

DISTRICT TECHNOLOGY PLAN

2015-2018

DISTRICT INFORMATION AND APPENDIX

South Middlesex Regional Vocational Technical School District
Joseph P. Keefe Technical School
750 Winter Street
Framingham, MA 01702
Superintendent-Director: Mr. Jonathan Evans
Principal: Ms. Shannon Snow
District Business Manager: Ms. Kirsteen Leveillee
Contact Person: Mr. Jonathan Evans
DOE School Identification Number: 08290000

The South Middlesex Regional Vocational Technical School District serves the towns of Ashland, Holliston, Hopkinton, Framingham and Natick, Massachusetts. The District'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 in the town of Framingham. To date, fifteen career-technical programs are offered in conjunction with a comprehensive academic program that is MASS CORE compliant.

1. District Mission and Technology Goals

- a. District Mission Statement
- b. Technology Mission Statement
- c. Major Goals
- d. Specific Targets

2. Implementation Strategies

- a. Technology Leadership
- b. Needs Assessment
- c. Budget
- d. Evaluation of Implementation Strategies

3. Strategies for Staff Integration and Literacy

- a. Technology Integration
- b. Technology Literacy
- c. Technology Staffing

4. Professional Development

5. Accessibility Report

6. Virtual Learning and Communications

7. Safety, Security, and Data Retention

1. District Mission and Technology Goals

A. DISTRICT MISSION STATEMENT

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

B. TECHNOLOGY MISSION STATEMENT

“All students, teachers and administrators will have ubiquitous access to the digital resources that enable and encourage lifelong learning.”

The mission statement, developed in conjunction with the School Mission Statement and the School Improvement Plan, facilitates the District mission through the development of critical thinking, problem solving, collaboration, and communication skills that are necessary for life-long learning.

The students and teachers at the South Middlesex Regional Vocational Technical School District will use best in class educational technology that supports the acquisition of the academic, technical and interpersonal skills necessary for college and/ or a career. Our technology mission empowers students to use technology resources to become knowledgeable, competitive and productive citizens in a technologically complex world.

The District will ensure equitable access to current technology resources through a commitment to the technology initiative, which includes regular upgrades to infrastructure, professional development, and continued integration of advanced technology into the classroom within budgetary appropriations.

C. MAJOR GOALS

1. Every teacher and administrator will have school and home use of the computing devices best suited to support their role in the district and continuous access to the applications and data necessary to support their teaching or administrative responsibilities.
2. Every student will have school day use of computing devices and persistent access to the applications and data necessary to support their learning responsibilities.
3. Students, teachers, administrators and parents will have the training required to enable them to learn, teach, administer, and support the district's mission.
4. Every parent and guardian will have access to the school's teachers and administrators and the information they need to actively participate in their student's learning.
5. The District will secure all Internet content and student data to remain fully compliant with the Children's Internet Protection Act by implementing an Internet safety policy addressing:
 - i. Access by minors to inappropriate matter on the Internet

- ii. The safety and security of minors when using electronic mail, chat rooms, and other forms of direct electronic communications
- iii. Unauthorized access, including hacking, and other unlawful activities online
- iv. Unauthorized disclosure, use, and dissemination of personal information regarding minors
- v. Measures restricting minors' access to materials harmful to them

D. SPECIFIC TARGETS:

1. The District will anticipate that 90% of teachers will use technology for research, lesson planning, multimedia, graphical presentations and simulations. Teachers will share technology uses with colleagues.
2. The District will anticipate that 90% of the students will show proficiency in Massachusetts Technology literacy standards and expectations for their grade.
3. The District will provide technical staff and support tools to resolve 90% of problems within two days. Same day in-classroom technical support will be available. Curriculum using technology will rarely, if ever, be subject to major technology disruptions and such disruptions, if they occur, will not last longer than 24 hours.
4. The District will plan to allocate through all funding sources approximately \$300.00 per enrolled student to purchase technology products and services.
5. The District will have fewer than three students per school computer. The District will establish a replacement cycle to ensure that at least 80% of devices are five years old or newer. The District will provide one laptop computer for every teacher.
6. The District will provide significant bandwidth and computing devices for online testing in accordance with guidelines specified by The Partnership for Assessment of Readiness for College and Careers (PARCC). The District will continue to participate in PARCC pilot testing programs so long as it can accommodate these tests.
7. The District will commit and respond to emerging technologies and develop connections for improved access to web-based learning on the local, state, regional, national and international level. Web based applications include courses, cultural projects, virtual field trips, and other learning opportunities.
8. The District will provide a wireless internet connection in every classroom with sufficient bandwidth for student and faculty access. We will establish a minimum of a Gigabit switched internal network.
9. District owned servers or cloud computing will provide secure storage, back-ups, applications, schedules, email and websites to support the technology mission. Students, teachers and parents will have easy access to educational resources from home and school (e.g. school web portal)

10. The District will provide adequate network and server protection to ensure dependable access. The District will protect computer work stations from internal network attacks. Encryption of sensitive personal data will be included on local and external networks where such data is hosted. The Technology department will support a broad policy on securely connecting appropriate guest devices to the network.
11. The District will continuously upgrade its internal infrastructure to meet the daily requirements of a technologically educated staff and student body. Equipment replacements, updates, and upgrades will be carefully planned and will be conducted regularly within budgetary appropriations.
12. The District will provide every teacher at Joseph P. Keefe Technical School with modern technology and the professional development opportunities to use this technology at the highest level possible for teaching and learning. These programs will provide an understanding of the broader potential of technology and its role in the classroom.
13. The District has equipped every classroom with ceiling mounted LCD or DLP projectors, wireless internet access, other advanced technology such as interactive white boards where applicable, and will provide regular maintenance and upgrades to equipment.
14. The District will contract 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 both the academic and the career-technical curriculum frameworks.
15. The District will increase the daily use of technology by students, faculty and staff through online competency tracking systems such as curriculum alignment to the Common Core Academic Standards for Curriculum Frameworks, online grading and scheduling, online parental access to student information, PARCC pilot testing, preparation for the utilization of the EDWIN Teaching, Learning and Analytics Platform and other more advanced technology opportunities offered by the DESE

2. Implementation Strategies

A. *TECHNOLOGY LEADERSHIP:*

Leadership and planning for the technology department 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, and the technology support staff. The Technology Committee is composed of the aforementioned personnel as well as four to six faculty members.

The implementation of this technology plan and the projects stated therein are the responsibility of the Technology Committee. The continuous audit of the technology inventory is the responsibility of the technology staff and the resulting information will be shared with the technology committee for planning purposes.

B. *NEEDS ASSESSMENT*

The South Middlesex Regional Vocational Technical School District is committed to continuous improvement of its technology infrastructure and implementation strategy. Careful planning is paramount when conducting these updates, upgrades, and modifications to equipment, software, and processes. In 2013, the District made a strategic decision to promote a Software as a Service (SaaS) delivery model through migration to cloud services, wireless computing, and sustainable devices. The Technology Leadership believes it has successfully executed this model through the introduction of SaaS technology wherever applicable including a full Google Apps implementation and a hosted ERP environment delivered via Citrix technologies.

The SaaS model allows the District to prioritize its internal network infrastructure above other technology hardware when conducting equipment upgrades. The SaaS model also enables sustainability as the District approaches a one-to-one device to student ratio by lowering costs of PC hardware. The District will continue to prioritize the Software as a Service model when establishing technology needs, which will primarily be driven by improvements to network bandwidth, wireless networking, and sustainability of classroom devices. These needs are measured and executed by the Technology Leadership.

C. *BUDGET*

The South Middlesex Regional Vocational Technical School District recognizes the importance of technology and the vital role that instructional technology plays in student achievement and the development of 21st 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 reviewed 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 source
- 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.

D. EVALUATION OF IMPLEMENTATION STRATEGIES

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 District Improvement Plan by measuring the effectiveness of its strategies to integrate technology into curriculum and instruction, expand the skill levels of faculty, 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 Atlassian JIRA and other reporting methods, to evaluate the frequency of teacher requests for technology assistance and to better allocate resources to expedite and improve the internal support process.
- Reports of the number of teachers, monitored by the Principal, enrolled in instructional technology professional development courses and workshops.
- Teacher-completed surveys of student technology use in all curriculum areas
- Teacher technology use survey provided by the DESE

3. Strategies for Staff Integration and Literacy

A. *TECHNOLOGY INTEGRATION*

It is the expectation of the district and this technology plan that, over a three-year period, at least 85% of teachers will use technology every day 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 technology support staff, that the faculty and staff will explore evolving educational technologies and share information with their colleagues.

It is also the expectation of the District that, within the next three years, at least 90% of teachers will use technology appropriately with students to facilitate learning activities that will include research, multimedia, simulations, data analysis, and collaboration. It is also the expectation of the District that teachers will enhance student interest, inquiry, analysis, collaboration and creativity by integrating these evolving technologies into the classroom to support the District's mission

Joseph P. Keefe Technical School will integrate educational technology into the curriculum by linking curriculum goals to appropriate technologies and delivery systems discussed below. Integration efforts will be a cooperative endeavor involving the classroom teacher, lead teachers, curriculum coordinators, instructional technology specialists, building administrators, and the Technology Committee. Projects will be developed by the senior leadership 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 others 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 by aligning the use of technology with standard-based curricula. We intend to provide opportunities for all learners.

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 9th grade students will be able to show proficiency in all of the Massachusetts Technology Literacy Standards and Expectations for 8th graders through student assessment tools. Instructors and administration will embrace and anticipate this competency by developing curricula that challenges students to demonstrate achievement through the use of 21st century technology and collaboration.

C. TECHNOLOGY 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 2016-2017 school year, the District will have a full-time district-level Technology Coordinator 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, Principal and Business Manager) in consultation with the Technology Committee. To date, the District is budgeted for one Systems Analyst and one Help Desk Technician.

4. Professional Development

Professional Development plays a vital role in the District's continuous training of its educators and is a major component of the District's Technology Initiative over the next three years. These professional development activities, workshops, and courses will be offered at our District facilities and will also be supported or conducted at other institutions. It is the District's expectation that, within three years, at least 90% of the District's staff will have participated in on-going high quality professional development that includes emerging technology issues, technology skills, universal design, and research based models of technology integration. During the 2015-2016 school year, the District will direct the majority of professional development resources towards Google Apps development through courses, discussions, and other training mediums with faculty as recommended by the senior leadership. The District will also pilot test Google Classroom during the 2015-2016 school year and seeks to establish a district-wide learning management system.

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 online courses. The District strives to implement a "Train the Trainer" model when appropriate for professional development opportunities, whereby a practiced instructor will develop the tools necessary to train other staff on emerging technologies and their application to the District.

The District will frequently assess its staff to establish their levels of proficiency and will design professional development in accordance with these assessments. It is expected that teachers, administrators, and support staff will discover their own needs based on their personal successes and struggles and apply for professional development that will best improve their technology competencies based on surveys elicited from the administration.

5. Accessibility Report

A. *HARDWARE ACCESS*

Keefe Technical School has approximately 600 computers available for 711 students. In 2013, the District achieved a one computer per student ratio during each student's academic week and plans to sustain this ratio through 2018.

The South Middlesex Regional Vocational Technical School District will charge the Education Technology Coordinator with the task of keeping abreast of and recommending the procurement of new emerging technologies that can enhance instruction and learning.

Keefe Technical School maximizes access to the general education curriculum for all students, including students with disabilities, through the use of universal design principles and assistive technology devices. The District provides a significant number of laptops for student use and has equipped Smart Board technology for use in instructional support classrooms. All academic departments have been allocated two laptop carts per department and the District is dedicated to high availability of assistive educational technology in the classroom.

It is the plan of the South Middlesex District, over the next three years, to complete the purchase of instructional technology tools and equipment that will actualize technology rich classrooms. These classrooms will have access to devices such as digital projectors, interactive white boards, student response systems, and laptop computers/tablets for individual use.

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 to ensure that all District computers are six years old or newer. 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 appropriate learning management systems and refer specifications for standardization of technology components and peripherals throughout the District. The Tech committee will provide advice on new information and instructional technologies that ensure usability, equivalent access, interoperability and SIF compliance. As a RTTT grant participant, the South Middlesex Regional Technical School District has agreed to work toward interoperability and SIF compliance. 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. *NETWORK ACCESS*

The Keefe Technical School provides wireless connectivity to the internet for all computers in all classrooms in the school. Since 2010, the District has equipped Keefe Technical School with fifty-five managed wireless access points and will continue to add access points as additional bandwidth or facility needs are identified. The school District will maintain a minimum connection to the internet service provider (ISP) of 100 Mbps per 1000 students/staff and currently offers a Gigabit (1000 Mbps) ISP connection. In 2013, the District installed a 10 GbE fiber-switched network with Gigabit networking at each access layer. This installation provided significant network capacity to achieve bandwidth-based service goals as well as support the installation of an IP based telephony system. The District has established a service goal to

deliver network bandwidth of 2.5 Mbps per each concurrent connection during peak usage hours as to maximize the potential of internet-based educational technology.

C. STUDENT ACCESS TO THE INTERNET

The school day at Keefe Technical School is 7:30 A.M. to 2:00 P.M. The school schedules an after-school extra-help program that functions three days a week, during which time computers and the internet are available for student use. In addition, students are encouraged to arrange for extra help with their teachers to use technology before and after school, and teachers communicate with students that computers are available in the school library and in the technology labs.

D. STAFFING

District staff monitor the network internally to uphold its Acceptable Use Policy, prevent malicious intrusions, and to ensure that service goals are being met. The District employs a full time Systems Analyst and FTE Instructional Technology Technician, and regularly contracts the services of educational technology specialists for professional development. The District utilizes the Atlassian JIRA issue tracking software to enhance its ability to respond to troubles, report help desk metrics, and develop service level agreements. The District has targeted that 90% of technical issues will be resolved within two days and will provide adequate staffing to support this target and to provide in-classroom technical support on a daily basis.

6. Virtual Learning and Communications

The Keefe Regional Technical School has a new website created and posted in 2014. This new web site was created at Keefe Regional Technical School by staff and is maintained by staff. This web site contains all information on the South Middlesex Regional Technical School District as well as Keefe Regional Technical School. The web address is www.keefetech.org.

The South Middlesex Regional Vocational Technical School District is a member of the Accept Education Collaborative, and as such, seeks to be on the vanguard for virtual education opportunities. These opportunities to access virtual education on-line might be for credit recovery, advanced placement course opportunities, global education initiatives and the like. We continue to explore virtual learning through our affiliation with the Accept Education Collaborative. The District wholly endorses the Commonwealth Virtual Schools Act and anticipates a strong relationship with the Collaborative to develop and generate virtual learning pedagogy.

7. Safety, Security and Data Retention

The South Middlesex Regional Vocational Technical School District furnishes an acceptable use policy (AUP) regarding responsible internet and network use for all staff and students. The District requires a staff signature to indicate that the staff member understands and intends to follow the acceptable use policy, which is available on www.keefetech.org. Responsible student conduct on provided networks is also established with an acceptable use policy that is contained in each copy of the student handbook, which also requires a

student's signature.. These policies are reviewed annually and incorporate new regulations as applicable.

The District will explore 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, has been posted to www.keefetech.org, and has been submitted to the Massachusetts Department of Elementary and Secondary Education. The risks and implications of cyber bullying are included, as well as risks and implications regarding social networking sites.

All electronic district communication is hosted on a Google Apps domain and is archived according to legal requirements using the Google Vault retention system. 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 or impacted by budget appropriations, etc.