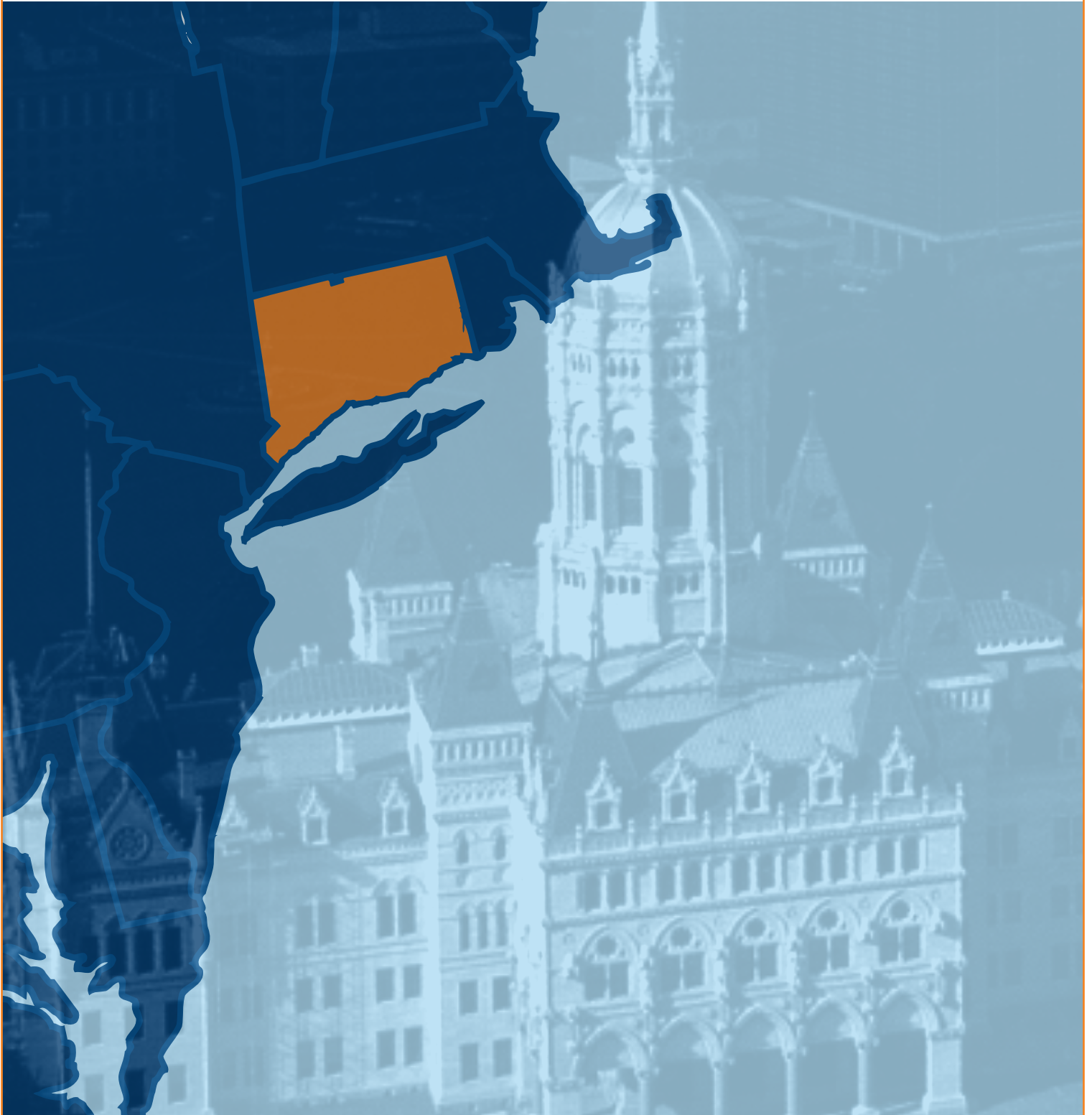


Framework for Connecticut's Fiscal Future

Part 6: *The Strategic Use of Technology by the State of Connecticut*



A Report of the Connecticut Institute for the 21st Century

The Connecticut Institute for the 21st Century (the Institute) was formed in 1997 when public and private leaders in Connecticut came together to exchange ideas about economic growth in the state's regions. The group focused on opportunities for sustained economic growth and reducing barriers to that growth. The Institute, which is comprised of a statewide steering committee, is incorporated and has not-for-profit tax exempt status.

The Institute provides continuing opportunities for its members and other organizations to discuss and study important issues regarding the state of Connecticut's future.

- In 1999, the Institute released a significant study by the firm of Michael Gallis & Associates, Inc. titled *Connecticut: Strategic Economic Framework*. The study defines the real-life economic markets and movement of people, goods, and ideas in the region, the nation and the world.
- In 2003, the Institute turned to the issue of the link between Connecticut's future growth and responsible land use in order to draw connections between economic development, state and local planning, the trend toward sprawl, and preserving our quality of life.
- In 2007, the Institute issued its report, *Economic Vitality & Competitive Cities*, which identified key features of successful cities and strategies for making all Connecticut communities attractive and productive.

Framework for Connecticut's Fiscal Future

In 2010 the Institute began tracking the fiscal and economic crisis facing the state. With the publication of this report: *The Strategic Use of Technology by the State of Connecticut*, the series, entitled *Framework for Connecticut's Fiscal Future*, now includes six reports. The previously published reports are: *Assessment of Connecticut's Long Term Care System*; *Assessment of Connecticut's Correction, Parole and Probation Systems*; *Pensions and Other Post-Employment Benefits*; *Improving the Delivery of Public Services*; and *A Survival Plan for our Splintered Human Services Delivery System*. A summary of the results of the first five reports was also published in 2013. All reports are available at CT-21.org.

The Institute gratefully acknowledges the financial support of Blum Shapiro, First Niagara, and Yale New Haven Health System that has made this report possible.

Why is the strategic use of information technology (IT) critical for the future of the state of Connecticut?

As Connecticut and other states look for ways to provide cheaper, faster, better and more efficient services to its residents and businesses, IT is the critically important way to move ahead in an era of limited financial resources. The state's current efforts are a patchwork of works-in-progress at best; we are not keeping up with technology innovation or consumer expectations. This report demonstrates that the "status quo" is not enough and that the cost of not investing in a statewide strategic roadmap, good IT governance, and enabling architectures could be far more costly for the future of the state and its citizens.

Connecticut has been at times innovative, creative, and resilient in adopting sustainable and strategic technology. As relatively early adopters of technology, and given the rapid pace of technology advancement paired with fiscal constraints, Connecticut's legacy issues now need "next generation" solutions.

The purpose of this report is to provide policymakers, legislators, officials, and citizens with a framework to implement critical technology that will enhance the state's overall economic competitiveness through informed decision-making, increased transparency and managed investment. Previous Institute studies of services also demonstrated that leveraging technology-enabled infrastructure, information, and access are essential to improve outcomes and the effectiveness of state government overall and to meet policy goals in long-term care, corrections, and human services delivery.

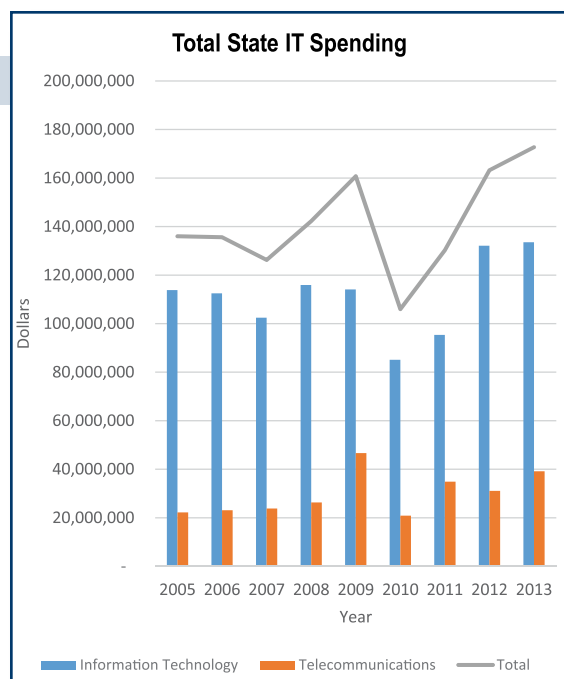
How Do We Stack Up?

Connecticut is in the Lower Middle of the Pack

The Digital States Survey, the longest-running examination of technology use in state government, ranks Connecticut in the lowest third among states in IT leadership, service delivery, citizen engagement, innovation and collaboration. Connecticut is on par with 11 other states; 35 states ranked better than Connecticut; and only four states ranked lower. Connecticut's technology grade is a "C."

Funding of IT Operations is Below Our Peers

Connecticut spends less than 1% of operating expenses on IT, while benchmarking results from The Gartner Group reveal that best practice enterprises in both the public and private sector spend an average of 3%.



Current Situation

The state's IT infrastructure consists of a wide array of systems, many of which are aging and no longer meet modern-day business needs. These vast decentralized systems are complex and fragmented and are very challenging to manage securely. These systems often cannot work and communicate effectively with each other. Historically, funding for IT projects and initiatives has been approached at the program or agency level, inhibiting the ability to promote collaboration between common business functions, which often span several agencies and/or programs.

5 Largest Application Uses

Business Category	#
Environmental	338
Education	103
Licensing, Permitting & Registration	53
Case Management	52
Customer Service	50

Aging and Customized Systems and Applications

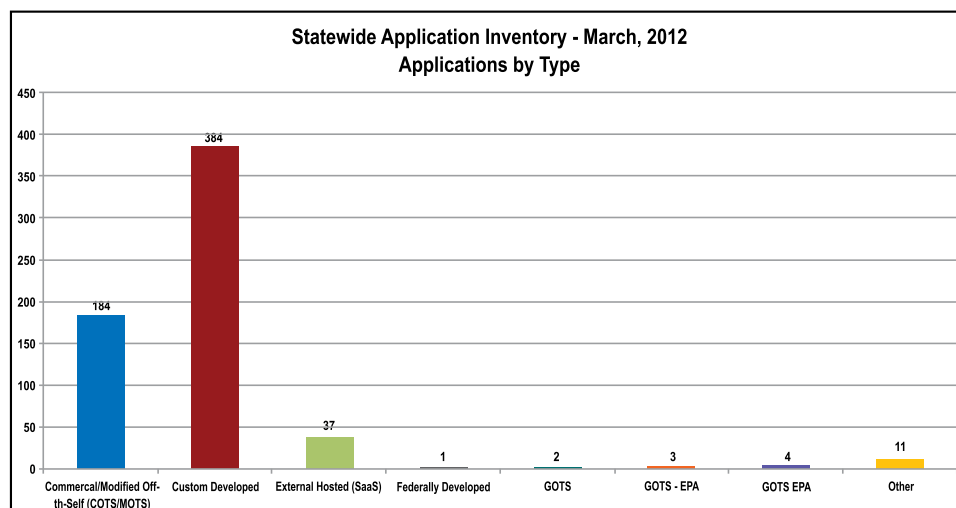
Of 904 applications reported in use by 34 state agencies in 2012, 66% were more than 10 years old and 73% were more than 7 years old. 42% of these applications were custom-developed. In the IT world, this is an aging portfolio.

Aging and customized applications are more difficult and costly to maintain. Upgrades are more costly, if not impossible. The risk of losing key institutional knowledge embedded in the users and developers is high.

Aging Portfolio

>7 Years Old	663	73%
>10 Years Old	593	66%

Customization



Connecticut's Strategic IT Plan

Connecticut General Statutes (CGS § 4d-7) instruct the Commissioner of the Department of Administrative Services (DAS) to develop, maintain and publish annually an Information and Telecommunications Systems Strategic Plan. The Commissioner of the DAS has delegated this responsibility to the State's Chief Information Officer (CIO). This plan is designed to:

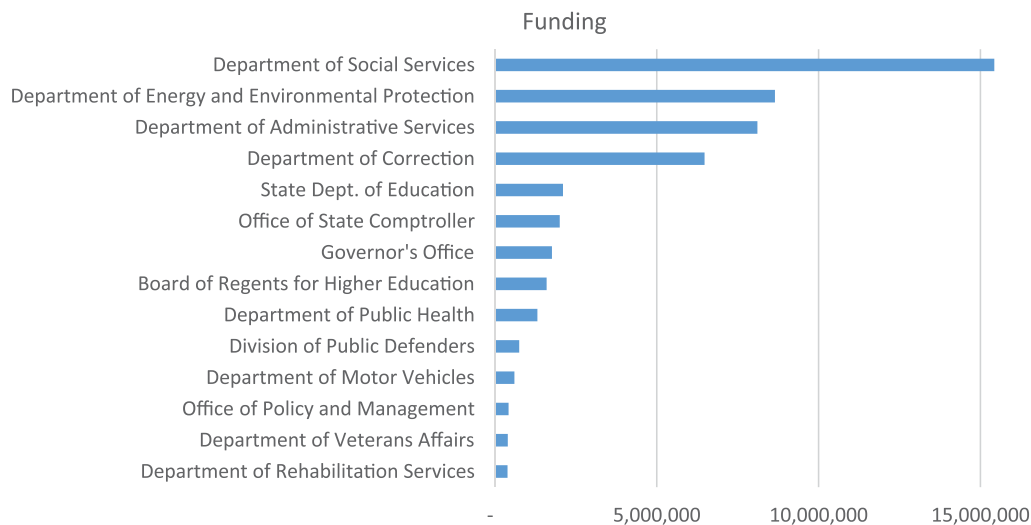
- Provide a level of voice and data communications service among all state agencies that will ensure the effective and efficient completion of their respective functions;
- Provide all necessary telecommunication services between state agencies and the public;
- Provide, in the event of an emergency, immediate voice and data communications and critical application recovery capabilities which are necessary to support state agency functions;
- Provide necessary access to higher technology for state agencies.

The Institute's observation is that Connecticut's Information Technology Strategic Plan is not grounded in any holistic statewide information technology strategy. An opening section is dedicated to explaining certain enterprise-level initiatives that are meant to apply to all departments, but the majority of the plan is focused on agency reports which describe the mission, technology strategy, achievements and spending of each individual state department.

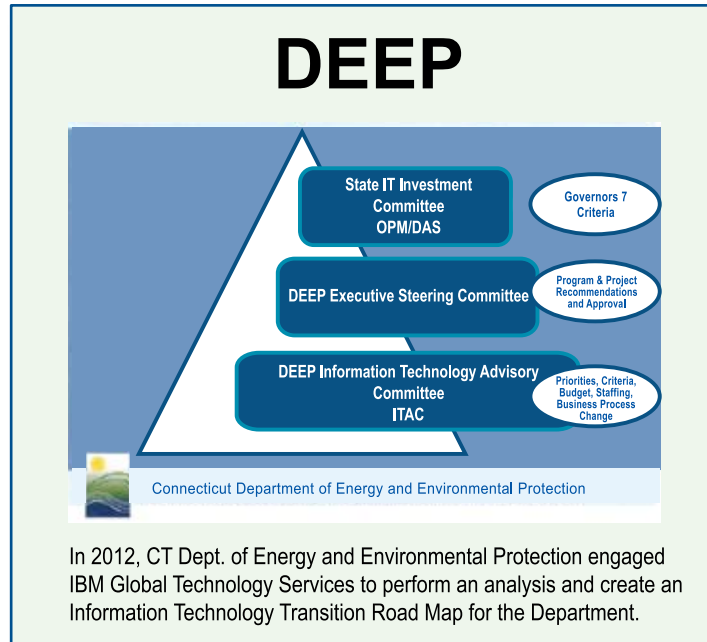
Enterprise Efforts

- **Investment:** Since 2012, the \$125 million Strategic Investment Fund has approved more than \$74.2 million in spending.

Enterprise Investments by Department (\$s)



- **LEAN Process Improvement:** The state is using a coordinated process to eliminate waste and improve the efficiency of its business processes, and is prioritizing investment where LEAN processes have been put in place to reduce waste and improve efficiency. The Department of Energy and Environmental Protection (DEEP) is a model where LEAN investments were the basis for a transitional roadmap, enterprise level planning, and effective governance.



- **Unified Communications:** A data-enabled voice network, with an estimated real savings of \$11 million annually that will incorporate video conferencing, messaging and other interactive services.
- **Data Management:** Creation of a centralized data center in two vacant buildings in Groton.
- **e-Government:** The legislature has approved a "self-funded" model for the development of web portals, using access fees to fund and enhance e-government service delivery. Development will be carried out in partnership with NIC Inc., a national provider of government portals, online services, and secure payment solutions. The planned ct.gov portal will go live in fall 2014 and will focus on improving transparency and ease of doing business. Also coming online this fall will be other one-off web efforts including Department of Economic and Community Development (DECD) online resources to support economic development, universal electronic paystubs, DEEP's online permitting and underground storage tank application, and Department of Motor Vehicles (DMV) online appointment scheduling.
- **Broadband Networking:** Completion of an 8,800 mile fiber optic network that brings high-speed networks to public safety and educational institutions. Expansion over the next 24 months to include municipalities and regional councils of government.
- **Healthcare:** AccessHealthCT's technology-enabled human services delivery. Networking, telephone, security, platform development and database services were rolled out on time and on budget.
- **ConneCT:** Launched by the Department of Social Services (DSS) to streamline access to benefit status and reduce application backlogs by creating electronic case files.

IT Governance

While there is no “one size fits all” model for governance, Connecticut currently has a hybrid centralized/decentralized governance model. In this model, the state remains responsible for cross-agency systems delivery and policy, planning and oversight. Individual agencies, in coordination with the enterprise-wide leadership, follow specific mechanisms to ensure projects and investment match overall strategy. Connecticut’s CIO position is split between two state agencies, with policy reporting to the Office of Policy and Management (OPM) and administrative responsibilities at the Department of Administrative Services (DAS).

IT Workforce

There is no source of data for the state IT workforce’s salary, skill set, headcount, and tenure. Anecdotal evidence points to an aging workforce that does not possess current technology skills. The process to hire new employees is time-consuming and lengthy. Perhaps as a consequence, the state operates with a heavy dependence on consultants both to obtain needed skill sets and to acquire resources in a timely fashion. The workforce’s union contract specifies 35-hour flexible workweeks and has detailed requirements for position and salary approvals.

FTE Support

	FTEs
Agency Staff	372.85
Consultants	142.95

IT Recommendations

Elevate the CIO position to report to the governor, providing responsibility and clear authority to lead all of the state’s technology strategy across all agencies. Agency IT leaders and current staff should remain with the agencies but have dotted-line reporting to the state CIO.

The position should retain all of its current responsibilities within DAS and should also include: IT strategic plan creation; IT workforce strategy creation; IT project portfolio management; process, metrics, and performance tracking; investment, budget, and spending against strategy; enterprise architecture; and enterprise data management.

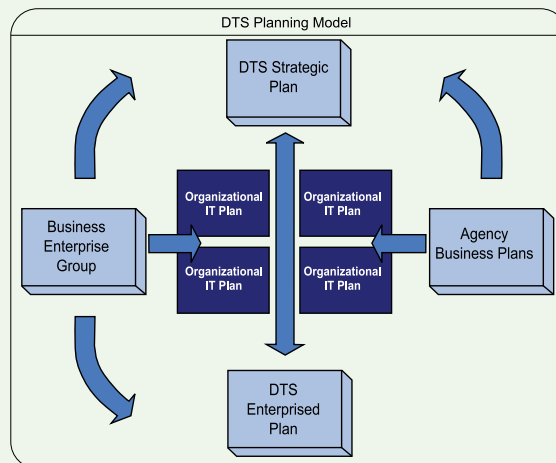
Consider forming a legislative committee, augmented with private sector expertise, to focus on information and related technologies.

This will help the state leverage industry expertise while being responsive to constituent needs in an ever-changing technology environment, and provide consistency across changes in government and leadership.

Develop an ambitious 5-year strategic plan for the state of Connecticut.

The plan must be accompanied by appropriate governance and resources and include operating principles, provide a baseline assessment of where we are today, define where we will be in five years, identify gaps, detail the plan to address the gaps, and establish an ongoing planning process.

Utah Dept. of Technology Services Strategic Framework



The Utah DTS Planning Model demonstrates the relationship and coordination between the Agency Business Plans, DTS Strategic Plan, Organizational IT Plans, and the DTS Enterprised Plan.

Implement an IT workforce management planning process and create a plan to address gaps.

This includes a skills inventory, skills assessment, retirement planning, skill needs, a staffing plan, and training needs.

Given the existing mismatch between hiring processes and needs, consider all forms of skills and partnerships to meet critical skills.

Best practices include leadership and mentor programs and virtual universities that offer refreshed and new skill sets to staff. Also, the state might consider a cooperative, flexible training system including the State University System to provide a potential hiring pool, and contracted short-term interim support for legacy or transitional systems.

Continue to centralize key enterprise systems and enabling processes.

Continue to make investments in centralized key enterprise systems and the processes that enable these systems, including telecom, networking, e-government, and data centers. Continue to adopt LEAN processes.

Create “Centers of Excellence” to be used by all departments to standardize and centralize project management, business analysis, systems analysis, systems architecture, data management, and procurement.

Implement innovative funding models for IT.

The state must follow the lead of the best-in-class and depart from fully relying on funding from legislated general fund appropriations.

Adopt a policy whereby IT initiatives funded from the IT Investment Fund are evaluated against alternative funding sources, and/or the opportunity for partnership/collaboration with public and private entities including other municipalities, states, academia and business.

Develop and implement a performance management system to measure the state's investments in IT as part of achieving the strategic agenda of the state.

Evaluate business effectiveness, efficiency of service delivery, cost containment, customer satisfaction, access/transparency/self-service, and agility, flexibility and ability to meet statutory/business/economic needs.

Implement a formal, transparent, and accountable portfolio management system.

Require that any request for funding include:

- An agency IT plan that supports the investment
- Process definition, such as LEAN, that defines the future processes that are to be enabled by the investment
- Project management plan with timeline, costs, and accountability
- Analysis of alternative funding options

Engage local government.

Much of public sector spending in Connecticut happens in local towns and schools. To ensure that investments are leveraged across Connecticut’s unique form of local government and other local providers, the state needs to continue to build on efforts to provide public partners secure, fast, reliable networks, hosting, and other technology-related services at the right economies of scale.

Leverage the Connecticut Education Network (CEN), which will connect all municipalities in the next several years, and work to leverage cost saving local applications on this network.

Identify and assess demand for new services that provide significant efficiencies and savings. This may include VOIP, disaster recovery, video steaming and other services that are being piloted under grants provided for in the 2014 Legislative Session.

Engage municipalities in the strategic plan process with the state on common issues and work to assure that enterprise initiatives have local-facing projects.

Incentivize shared services through the network, including collaborative purchase of IT hardware and systems.



Next Steps

The state cannot delay in taking action. Connecticut must adopt holistic, collaborative and integrated approaches to IT in order to meet the growing demands for services, while constraining cost. Adaptive technology will enable the state and its partners to meet current challenges, to better engage with the public and to deliver services in accordance with state policy goals.

Connecticut does not have to recreate the proverbial technology wheel – there are many examples of states and organizations with best practices and proven methods leading the way in these areas. Connecticut is well-positioned to capitalize on its existing investments and significant progress implementing enterprise-wide solutions while integrating other innovations. This report identifies the critical next steps in a bold plan to use technology to provide more effective and efficient government service to the citizens of the state.

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The Connecticut Institute for the 21st Century provides continuing opportunities for its members and other organizations to understand and discuss economic activity in the state and obstacles to its success. For more information, visit www.CT21.org.