

I. Overview

This plan represents the comprehensive three-year technology plan of the Wayland Public Schools. It is currently in draft form, as we solicit feedback and reaction from all of our stakeholders. The Technology Department worked for many hours to develop this plan that addresses our vision and goals for technology in the Wayland Public Schools, and also addresses the requirements imposed on us and on our planning by the Massachusetts Department of Education and the federal erate program.

It is our proposal to distribute this plan to all Wayland Public Schools staff and to the Wayland Public Schools School Committee, as well as to make it available to students and to the public on the school district web site. The period of review shall be from March 1, 2006 through June 1, 2006, during which time we will seek reaction and advice from all. Then, we hope to make final revisions during the month of June and present it to School Committee for their approval at the end of the School Year.

II. Vision

Wayland Public Schools is committed to the effective integration and meaningful use of information technologies to support, enrich, and extend student learning throughout the curriculum. Through integrated learning experiences, students will develop the technology literacies needed to acquire and manage knowledge, to succeed in school, and to thrive in an ever-changing world.

In the Wayland Public Schools, all members of our school community will use technology to excel as learners and develop as leaders. We envision technology as a means for learning, not an end product of learning. Thus, technology will play a vital role in the personal process of learning, as students and faculty gain technology competency as part of an integrated learning experience.

III. Mission

To achieve this vision, Wayland Public Schools is committed to providing access to:

- a leading edge infrastructure (hardware, network, software) that maximizes learning opportunities and provides connectivity to the global community;
- appropriate resources and support for the advanced use of technology in teaching and learning;
- relevant and ongoing professional development to foster the meaningful integration and innovative use of technologies to meet the needs of diverse learners; and
- a dynamic website to promote communication and interaction with the local community.

IV. Goals

Technology Integration

Further student learning through improved technology integration with the curriculum.

Students will demonstrate proficiency and responsibility in the use of computers to further learning in age appropriate ways, as outlined by the Massachusetts Recommended Instructional Technology Standards.

Teachers will display comfort and proficiency using technology and will make informed decisions concerning technology use.

At least 60% of teachers will have reached the proficiency level as defined by the Massachusetts Technology Self-Assessment Tool (TSAT) by 2007.

Teachers will use technology in all areas of their professional life: lesson planning, administrative tasks, communications, collaboration, and with their students as they interact with the curriculum together.

Maintain an acceptable use policy that is in compliance with CIPA.

Maintain technology staffing levels needed to provide technology integration support and infrastructure adequate to meet technology integration needs.

Technology Professional Development

All instructional staff will complete the TSAT annually. We began doing this assessment in the 2004 – 2005 school year. We will use the results of the TSAT and other teacher input devices to inform our professional development planning.

We will continually assess our professional development program to reflect current research and best practices, and will use teacher evaluation forms to improve the professional development opportunities that we offer.

By June of 2007, our goal is that at least 85% of staff will have participated in 45 hours of high-quality technology professional development.

Technology integration will be embedded within all areas of professional development. By the June of 2007, 40% of staff development will have a technology strand. By June of 2010, 100% of staff development will have a technology strand.

Technology Accessibility

Students per Instructional Computer

The district will strive to maintain an average ratio of 5 students (or fewer) per high-capacity, Internet-connected computer.

By June of 2007, the district will adopt a computer replacement cycle of six years or less.

Technical Support and Personnel

Wayland Public Schools will continue to provide a full-time network administrator.

Wayland Public Schools will continue to provide at least one full-time person to support every 100-200 computers. Technical support will be provided by a combination of dedicated staff and contracted services.

Wayland Public Schools will continue to provide skilled technical support in and out of the classroom to minimize disruptions in the implementation of curriculum.

It is recommended that we add a position of Assistant Network Administrator to help deal with our increasingly complex infrastructure and the increasing number of servers and services we maintain and support.

It is recommended that we add, by June of 2007, a full-time person dedicated to data management and assessment, as per benchmark 2 of the state technology plan benchmarks.

Infrastructure and Connectivity

Internet Access

Wayland Public Schools provides and will continue to provide connectivity to the Internet in all classrooms in all schools, including wireless connectivity.

Wayland Public Schools provides and will continue to provide a 10/100 MB connection to each classroom, and will improve upon this when possible.

Wayland Public Schools provides and will continue to provide a minimum 10/100 MB Cat5 switched network and/or 802.11b/g wireless network.

Wayland Public Schools provides and will continue to provide services for secure file sharing, backups, scheduling, email, and web publishing.

Infrastructure and Connectivity

eLearning Environments

Wayland Public Schools is committed to improving our current network infrastructure to better support and facilitate the use of a variety elearning options.

We will continue to explore and assess a variety of tools that offer elearning to classrooms.

Assessment of Hardware, Software, and Telecommunications

As required by the erate program, we will assess whether our hardware and infrastructure are meeting our needs, as well as assess future purchases against our needs. We will institute a software evaluation process.

Access to the Internet Outside of the School Day

The Wayland Public Schools website will provide information about where the Internet can be accessed after school hours.

The Wayland Public Schools will endeavor to expand upon the locations where computers and Internet can be accessed after school hours.

Wayland Public Schools will continue to maintain and improve upon our existing web site that includes information for parents.

Wayland Public Schools will have a robust, informative, and easy to use web site.

Assessment of Hardware, Software, and Telecommunications

As required by the erate program, we will assess whether our hardware and infrastructure are meeting our needs, as well as assess future purchases against our needs. We will institute a software evaluation process.

V. Strategies to Meet Goals

Students in grades K through 5, through a combination of direct instruction in technology classes and using technology in the classroom, will have opportunities to acquire and demonstrate competencies as outlined in the Massachusetts Recommended Instructional Technology Standards. Elementary School Technology Specialists are conducting a gap analysis, comparing what is taught at each school to the standards and we will be revising curriculum accordingly. Classroom teachers will also learn about the results in order that they might also make the appropriate adjustments.

Students in grades 6 through 8, through a combination of direct instruction in technology classes and using technology in the classroom, will have opportunities to acquire and demonstrate competencies as outlined in the Massachusetts Recommended Instructional Technology Standards. The Middle School Technology Committee is working with curriculum leaders and classroom teachers to ensure that all standards are “owned” somewhere in the curriculum. We will work on developing a method for assessing whether students have met goals.

High School students will be assessed to see whether they are meeting the technology standards. The findings will be used to determine whether we are meeting the needs of students instructionally. If not, we will use the results to guide our planning concerning technology integration and where and how it occurs.

We will continue to offer substantive professional development opportunities to educators in Wayland to increase their knowledge of and comfort with technology integration into the curriculum. We will use the results of the TSAT, as well as informal staff surveys, and student assessments to inform our planning for professional development. We will continue to offer these at various times (in school day, after school, summers, etc) to meet the needs of all of our staff.

Another strategy that we employ, and will continue to employ, to increase teacher technology use and comfort level is to provide technology tools that make administrative tasks more efficient. Some examples of current practices are: the use of an online application to track and guide the student college application process; online gradebooks; online teacher publishing subscriptions to sites that make it very easy to share information on the web; district email that is available through any browser at any internet-connected computer anywhere; subscriptions to sites like United Streaming and Follett that provide pre-screened content for education; network infrastructure that facilitates central document storage and access from any computer on campus. Some of the initiatives that we are working on to increase teacher use of technology for administrative tasks include the following:

- Web-based attendance and grading
- Improved email client
- Extend access to tools such as TestWiz through use of web-based program
- New and improved web site that has an expanded resources for teachers and other staff

Wayland Public School Technology Plan 2006 Through 2009

We will review annually our acceptable use policy to assure continued compliance with CIPA.

We will review annually staffing needs as related to technology. We will consider number of staff members to support, student enrollment, computer inventory, student assessment results, past practice and results, and we will solicit staff for input.

To support our goal to have all instructional staff complete the TSAT annually, we are piloting the use of MassOne this year. It is our hope that this will make it easier for staff to participate and will improve data analysis.

We will review teacher evaluation forms from all of our professional development workshops and courses to improve these opportunities and to learn about other courses people would like to have offered.

The Administrative Council will consider our recommendation that all professional development courses will have a technology strand.

Wayland Public Schools currently has an acceptable computer to student ratio. One strategy to keep this ratio in acceptable limits is to request annual capital funding that can sustain this inventory. We will be alert to grant opportunities and other funding mechanisms to keep our ratio adequate.

In the area of technical support, Wayland Public Schools does currently have a full-time network administrator, 4 full-time technician positions and 4.8 Technology Specialists for 5 buildings. A strategy we will employ to make this team an effective support team is to provide training and professional development to keep their skills current and up-to-date.

Additionally, we will review salaries and responsibilities of technical staff to assess whether we are sufficiently competitive to keep competent and trained staff.

Through the regular budget process, we will advocate for the addition of a data management and assessment person to be added by July of 2008, and an Assistant Network Administrator by July of 2008.

We have already identified the .8 Technology Specialist position at the High School to be insufficient, and we will advocate to increase this position to full time.

Our internet access currently reaches to nearly every room in every building. One strategy we will use to keep this access viable and useful will be to observe and analyze network traffic in order to target network improvements where most needed. In addition, we will review internet connectivity and “uptime” to determine necessity of a secondary connection method should our primary connectivity fail.

Wayland Public Schools will work with community volunteers to investigate whether we can staff a school computer lab with volunteers to facilitate the use of computers by students, staff, and community members after the school day.

Our assessment procedure for hardware and telecommunications is based on whether the goods in mind meet the performance needed and if so, procurement is then based on the best price. Our assessment process for software considers price and technical compatibility with our hardware and infrastructure. We are working to establish a more complete assessment tool that includes curriculum compatibility, learning standards addressed, ease of use, and endorsement by a variety of teachers and curriculum leaders.

VI. Budget

Included in the existing school operating budget are funds for the salaries, supplies, contracted services, and equipment repair necessary to keep our existing personnel and infrastructure in place. One challenge that we face annually is that of capital funding to keep our network and computing environment somewhat up-to-date. We will continue to work toward securing this funding every year.

Any erate funds that are reimbursed to us will be used in support of our plan for hardware, software, and professional development.

We will advocate for the increases in budget necessary to add the personnel, as recommended here and in the future.

VII. Evaluation

Evaluation is an important component to the Technology Program. We are currently reviewing various evaluation tools developed by outside agencies and will adopt one. We are also in conversation with a Boston College research program to determine feasibility of participating in an outside evaluation.

VIII. Conclusion

All of our goals and strategies continue to reflect our commitment to using technology to further core curriculum goals. This document should be seen, not as a finished and static product, but as a living document that we will review and revise every year.

Over the next three years, we hope to use this plan to make continuous improvements in our infrastructure, our expertise, and our integration of technology in the curriculum, all to provide the best teaching and learning environment possible for our staff and students.

Appendix A

Capital Expenditure Plan

In addition to the regular operational budget, we are asking for Capital Funds as outlined below.

- One wireless laptop assigned to each classroom \$100,000 per year for 3 years
A laptop in each classroom would better facilitate working in small groups, student and teacher presentations, and making computing be more flexible and mobile within the classroom.
- Replace Obsolete Computers, Printers \$50,000 each year
We have about 200 instructional computers that are too old to be upgraded to the Apple OS X operating system. We need to replace as many of these as possible and, at the same time, plan a strategy for utilizing these older computers in some limited capacity. We do not yet meet the DOE benchmark of having an established replacement cycle of 6 years or less.
In addition, we have many printers that are 5 years old and older, and as these wear out and fail, they need to be replaced.
- Upgrade Existing Computers \$30,000 each year
This amount would be sufficient to purchase replacement parts and upgrade memory on those computers that are not replaced, but not purchased within the last three years.
- Install a Computer Projector into Every Classroom \$65,000 per year
This is a necessary tool for teachers and students to be able make presentations and for teachers to use computers effectively as a teaching and demonstration tool. We have approximately 190 classrooms in the district and 50 projectors. We would need to purchase 140 at an estimated cost of \$1700 each. In addition, there is great interest in installing interactive whiteboards in each of the computer labs across the district.
To complete this goal, it will take four years, one year beyond the timeframe covered in this plan.
- New Servers, Server Modules, and Server Racks \$30,000 per year
These would improve network efficiency and speed and enable us to make use of software that runs over the network rather than from the local drive.
It is foreseen that this item may cost less in year three. The reason that it is so high for years one and two is that many of our servers are already at replacement age.
- Network Improvements \$20,000 per year
Both the Wide Area Network (connections between schools) and our connections to the Internet, as well as the Local Area Networks (connections within schools) are in need of improvement and upgrade.
- Replace Hubs and Switches with Manageable Switches \$20,000 each year
This is to enable segmenting of our Local Area Networks as we bump up against maximum number of computers on each existing segment and to segment student network traffic to keep it from accessing the administrative server that houses the student information database system. In addition, it is our goal to use network segmentation to allow and manage the use of teachers' personal computers at school.
- Replace Obsolete Computers and Servers (Administrative) \$15,000 each year
The figures in the bullets above for computers refer to instructional computers. We also need to replace approximately 17% of our administrative computers annually, in order to meet the DOE requirement of having an established replacement cycle of 6 years or less.

Wayland Public School Technology Plan 2006 Through 2009

Appendix B

Staffing Plan

Role	Building	FY07	FY08	FY09	
Director of Technology	K-12	1	1	1	Oversees all technology planning and implementation
Network Administrator	K - 12	1	1	1	Oversees network maintenance and planning
Asst Network Administrator	K – 12	0	.5	1	Assists network administrator
Information System Specialist	K - 12	0	1	1	Manages data and assessment
Technician	K – 12	1	1	1	Install, support, troubleshoot
Technician	K – 12	1	1	1	Install, support, troubleshoot
Technician	K – 12	1	1	1	Install, support, troubleshoot
Technician	K - 12	1	1	1	Install, support, troubleshoot
Dept secretary	K - 12	.7	.7	1	Clerical support for dept
Technology Specialist	Loker	1	1	1	Teaches, provides pro. dev. And support for teachers, liaison to technicians
Technology Specialist	Claypit	1	1	1	Teaches, provides pro. dev. And support for teachers, liaison to technicians
Technology Specialist	Happy Hollow	1	1	1	Teaches, provides pro. dev. And support for teachers, liaison to technicians
Technology Specialist	WMS	1	1	1	Teaches, provides pro. dev. And support for teachers, liaison to technicians
Technology Specialist	WHS	.8	1	1	Teaches, provides pro. dev. And support for teachers, liaison to technicians
Technology Assistant	LOK	.4	.5	.5	Assists in day to day operations of technology
Technology Assistant	CH	.5	.5	.5	Assists in day to day operations of technology
Technology Assistant	HH	.4	.5	.5	Assists in day to day operations of technology
Technology Assistant	WMS	.5	.5	1	Assists in day to day operations of technology
Technology Assistant	WHS	1	1	1	Assists in day to day operations of technology
FTE		14.3	16.2	17.5	