

6. INFORMATION TECHNOLOGY

Informational technology (IT), was analyzed in a similar fashion to other operations. The objectives of this task is to evaluate current systems and staffing levels relative to current Massachusetts public school standards.

The GDRSD technology department provides various technology services including system operation, network administration, software management, email, internet access and other tasks. The Town of Groton has an electric light department, but they are not presently involved in Information Technology. The School Department does not have a person in charge of classroom instruction of technology, but their technology director works with the digital learning coaches and media specialists to assure that the technology curriculum, professional development and classroom devices are appropriate.

1. Current Status and History

The District has worked to keep its technology infrastructure up to date over the past five years.

Findings

In 2013 a detailed technology audit was conducted on the school district. A onetime capital outlay of \$560,000 was appropriated to implement the recommendations. The current director was hired in 2014 to implement the plan. The majority of the recommendations have been implemented and the balance are highlighted action items in the current technology plan.

Recently a new technology plan was adopted and a long term capital plan was created.

Recommendation

We recommend that the technology plan be kept up to date and the capital budget be reviewed, updated, and supported annually.

2. Staffing

Current administrative technology staff is presented in Appendix 6.1. We have interviewed the School Department Technology Director, the network administrator and the systems administrator. These interviews were for the purpose of analyzing their duties and function in the overall technology environment of the Schools.

Findings

The current School IT staff of 4.0 FTE technical staff members (director excluded) is the second lowest in FTE and second highest in the staff to teacher ratio for the districts we compared with. See Appendix 6.2.

We have included two other staffing studies for reference in Appendices 6.3 and 6.4.

It should be noted that it is very difficult to compare school technology staffs due to the different titles and organizations used in different school systems. Some staff may have duties that are part educational and part technical. Those staffers may show up as technical in one district and educational in another district.

Recommendation

The district needs to assess whether the low staffing level is having a negative impact on the technology operation of the schools. As the number of devices grows and other responsibilities, such as a new phone system are added, there will be a need for more staff.

6. Software

This section focuses on the deployment and support of software that is used to manage the Schools. It is important that this software be appropriate, up to date, and supported by the technology staff. We are primarily interested in the School Department's various databases and the use of office software such as MS Office.

Findings

The School Department has a student database, School Brains for the DESE's Student Information Management System. This database is also used for attendance, grading and several other functions.

Infinite Visions (formerly Budget Sense) is used for financial operations.

The Special Needs Department uses ESped for Individual Education Plans (IEPs), which does not electronically interface with School Brains. Both systems are updated through regular manual exports and imports of data.

The Schools do not have a computerized teacher evaluation record system.

The District uses Google Apps for Education, a free suite of educational applications. They are using Google's chat function as an additional option in their help desk operation.

Some human resources data is in School Brains (for EPIMS) and some is in Infinite Vision (for Payroll). Where this data needs to be shared it is done manually.

The Schools currently use free help desk software called Spiceworks for an automated help desk.

Recommendations

In general the software seems appropriate and adequate. It would be helpful if systems were developed to electronically share and/or match data.

Infinite Visions and School Brains are two of the most popular school management softwares. Our recommendation is that they are kept up to date and that staff is properly trained to take advantage of their abilities.

The District is successfully using Google Apps for Education and Gmail for their email service.

In our experience, student evaluation software such as TeachPoint would be very helpful in meeting DESE's requirements for this task.

4. Network, Email and Internet Connection

The actual network, servers and network software, the email system and the internet access are extremely important. The network needs to provide reliable connectivity between users on the network and the outside world. The Email system must provide efficient messaging both within and outside the organization. The internet system needs to be fast and reliable especially as more software becomes internet or "cloud" based.

Findings

There currently is no direct connection between the schools and the two town police departments.

Schools are connected by standard Verizon fiber. It would be cost prohibitive for the district to run its own network fiber.

Groton Electric Light (GELD) does not provide this type of service.

Recommendations

We recommend that a network connection be established with the two police departments to support current and future security systems.

We suspect that GELD will be running fiber for internet service at some time in the future. We recommend that a dedicated system for the Town and Schools be installed at that time.

5. Professional Development

Everything in the technical end of running a school network changes on a day-to-day basis. It is therefore important that the technical staff be properly trained and certified and that regular professional development opportunities are scheduled.

Findings

The School Technology Department has reported that they don't have sufficient time to give their technicians the training that they need. Funds are available when needed and key training is accomplished.

Recommendations

The Schools should allocate professional development funds for technology to assure that all of the professional and technical staff is properly trained to do their jobs. They should also aggressively schedule this training and insist that employees advance in their knowledge if they are to advance in their job.

6. Facilities and equipment

Proper facilities are required for the stable operation of an IT network. Up-to-date computer equipment and adequate student stations are also a necessity.

Findings

GDRSD had \$560,000 capital replacement program for technology in 2016. At the moment student computers are refreshed at approximately five years. Teacher computers are replaced after five to seven years. The bulk of the student devices are 1,500 ChromeBooks. The system also uses MacIntosh and Windows PC laptops with iPads being used at the lower grades.

A new technology plan has been adopted and a long term capital plan has been created.

The district is currently working on developing a formal one to one system. At the moment a healthy Bring Your Own Device program is in its place.

The district does not have a VOIP phone system. The current phone system is operated by the Buildings and Grounds Department.

Recommendations

Technology equipment becomes outdated very quickly and is expensive to replace. The School Technology Director and his staff appear to be doing a good job of implementing the audit recommendations and steadily upgrading the system with limited funds and staff. They should be commended for their efforts and supported by the Superintendent and School Committee in the quest for annual capital funds to keep up with the refresh cycle. The Schools must continue to make significant allocations for technology equipment and infrastructure refreshes in order to keep up with advances. It is essential that a five-year capital improvement plan for technology be maintained and supported. We recommend that the equipment line items in the District operating budget be referenced in the capital plan.

6. School Comparative Costs

The DESE EOY Report details the various costs of technology in the schools. The reporting is problematic because different districts report expenditures in different ways.

Findings

We have calculated a cost comparison for technology by adding together all EOY report technology categories and dividing by the student number to generate a per pupil cost. Appendix 6.5 details these calculations. The per pupil costs vary greatly, with GDRSD having the lowest total and per pupil cost.

Recommendations

We do not believe these calculations to be a valid measure of technology costs DESE has acknowledged that there are reporting problems in this area. We recommend not using these numbers for a comparison until DESE indicates they have solved the reporting problem.

6. Consolidation

We ordinarily study whether the Town and School Technology Departments, and possibly the municipal light department can be merged into a single department. One important consideration is the Instructional Technology function, which is important to the School Department, but is not part of the Town's operations at all. Other than this particular area, we are looking at non-educational support services such as network administration, systems administration, data base management, e-mail, internet and other related areas.

Findings

We do not see such consolidation being realistic between a town and a regional school district. The two forms of government are too separate for a reasonable consolidation.

Unlike some other municipal light departments, Groton Electric Light Department (GELD) does not provide internet or cable TV services.

Recommendations

We recommend that the Town, District and GELD keep in mind the possible savings inherent in consolidation. As technology changes and operational systems develop, there may be opportunities to share in the future.

Technology Staff Levels 2016-2018

Appendix 6.1

Job Title	GDRSD		
	FY16	FY17	FY18
School Administrative Technology			
Director	1.0	1.0	1.0
System Technician	1.0	1.0	1.0
Network Manager	1.0	1.0	1.0
Technicians			1.0
Data Specialist	1.0	1.0	1.0
<i>School IT Staff</i>	4.0	4.0	5.0

Technology Staff Level Comparison

FTEs from all funding Data Definitions	Groton-Dunstable		Hamilton-Wenham		Masconomet		Mendon-Upton		Nashoba		Newburyport		Lynnfield		State		
	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2016*
Technology support	5.0	4.0	2.0	5.6	7.0	8.0	3.0	3.0	7.0	7.0	4.0	4.0	3.0	3.0	1,323	1,333	1,366
Students:staff	525:1	643:1	941:1	333:1	293:1	246:1	783:1	764:1	491:1	496:1	582:1	588:1	740:1	735:1	722:1	717:1	#
	2018	4	648:1														

This data is technical support staff and typically does not include the director.

ASHLAND SURVEY OF IT STAFF

District	# of Bldgs	Students	IT Staff	Description
Pembroke	5	3,400	4	Director, Data Manager, 2 Techs
N. Attleboro	10	4,700	5	Director, Tech Specialist(Teacher), 3 Techs
Berkshire Hills	3	1,400	2	Tech/Network Supervisor, Tech
Shirley	2	800	2	Director & Tech Asst
Nantucket	2	1,300	3.5	Director, Tech Specialist (2 @.50), Repair, Application Support (.75), Help Desk (.75)
Seekonk	4	2,142	5	Director, Network Administrator, 2 Techs, 1 Data Clerk
Woburn	11	4,800	6	Director, 1 Data, 1 Network Spec.,3 Techs
Swansea	6	2,051	4	1 Network Admin/Finance Dept., 2 Techs, 1 Data Manager
W. Bridgewater	4	1,300	0	IT Consultant, EPIMS/SIMS/SIF-school secretaries and Business Manager
Amesbury	5	2,400	3	Director, 2 staff @ 220 days, stipend to City Wide Administrator to assist w/networking issues, etc.
Medfield	5	2,888	2 (7.3)	Network Administrator, Media Tech (classroom= 1 Media Tech Integration Specialist and 4.3 Tech Aides)
Holliston	3	3,000	3+	Business Mgr is Tech Director, 3 Network Engineers

Source: Barbara Durand, Director of Finance & Services, Ashland Public Schools

Wayland Comparative Staffing

Appendix 6.4

Administrative Technology

	Wayland	Weston	Medfield	Bedford	Hanover
Enrollment	2,817	2,414	2,939	2,383	2,684
Director (of Curriculum, Assessment and Technology)			0.3		0.0
Director	1.0	1.0			
Network Manager				1.0	
Database Manager		1.0			1.0
Data Analyst	1.0				
Technology Secretary	0.7				
Systems Administrator-Help Desk	1.0	0.9			
Network Administrator	1.0	1.0	0.8		1.0
Assistant Network Manager		1.0			
Computer Technician	1.0		1.0	3.5	1.0
PC Systems Admin. School to School	1.0				
Technology Specialists at Schools		2.8			
Technology Aides located at School Sites			4.3		
Sub-total	6.7	7.7	6.1	4.5	3.0

+2 town

Weston's Department also oversees Town IT with an additional two town employees.

Notes:

All above staff are 12 month employees with the exception of Weston's Technology Specialists and Medfield's Technology Aide's who are 10 month.

10 month employee's FTE is entered as .8

Weston estimates the Technology Specialist to be .7 network administration, .3 instructional technology

Medfield Aides duties include monitoring of student computer labs

Comparative Costs

Appendix 6.5

	Total Costs	Per Pupil Cost
GDRSD	452,604	\$ 175
<i>Comparatives:</i>		
Hamilton-Wenham	585,640	\$ 318
Masconomet	734,508	\$ 376
Mendon-Upton	541,051	\$ 228
Nashoba	629,446	\$ 178
Lynnfield	684,486	\$ 304
Newburyport	517,782	\$ 206

Source: MA DESE website, Per Pupil Expenditure Details