Massachusetts Department of Revenue *Division of Local Services*
Amy A. Pitter, Commissioner *Robert G. Nunes, Deputy Commissioner & Director of Municipal Affairs*

Town of Sunderland

Technology Review

Division of Local Services / Technical Assistance Section

August 2013

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Amy A. Pitter, Commissioner *Robert G. Nunes, Deputy Commissioner & Director of Municipal Affairs*

August 30, 2013

Board of Selectmen
12 School Street
Sunderland, MA 01375

Dear Board Members:

It is with pleasure that I transmit to you the enclosed Technology Review completed by the Division of Local Services for the Town of Sunderland. It is our hope that the information presented in this report will assist the town in improving its financial management practices, addressing areas of concern and meeting its long-term planning needs.

As a routine practice, we will post the completed report on the DLS website, www.mass.gov/dls, and forward a copy of the report to the town's state senator and representative.

If you have any questions or comments regarding our findings and recommendations, please feel free to contact Rick Kingsley, Bureau Chief of the DLS Municipal Data Management and Technical Assistance Bureau at 617-626-2376 or at kingsleyf@dor.state.ma.us.

Sincerely,

Robert G. Nunes
Deputy Commissioner &
Director of Municipal Affairs

Introduction

This limited scope report responds to the Board of Selectmen's request that the State Division of Local Services (DLS) complete a review and assessment of the town's financial software, its use of technology as well as its overall technology condition. DLS previously provided the town with reports on its accounting function (2007) and its assessing office (2010).

On this assignment, Joe Markarian, Director of the DLS Technical Assistance Section and Kirsten Shirer Taylor, Deputy Director of the DLS Information Technology (IT) Section completed an on-site visit and interviewed town and school officials involved with technology decisions. In addition to staff and other computer end users, the town's information technology (IT) support contractor was also interviewed. The TA team extracted Sunderland related data retained in the DLS municipal data bank and completed independent research on related technology topics.

This report provides the town with an assessment of its current technology status in general and as it relates to financial management. It offers observations and recommendations that are intended to help guide the town with future decisions as it looks to better manage and advance its use of technology.

Contents and Recommendations

Background

Sunderland is a Western Massachusetts town of about 3,700 people and 14.7 square miles situated on the east bank of the Connecticut River. The town has a long farming history, but is viewed today as a predominantly residential community, where an estimated 50 percent of the population resides in rental properties. The town's proximity to University of Massachusetts (Amherst) may account for this demographic as well as evidence that town residents also tend to be well educated. According to the 2010 U.S. Census, among residents 25 years and older, 51 percent have earned a bachelor's or advanced degree. The statewide average is 39 percent. Rental units together with other residential properties account for approximately 88 percent of the town's total assessed value. However, future growth potential appears limited as upwards of 30 active farmland parcels are protected from development by agricultural preservation restrictions.

The town's average single family tax bill of $3,704 in FY2013 is 77.8 percent of the statewide average of $4,846. It reflects an increase of 47.7 percent since 2003, which exceeds the 33.0 percent average increase among all municipalities. During the same period, overall town spending grew by only 27.4 percent - from $6.25 million to $7.96 million. The town's equalized valuation per capita of $97,817 - a measure of relative property wealth - is 53.5 percent of the average of $182,799 and 40th lowest among 303 Massachusetts towns. According to DOR data, per capita income in Sunderland was $23,816 in 2010 compared to an average of $41,353 among all towns.

Against this background the town has done well in building reserves. In each of the last two years, excess levy capacity has averaged $50,000 - up from an only few thousand dollars in prior years. Free cash was certified by DOR at $430,744 as of July 1, 2012 and town's general stabilization fund balance was $329,728. In the last six years, each has separately averaged around $400,000 and, combined, annual free cash and stabilization totals have equated to almost 10.5 percent of the town's yearly budgets.

Sunderland operates under a board of selectmen-town administrator-open town meeting structure. Through its policy setting role, the board of selectmen guides the overall direction of government. Local spending decisions emerge from an annual process orchestrated by the town administrator. Departmental requests are incorporated into a budget proposal which is reviewed and approved by the selectmen, finance committee and town meeting. Absent a capital improvement committee, capital requests follow the same path.

Technology Status

General	Sunderland municipal government operates out of town hall (12 School Street) and offices in four outlying buildings all within a mile. Other locations include the police and fire departments (public safety building, 105 River Road), the adjacent highway department (111 River Road), plus the library (20 School Street) and school department (One Swampfield Drive).
School Department	Funds an IT department for grades PK-6 separate from the town with a director (presently vacant) and a network manager.
Network	All offices in all buildings have Internet access to a wireless network operating on a town hall server, except that masonry walls sometimes block the signal to second floor town hall offices.
Servers	Main server in the accountant's office (1); server-processor in assessors' office (1)
High Speed Internet Capability	As part of Massachusetts Broadband Initiative, municipal buildings are connected to fiber-optic lines that are not yet "live." Internet service is currently provided by Comcast.
Desktops	Exact number of desktops in use is unknown.
Laptops	Town administrator (1), health agent (1), fire department (1), ambulance (1) and police department (2)
Printers/Copiers/Scanners	A high capacity printer/copier/scanner located in town hall is wirelessly accessible, by assigned code, from all department computers. Other desktop printers are available to staff in their offices via hardwire or wirelessly.
Telephones	Landline telephone service is provided to all municipal offices by way of a Centrex telephone system.
Cell Phones	Issued to town administrator, fire chief and animal control officer. Cost covered by town.
Email	All employees have email service hosted by Go Daddy; addresses are limited under the current town domain (townofsunderland.us); police, library and school departments each use a separate domain
Internet	All employees have Internet access.

Use Policies	Network and electronic use policies; use of town property policy.
Operating Systems	Town Hall server: Windows Server 2003 R2; Desktops: Windows 7, Vista and XP. (OS of Assessors' server is unknown.)
Microsoft Office	Versions 2003, 2007 and 2010.
Software	
accountant	Fundware
payroll	Fundware
collector/treasurer	Point, DOS based version
assessors	Patriot Properties' AssessPro (client/server version)
town clerk	Laserfiche
police department	Locally installed arrest and booking software
fire department	Firehouse - cloud based management software
ambulance	AmbuPro, patient care reports
highway	Fuel log software
Virus Protection/Firewalls	Installed on main server; installed on at least some desktops but the status of specific PCs is unknown (virus signature files may be out of date.)
Data Backup	Main server is backed-up using MozyPro, a cloud-based system. Backup of data on PC local drives is subject to varied back-up practices of end-users. Patriot accesses assessors' files for remote backup.
Disaster Recovery	No formal plan.
Website	The town website, designed in Square Space software, relies on individual departments to manage and update their content. The vice chair of the board of selectmen functions as the de facto webmaster.
Cable Service	Town telecommunications committee (four members; one vacant seat) oversees the community programming on Frontier Cable Access Television (F-CAT). [1] The committee provides local community and government content on cable channels 12 and 15; films public meetings and provides live feeds of meetings.
Technology Support	Technology support received under consultant contract with John Futter (Whately, MA); police and fire departments use

[1] F-CAT serves the towns of Conway, Deerfield, Sunderland and Whately.

	their own staff; school department has IT staff.
Budgeting	$5,000 computer replacement annual budget line item under the control of the selectmen; otherwise, technology spending originates and occurs at the departmental level.

Observations and Priorities

There appears to be a consensus among town officials that greater focus needs to be directed to enhancing the use of technology in town government. We agree. The town would benefit from a full examination of its technology status and from a plan to improve its infrastructure and technology related practices. However, any forward movement will require the town to sort out many inter-related decisions and act simultaneously on some. Identifying costs and a plan to spread those costs over time will also be an influencing factor on setting priorities.

Since it is an expectation that this report will offer guidance to the town as it considers options, we suggest, as priorities, that the town:

- Commit to a secure wireless network and ensure that all town hall spaces and all town buildings have strong signal access;
- Act immediately to upgrade the town hall main server with an eye toward optimizing its future use;
- Adopt and commit to back-up protocols and a disaster recovery plan;
- Complete an inventory of hardware and software;
- Begin the process of selecting new accounts receivable and cash receipts software.

In the report that follows, comments and recommendations are offered on a range of technology topics of importance to municipalities. They are intended to guide the town as it makes decisions to invest in its technology future.

Recommendations

Servers / Networks / Broadband

All municipal offices, at all locations, have Internet access to a server that resides in town hall and is the heart of a wireless (public) network. It is a noisy, older piece of equipment that sits, physically unprotected, on the floor in the accountant's office. The server allows assigned drives where department specific work can be stored and a shared drive where information and data can be stored, exchanged and accessed by all departments. However, there are one or two "dead" spots in town hall where a weak wireless signal hampers connection to the Internet and to the town network. Also, in Sunderland, the server is underutilized in that most staff work off a local "C" drive. A second server, located in the assessors' office, is dedicated solely to the Patriot appraisal software.

New fiber optic lines extend to all town buildings, as part of the Massachusetts Broadband Initiative, providing future high speed Internet access. The exception is 111 River Road where the highway department is located. The fiber-optic lines have yet to be activated.

1. ***Commit to the wireless network***. We recommend the town choose to enhance and improve its current wireless network rather than create a new hardwired network in town hall. Connection issues on the second floor can likely be addressed by adding wireless access points; this would be far less expensive (and less disruptive) than running cable throughout an older building. That said, running cable to the one or two offices most impacted by connectivity issues might be a reasonable option; the town's IT consultant can analyze and provide recommendations on the problems in specific offices.

   With a new broadband fiber-optic cable connection to each town building (except highway), almost all remote municipal offices will have high speed access to the town's internal network by way of the Internet. Because hardware is already configured for the wireless network, startup costs should be nominal once the cable is activated, and, the broadband should be more than adequate to carry projected workloads and data demands, including a GIS system.

   The next chart offers comments on the most commonly discussed comparisons between the two alternatives. On balance, in terms of cost, characteristics and performance, staying with a wireless network seems to make the most sense.

Factor	Hardwired	Wireless
Startup costs	LAN cards in each device; Cat 5e network cable; hubs/switches as required; labor cost for hardwire installation.	Network hub; wireless modem; network adapters for devices.
Speed	Faster.	Not as fast.
Security	Provides secure environment; protections installed at server level; town can limit the assignment of physical access points.	Less secure; more reliance on software-based security; may require security features in each device accessing the network.
Reliability	Cables provide stable environment; simple cable system makes troubleshooting easier; greater risk to network components from power surges.	Signal strength varies; speeds can fluctuate; encryption makes troubleshooting more challenging; less susceptible to damage from power surges;
Intensity of use	More responsive to high demand applications.	Sufficient for moderate intensity uses.

2. ***Improve and secure main server***. While not a technical analysis, the town's main server does not sound good. It is an older computer running an older version of the Windows Server operating system, and its lifespan is rapidly approaching an end. Equally troubling is that is sits on the floor in an area accessible to the public, open to dust, to temperature changes and physical abuse. Protecting the town's mission-critical data is of paramount importance; keeping the town's primary server physically and electronically secure and up to date will provide significant return on investment. We recommend that the selectmen direct the town administrator to work with the town's technology consultant to evaluate the condition of the main server and assess present and potential future demands that might be placed on it. We encourage the town to follow his recommendation relative to a decision on the existing unit. Our expectation is that it needs to be replaced. In any case, we recommend the town secure the town's main server in a "cage" or case where it will be in a protected and stable environment. Every town government server should be the focus of a similar evaluation.

3. ***Connect to fiber-optic infrastructure***. With one exception (highway department), fiber-optic lines have been brought to all town buildings. Once activated, municipal offices will have reliable, high speed Internet access to the wireless network that connects all

department computers. This should provide incentives to take greater advantage of the network. Therefore, we recommend the town move forward to activate its fiber-optic infrastructure, involving the town IT consultant as appropriate to assess and take full advantage of the opportunities provided by broadband connectivity.

Backups / Disaster Recovery

Protecting information and data is a critical town and individual responsibility. It begins with risk management, which is an assessment of potential threats to data security and of safeguards in place that protect data. The town should ensure that backups are regular, software updates are automatic and that virus and other protections are current.

Among municipal departments, it is unclear how much town information and data are saved and stored on the main server, which is backed up daily through MozyPro, a purchased online service. For staff working off their local C drive, there are no rules for backing up data, though we observed anecdotally that town staff seemed to recognize the importance of backing up and generally make a good-faith effort to do so. Among staff and departments, the accountant's general ledger is backed-up online through Fundware, and fire department reports are backed-up online through the Firehouse software. The school department has its own protocols and its own IT staff to oversee them. The police department has no server, so work on local desktopsis regularly saved and stored to compact disks. The former collector/treasurer apparently backed-up data keyed into the Point software onto tapes, while Patriot properties pulls data from the assessors' files daily via remote connection and secures it offsite.

Other than relying on the safeguards provided by online services, the town has no formal disaster recovery plan. With exceptions, all documents, materials and correspondence, including emails, received or transmitted by town employees qualify as public records, which the town has an obligation to retain and protect. A plan for protecting these assets should be in place and it should be tested and reviewed regularly.

4. ***Require computer users to work from the main server***. When department employees work from an assigned server drive rather than their local C drive, all information, data and some applications are centrally located. This allows the town to install, implement and update virus protections, firewalls, data security and backup protocols for all computers. Otherwise, the responsibility falls to each individual user. Even with policies prescribing uniform procedures, the town has little knowledge of or control over whether or not they are adhered to. In addition, when employees are required to work on the server, the town can more easily monitor Internet use and prevent the download of potentially dangerous files or installation of non-work related software.

5. ***Set rules for regular data back-ups.*** Working with the technology consultant, and using MozyPro, the town should develop rules for backing up data and information on the main server and on local drives of staff. The rules should direct staff on the required frequency of back-ups, the medium to be used and place of storage. In particular, the place of storage should be made known to the town administrator in case the back-up files are needed and the staff person is inaccessible.

6. ***Design and implement a disaster recovery plan***. In cases where town information and data are stored on the web and backed-up to the cloud, the town should seek assurances as to protections. The town should also formulate a disaster recovery plan incorporating access procedures to cloud protected data. In general, a plan should outline a series of steps to minimize damage to the town's hardware, software, networks, data and information in the case of natural or man-made catastrophe. Developing a disaster recovery plan involves the following:

   - Identify the maximum acceptable down-time for municipal operations and the maximum acceptable data loss (in terms of days), and ensure that systems are in place for data backup and storage to meet these predetermined requirements.
   - Set out and document a series of steps to be taken in the event of a minor or major data loss event.
   - Train staff so that their individual and collective response is immediate and confident in the case of an event. Assign responsibilities and identify outside people or consultants to be contacted.
   - Analyze the cost of the recovery program and allocate the resources necessary to implement it. Balance the value of data with the cost of recovery.
   - Lastly, test and update the plan on regular basis.

An IT Recovery Planning Guide can be found on the DOR website at the following link: http://www.mass.gov/anf/research-and-tech/policies-legal-and-technical-guidance/other-policies/dr-resources/

Software

The responsibility to install, manage and update software is largely left to departments where special purpose or proprietary applications are required. In these offices, staff communicate directly with vendors for support and upgrades, and function as their own systems administrator for the purposes of setting passwords and permissions. With the exception of a computer

replacement budget line-item under the selectmen's control, technology related costs are incurred by departments and charged to their expense line item.

Versions of the Windows operating system and universally installed applications like Microsoft Office tend to vary depending on the age of a particular computer. Age is also a factor concerning the Point accounts receivable and cash receipts software, which is an older DOS-based version. Because the town is committed to Fundware for the accounting function and payroll, it can avoid the high cost of a fully integrated financial management system, but for the same reason will not benefit from the advantages such a system offers. Activation of a geographical information system (GIS) is planned and, if the technology allows, will reside on the main server where it will be accessible to all departments. Other applications are locally installed on desktops.

7. ***Upgrade accounts receivable and cash receipts software.*** As the town completes its search for a new collector/treasurer, it must also consider improving upon the DOS-based version of Point software left behind. It is antiquated, probably not supported and not likely to provide security protections offered by top tier accounts receivable and cash receipts software. While it is likely a new collector/treasurer will have a software preference, any choice should still be compatible with other software in use and offer features that advance efficiency in financial operations.

8. ***Move toward consistent versions of Microsoft Office; update Windows operating systems***. When staff use different versions of Microsoft Office applications, an older version is unlikely to recognize and open a work file produced in the more recent version. This hampers productivity and the exchange of information. While operating under different versions of Windows does not pose the same type of problem, if not updated particularly with security patches, town information and data are vulnerable to unauthorized access. Therefore, we recommend that the town work toward moving all users to the same version of Microsoft Office and ensure that updates to all Windows versions are installed. Commit to replacing PCs running versions of Windows no longer supported by Microsoft.

Inventory

Gaining control of the town's technology future begins with an assessment of its present technology condition and developing a long range upgrade and replacement plan. Essential is a systematic inventory of computer hardware and software, peripheral equipment and communication devices in use throughout town departments and offices. At present, no comprehensive inventory exists. Plotting out a course also requires an understanding of how

computers, software and other equipment are utilized today then measuring capabilities against current standards and anticipated future needs.

9. ***Inventory technology assets***. We recommend that, as a threshold task, the town work with its technology consultant to create an inventory of town-owned servers, desktop computers, laptops, printers, copiers, scanners, cell phones and (land line) telephone units. Other department-specific equipment and devices should also be included.

The inventory should identify each item by type, manufacturer and model or serial number. Age and office location should be noted as well as operating system by name and version. The name and version of locally installed software should be listed.

The process might begin by developing a survey form and distributing it to department heads and other offices. Gathering additional information might require office visits. Data collected might be most useful if charted out in an Excel spreadsheet, which would become the basis for formulating a long-long upgrade and replacement plan.

Telephone System

Sunderland town offices have telephone landlines that operate over a 13+/- year old Centrex system. It reflects the technology of that day. There is no central electronic greeting or menu of departments. Offices do not have call waiting or caller ID. Conferencing is an option. Each office receives calls on a dedicated line, where staff have the ability to transfer calls (though not always reliably) and accept voice messages. Many are part-time, single person offices and because there is no "operator" who might direct a question elsewhere, off-hour callers get little immediate satisfaction. Privacy is also an issue as users can sometimes hear other conversations while on a line.

10. ***Explore upgrades to telephone system***. We recommend that the town evaluate the current Centrex system in the context of cutting edge telephone technology, government efficiency and public expectations. Cost is also an issue. The selectmen might form a small committee of town officers, seek the advice of the IT consultant or both to identify features available in contemporary systems. The more difficult task involves balancing the utilization of those features, which tend toward automation, with the expectation that residents typically prefer to communicate with actual persons. Soliciting the opinions of staff might be useful in drawing conclusions.

With high speed Internet access through a new fiber-optic infrastructure, the town might also consider Voice Over Internet Protocol (VoIP) as an option. Telephone

communications over the Internet is not a new technology, but there are pros and cons that will determine if VoIP is a viable option for the town.

Passwords / Permissions

Passwords or permissions give municipal employees access to programs, data and information to the extent it is critical to fulfilling their legal responsibilities. They also protect data and information by barring unauthorized persons from entering programs or applications. In a small town, each person typically serves as a "systems administrator" and sets their own passwords relative to the software they use. Greater control is exercised over permission levels, which allow employees to enter, alter and extract data to and from the town's official finance records. For setting both personal passwords and permissions, rules should be in place so that town information is always safeguarded.

11. Establish rules for user names, passwords and permissions. We recommend that the town administrator work with the technology consultant to develop simple rules when employees set their passwords. For instance, rules should specify a password minimum length; a minimum number of alpha and numeric characters; upper and lower case letter requirements; the frequency of a required password change; and disallowed words or characters (e.g., user names, proper names, inappropriate words, etc.). The town administrator should survey staff to determine what level of access they need to the various finance-related software and grant appropriate permission levels. The town might adopt a standard protocol for user names, like last name and first initial, or allow employees to pick their own, again in accordance with simple rules.

Email

In Sunderland, email addresses are assigned to offices, not individuals and most are assigned the @townofsunderland.us domain name. Only the school department (@ses.sunderland.ma.us) and library (@SunderlandPublicLibrary.org) have separate domain names. However, email correspondence for six departments and officers [2] are directed to the town clerk, one committee (energy) uses the board of selectmen's office address and seven [3] have no published email address at all. Members of the fall festival committee make their personal email addresses available. It is our understanding that part of the issue is that the town is limited to 32 addresses under its current domain name.

[2] Animal control, cemetery, historic commission, moderator and zoning board of appeals.
[3] Agriculture commission, board of health, conservation commission, council on aging, community preservation committee, cultural council and park & recreation commission.

12. Expand email address capacity. We recommend that the town use the expertise of its IT consultant to investigate options, such as purchasing a more robust email package from its present provider or another company, or hosting its own email in-house. That would enable each municipal office and department and each permanent board, committee or commission to receive its own distinct email address. While less a priority, there should also be capacity to assign addresses to ad hoc committees for the duration of their active status. The town might focus on

While all emails are public records, there is still a legitimate expectation by the public and town officials that an email is sent and received without being delayed, filtered or viewed by persons with no connection to subject at hand. Separate and distinct email addresses is a message that all offices, departments, boards, etc., are treated with equal respect. When residents can communicate directly with those in government with whom they have business, efficiency and responsiveness are enhanced. From other perspectives, when volunteers use personal emails to communicate with the public, custody and safeguarding of the emails as public records becomes an issue. Lastly, in the case of the town clerk, is it unfair to burden her with the responsibility to ensure that so many others receive email communications.

13. Ensure compliance with state public records law. Email correspondence is regarded as public records and as such is subject to retention requirements and requests for information. We recommend that the town inform all employees, particularly those using personal addresses, of their legal responsibilities to retain email records. In addition, the town should verify that it has a system in place that backs-up all email correspondence, including deleted files. If all users work off the main server, emails will be backed-up.

Policies

Formal policies are another means of risk management. As a preventative step, they define for employees acceptable and appropriate conduct relative to the town-provided technology at their disposal and under their control. Policies also put employees on notice as to the rights and recourse of the town when rules are circumvented or violated. The town currently has a Network and Electronic Use Policy which provides rules on Internet and email use. Within the personnel bylaw, there are also policies on the use of town property by employees. Many towns also issue guidelines on the use of personal devices, address social media and impose rules restricting the use of personal software application or other downloads.

14. ***Formalize technology related policies***. The town has a good start in establishing rules for the conduct of employees and the use of town property. Those policies should be reviewed and updated periodically to ensure they reflect accepted and appropriate behavior. We also encourage the town administrator to move forward with her plan to develop policies that address the role of social media in municipal government. In every case, it should be clear what actions are available to the town and what recourse the employee has, if a violation of the rules or policies occurs. See Appendix C for examples of various policies.

It helps when formal policies have a consistent format, which might include some or all of the following sections:

History (dates of adoption and revision)
Purpose
Scope or Who This Policy Applies To
Policy Statement (i.e., the rules that apply)
Employee Responsibilities
What Constitutes Non-compliance
Penalities / Employee Recourse

Technology Support

Like many small towns with relatively few computer users and straight forward demands, Sunderland does not fund an in-house technology position. The town instead contracts-out and receives technology support on an as-needed basis. The town's relationship with its current consultant began in early 2013, but no formal contract has been executed. He is generally on-call and responds directly to those who contact him with a computer or technology related issue.

15. ***Formalize relationship with technology consultant***. Among other provisions, a contract would generally describe the scope of services and number of support hours, usually per month, to be provided, which may distinguish between on-call hours and designated time on-site. The agreed upon pay rate, an annual not to exceed dollar amount and reimbursement for out-of-pocket expenses should be addressed. Also, terms to account for work outside the specified scope or for additional hours might be added.

Executing a contract for support services, even when flexibility is built-in, works to the advantage of both parties. A contract provides the town with a firm dollar amount for budgeting purposes. Measuring actual work performed against a scope of services helps

the town identify where it might focus attention. For the consultant, a contract provides certainty and allows him to better manage his time.

16. ***Implement electronic help desk system***. There are a number of Internet-based software products on the market that establish work order systems for technology support. End users log-in and describe a problem or the type of assistance they seek. This would allow the town's consultant to prioritize tasks, manage his time and document his workload. The system creates a record of work completed on all computers and devices and can provide prompts for scheduled maintenance or updates. Reports from the system allow the town to track service requests, monitor progress and evaluate support service. With this information, he can better understand how support time is used. It can plan for capital investments and identify where training is needed.

Training

The town has, to its credit, arranged for training sessions on the Fundware financial software. Instruction will be offered to the payroll clerk and the new collector-treasurer on the Fundware payroll function and to most other staff on how they will interact with Fundware. Microsoft Word and Excel are universal, but no decisions on the need for training have been made. Users of software applications specific to their departments generally contact vendors for support and gain information incidental to there to. Gaining a better understanding of staff proficiency on the software they require to carry out their responsibilities is always useful, particularly to determine whether training is needed.

17. ***Survey staff proficiency on software; arrange training***. Whether through a formal survey, a staff meeting agenda item or informal conversations, an effort should focus on staff proficiency with the software applications they rely on. The town should also be mindful that once a new collector/treasurer is hired and a decision is made relative to accounts receivable and cash receipts software, additional training may be needed. This training may extend to all staff if remote entry capabilities are implemented.

Website

The town's website (http://www.townofsunderland.us/) is created using Square Space, a reasonably well regarded webpage builder aimed at a general commercial market. It offers an appealing, clean appearance and is easy to navigate. From what we know, it allows the addition of content to a preview page by "drag and drop" but apparently the finished look does not always match the preview. It is unknown whether this is a disincentive for department staff to maintain up-to-date content, which is a struggle in Sunderland, as it is in many communities. In any

event, the selectmen have opened discussion about alternative website development tools specifically designed for municipalities.

An up-to-date, accurate, content oriented municipal website is a valuable resource for residents, particularly in small towns where town hall offices are open part-time. It is a useful communication device for local officials and, when effective, it can raise resident confidence in government. To successfully build value in the town website involves an investment of funds and a commitment to update and add information. Announcements, posted meetings with agendas, meeting minutes, forms, on-line payment options, office contact information are all useful content on a municipal website.

18. Follow through with website design options; emphasize content. We recommend that the town continue efforts to compare its current website with alternatives specifically intended for towns. Display options and ease of navigation are important, but there is also a full range of other features and services associated with available products that merit consideration. With town staff in mind, emphasis should be placed on a simple, accessible process for adding new content. Whether the town remains with its current webpage or moves to a new design, a training session for staff and subsequent access to support services should be arranged. Even if the town were to contract out content posting to the website, the vendor is still dependent on staff to forward accurate, timely information. Therefore, a system for monitoring website content and reminding staff to be current with their information is worth considering.

Technology Budgeting

Technology expenditures involve both annual operating costs and capital investment. In Sunderland, identifiable technology related budget line items include the following. They are all presented as operating costs.

Budget Line-Items		
Selectmen	Technology (computers)	$5,000
Assessors'	Computer Support	$5,500
Telecommunication	Salary	$5,732
	Expense	$4,200
Town Buildings	Telephone	$4,165

In addition, $5,400 of $7,639 in the accountant expense line-item is for the Fundware license and a portion of $11,400 in the collector/treasurer's expense line item covers Point costs. Remaining GIS start-up costs are anticipated to be $3,900, which will be followed by $1,800 in annual maintenance payments.

19. ***Consolidate technology spending/Centralize decisions***. We recommend treating technology as a separate department under the board of selectmen. By doing so, technology is more likely to receive equal treatment in the process of setting town priorities through the budget. The department would be supported by a consolidated budget that combines in one place all technology-related appropriations currently spread among other offices.

Current line-items for selectmen/technology (computers), town buildings/telephone would be included. There might also be separate line items for general expenses, purchase of services and support contracts. Expenditures for licenses, maintenance and support for proprietary software reflect operating expenses and can remain within department budgets where the applications are in use. These appropriations should be separately identified for technology under each department and not buried in a general expense line-item. Small capital outlays for hardware and software upgrades can be included. However, if a proposed hardware or software expenditure qualifies as a capital expenditure, the appropriation request would likely be in a capital warrant article and subject to a capital improvement approval process.

Centralized spending decisions will ensure that future purchases of equipment, software and services are prioritized and based on town-wide needs. In this regard, it may not be reasonable to expect an offsite consultant to have his finger so firmly on the technology pulse of town government that he can anticipate every need. Consequently, it can be helpful that computer and software purchase requests sometimes originate with departments or end-users. It is more important that all technology expenditures, whether hardware, software or network related, go through a formal review and approval process. If the technology budget is placed under the jurisdiction of the board of selectmen, we would expect the town administrator, working with the IT consultant to make recommendations to review and approve, defer or reject requests. The purchase of computers, copiers, printers, projectors, etc., should also be purchased in accordance with a centrally administered, long-term plan.

20. ***Plan long term***. Once an inventory of hardware and software is complete, after end-users are interviewed and decisions are imminent concerning network improvements, we recommend that the town administrator work with the consultant to develop a five year spending plan. With a replacement schedule (“life cycle management”), the town can factor in age and intensity of use. It can maximize computer warranty and support periods - typically three years with the option for a one-year extension. Alternatively, local officials can weigh the cost of leasing computers, which also relieves them of maintenance costs and other ownership related concerns.

The goal of a long term replacement program is to stabilize program costs in the out years, also known as life cycle costs. Higher initial spending may be required. This effort may rise to the level of a capital plan in which case spending may have to pass a capital improvement process. In addition to direct dollar outlays, major purchases of hardware or software might be financed through bonding. The town should review its current debt obligations and determine whether the incurrence of additional debt service fits in the towns overall financial plan.

21. ***Explore paperless approaches***. Local officials are already considering the feasibility of providing IPads or notebooks to selectmen as a means to more effectively communicate and reduce the amount of paper generated to conduct town business. Other towns have gone in this direction with success. Therefore, we recommend the town pursue the option. To be effective, the town may also have to invest in scanners to convert hardcopy materials into an electronic format. Otherwise, the town should consider whether a device that supports Microsoft Word documents and Excel spreadsheets adds value. The availability of a reliable, fast, secure connection to the town server and the availability of shared storage space also contribute to the success of such an approach. Lastly, those using IPads or notebooks should be fully informed about how the open meeting rules and public records law apply.

Appendix A: Financial Software Options

A number of private sector vendors offer financial management software applications, which are currently in use by Massachusetts cities and towns. Within the framework of software modules and packages, the Town of Sunderland has the options described below as it considers software upgrades and enhancements. In each case, the conversion of data from the existing to a new system will be necessary in what will likely be a costly and labor intensive step. Hardware and operating system improvements may be necessary. Training and support should be planned out, thorough and to some extent ongoing. Lastly, as part of its decision making process, the town should ask vendors for a list of all municipal clients in Massachusetts, so that the town can choose which to contact as a reference.

Procurement. Whatever procurement decision the town makes, it would be subject to the provisions of M.G.L. Chapter 30B, the state Uniform Procurement Act. This general law establishes procedures for local governments when contracting for good or services, including computer software and hardware. The law requires the solicitation of three quotes for purchase contracts in an amount between $5,000 and $24,999. A purchase of $25,000 or more requires the town choose between soliciting sealed bids or issuing a Request for Proposals (RFP). For procuring software, an RFP serves as the more flexible and practical mechanism. Among other watchdog type responsibilities, the Office of the State Inspector General provides guidelines on the implications of and procedures under Chapter 30B.

State Bid List. The town might also research the Commonwealth Procurement and Solicitation System (Comm-PASS). Managed by the State Operational Services Division, Comm-PASS is a clearinghouse of public procurement opportunities for awarding authorities and companies interested in doing business with state and local governments. Municipalities can, at no cost, publish their bid requests valued over $50,000, which are available for review by prospective bidders. This saves a municipality the cost of bidding. The town should also be aware that the State bid list tends to offer greater hardware, than software, selections.

Financing. As a practical matter, the town has three payment options for software and hardware purchases. If funds exist within the budget, the town can pay outright and in full at the time of purchase. The town might also consider a capital outlay expenditure exclusion or it might borrow the amount needed to make a purchase. A mix of each approach is also possible.

A capital exclusion, allowed under Proposition 2½ (M.G.L. C. 59, §21C7, clause j), would enable the town to raise additional tax revenue, in one year only, to cover the entire amount needed to pay the software and/or hardware cost. For this to occur the selectmen must place the capital exclusion question on a town ballot and residents must approve it, both by majority vote. The grant of spending authority by town meeting can be in advance of and contingent upon voter approval of the capital exclusion, or it can occur after the ballot question is decided.

The town can borrow to pay the software and/or hardware cost. M.G.L. C. 44, §7, cl. (29) authorizes towns to issue bonds and incur debt "for the development, design, purchase of computer software incident to the purchase, installation and operation of computer hardware and other data processing equipment and computer assisted integrated financial management and accounting systems." The borrowing can be for a term up to five years. An appropriation funded

through a bond authorization requires a two-thirds vote of town meeting. Once bonds are issued, other appropriations are necessary to account for the annual debt service payments.

The town can use excess levy capacity or other untapped financing sources to cover the debt service on the bonds within the annual budget and without raising taxes. Otherwise, it has the option of seeking voter approval of a debt exclusion under Proposition 2½ (M.G.L. C. 59, §21C7, clause j) to raise additional tax revenue to pay the debt service. Once again the selectmen would have to place the question on the town-wide ballot, by two-thirds vote, and town-wide approval would require a majority vote in the affirmative. The additional property taxes would be removed after five years when the term of the bond ends. When this option is exercised, the bond authorization by town meeting is often approved contingent on the approval of the debt exclusion by town voters. If the debt exclusion vote fails, the bond authorization is null and void. There have also been occasions when a town will place the question before the voters and if approved, then go to town meeting for approval of the bond authorization.

Software Vendors. With some Internet research or calls to other communities, the town can identify financial software vendors. Internal meetings with prospective end-users and the IT consultant should have produced a list of desired features or capabilities, which will help narrow the vendor list. A visit to each vendor's website would be informative and if municipal clients in Massachusetts are listed, a call to one or two may help in the selection process. Finance department managers might be asked to help with the screening process, but should be assigned to research vendors with whom they are unfamiliar.

If, after visiting websites and speaking with clients, threshold or other pertinent questions remain unanswered, the initial screening process can continue with telephone interviews. A list of standard questions should be developed for this purpose. Invitations to present a demonstration can be based on a pre-determined number, or by the number of vendors who score strongly. Keep in mind that demonstrations are time consuming. We suggest the town request an overall presentation to an audience of all end-users, followed by separate reviews of the various modules with each finance department.

Purchase options. Venders offer stand-alone applications designed for a specific financial function, i.e., for accounts receivable or cash receipts, which can be installed onto the town server. Only the departments using the application would have permissions to input, extract or alter data, but all other departments should be granted read-only access. The town might also have the option of purchasing web-based versions of the individual modules. This "software as a service" alternative is discussed below.

Because of its commitment to Fundware, the town of Sunderland will mix and match special purpose applications from different vendors. (Fundware does not offer collector's receivable or cash receipts modules). In this case, the town should explore whether additional programming is possible to enable the electronic transfer and exchange of data between and among finance-related offices. Without a "bridge," information must be re-keyed into the stand-alone system of any office needing the data. Alternatively, the vendor may be able to convert data for the town, but usually at a cost. Or, information may be shared by using the Excel export or import function; as long as there is confidence that transition errors do not occur.

The benefit of purchasing something less than a fully integrated software system is a lower capital investment. If web-based modules are an option, the initial investment and operating

costs could be lower still. Lastly, if the vendor offers a full range of finance-related modules, the town would have greater options to later expand the use of financial management software in town government.

Web-Based Software as a Service. Software as a Service (SaaS), sometimes synonymous with cloud computing, refers to the purchase of a service where the vendor provides Internet access to either a fully integrated financial management package or an individual software module for a specific purpose. The application and town data would reside with the vendor in a remote location. This is in contrast to the traditional municipal practice of purchasing a software application outright, and having it installed on a town hall server. In the latter case, stored data can remain on-site with the application or, like cloud software, can be transferred off-site.

There are advantages to utilizing SaaS. The town would have the same software functionality of a locally installed application, but it avoids upfront capital costs for software "ownership", as well as for network wiring, servers, and other network hardware or infrastructure. Updates, patches and other software maintenance would occur automatically and without cost to the town. Data backups would occur nightly as well. Because multiple clients access the service at a centralized location, where most delivery issues will arise, the vendor has an incentive to ensure the stability and reliability of the system. As a result, the burden on local in-house, or contracted, technology support would be lessened. Web-based access also allows any authorized person to use the software from any computer anywhere with an Internet connection, sparing the town the expense and upkeep of cable connections between remote buildings and a town hall server.

There are concerns as well. Most often mentioned are those involving the ability to retrieve data and data security. Since the town is entirely dependent on the Internet for access to its financial or other software, if the vendor has a single data center, any disruption of the connection could be problematic. Disaster recovery plans should show how the town financial applications can be restored under different scenarios. Town officials would then have to judge both the reasonableness of those plans and the acceptability of possible downtime compared to scenarios that could affect a network based system in town hall were it destroyed by fire, flood, power surge, etc. Bandwidth is a factor as Internet transmission speeds are slower than data exchange rates between computers on a town hall network. Part of the evaluation process should be a demonstration of system performance in a range of data intensive functions using either a copy of a database from a similar or larger community or through actual access to such a community's system. And, the town would want the ability to extract data - 24/7 - in a non-proprietary format so it can be used in a different program.

Whenever data is placed on the web, questions about security are legitimately raised. To protect its interests, the town should determine what data security standard its information is held in by the vendor. The point has also been made that because SaaS vendors retain data from multiple clients, sometimes in a single location, they devote far greater resources to firewall security, redundant backups and other protections than a municipality. The same conclusion is drawn when vendors use a third-party for data storage, i.e., a so-called "server farm". The town needs to know the specifics of all contractual arrangements involved in the storage and processing of their web-based data. It is typical for software firms to purchase hosting and server services from firms that specialize in large data centers, which might be located anywhere in the country or in other countries.

Service level agreements (SLA) typically define the relationship between a municipality and a SaaS vendor. Charges might be structured as a subscription fee or on a utility computing basis. The former is a pre-set, fixed amount for the service over a particular period. The latter is a charge based on actual usage of the service.

When considering the SaaS option, we encourage the town to probe topics listed below. If satisfied with information collected and responses provided, the SaaS product may have standing as a viable option. These questions would be in addition to those specific to the overall software performance and to the individual finance department modules under consideration by the town.

Questions concerning Software as a Service

1. Will the vendor provide a demonstration of the product over the Internet that shows performance as well as features?
2. Is training provided and to what extent?
3. How often will upgrades be made? Will there be notice? Training?
4. What technology support must the town provide?
5. Is a Service Level Agreement (SLA) available? Are the terms negotiable?
6. What guarantees and limitations on liability are included in service agreements?
7. What is the level of security that protects town data?
8. Has vendor security ever been breached?
9. Has any data stored by the vendor ever been lost internally or corrupted?
10. Does anyone other than town designated persons have access to stored town data?
11. Where is town data stored? (City, town, state, country?)
12. Does the town have full-time access to its data?
13. Can the town copy or extract its stored data in a non-proprietary format?
14. Is stored data backed-up? How often and by what means?
15. Does the vendor and subcontractors have tested disaster plans? Does the vendor offer extra cost data and application recovery services?
16. How long have all vendors involved in the service been in business?
17. What portion of the company's business are municipal contracts?
18. Can the vendor provide a list of Massachusetts clients?
19. What happens to town data if the company fails or discontinues the SaaS product?
20. How will the town be charged for services? Are there alternate pricing structures?
21. What is the SaaS pricing history?
22. What other fees are related to the SaaS?

Appendix B: Samples of User Policies

DOR policies
(address)

- Internet / Email Policy
- Laptop Security Policy
- Password Policy
- Screen Saver Standard
- Software Policy
- USB Use Policy

DOR Acceptable Use Policy (Technology)
http://www.mass.gov/anf/docs/itd/policies-standards/acceptableuse.pdf

DOR IT Disaster Recovery Planning Guide
http://www.mass.gov/anf/research-and-tech/policies-legal-and-technical-guidance/other-policies/dr-resources/

Municipal policies available online:

Arlington
http://www.town.arlington.ma.us/Public_Documents/ArlingtonMA_Personnel/handbook.pdf

Lunenburg
http://www.lunenburgma.gov/filestorage/204/216/296/Computer_Use_Policy.pdf

Greenfield
http://www.townofgreenfield.org/pages/greenfieldma_hr/computer.pdf

Hadley
http://www.hadleyma.org/pages/HadleyMA_Treasurer/PersonnelHandbook.pdf

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