

## **DISTRICT TECHNOLOGY PLAN**

**2010-2015**

South Middlesex Regional Vocational Technical School District  
Joseph P. Keefe Technical School

---

---

### **District Information:**

South Middlesex Regional Vocational Technical School District  
Joseph P. Keefe Technical School  
750 Winter Street  
Framingham, MA 01702  
DOE School Identification Number: 08290000  
Superintendent-Director: James M. Lynch  
Principal: Patricia Murray Canali  
Contact Person: James M. Lynch

The South Middlesex Regional Vocational Technical School District serves the towns of Ashland, Holliston, Hopkinton, Framingham and Natick. The school's programs are available to students from other towns on a tuition basis. The Joseph P. Keefe Technical School is located 30 miles west from Boston and 15 miles east of Worcester in the town of Framingham. Currently fourteen career-technical programs are offered in conjunction with a comprehensive academic program that meets the standards of MASS CORE.

## **Clear Vision of Technology and Implementation Strategies**

### A. **MISSION STATEMENT:**

Our mission is to challenge students to demonstrate the academic, technical and interpersonal skills necessary for successful lifelong learning.

### **TECHNOLOGY MISSION STATEMENT:**

The technology mission statement has been developed in conjunction with the school Mission Statement and the School Improvement Plan. Both of these serve to establish the need for critical thinking, problem solving and communication skills necessary for life-long learning. Our technology mission serves to empower students to use the available technology resources to become knowledgeable, competitive and productive citizens in a highly advanced technologically complex world. It is our intent to provide equitable access to current technology resources and training for all students and staff. The District is committed to the continuation of technology and professional development, all infrastructures and the maintenance and component replacement on a regular basis in accordance with our budgetary appropriations.

### **GOALS:**

1. That 85% of teachers use technology for research, lesson planning, multimedia, graphical presentations and simulations. Teachers will share technology uses with colleagues.
2. That 85% of the students will show proficiency in Massachusetts Technology literacy standards and expectations for their grade.

3. That 85% of staff will meet TSAT (Technology Self Assessment Tool) and/ or local District teacher technology competencies and implement them into the school environment.
4. That the District will provide significant technical staff and support tools to resolve 95% of problems within two days. Same day in-classroom technical support will be available. Technology will infrequently cause major disruptions to curriculum delivery using technology.
5. That the District will plan to allocate through all funding sources approximately \$300.00 per enrolled student for technology products and services.
6. The District will plan to have fewer than five students per Type A and B computer. The District will establish a replacement cycle that will be 20% overall equipment for computers of six years or less. The District will strive to maintain a one computer per teacher commitment
7. The District will plan to maintain an internet connection of 10Mbps per 1000 students and staff. The school will maintain a connection to district WAN of 100 Mbps per 1000 students and staff to avoid most delays. There shall exist easy access to the internet for students and staff including wireless availability.
8. The District will commit and respond to emerging technologies and pursue the development of connections for improved access to web-based and/or interactive IP-based video learning on the local, state, regional, national and international level (school to school, district to district, school/district to the state, state to state and county to county). Our applications are intended to include courses, cultural projects, virtual field trips, etc.
9. The District will plan to have all rooms connected to the internet with significant wireless connectivity with sufficient band width for effective student access. We will establish a minimum of a 100Mbps, Cat 5E switched network. District owned servers or cloud computing will provide secure storage, back-ups, applications, schedules, email and websites. Students, teachers and parents will have easy access to educational resources from home and school (e.g. web portal).
10. The District will plan to provide adequate network and server availability protection for expanded capabilities and to ensure dependable access. The District will provide for the protection of work stations from internal network attacks. Encryption of sensitive personal data will be included on local networks. The Network will support a broad policy on connecting appropriate (guest devices) on the network.
11. The District will continuously upgrade the infrastructure of the District to meet the daily requirements of a technologically literate staff and student body. Equipment replacements, updates and upgrades must be carefully planned and conducted in a consistent manner.

12. The District will provide every teacher at Joseph P. Keefe Technical School with up-to-date equipment, support and professional development opportunities to use the appropriate level of technology for teaching and learning including maintenance and upgrades.
13. The District will equip every classroom with ceiling mounted LCD projectors, smart boards or their equivalents, wireless internet access, Discovery Education Streaming Video and more advanced technology, and provide maintenance of equipment and upgrades.
14. The District will increase the technical proficiency level of teachers, administrators and support staff through increased professional development programs. This goal will provide an understanding of the broader potential of technology application in the classroom.
15. The District will develop technology policies and practices that will prepare students to develop 21<sup>st</sup> century skills such as critical thinking, problem solving and collaboration.
16. The District will employ Instructional Technology Specialists to work with teachers to enrich the learning experience for all students regardless of their educational level. Appropriate technology personnel must be included in the budget process to support the changing needs of the curriculum frameworks both academic and career-technical and those of professional development.
17. The District will increase the daily use of technology by students, faculty and staff through online competency tracking systems (COP), curriculum alignment to the Massachusetts State Standards for Curriculum Frameworks, online grading and scheduling, on-line parental access to student information and other more advanced technology opportunities.

**B. TECHNOLOGY LEADERSHIP:**

Leadership and planning for the technology needs within Joseph P. Keefe Technical School will come from seven sources - the South Middlesex Regional Vocational Technical School Committee, the Superintendent-Director, the building Principal, the Administrative Team, the Technology Committee, the facilitator of instructional technology and the senior technicians. The Technology Committee is composed of the previously stated personnel as well as six to eight faculty.

The Administrative Staff and Technology Committee will play an important role in providing direction and leadership for specific technology planning and utilization.

The implementation of this technology plan and recommended projects are the responsibility of the Technology Committee as is the continuous audit of the technology inventory as part of the technology planning process.

**C. NEEDS ASSESSMENT:**

The South Middlesex Regional Vocational Technical School District and the Keefe Technical School have participated in three recent assessments by two different technology consulting companies. The Tepui Group assessed the instructional technology needs while Custom Computer, Inc., assessed the technical support services and the technology network and infrastructure. These assessments are

being reviewed by the administration and the Technology Committee with a focus on the recommended actions for improvement.

The goals of this Technology Plan were developed as a result of the review of the three assessments. The goals address instructional technology hardware, software, licenses and professional development. The goals also address the level of technical support that the District is striving to achieve. Finally the goals address the commitment of the District to improve the technology infrastructure.

D. **BUDGET:**

The South Middlesex Regional Vocational Technical School District recognizes the importance of technology and the role that instructional technology plays in student achievement and the development of 21<sup>st</sup> century skills. The District will create and manage an annual budget that will ensure that the stated goals are achieved.

The South Middlesex Regional Vocational Technical School District has an ongoing technology budget consideration that will be approved by the five district towns: Ashland, Framingham, Holliston, Hopkinton and Natick. The operating budget will include:

- Personnel (administrative, technical and instructional)
- Professional Development
- Hardware
- Software
- Infrastructure/maintenance
- Consumable Technology Supplies
- Contracted Services

The South Middlesex Regional School District will seek funding from all sources including:

- Local community budgeting
- State funding sources
- Federal funding that is applicable
- Private funding opportunities
- All Federal, State and private grant funding
- All available E. rate eligible reimbursement

The District will plan to budget annually through the District budget development for the non-discounted portion of E. Rate reimbursement.

E. **EVALUATION:**

The District has a procurement practice for technology components that requires review by the administrative team, the technology staff and the District Business Manager who participates on the Technology Committee.

The South Middlesex Regional Vocational Technical School District will evaluate its Strategic Action Plan by measuring the effectiveness of its strategies to integrate technology into curriculum and instruction, expand the skill levels of faculty and staff,

improve student achievement, and to ensure that students are literate in technology through:

- The development and use of surveys to elicit feedback from staff, teachers and administrators regarding teaching practices within the Joseph P. Keefe Technical School,
- Reports by technology personnel, using School Dude and other reporting methods, to evaluate the frequency of teacher requests for technology assistance,
- Reports of the number of teachers, monitored by the instructional technology coordinator, enrolled in instructional technology professional development courses and workshops,
- Teacher-completed surveys of student technology use in all curriculum areas,
- Student-completed surveys of self-assessed technology skills, survey created by Keefe Tech,
- Teacher technology use survey provided by the DESE,
- All staff participation in the Massachusetts Technology Self-Assessment Tool.

The Technology Committee will meet on a regular basis to review and evaluate progress.

## **Technology Integration and Literacy**

### **A. TECHNOLOGY INTEGRATION**

It is the expectation of this technology plan that over a three-year period we will find at least 85% of teachers using technology everyday to perform tasks such as research, lesson planning, organization, administrative tasks, communications and collaboration. It is also expected that, with the help and guidance of the facilitator of instructional technology that the faculty and staff will explore evolving technologies and share information with their colleagues.

It is also the expectation of the District and this plan that in the next three years at least 85% of teachers use technology appropriately with students participating in learning activities that would include: research, multimedia, simulators, data analysis, communications and collaboration. It is also the expectation of the District that teachers will integrate evolving technologies that enhance student interest, inquiry, analysis, collaboration and creativity.

The process of integrating educational technologies into the Joseph P. Keefe Technical School curriculum will be achieved through linking curriculum goals to appropriate technologies and delivery systems. Integration efforts will be a cooperative endeavor involving classroom teachers, lead teachers, curriculum coordinators, instructional technology specialists, building administrators, and the technology committee. Projects will be developed that will enhance the content area and incorporate the curriculum frameworks established by the Department of Elementary and Secondary Education in both academic and career-technology areas. The use of technology to support instructional goals will be encouraged and supported by administrators and those responsible for curriculum development.

The South Middlesex Regional Vocational Technical School District is committed to providing learning opportunities for all students, teachers and families at Joseph P. Keefe Technical School through the use of technology that is aligned with standard-based curricula. We intend to provide opportunities for all learners, regardless of learning style, and support for teachers.

Teachers at Joseph P. Keefe Technical School will integrate technology with curricula in accordance with the following standards, based upon the Massachusetts recommended Instructional Technology Standards:

- Use internet and intranet communications efficiently and effectively to access information and communicate with others in the support of learning;
- Use technology tools to locate information from a variety of electronic sources in support of curriculum;
- Evaluate the accuracy, relevance, appropriateness, comprehensiveness and bias of electronic information used for curricula purposes;
- Use technology tools to record, analyze, compare and contrast and present basic facts and ideas to facilitate learning;
- Use technology for research, critical thinking, problem-solving, decision-making, communication, collaboration, creativity and innovation;
- Use multimedia tools and reinforcement and enrichment software to facilitate learning throughout the curriculum;
- Demonstrate the responsible use of technology and an understanding of ethics and safety issues in using electronic media at home, in school and in society.

**B. TECHNOLOGY LITERACY**

The South Middlesex Regional Vocational Technical School District will evaluate that at least 90% of all incoming 9<sup>th</sup> grade students will be able to show proficiency in all of the Massachusetts Technology Literacy Standards and Expectations for 8<sup>th</sup> graders through student assessment tools.

The District will require that by June of 2014 all teachers will take the “Massachusetts Technology Self Assessment Tool” (TSAT) and that at least 90% of the Districts teachers would have mastered at least 90% of the assessed skills. The District will communicate these expectations and provide related professional development opportunities for the staff.

**C. STAFFING**

It is the goal of the South Middlesex Regional Vocational Technical School District to meet the staffing expectations and guidelines of the DESE. Specifically, by the 2014-2015 school year, the District will have a full-time district-level Technology Director and one FTE instructional technology technician. In addition, the District plans to have staff dedicated to data management and to student assessment.

Currently the District’s technology is directed by senior management (Superintendent and Principal) in close consultation (monthly meetings) with the Technology Committee. The District currently provides one .3FTE senior technician and 1.0 FTE technician apprentice. In addition, the District presently has 1.8 FTE personnel dedicated to data management and assessment.

## **Technology and Professional Development**

A major component of the District's Technology Plan for the next three years is the focus on technology related Professional Development. These professional development activities, workshops and courses will be offered at our District facilities and also be supported and conducted at off campus institutions. It is the District's expectation that at the end of three years at least 90% of the District's staff will have participated in high quality, on-going professional development that includes emerging technology issues, technology skills, universal design and research based models of technology integration.

Technology professional development will be a primary focus of the District for the future. The professional development sessions will include: coaching, modeling best practices, district-based mentoring, study groups and on-line professional development.

As stated in other sections of this plan, the District will frequently assess the staff to establish their levels of proficiency and we will design professional development accordingly. The Massachusetts Technology Self-Assessment tool will be given to teachers and other staff to monitor progress and establish benchmarks for improvement. It is also expected that teachers, administrators and support staff discover their own needs based on their personal successes and struggles and apply for professional development that will improve their technology competencies.

### **Accessibility of Technology**

#### **A. HARDWARE ACCESS**

Currently Keefe Technical School has approximately 500 computers available for 676 students. It is part of our Technology Plan that by the 2013-2014 school year we will have an average ratio of one high capacity, internet-connected computer for each student.

The South Middlesex Regional Vocation Technical School District will charge the facilitator of instructional technology with the task of keeping abreast of and recommending the procurement of new emerging technologies that can enhance instruction and learning.

These technologies must be age and grade appropriate and the recommendation of these technologies will be submitted to the Technology Committee for approval. The Technology Committee will recommend purchase action as well as appropriate professional development.

The Keefe Technical School maximizes access to the general education curriculum for all students including students with disabilities, using universal design principles and assistive technology devices. In 2011 Keefe will purchase a significant number of net books for students use and Mimeo smart board technology for use in instructional support classrooms.

It is the plan of the South Middlesex District in 2011 to complete the purchase of instructional technology tools and equipment that will provide for technology rich classrooms. These classrooms will have access to devices such as digital projectors, electronic white boards, document cameras and student response systems.

The South Middlesex Regional School District maintains an active recording of computers by date of purchase. The District is committed to a replacement cycle of 20% of inventory every five years for said computers and this practice will include planning for budget implications.

The Technology Plan of the South Middlesex District establishes the Technology Committee as the consulting body to identify and refer specifications for standardization of technology components and peripherals throughout the district for new information and instructional technologies that ensure usability, equivalent access, interoperability and SIF compliance. As an RTTT grant participant, the South Middlesex Regional Technical School District has agreed to work toward interoperability and SIF compliance. The Technology Committee will review and consider membership in the "SIF Association" and "EdSTART", the association's educational software and Technology Application Registry tool. The SIF Vision to "allow schools to better utilize data by implementing technology in a manner that leverages the promise and capability of interoperability between disparate applications" is a vision of the future access and use of data that this District embraces

**B. INTERNET ACCESS**

The Keefe Technical School provides connectivity to the internet for all computers in all classrooms in the school. In 2010, the District installed wireless technology throughout the Keefe Technical School. The school District's goal is to provide an external internet connection to the internet service provider (ISP) of 100 Mbps per 1000 students/staff. The South Middlesex Regional School District also maintains a bandwidth of 10/100/1 Gb to each classroom. At peak, the bandwidth at each computer is at 100 Mbps. In addition, the District is purchasing computers with network cards that are a minimum 10/100/1 Gb.

**C. NETWORKING (LAN/WAN)**

The District is committed to providing access to servers for secure file sharing, back-ups, scheduling, email and web publishing either internally or through contracted services.

**D. ACCESS TO THE INTERNET**

The school day at the Keefe Technical School is 7:30 A.M. to 2:00 P.M. The school has an after school extra-help schedule that functions three days a week and computers are available for student use during this time frame. In addition, students are encouraged to arrange for extra help with their teachers and the use of technology before and after school with teachers is available. The students learn through the daily announcements and communication with teachers that computers are available in the school library and in the technology labs in the building.

E. **STAFFING**

The South Middlesex Regional Technical School District monitors its network internally with District employees and, if needed, can contract with an experienced reputable vendor for 24/7-365 monitoring. The use of an outside service provider will follow an upgrade in server equipment.

The District has, in 2010, restructured the technical service component of the Technology Help Desk. The District has identified a senior technician, hired a new technician apprentice, established a phone communication system using main office staff and implemented a new software (School Dude) component to respond to user needs within a 24-hour time frame. Professional Development on use of the new software is being offered in 2010 and will be expanded from 2010 to 2013. The help desk phone number is publicized daily.

The District currently provides one .3 FTE senior technician, one 1.0 FTE technician apprentice, one .3 FTE secretarial contact person for technology troubles and has used in 2010, a contracted services relationship with outside vendors. The contracted services vendor can be contracted on as an-needed basis and in 2010 has been used to address technology issues.

## **Virtual Learning and Communications**

In 2010, the School District Administration assigned the duties of Instructional Technology Specialist to the existing student assessment specialist to create the new position of "Facilitator of Instructional Technology and Student Assessment". The duties of this position include recommending to the Technology Committee the development and use of innovative strategies for delivering high quality courses through the use of technology. It is the plan of the District that by the 2012-2013 school year, the Keefe Technical School will have classroom applications of virtual learning including courses, collaborative projects, field trips and discussions. To support this activity, the District will continue to deploy and improve on IP-based connections for access to web-based and/or interactive video learning. This access will be broad based and include local, state, regional, national and international levels.

In 2008, the South Middlesex Regional School District created and implemented a new web-site. While this web-site was an improvement over the previous web-site, it is the plan of the District to install a new and more comprehensive web-site in 2011. The District is expanding its access to parents and other community members and the new web-site will help to facilitate the expanding information.

## **Safety, Security and Data Retention**

The South Middlesex District has an acceptable use policy (AUP) regarding internet and network use for all staff and a signature indicating knowledge and understanding of this policy is required. In a like manner, the Student Handbook has an acceptable use policy and clear expectations of appropriate use of the internet and other networks. A student's signature for this is also required. These policies are reviewed annually and incorporate new regulations as applicable.

The District will explore incorporating all governmental guidelines that are available as a way to continue to educate students and staff on the topics of on-line behavior. The District has adopted an anti-bullying plan that has been accepted by the School Committee, posted on our web-site and submitted to the Massachusetts Department of Elementary and Secondary Education. The risks and implications of cyber bullying are included as well as the concerns of social networking sites.

In 2010, the South Middlesex Regional Technical School District has re-established its commitment to security and confidentiality of personal information of students and staff. The Technology Committee will, as its priority, examine our present practices and make recommendations for improvement.

The District contracts with outside vendors for e-mail archiving and other functions. The District administration continuously informs its staff and students that email is a public record. In addition, all official administrative emails have salutations that include awareness of the law regarding electronic transmissions.

This plan is a dynamic document that is subject to change with needs as they are assessed, budgeted appropriations, etc.

## Glossary

TSAT	- Technology Self Assessment Tool
WAN	- Wide Area Network
LAN	- Local Area Network
IP	- Internal Protocol
Mbps	- Megabits per second
RTTT	- Race to the Top
SIF	- Schools Interoperability Framework
Gbps	- Gigabits per second

### Bandwidth –

The difference between the highest and lowest frequencies of a transmission channel (the width of its allocated band of frequencies). The term is often used erroneously to mean data rate or capacity – the amount of data that is, or can be, sent through a given communications circuit per second.

EdStart - SIF Association's Educational Software and Technology Application Registry Tool

MECnet - Merrimack Education Center Technology and Internal Solutions