to enhance planning at the secretariat and statewide levels.

Massachusetts Portal Advisory Board. The Portal Advisory Board is made up of one representative from each agency involved with Mass.gov. The board was adopted by the Office of Mass.gov as a best practice and does not have formal reporting requirements. However, bi-monthly meetings are used for "two-way dialogues" with clients (i.e., agencies) and for keeping members up to date on current projects and initiatives.

The purpose of the Portal Advisory Board is to:

- "Advise Mass.Gov on strategy, policy and priorities and serve as a forum to advocate for specific Mass.Gov improvements;
- Serve as a vehicle for Mass.Gov to keep customers up to date on major Mass.Gov initiatives;
- Serve as a vehicle for agencies to keep each other and Mass.Gov up to date on major e-Gov initiatives, and as a forum for agencies to identify common interests and opportunities for collaboration."²²

The board is charged with gaining greater adoption of Mass.gov and finding ways to increase citizen engagement, improve online services, and reduce the costs and barriers of government. Massachusetts IT personnel indicate that there is significant overlap between members of the Portal Advisory Board and contributors to the overall IT strategic plan.

²² Mass.gov - www.mass.gov/itd/pab

Strategic Plan

The core of Massachusetts's e-government efforts were codified by the 2000 E-Government Task Force. The published findings from the task force include major sections regarding:

- the benefits of e-government;
- Massachusetts e-government as of 2000;
- an enterprise approach to e-government and the portal;
- task force workgroup reports; and
- implementation roadmap.

E-government planning is now incorporated into the overall IT strategic plan. Massachusetts has no official definition of e-government, so there is no reference to e-government within the IT strategic plan. However, the IT plan does mention several e-government related priorities. Most importantly, the plan for FY 2009-2011 includes a "vision for IT in the Commonwealth," two of the three of which are e-government related:

- "efficient and easily accessible services;" and
- "open and transparent engagement with citizens."

Use of Portal and Citizen Feedback

The Office of Mass.gov tracks web statistics on the main state portal and individual agency websites. The information is gathered and published monthly on the ITD website. In addition to web traffic statistics, the Office of Mass.gov contracts with a private vendor, ForeSee, to randomly survey website users on the functionality and ease-of-use of the website.

Online Services

Mass.gov offers nearly 200 unique services to the approximately 2 million site visitors per month. The list of services offered is available in whole or can be sorted by major customer type (i.e., resident, business, visitor, state government). The list is then further categorized into one of 40 types (e.g., getting around, local government, getting a business started, jobs & employment).

In approximately eight years of existence, Mass.gov reports having "tackled the low-hanging fruit", specifically citizen services such as taxes and driver's licenses. The office is currently working on implementing enterprise-wide data projects which will make more cross-agency coordination of projects more efficient (or possible at all).

Mass.gov and the services therein are maintained by the Office of Mass.gov without a private partner. There are no service fees or subscription services. Massachusetts agencies that have online financial transactions are required to use the state-contracted ePay system. This system charges the agencies a small amount (40 to 80 cents) per check transaction or a higher

amount (1.9 to 3.0 percent) per credit card transaction. In most cases, the agencies fund the online payment system using existing fee levels alone (i.e., no additional user cost), though there are a few instances where the cost of the financial service is added to the base fee (i.e., user pays the credit card charge).

Awards and Recognition

Mass.gov has received numerous awards and distinctions since 2002. In 2002, the site won the E-government Trailblazer award from the Government Solutions Center. The site was recognized by Government Computer News as a “Great .Gov Website” in 2008. In 2010, the website sunshinereview.org awarded Mass.gov an A+ for transparency.

OTHER STATES PROFILE: MICHIGAN.GOV

E-Government Definition

Michigan does not have a definition of e-government.

Governance Structure

Michigan's official state website is Michigan.gov. The Department of Technology, Management and Budget (DTMB) is the central state information technology agency in Michigan. Although the state of Michigan does not have a separate unit for e-government, the specific e-government functions are assigned throughout the Enterprise Division within DTMB. DTMB is responsible for managing the state web portal and preparing the state strategic plan in conjunction with several external stakeholders including an advisory council.

Michigan advisory council. The Michigan Information Technology Executive Council (MITEC) was established as an advisory/coordinating body to the state CIO and DTMB to provide an end-user and agency perspective. The state CIO chairs MITEC with the membership consisting of deputy directors, administrative officers or comparable level executives or administrators from each of the 19 client departments; three representatives from the legislative branch; and one from the judicial branch. Subcommittees are formed that are specific to certain areas and address issues and makes recommendations on a statewide basis. Although agency participation is voluntary, Michigan IT officials say involvement is motivated by agencies seeing the value of the process and the need to find common solutions during difficult budget constraints.

The council assists DTMB identify critical statewide and agency-specific IT service and management issues, and collaboratively identify, develop and implement solutions. The council serves as a forum in which agencies may discuss their IT-related issues to ensure they are acted upon in a responsive and timely manner. MITEC assists and participates in the development of integrated IT plans and to develop consensus and an integrated business case among agencies before presenting IT related proposals.

The council meets at least six times a year for regular business sessions and may convene periodically for ad-hoc meetings on specific topics. Recommendations to the CIO are made by consensus of those present at each meeting. If consensus cannot be reached, the pros and cons of opposing arguments are submitted in writing to the CIO and documented in the minutes.

Strategic Planning

Michigan's e-government initiatives are addressed within the broader IT strategic plan. A strategic management team, made up of the executive leaders of the DTMB is responsible for the vision and deliverables for the plan. The planning process begins with a review/update of the vision, goals and commitments made in the previous plan. After team consultation, the CIO establishes the updated goals that accomplish the plan's vision.

The tactical implementation of the plan is given to the core enterprise service team, which include the division directors who report to the department leaders. They ensure cross agency functions and assign specific resources and timelines to each deliverable of the plan. Through the agency information officers, which are equivalent to Connecticut's IT managers, the department uses tools such as surveys and priority setting exercises in their evaluation of current and past performance and in setting direction. These tools are briefly described below.

Surveys. The department created a web-based survey that is completed by the members of MITEC, the advisory body comprised of leaders from each of the 19 state departments, the legislature, and judicial branch. Among the 18 questions are:

- How has IT helped or fallen short in meeting your business demands?
- What do you see as your biggest challenges today and in the future?
- How do you see technology serving your business in the future?
- What technologies do you wish you were using?

According to Michigan, the survey responses help to align the goals of the plan and close the gap between what agencies need and the direction of the plan.

Strength, Weaknesses, Opportunities, and Threats (SWOT) analysis. Michigan also uses SWOT analysis findings to guide the development of the goals and targeted initiatives in the plan. SWOT events are held with MITEC, IT staff, and a variety of other stakeholders. The SWOT exercise highlights what the stakeholders feel about the organization at one point in time. It provides insight on the questions "What is working and what is not?", "What should we be doing?", and "What should we stop doing?" By examining perceived weaknesses and threats and then comparing them with strengths and opportunities, Michigan gets a clear picture of what needs to be done right away and what should be included in the strategic plan over the next five years.

Interviews. Michigan's information officers also carry out a series of interviews with their individual agencies. They ask questions to capture the business drivers of the agencies. Among the questions asked:

- How do you see your line of business changing (demand, service types, mandates)?
- In which areas do you expect your biggest challenges?
- Are you investigating new technology opportunities that will help you meet future business demands?

Combined with the SWOT results and the online survey, these responses provide the department with a better understanding of agency challenges.

Michigan's collaboration efforts. The Office of Technology Partnership (OTP) was created within DTMB to foster technology collaboration and improve the way government functions across boundaries. The cross collaboration program began with the establishment of a

steering committee comprised of local and state government IT directors and associations. The committee is co-chaired by members. Its purpose is to leverage existing infrastructure, applications, processes and resources. The expectation is to share resources to eliminate duplication of effort and reduce costs. Its goal is to build once, serve many, operate as one unit, have one simple entry point, reduce costs, provide better and more services to citizens and make crossing government lines seamless. The group works to develop strategies and policies across tiers, identify unique opportunities/barriers, stakeholders and incentives, identify shared business processes, and develop ways to allocate resources and share costs.

OTP also promotes technology collaboration and partnerships with business, schools, universities, and non-profit organizations. These partnerships interface with the state through many different offices, divisions, or agencies.

Use of Portal and Citizen Feedback

Michigan.gov provides a link to a customer survey on its main page. The survey is used for web improvement and statistical purposes. The portal director examines the survey results periodically as well as any results from social network survey tools.

In addition, Michigan takes a centralized approach to reporting performance measures and web metrics which are required for each agency. These measures are submitted to the central office group that has the expertise to know what to ask for, how to measure, and how to use them.

Online Services

Michigan has more than 300 e-services, many at one-stop websites like the Michigan Business One-Stop portal. This online service streamlines and bundles state processes, which businesses can access as a “one-stop” shop. Business owners can use this portal to start and register a business, apply for licenses and permits and pay fees entirely online. Another online service innovation is the Helping Hand portal which provides online human services help and information. Available through the Michigan.gov portal, users can click on one of five tabs for links to information on jobs, training, unemployment benefits, health care, family support and housing. According to Michigan, the site draws more than 50,000 visits per month.

Awards

Since 2001 Michigan.gov has received 15 awards. In 2008, Michigan.gov received 2nd place for digital solutions and best practices among state agencies from the Center for Digital Governance. It was also a finalist for Best of the Web for most innovative, user-friendly state and local government portals as well as a finalist for the Digital Government Achievement Award which recognizes outstanding agency and department Web sites and applications.

OTHER STATES PROFILE: UTAH.GOV

E-Government Definition

Utah's e-government strategic plan defines e-government as "the use of information and communication technology by government to exchange information and services with citizens, businesses, and other government entities via the internet. The most important benefits of e-government include improved efficiency, convenience, and better accessibility to public services."

Governance Structure

Utah's official web portal is Utah.gov. The state's central information technology agency is the Department of Technology Services (DTS). DTS manages the state's main portal in cooperation with a partnership between the State of Utah and Utah Interactive, a private company. DTS provides all technology services to state agencies. There is a statutory prohibition against agency in-house IT staff unless approved by the CIO.

The state of Utah conducted a comprehensive baseline study and needs assessment of e-government in 2007. Utah now has an assigned director of e-government as well as a separate strategic plan specifically for e-government in addition to the state's overall strategic plan for information technology. By statute, IT priorities are set in the state strategic plan prepared by CIO in consultation with all cabinet level officials and the technology advisory board.

Utah advisory board. Utah's Technology Advisory Board consists of seven members: three appointed by the governor who are individuals actively involved in business planning for state agencies; one member appointed by the governor who is actively involved in business planning for higher education or public education; one representative from the legislature appointed by the House Speaker & Senate President; one representative from the judicial branch appointed by the Judicial Council; and one member appointed by the governor who represents private sector business needs in the state but is not an information technology vendor for the state. The board selects the chair from among the members. DTS agency provides staff to the board. The board serves at the call of the chair and meets as many times as necessary.

Among the board responsibilities is to advise and assist the CIO to generate consensus among the executive branch agencies on:

- the development and implementation of the state's information technology strategic plan,
- critical information technology initiatives for the state,
- identification of the business and technical needs of state agencies,
- the department's performance measures for executive branch agencies and subscribers of services, and

- the efficient and effective operation of the department.

Strategic Planning

The CIO is required to consult with all cabinet level officials and the advisory board in the development of the executive branch strategic plan. Utah law mandates the CIO to prepare an executive branch strategic plan that addresses:

- interchange of information between executive branch agencies,
- coordination between agencies in the development and maintenance of information technology and systems,
- protection of the privacy of individuals who use the state systems,
- priorities for the development and implementation of information technology and systems, and
- maximizing the use of existing state information technology resources.

In addition to its statewide strategic plan, Utah also prepares a specific plan for e-government. The plan has specific e-government objectives including, but not limited to:

- implementation of an anticipated 50 new online services each year for the period 2010-2013,
- an increase in average monthly unique visitors to the Utah.gov to 1.2 million,
- have over 11 million secure payment transactions annually, and
- further increase government transparency and openness.

According to the Utah, information technology strategic goals and initiatives should be measurable in terms of results, completion of deliverables, and adherence to cost estimates and project timelines. As such, a balanced scorecard is utilized to measure department's success in achieving goals and demonstrates areas where improvement is needed. The department developed the balanced scorecard metrics and uses the information as a base for the overall strategic plan.

Utah's agency IT plans. In Utah, each executive branch agency is statutorily required to submit an annual agency information technology plan to the CIO. The agency IT plan must include:

- the information technology objectives of the agency,
- any performance measures used by the agency for implementing the agency's information technology objectives,
- any planned expenditures related to information technology,
- the agency's need for appropriations for information technology,

- how the agency’s development of information technology coordinates with other state and local governmental entities,
- any efforts the agency has taken to develop public and private partnerships to accomplish the information technology objectives of the agency, and
- the efforts the executive branch agency has taken to conduct transactions electronically.

The plans are reviewed and approved by the CIO in conjunction with the department division staff to ensure compliance with strategic goals and state information architecture.

Utah’s collaboration efforts. Utah law also requires the CIO prepare an inter-branch information technology coordination plan that provides for the coordination, where possible, of the development, acquisition, and maintenance of information technology and information systems of the executive branch, judicial branch, the legislative branch, the board of regents, and the state board of education. The plan is considered an advisory document.

Use of Portal and Citizen Feedback

Every site page has “Was this useful?” survey as well as email address for comments. Utah.gov logs all calls, chats, emails, and feedback tools and are able to quickly monitor the impact (positive/negative) a customer experiences when using an online service. The goal is for each online service to measure at least 95 percent of citizens finding the service “very easy” to use. If a service slips below 95 percent, the reasons why customers might be having difficulty are researched, and changes are made to the service.

The use of social media has been a big marketing push over the past two years with the new site redesign in 2009. Utah currently uses Facebook, twitter, Flickr to promote the Utah.gov site and to market to the citizens.

Online Services

In 2010, Utah.gov reportedly has 1,159 services online. In many cases the service available only online. The Utah.gov search feature was set up to offer results for all categories of government, including: services, entire site, agencies, and forms with a single search. To get results for the various categories, a user can simply tab through the options. This search design was entirely based on watching user interaction with the previous search feature. According to Utah, this is the most-used feature on Utah.gov, which allows citizens to explore government in one easy search on the home page. Some of the other more popular online services for citizens are purchasing hunting and fishing licenses, vehicle registration renewal, and driver license renewal.

Another large online initiative involved being able to implement a Geo-IP (Internet Protocol) Location Aware service, and tag all of the data with the services and location. Geo-IP technology reads a visitor’s IP address in order to display content and information that is relevant to the user’s physical location. This service enables the user to see public meetings and service

notices in their area as well as view maps showing where their local parks, libraries and schools are situated. Utah is the first state to develop and provide this technology to citizens on their website. This project required countless hours of labor to gather and tag all the data that was necessary to provide this service.

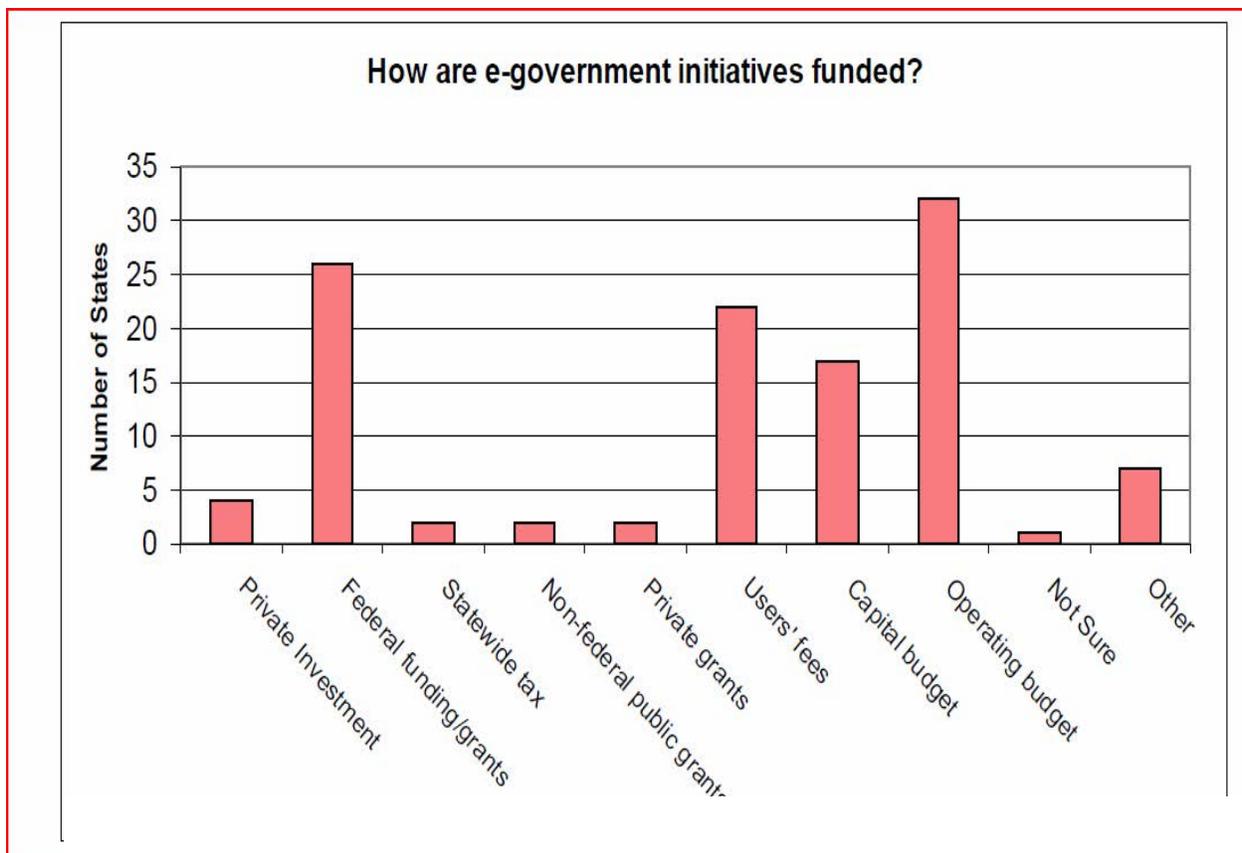
Another feature allows citizens to chat live with a customer service representative to solve issues, provide help, and answer any question a user may have about online services. Utah reports the customer service team receives over 2,100 chats per month on average. The service is provided by employees of the Utah DTS in cooperation with Utah Interactive.

Awards

Since 1996, Utah.gov has received over 30 national accolades for information technology with 13 awards in 2010. These include awards for creative excellence on the web and demonstrating a standard of excellence. Utah was also ranked as the best state government Web site in the 2009 Best of the Web Award, sponsored by the Center for Digital Government.

Funding for E-Government Projects

States use a variety of sources to fund e-government projects. These sources vary and include private investments to charging subscription and other user fees for individuals to conduct transactions online. In 2005, The Congressional Research Service contracted with the Lyndon B. Johnson School of Public Affairs, to conduct a study of state e-government strategies. As part of the study, states were surveyed on how they funded e-government projects. The figure shows the most popular funding mechanism for e-government projects was through general fund operating budgets, user fees, and by obtaining federal funds or grants.



Source; Congressional Research Service Report, State E-Government Strategies: Identifying Best Practices and Applications, 2007.

According to the report, state general fund/operating budgets are the most common source of funding (32 out of 38 respondents), although the report notes most states use two or more types of funding. The second most common funding source is the federal government (26 out of 38 respondents). Another significant funding model relies on user fees, but only slightly over half of the respondents charge user fees to finance e-government initiatives, and most likely

because it is thought that user fees decrease adoption rates of online services. Capital funds were also commonly used, likely as part of the initial investment and upgrade of legacy systems.

Governance and state portal funding. Table B-1 shows governance and funding of state portals. As shown in the table, twenty-two states outsource portal development and management (all with a company called NIC that specializes in developing online services based on a transaction fee approach), while other states rely on state funding of e-government projects.

Table B-1. Governance of State Portal	
<i>Management of State Portal</i>	<i>State</i>
Portal Outsourced (Funded via transaction and service fees)	AL, AZ, AR, CO, HI, ID, IN, IA, KS, KY, ME, MT, NE, OK, RI, SC, TN, TX, UT, VT, VA, WV
Portal State Operated and Funded	AK, CA, CT, DE, IL, LA, MD, MA, MI, MN, MS, MO, NV, NH, NJ, NM, NC, ND, OH, OR, PA, SD, WA, WY
Source: North Carolina Office of State Budget and Management, Upgrade State Portal Report, Dec. 2009, p. 9.	

One example of the partnership with NIC is in the State of Maine. In Maine, NIC created a Maine subsidiary, called Maine Information Network (MIN) to work with InforME, the statutorily created public board responsible for prioritizing and approving e-government projects. Maine Information Network first entered into a long term \$0 contract with the state in 1999 to build and manage a portal network and the contract was renewed in 2008. Funding for MIN comes from transaction and subscription fees associated with the e-government services created and managed by the network.

InforME’s legislation does not allow any additional convenience fees to be charged in excess of existing statutory fees. Therefore, many of the online transactional services created by the network are funded by the agency, which gives a portion of the existing statutory fee to the network for those transactions that pass through the InforME portal. According to Maine IT personnel, the network manager earns approximately \$3 million per year from their share of the transaction fee.

Since not all projects create an opportunity for revenue sharing between InforME and MIN, the network also contracts with state agencies for website design and application development projects for a fixed fee or at hourly rates. In addition, the Office of Information Technology, within the Department of Administrative and Financial Services assists state agencies with developing e-government applications. According to IT staff in Maine, the focus of MIN is on the state portal and transactional services, while agencies broader mission is to also make information available on websites.

In other states, NIC uses a similar model (in terms of creating a subsidiary), and uses a transaction-based funding approach if not prohibited by legislation. Under this approach, governments charge a modest fee (in addition to any existing statutory fees) to provide online services. These fees are primarily targeted at high-volume business users, while broader services for citizens are generally free.

Subscription fees for premium services. Another way that some states collect revenue is to charge an annual subscription fee to provide access to certain online services deemed “premium.” Registered users pay an annual charge for the subscription and a transaction fee per service. Most of the fee-based online services are geared toward business users and include such things as business filings, transportation permits, and motor vehicle records. PRI staff examined state websites and found that 12 out of 50 states had annual subscriber fees for access to premium services, as shown in Table B-2.

State	Annual Cost
Alabama	\$75
Arkansas	\$75
Hawaii	\$75
Idaho	\$95
Indiana	\$95
Kansas	\$95
Kentucky	\$75
Maine	\$95
Montana	\$75
Rhode Island	\$75
Utah	\$75
Virginia	\$95

Source: PRI analysis.

In Maine, PRI staff were told that subscriber fees generated approximately \$60,000 in annual revenues. However, the state was considering phasing this fee out and implementing convenience fees instead, because it would generate greater revenue.

Currently the only state agency in Connecticut that refers to a convenience fee is the Department of Revenue Services. When paying Connecticut state taxes online, the website informs the payor that a convenience fee of 2.49 percent of the total tax payment will be charged to the payor’s account by the credit card service provider. In actuality however, this fee is a Merchant Services fee, the fee charged by a financial institution to handle credit card processing of payments. For other online transactions in Connecticut, such as professional license renewals and motor vehicle registration renewals, the decision was made by the individual agencies not to charge a convenience fee because of the belief that any such fees would impede adoption rates of the new online service.

Appendix C

Survey Methodology

In the fall briefing, staff identified executive branch agencies with websites. That list was used as the basis for both the agency survey and the agency website evaluation, however only 57 agencies were deemed eligible for the survey. Table C-1 shows the reasons certain entities were not surveyed and the number of entities falling into each exemption category.

Reason for not surveying	Number in category
Constitutional Offices	6
Higher Education Institutes	6
Survey not relevant	4
Agency no longer active or independent (closed, inactive, or merged)	17
Agencies misidentified as executive in Fall briefing	2
Source: PRI Analysis	

Of 57 agencies surveyed, 51 provided responses for a 89 percent response rate. Despite repeated invitations to participate, six agencies did not respond. The non-responding agencies are listed in table C-2.

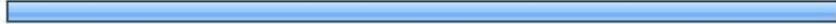
Commission for Educational Technology
Commission on Deaf and Hearing Impaired
Department of Revenue Services
Department of Transportation
Department of Veterans' Affairs
Office of the Victim Advocate
Source: PRI Analysis

The full list of questions and a summary of results is available below:

1. Agency and Survey Participant Information

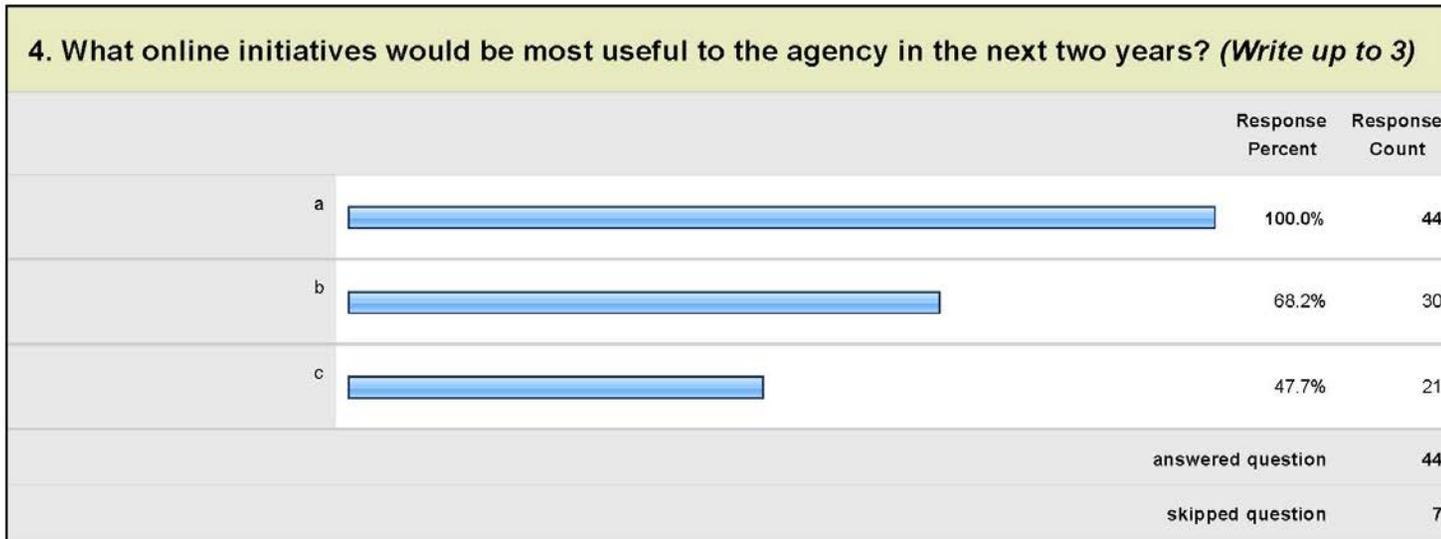
		Response Percent	Response Count
Name of agency		100.0%	50
Name of primary survey respondent		96.0%	48
Title of primary survey respondent		96.0%	48
Phone number of primary survey respondent		96.0%	48
Email address of primary survey respondent		96.0%	48
Name(s) and title(s) of other persons collaborating on survey responses		64.0%	32
		answered question	50
		skipped question	1

1. Agency and Survey Participant Information

		Response Percent	Response Count
Name of agency		100.0%	50
Name of primary survey respondent		96.0%	48
Title of primary survey respondent		96.0%	48
Phone number of primary survey respondent		96.0%	48
Email address of primary survey respondent		96.0%	48
Name(s) and title(s) of other persons collaborating on survey responses		64.0%	32
		answered question	50
		skipped question	1

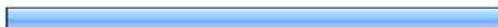
2. Does the agency's business plan contain a formal online strategy?			
		Response Percent	Response Count
Agency does not have a business plan		34.0%	17
No		36.0%	18
Yes		32.0%	16
answered question			50
skipped question			1

3. Is the agency's business plan available online?			
		Response Percent	Response Count
No		83.7%	41
Yes (provide web address below)		16.3%	8
Business Plan Web Address			12
answered question			49
skipped question			2



5. What online initiatives does the agency intend to implement in the next two years? (Write up to 3)

		Response Percent	Response Count
a		100.0%	43
b		65.1%	28
c		34.9%	15
		answered question	43
		skipped question	8

6. Which of the following has the agency considered for use? (Check all that apply)			
		Response Percent	Response Count
Mobile/smart phone optimized website		27.5%	14
Mobile/smart phone app		23.5%	12
Social networking applications (e.g., facebook, twitter)		56.9%	29
RSS feeds		41.2%	21
None of the above		37.3%	19
	Other (please specify)		3
answered question			51
skipped question			0

7. Rate the impact of the following components on implementation of the agency's web-related IT projects.

	Negative Impact	Slight Negative Impact	No Impact	Slight Positive Impact	Positive Impact	Not Applicable	Response Count
Agency-to-agency collaboration	0.0% (0)	4.3% (2)	17.0% (8)	12.8% (6)	38.3% (18)	27.7% (13)	47
Funding	28.6% (14)	20.4% (10)	10.2% (5)	2.0% (1)	22.4% (11)	16.3% (8)	49
Interoperability of agency systems and data	12.5% (6)	20.8% (10)	14.6% (7)	6.3% (3)	22.9% (11)	22.9% (11)	48
IT personnel on project	12.5% (6)	8.3% (4)	14.6% (7)	8.3% (4)	33.3% (16)	22.9% (11)	48
Limited use or need for new projects	4.3% (2)	10.6% (5)	29.8% (14)	4.3% (2)	6.4% (3)	44.7% (21)	47
Program personnel on project	8.3% (4)	12.5% (6)	16.7% (8)	6.3% (3)	33.3% (16)	22.9% (11)	48
Training on use of technology	10.4% (5)	14.6% (7)	14.6% (7)	4.2% (2)	39.6% (19)	16.7% (8)	48
						answered question	49
						skipped question	2

8. Describe the level of responsibility for planning and/or developing agency web projects for the following groups:

	No	Little	Much	Full	Not Applicable	Response Count
Agency Personnel	0.0% (0)	4.0% (2)	32.0% (16)	54.0% (27)	10.0% (5)	50
DOIT Personnel	10.0% (5)	54.0% (27)	24.0% (12)	2.0% (1)	10.0% (5)	50
Private Consultants	26.0% (13)	16.0% (8)	32.0% (16)	6.0% (3)	20.0% (10)	50
					answered question	50
					skipped question	1

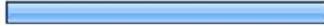
9. Describe the level of responsibility for implementing and/or maintaining agency web projects for the following groups:

	No	Little	Much	Full	Not Applicable	Response Count
Agency Personnel	0.0% (0)	6.0% (3)	28.0% (14)	56.0% (28)	10.0% (5)	50
DOIT Personnel	8.0% (4)	60.0% (30)	16.0% (8)	6.0% (3)	10.0% (5)	50
Private Consultants	26.5% (13)	30.6% (15)	16.3% (8)	6.1% (3)	20.4% (10)	49
					answered question	50
					skipped question	1

10. In your opinion, what type of entity should have primary responsibility for the listed functions?							
	Central IT Authority	Statewide Policy and Planning Agency	Individual Agencies	Interagency Council	Other	Not Necessary	Response Count
Software training for agency personnel	38.8% (19)	8.2% (4)	44.9% (22)	2.0% (1)	0.0% (0)	6.1% (3)	49
Porting agency content (e.g., developing mobile applications)	42.9% (21)	10.2% (5)	28.6% (14)	8.2% (4)	0.0% (0)	10.2% (5)	49
Creating data-sharing standards/best practices/ protocols	32.7% (16)	26.5% (13)	10.2% (5)	24.5% (12)	0.0% (0)	6.1% (3)	49
Monitoring web traffic and providing feedback to agency	52.0% (26)	6.0% (3)	38.0% (19)	0.0% (0)	0.0% (0)	4.0% (2)	50
Determining use/adoption of emerging technologies (e.g., social networking)	22.0% (11)	24.0% (12)	28.0% (14)	20.0% (10)	0.0% (0)	6.0% (3)	50
answered question							50
skipped question							1

11. In 2008, Governor Rell issued Executive Order No. 19 which, in part, called for the creation of a System Development Methodology (SDM) for IT projects. Since the SDM was instituted, the Department of Information Technology (DOIT) facilitates formal reviews of many agency IT projects. Rate the impact of the SDM on web project implementation:

	Negative Impact	Slight Negative Impact	No Impact	Slight Positive Impact	Positive Impact	Not Applicable	Response Count
Projects come in on budget	8.2% (4)	12.2% (6)	18.4% (9)	8.2% (4)	2.0% (1)	51.0% (25)	49
Projects are finished on time	14.3% (7)	16.3% (8)	6.1% (3)	12.2% (6)	2.0% (1)	49.0% (24)	49
Projects achieve the desired outcome	2.0% (1)	6.1% (3)	16.3% (8)	14.3% (7)	8.2% (4)	53.1% (26)	49
Collaboration with DOIT	8.2% (4)	16.3% (8)	10.2% (5)	14.3% (7)	10.2% (5)	40.8% (20)	49
Collaboration with other state agencies (non-DOIT)	0.0% (0)	0.0% (0)	14.3% (7)	12.2% (6)	12.2% (6)	61.2% (30)	49
answered question							49
skipped question							2

12. Is the agency a partner on any interagency web-functions (e.g., shared database of professional licenses)?			Response Percent	Response Count
No			63.3%	31
Yes			36.7%	18
If yes, give one example and list the collaborating agencies.				18
answered question				49
skipped question				2

13. Are aspects of the agency's website mandated by federal requirements (e.g., informational postings, specific applications/systems)?			Response Percent	Response Count
No			67.3%	33
Yes			32.7%	16
If yes, summarize the federal requirements.				15
answered question				49
skipped question				2

14. How does the agency's website facilitate interaction with municipalities? (Check all that apply)			Response Percent	Response Count
Links to municipal websites (e.g., programs, regulations, or guidelines)			22.7%	10
List of municipal contacts			18.2%	8
Municipalities can download agency databases			15.9%	7
Municipalities share a common database with the agency			4.5%	2
Not Applicable			61.4%	27
		Other (please describe)		10
		answered question		44
		skipped question		7

15. Beyond using the DOIT-established web template, identify who is responsible for the listed aspects of the agency's website. (Check all that apply)

	Agency Leadership	Communications or Planning Office	Program Personnel	IT Personnel	Internal Web Group	Private Consultants	Other	Response Count
Content	78.4% (40)	37.3% (19)	45.1% (23)	21.6% (11)	17.6% (9)	0.0% (0)	9.8% (5)	51
Site layout	52.9% (27)	35.3% (18)	13.7% (7)	41.2% (21)	19.6% (10)	2.0% (1)	5.9% (3)	51
Navigation	43.1% (22)	31.4% (16)	11.8% (6)	45.1% (23)	21.6% (11)	2.0% (1)	5.9% (3)	51
answered question								51
skipped question								0

16. For each of the areas listed below, indicate which personnel type(s) have responsibility in developing or publishing agency website content. (Check all that apply)

	Agency Leadership	Communications or Planning Office	Program Personnel	IT Personnel	Internal Web Group	Private Consultants	Other	Response Count
Contact/directory information	47.1% (24)	33.3% (17)	33.3% (17)	29.4% (15)	19.6% (10)	0.0% (0)	5.9% (3)	51
News/press releases	60.8% (31)	45.1% (23)	25.5% (13)	19.6% (10)	17.6% (9)	0.0% (0)	3.9% (2)	51
Informational status updates/advisories	62.7% (32)	35.3% (18)	35.3% (18)	25.5% (13)	23.5% (12)	0.0% (0)	5.9% (3)	51
Consumer guides/guidelines	53.2% (25)	27.7% (13)	46.8% (22)	23.4% (11)	19.1% (9)	0.0% (0)	6.4% (3)	47
Agency regulations	66.7% (32)	25.0% (12)	37.5% (18)	22.9% (11)	20.8% (10)	0.0% (0)	4.2% (2)	48
Agency policy documents	67.3% (33)	28.6% (14)	38.8% (19)	28.6% (14)	20.4% (10)	0.0% (0)	4.1% (2)	49
Forms/applications	56.3% (27)	29.2% (14)	45.8% (22)	29.2% (14)	22.9% (11)	0.0% (0)	4.2% (2)	48
answered question								51
skipped question								0

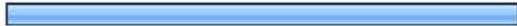
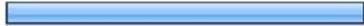
17. In the table below, indicate the frequency with which the following aspects of the agency's website are updated.

	Daily	Weekly	Monthly	Quarterly	Yearly or longer	Not Applicable	Response Count
Site layout	3.9% (2)	5.9% (3)	9.8% (5)	7.8% (4)	64.7% (33)	7.8% (4)	51
Navigation	3.9% (2)	9.8% (5)	13.7% (7)	17.6% (9)	45.1% (23)	9.8% (5)	51
Contact/directory information	10.0% (5)	10.0% (5)	38.0% (19)	18.0% (9)	16.0% (8)	8.0% (4)	50
News/press releases	33.3% (17)	25.5% (13)	21.6% (11)	7.8% (4)	0.0% (0)	11.8% (6)	51
Informational status updates/advisories	42.0% (21)	26.0% (13)	16.0% (8)	6.0% (3)	4.0% (2)	6.0% (3)	50
Consumer guides/guidelines	10.4% (5)	10.4% (5)	25.0% (12)	20.8% (10)	10.4% (5)	22.9% (11)	48
Agency regulations	8.0% (4)	0.0% (0)	12.0% (6)	16.0% (8)	42.0% (21)	22.0% (11)	50
Agency policy documents	8.0% (4)	4.0% (2)	16.0% (8)	22.0% (11)	34.0% (17)	16.0% (8)	50
Forms/applications	8.2% (4)	6.1% (3)	18.4% (9)	34.7% (17)	24.5% (12)	8.2% (4)	49
						answered question	51
						skipped question	0

18. Please describe how the agency markets its web services (e.g., fliers included in mailings, newspaper ads, radio or tv ads). (If the agency does not market its web services, please write "no marketing" in the space provided.)

	Response Count
	49
answered question	49
skipped question	2

19. Does the agency review web traffic statistics (e.g., page visits, unique visitors)?

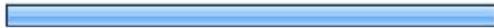
	Response Percent	Response Count
Yes 	58.8%	30
No 	41.2%	21
answered question		51
skipped question		0

20. What is the time frame for the most recent set of web traffic statistics?			Response Percent	Response Count
FY 2010			60.7%	17
Other (provide below)			39.3%	11
		Alternate time frame		13
		answered question		28
		skipped question		23

21. For the time frame indicated above, provide the following statistics:				
		Response Average	Response Total	Response Count
Page views		4,851,714.10	101,885,996	21
Unique visitors		1,127,171.89	21,416,266	19
Use of specific applications (e.g., directory lookups, paid transactions)		95,265.36	1,047,919	11
User logins (i.e., the user has a unique login or identifier that allows them to access information)		6,623.80	66,238	10
		answered question		21
		skipped question		30

22. How often does the agency review web traffic statistics?			
		Response Percent	Response Count
Daily		0.0%	0
Weekly		9.7%	3
Monthly		29.0%	9
Quarterly		22.6%	7
Yearly or longer		38.7%	12
	Other (please specify)		17
	answered question		31
	skipped question		20

23. Briefly describe how the agency uses the information obtained from web traffic statistics.	
	Response Count
	42
answered question	42
skipped question	9

24. Does the agency receive feedback via the website (i.e., via a "Send Feedback" link) specific to the agency website (e.g., functionality, navigation, accessibility, etc.)?			Response Percent	Response Count
Yes			43.8%	21
No			56.3%	27
If yes, how many feedback submissions per month?				19
answered question				48
skipped question				3

25. Does the agency have a written policy for responding to feedback on the agency website (i.e., functionality, navigation, accessibility, etc.)?			Response Percent	Response Count
Yes			4.2%	2
No			95.8%	46
answered question				48
skipped question				3

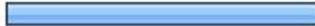
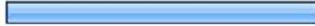
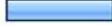
26. Indicate the number of financial transactions conducted in FY 2010, both online and in total (i.e., online, in person, via mail, etc.). (If no financial transactions are conducted online, write "0")

	Response Average	Response Total	Response Count
Online	102,635.66	4,208,062	41
In Total	592,453.53	21,328,327	36
	answered question		43
	skipped question		8

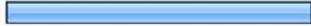
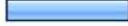
27. For all agency interactions (e.g., via web, in person, via mail, via telephone), estimate the percentage that occur with the following groups. (Percentages should sum to 100%)

	Response Average	Response Total	Response Count
Businesses/professionals	31.70	1,268	40
Private citizens/individuals	41.88	1,759	42
Other government agencies/offices/officials	29.33	1,173	40
	answered question		42
	skipped question		9

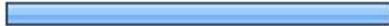
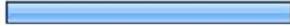
28. For interactions with businesses or professionals, estimate the percentage that occur via the web.

		Response Percent	Response Count
0-10%		35.7%	15
11-40%		35.7%	15
41-60%		11.9%	5
61-90%		9.5%	4
91-100%		7.1%	3
		answered question	42
		skipped question	9

29. For interactions with private citizens or individuals, estimate the percentage that occur via the web.

		Response Percent	Response Count
0-10%		34.9%	15
11-40%		34.9%	15
41-60%		14.0%	6
61-90%		9.3%	4
91-100%		7.0%	3
		answered question	43
		skipped question	8

30. For interactions with government agencies, offices, or officials, estimate the percentage that occur via the web.

		Response Percent	Response Count
0-10%		44.2%	19
11-40%		32.6%	14
41-60%		9.3%	4
61-90%		11.6%	5
91-100%		2.3%	1
		answered question	43
		skipped question	8

31. Estimate the frequency of use by constituents (i.e., citizens, businesses, professionals) of the following web features:

	Daily	Weekly	Monthly	Quarterly	Yearly or longer	Feature not available	Response Count
Contact/directory information	57.1% (28)	14.3% (7)	10.2% (5)	2.0% (1)	0.0% (0)	16.3% (8)	49
News/press releases	55.1% (27)	4.1% (2)	16.3% (8)	6.1% (3)	2.0% (1)	16.3% (8)	49
Informational status updates/advisories	51.0% (25)	16.3% (8)	10.2% (5)	4.1% (2)	4.1% (2)	14.3% (7)	49
Consumer guides/guidelines	39.1% (18)	17.4% (8)	15.2% (7)	2.2% (1)	2.2% (1)	23.9% (11)	46
Agency regulations	27.7% (13)	14.9% (7)	4.3% (2)	10.6% (5)	14.9% (7)	27.7% (13)	47
Agency policy documents	34.0% (16)	10.6% (5)	10.6% (5)	12.8% (6)	10.6% (5)	21.3% (10)	47
Forms/applications	48.9% (23)	23.4% (11)	4.3% (2)	2.1% (1)	6.4% (3)	14.9% (7)	47
Agency specific login/username	21.7% (10)	6.5% (3)	2.2% (1)	4.3% (2)	2.2% (1)	63.0% (29)	46
Interagency login/username	18.2% (8)	6.8% (3)	4.5% (2)	2.3% (1)	2.3% (1)	65.9% (29)	44
Database of information (besides contact information)	44.7% (21)	14.9% (7)	4.3% (2)	2.1% (1)	2.1% (1)	31.9% (15)	47
Process lookup /status functions (e.g., where's my permit?)	27.7% (13)	6.4% (3)	0.0% (0)	2.1% (1)	0.0% (0)	63.8% (30)	47
answered question							49
skipped question							2

32. Estimate the frequency of use by government employees (e.g., agency personnel, other state employees, municipal officials, federal officials) of the following web features:

	Daily	Weekly	Monthly	Quarterly	Yearly or longer	Feature not available	Response Count
Contact/directory information	59.2% (29)	8.2% (4)	12.2% (6)	0.0% (0)	4.1% (2)	16.3% (8)	49
News/press releases	53.1% (26)	10.2% (5)	8.2% (4)	6.1% (3)	6.1% (3)	16.3% (8)	49
Informational status updates/advisories	51.0% (25)	12.2% (6)	10.2% (5)	6.1% (3)	6.1% (3)	14.3% (7)	49
Consumer guides/guidelines	43.5% (20)	8.7% (4)	6.5% (3)	6.5% (3)	13.0% (6)	21.7% (10)	46
Agency regulations	35.6% (16)	2.2% (1)	11.1% (5)	8.9% (4)	13.3% (6)	28.9% (13)	45
Agency policy documents	40.4% (19)	10.6% (5)	8.5% (4)	10.6% (5)	8.5% (4)	21.3% (10)	47
Forms/applications	48.9% (23)	14.9% (7)	10.6% (5)	4.3% (2)	6.4% (3)	14.9% (7)	47
Agency specific login/username	24.4% (11)	4.4% (2)	6.7% (3)	0.0% (0)	2.2% (1)	62.2% (28)	45
Interagency login/username	28.9% (13)	4.4% (2)	6.7% (3)	0.0% (0)	0.0% (0)	60.0% (27)	45
Database of information (besides contact information)	41.3% (19)	13.0% (6)	6.5% (3)	4.3% (2)	0.0% (0)	34.8% (16)	46
Process lookup /status functions (e.g., where's my permit?)	25.5% (12)	2.1% (1)	4.3% (2)	2.1% (1)	0.0% (0)	66.0% (31)	47
answered question							49
skipped question							2

Appendix D

Website Evaluation Methodology and Results

The executive agency list used for the agency survey (details in Appendix C) also provided the basis for the agency website evaluation. In total, 65 agency websites were evaluated. In addition to the 57 agencies surveyed, program review committee staff also evaluated the websites of the Constitutional Office, the Department of Information Technology, and the State of Connecticut Water Status – a cross agency program with a distinct website.

The summary of website features is available in Table D-1.

Table D-1 Website Evaluation Methodology & Results				
<i>Criteria</i>	<i>Count (of 65)</i>		<i>Percent</i>	
	<i>No/ Not available</i>	<i>Yes/ Feature available</i>	<i>No/ Not available</i>	<i>Yes/ Feature available</i>
Usability:				
1) Does the site use the CT.gov template?	13	52	20.0%	80.0%
2) Is the homepage shorter than 2 visible pages?	7	58	10.8%	89.2%
3) Is there a link to a site map on the homepage?	48	17	73.8%	26.2%
4) Is there an internal search tool?	2	63	3.1%	96.9%
5) Any foreign language accessibility?	47	18	72.3%	27.7%
6) Does the homepage clearly indicate when it was last updated?	2	63	3.1%	96.9%
7) Is there a “help” link?	62	3	95.4%	4.6%
8) Is there a “home” link to get back to the agency homepage?	0	65	0.0%	100.0%
9) Is there a link to the state homepage?	1	64	1.5%	98.5%
10) Is there evidence of mobile technology optimization?	65	0	100.0%	0.0%
Privacy/Security:				
11) Is there a link to the privacy policy on the homepage?	5	60	7.7%	92.3%
12) Does the privacy policy link to the state privacy policy?	10	55	15.4%	84.6%
13) Is there a link to the security policy on the homepage?	7	58	10.8%	89.2%
14) Is there a link to a disability/accessibility policy on the homepage?	51	14	78.5%	21.5%
Contact and Participation:				
15) Is there a “contact” link on the homepage?	1	64	1.5%	98.5%

Does the contact link include a:	-	-	-	-
16) phone number	1	64	1.5%	98.5%
17) physical address	1	64	1.5%	98.5%
18) Is there a contact for the webmaster?	20	45	30.8%	69.2%
19) Is there an email contact for the department?	7	58	10.8%	89.2%
20) Is there a place to post comments (blog, bulletin board)?	61	4	93.8%	6.2%
21) Is there an online survey/poll?			100.0%	0.0%
22) Are there customized views available?	64	1	98.5%	1.5%

Content:				
23) Are regulations available online?	30	35	46.2%	53.8%
24) Is there an online database available?	26	39	40.0%	60.0%
a. Is there a searchable or customizable database	37	28	56.9%	43.1%
25) Are there commercial ads?	65	0	100.0%	0.0%
26) Are there audio clips?	50	15	76.9%	23.1%
27) Are there video clips?	44	21	67.7%	32.3%
28) Are there relevant external links?	5	60	7.7%	92.3%
a. categorize external links by:	-	-	-	-
i. other CT state agency	7	58	10.8%	89.2%
ii. federal agency	24	41	36.9%	63.1%
iii. Municipality	50	15	76.9%	23.1%
iv. other	14	51	21.5%	78.5%
29) Are there online publications?	3	62	4.6%	95.4%
30) Is there online documentation of offline events (i.e., minutes, agendas, more than just meeting schedule/place)?	15	50	21.9%	78.1%
31) Is there a reference to enabling statute?	23	42	35.4%	64.6%
32) Is there a mission statement?	8	57	12.3%	87.7%
33) Is there a calendar of events?	28	37	43.1%	56.9%
34) Is there a link to a FAQ?	29	36	44.6%	55.4%
a. Is there a searchable or customizable FAQ	57	8	87.7%	12.3%
35) Is there a human resources or personnel link?	26	39	40.0%	60.0%
36) Are automatic updates available? (sign up for newsletter, RSS feeds, etc.)	22	43	33.8%	66.2%
37) Does the site link to an agency facebook page?	56	9	86.2%	13.8%
38) Does the site advertise use of twitter?	58	7	89.2%	10.8%
39) Are there premiums (fees) for enhanced access/features or additional online content?	64	1	98.4%	1.6%
40) Does the website offer downloadable forms?	9	56	13.8%	86.2%
41) Is there one or more online service(s)?	36	29	54.7%	45.3%
42) Are there any financial transactions?	52	13	78.0%	22.0%
43) For financial transactions, can a credit card be used?	57	8	85.7%	14.3%
44) For financial transactions, is there a separate user fee?	64	1	98.1%	1.9%
Source: PRI analysis				

Appendix E

Online Service List from CT.gov

<i>Table E-1. Online Services List by Category</i>
Reference
Ask a Question of the CT State Library
Visit the Connecticut Digital Library
CT Recovery Initiative
Public Safety
Register to Receive Emergency Notifications with CTAlert.gov
Get Notified When A Registered Sex Offender Moves Into Your Neighborhood
Look up Outstanding Arrest Warrants (Violation of Probation)
Look up Criminal/Motor Vehicle Court Cases
Motor Vehicles and Transportation
Pay Your Traffic Ticket Online
Renew Vehicle Registration Online
Verify a License Plate Registration
Find Auto emissions test date and location
Find a Ride in Your Region
On-Line "Vanity Plate" Lookup
Take an Online Driver's License Practice Test
Taxes
Taxpayer Service Center
Business Registration and On-Line Tax Filing
E-Services - Department of Revenue Services
Employment
General Job Search Assistance
Search/Apply for a Job in CT Film Industry
Virtual Career Counseling - Nursing Careers
File an Unemployment Claim
Find Rental Housing Online with CTHousingSearch.org
Education
Open a College Savings Account

Plan for College
Apply to State Colleges and Universities
Online Assistance/Finish Your Degree
Online Resources/College Information
Online High School Courses
Online State College/University Courses
CT Distance Learning Consortium
Find an Internship
Appointments to State Boards and Commissions
Permanent Commission on the Status of Women Talent Bank
African-American Affairs Commission Talent Bank
Latino and Puerto Rican Affairs Commission Talent Bank
Consumer
Get on Telemarketing "no-call list"
Verify Licenses Online
Check the CT Unclaimed Property Owner's List
Shop at the Department of Environmental Protection Store
Search for Uncashed Tax Refund Checks
Check Latest Wholesale Liquor Prices
Register for Notification
State Surplus Auctions
State Exams and Job Postings
State Procurement Opportunities
Emergency Notifications
Send Feedback
Report Misuse of State Vehicle
Voice Your Opinion to the Governor
Business Registration
State Licensing and Registration Assistance
OnLine Checklist for Business Licensing and Registration
Legal
E-Services (Judicial Branch)

Online Occupational Licensing
Educators (Department of Education)
Insurance (Department of Insurance)
Health Care Practitioners (Department of Public Health)
Occupational (Department of Consumer Protection)
Outdoor/Recreational
Purchase a Hunting or Fishing License
Make state campground reservations on-line
Order a Copy of the Connecticut Vacation Guide
Report a Black Bear Sighting
Report a Dead Wild Bird sighting
Environmental
Track State Energy Use
Enroll in a Clean Energy Program
Download GIS Data (CT Environmental Conditions Online)
Elderly Services
Find Benefits
Health and Well Being
Look up Health and Environmental Information
Find a Flu Vaccination Location
Register for State Online Walk it or Bike It to School Challenge
Source: CT.gov as of 12/4/2010

Appendix F

Department of Information Technology's Web E-Government Best Practices

The following document is one of nine best practice documents made available by DOIT²³:

Web E-Government Best Practices:

- Best Practice 1.** The Web/E-Government Domain has dependencies with the Application Domain. Please utilize both sets of standards when creating any website or application that will be available online.
- Best Practice 2.** “DoIT Payment Service” must be used by State agencies when developing websites and/or applications that need to process Credit Card transactions. This payment service uses PayPal Payflow Pro API to communicate with PayPal, the secure commercial Credit Card processing tool.
- Best Practice 3.** The use of Adobe Flash is limited to only creating animated introductions and features on existing websites and for video. Flash cannot be used to develop interactive websites or applications. Special consideration should be given to ensure accessibility of any Flash content.
- Best Practice 4.** Within this domain, Web browser standards are set for development, testing, and production. These are the minimum web browser requirements that websites and web applications being created for state business should function within.
- Best Practice 5.** It is the policy of the State of Connecticut to ensure that people with hearing, visual and other disabilities have equal access to public information that is available on the Internet and the Web to ensure access.
- Best Practice 6.** Federal Rehabilitation Act Section 508 standards must be incorporated On state funded websites.
- Best Practice 7.** It is the direct responsibility of the agency and its web page developers To become familiar with the guidelines for achieving universal accessibility and to apply these principles in designing and creating any official State of Connecticut Website.
- Best Practice 8.** Testing tools should be used to validate a site's adherence to Section

²³ “DOIT: Best Practices. (June 25, 2010). Retrieved September 28, 2010 from <http://www.ct.gov/doit/cwp/view.asp?a=1245&q=462172>

508. Recommended tools are available at:
<http://www.access.state.ct.us/tools.html>.

- Best Practice 9.** CT.gov “branding standards for new websites or applications is available at the end of this document. (See Figure A – C).
- Best Practice 10.** Agencies should review the CT.gov Website Guidelines for more details on home page content standards.
- Best Practice 11.** Data Validation must be written into all online forms.
- Best Practice 12.** A security assessment should be performed on all new websites and Applications that collect information or were developed in a Programming language. (Refer to Security Domain Document and Application domain Document).
- Best Practice 13.** All websites and applications should have a valid privacy policy that Meets the requirements of the application or website where it resides. CT.gov policy can be used or modified as needed to ensure policy Compliance. (Refer to Application Domain document).
- Best Practice 14.** All applicable policies should be reviewed prior to creating any new Websites and applications (including social networking websites) (Refer to the State of Connecticut Policies Relevant to this Domain).
- Best Practice 15.** Content on websites and applications should be reviewed, at a minimum, on an annual basis. Outdated content should be removed or modified.
- Best Practice 16.** Content no longer needed should be deleted from web servers. Web servers should not be used for archive purposes. All content that needs to be saved and stored for record retention should be housed locally at the agency.
- Best Practice 17.** Websites that are no longer being used must be taken offline and the Domain name should be redirected to an active website.”

DOIT Created Agency IT Plan Template

**Draft IT PLAN TEMPLATE
DOIT**

DRAFT

STATE OF CONECTICUT

DEPARTMENT OF XXX

**INFORMATION TECHNOLOGY PLAN
(Connecting the Business Drivers to the Technical Objectives)**

**For the Period of January 1, 2008 to June 30, 2011
Including FISCAL YEARS 2010-2011**

DATE

**Name
IT Manager**

**Name of Assigned Superior
Title of Assigned Superior**

Table of Contents (if over 10 pages)

1. Executive Summary.....	X
2. Agency Mission	X
3. Major Initiatives.....	X
4. Mission of MIS.....	X
5. Public Service	X
6. Major Projects and Special Events.....	X
(including Accomplishments and Technical Objectives)	
7. On-Going Projects and Support.....	X
(Funded Projects / Baseline including Disaster Back up and Recovery)	
8. Planning Goals and Priorities (Resource Plan and Allocation).....	X
9. Governance.....	X
10. Succession Planning.....	X
11. Appendices.....	X

1. Executive Summary

The Executive Summary clearly states in simple non-technical terms the major benefits and risks of the existing IT environment and what must be done over the next two and a half years to maximize those benefits and minimize those risks. Highlight the major opportunities (e.g. unsupported systems to enterprise services) and challenges (i.e. budget, staffing shortages or upcoming retirements).

2. Mission of Agency

The mission statement should reflect the overall mission of the department that is generally found on the Department's website, the DAS Administrative Digest or the Governor's Proposed Budget. Go to either http://www.das.state.ct.us/Digest/Digest_2006/default.htm or http://www.ct.gov/opm/cwp/view.asp?a=2958&q=382890&opmNav_GID=1793.

3. Major Initiatives within Department (Business Priorities)

The major initiative's section should reflect the major goals the department has outlined in its business strategy for the coming fiscal year or years. This may be outlined in the department/agency Strategic Plan or may be found in the department/agency Business Plan. When writing this section, make sure to work with your key business partners to ensure that they agree with what you are outlining in this section. This is very critical to have buy in from your business customers to make this work. If your department/agency does not have a Business Plan or Strategic Plan, it is important to meet with your key business customers to come up with a plan.

This section may also reflect future initiatives that may affect the plan during the fiscal year/years of the plan. Future initiatives may very well have to be planned for during this time cycle and should be reflected.

4. Mission of MIS

The title should reflect the name of your particular unit, whether it be MIS, IT, Operations, etc. This section should reflect what your unit does. It is a brief narrative outlining the mission of the IT area of the department/agency.

5. Public Service

The Public Service section should outline what services your particular unit provides to the general public. This is a brief narrative describing information or help that your unit assists the general public in.

6. Major Projects and Special Events (including Accomplishments and Technical Objectives)

This particular section should outline all of the major projects that your unit/staff have been involved in during the last year as well as the major projects you be will engaged in during the life of this plan. If a particular projects crosses over from last years plan to this one, outline what has been accomplished to date and what you are working as part of the project in the future.

This section provides a narrative description of your projects. Where do they stand and what challenges you might face? It should also outline when the project is to be completed and what deliverables might be involved.

With the introduction of System Development Methodology, provide the agency with information regarding how IT will improve planning and delivering projects based on the seven milestones for better tracking and accountability.

7. On-Going Projects and Support (Funded Projects / Baseline including Disaster Back up and Recovery)

This section should outline those projects that have been completed and require day to day maintenance and support. This may include maintaining your current applications, providing help desk support, providing ad hoc reports to customers, etc.

8. Planning Goals and Priorities (Resource Plan and Allocation with Project Lead)

This section outlines in bullet form or similar to that the list of tasks that you are striving to achieve during the life of this plan. The bullets should reflect the Major Projects and Initiatives that you have outlined above. They may also reflect support goals and priorities that you may have.

9. Governance

Describe how priorities are set in the agency and what necessary changes are required to have the Commissioner and agency business leaders set a clear direction for IT. The Committee also allows the IT manager to report on the status of progress the unit is making. Best practice dictates that a Steering Committee should meet and discuss conflicting priorities to establish the projects that are most important to the agency.

10. Succession Planning

Since succession planning is critical component of being able to accomplish the department/agency strategic initiatives, this has been included in the IT Planning document. It can also be separated out for general purposes, but it provides the department with an overall strategy of how IT is handling succession planning and what steps and measures are being taken to ensure this process is successful. The plan not only

outlines what your goals and objectives are, but it also breaks into three sections for Retirement Planning, Single Points of Failure, and Training Needs. This section may not be something you want to include in the IT Plan, but it is something that could very well be critical to the success or failure of your plan so you may very well want to incorporate it into this document.

11. Appendices

Include any additional documentation that may be helpful for background.

Appendix H

Useful WebTrends Reports

To help you with the management of your website, we find the WebTrends reports listed below to be useful. We recommend using a year's worth of data to get a respectable sampling of the trends on your site. The reports that we find most helpful are as follows:

Top Pages:

This report lists the most viewed pages in your website. (If there were 0 hits, it will not appear on this report.)

This report can be found under "Site Design" → "Pages and Files" → "Pages".

Most Downloaded Files:

This report lists the most downloaded files from the most downloaded to the least. By design, this report does not track images, style sheets, or javascript. (If there are 0 hits, it will not appear on this report.)

This report can be found under "Site Design" → "Pages and Files" → "Downloaded Files".

Top Entry Pages:

This report lists the pages that are the first pages hit by visitors to your site. Usually, the home page is the highest one listed, but below that, you can see other pages where people start to explore your site. This may be the result of bookmarks or links from other sites. How are people entering your site? What is the first page they see? Is the first page they see one that will encourage them to explore your site further?

This report can be found under "Site Design" → "Navigation" → "Entry Pages".

Top Exit Pages:

This report lists the page visitors were on when they left your site. This helps you to understand where people were when they decided to leave your site. If you notice an odd place for visitors to be leaving your site, you may want to see if you can figure out why. (Are they confused? Is there a link to another site? Are they not finding the information they are looking for?) And that may help with some of the design aspects of your site.

This report can be found under "Site Design" → "Navigation" → "Exit Pages".

Activity By Referring Page:

This report shows where visitors were directly before they came to your site. This is more of an informational report. This report just shows where people are coming from when they visit your site. This may give insight into your customer base or how you structure your navigation.

Please note that "Direct Traffic" is one of the listed options on the report. "Direct Traffic" represents traffic to your web site with no referrer, which is one of the following:

- 1) the visitor typed the domain name directly into their browser
- 2) the visitor bookmarked the site
- 3) the visitor clicked on an email, shortcut, or other direct link
- 4) Firewalls and/or proxies stripped out the referrer and replaced it with a dash "-".

This report can be found under "Marketing" → "Referrers" → "Referring Page".

Top Search Phrases:

This report and the next are useful for Search Engine Optimization (SEO). “Search Phrases” shows which phrases, when typed into a search engine, produced results that led to people visiting your site. This report shows what the actual search term was in its entirety. Are people using the search phrases you expect?

Another interesting feature of this report is that each search phrase listed is expandable. When expanded, the report shows which search engines the phrase was typed into.

This report can be found under “Marketing” → “Search Engines” → “Search Phrases”.

Top Search Keywords:

This report is similar to the “Top Search Phrases” above. It shows which individual words were used most frequently to find your site through the search engine. You may also find that some search engines use words you would expect to find your site, while others don’t.

Please note that just because the report is entitled “Search Keywords”, it is not referring to the keywords on your site. It refers to the words entered into the search field by users.

This report can be found under “Marketing” → “Search Engines” → “Search Keywords”.

Browsers By Version:

This report lets you know which browsers (and the respective versions of those browsers) visitors are using to view your site. This information is useful when determining cross-compatibility with features on your site. You want the most visitors as possible to be able to use your site.

This report can be found under “Site Design” → “Browsers and Systems” → “Browsers By Version”.

Platforms:

This report is used much like “Browsers By Version” (above), but this one describes the platforms your visitors are using (Windows XP, Linux, Macintosh, etc.) This report can help you in the design of your site as well. Are you using a cross-platform product to add new features? If not, how many visitors will not be able to take advantage of your information?

This report can be found under “Site Design” → “Browsers and Systems” → “Platforms”.