

Local Technology Plan Guidelines (School Year 2010-2011 through 2014-2015)

These guidelines are designed to help districts develop purposeful long-range technology plans. While not mandated, the guidelines represent recommended conditions for effectively integrating technology into teaching and learning.

There are several reasons that a school district should develop and maintain a technology plan. First, comprehensive planning helps the district take advantage of technology's power to improve teaching and learning. Technology has the power to engage and challenge students. Applications such as formative assessment tools can help teachers ensure that students are meeting the standards. By allowing teachers to access information about student learning, information systems make it possible for teachers to support individual students better. Virtual learning programs can increase the range of learning opportunities available to students, enabling them to study with experts and other students around the globe. Technology can also play a role in ensuring students' safety, by facilitating communication among school personnel and parents.

Funding is another reason technology planning is important. Every school district must have a long-range strategic technology plan approved by the Department of Elementary and Secondary Education in order to be eligible for E-Rate discounts and federal and state technology grants. Each school district is required to develop a 3- to 5-year plan, which should be kept on file locally. Each year, as part of the technology plan approval process, the Department asks districts to report on the progress they have made in implementing their plans through the Department's security portal. The Department reviews this data, along with the district's long-range plan, to approve the district's plan. To facilitate this process, the Department asks the district to post its long-range plan on its web site or to email a copy of the plan to the Department.

These guidelines are based on the School Technology and Readiness (STaR) Chart¹ developed by the state's Educational Technology Advisory Council (ETAC). Using the STaR Chart, along with advice from stakeholders across the Commonwealth, the Department has developed this new set of guidelines for schools to use in technology planning. These guidelines are not mandated but rather recommended benchmarks for districts to meet by the end of the school year 2014- 2015. The Department will use these guidelines to gauge the progress of districts' implementation in order to approve their technology plans annually.

¹ The StaR Chart is available on the Department's website (<http://www.doe.mass.edu/boe/sac/edtech/?section=star>).

Benchmark 1

Commitment to a Clear Vision and Implementation Strategies

- A. The district's technology plan contains a clearly stated and reasonable set of goals and implementation strategies that align with the district-wide school improvement plan. The district is committed to achieving its vision by the end of the school year 2014-2015.

- B. The district has a technology team with representatives from a variety of stakeholder groups, including school committee members, administrators, and teachers. The technology team has the full support of the school superintendent to implement the plan.

- C. Needs Assessment
 - 1. The district assesses the technology products and services that will be needed to improve teaching and learning.
 - 2. The technology plan includes an assessment of the services and products that are currently being used and that the district plans to acquire.

- D. Budget
 - 1. The district recognizes that technology plays a critical role in achieving its goals. The district has a budget that will ensure the implementation of its long-range technology plan.
 - 2. The budget includes staffing, infrastructure, hardware, software applications, professional development, support, and contracted services.
 - 3. The district seeks funding for technology programs from federal, state, and private resources, as well as from academic departments that are supported by technology. The district explores ways that technology can reduce costs and create efficiencies in other areas of the district budget.
 - 4. For districts that plan to apply for E-rate reimbursement, the technology plan specifies how the district will pay for the non-discounted portion of their costs for the services procured through E-rate.

- E. Evaluation
 - 1. The district routinely consults with technology staff before purchasing technologies items, to ensure that the items are appropriate, cost-effective, and sustainable.

2. The district's technology plan includes an evaluation process that enables it to monitor its progress in achieving its goals and to make mid-course corrections in response to new developments and opportunities as they arise.

Benchmark 2

Technology Integration and Literacy

A. Technology Integration²

1. Outside Teaching Time - At least 90% of teachers use technology every day, including some of the following areas: research, lesson planning, organization, administrative tasks, communications, and collaboration. Teachers explore evolving technologies and share information about technology uses with their colleagues.
2. For Teaching and Learning - At least 90% of teachers use technology appropriately with students every day to improve student learning of the curriculum. Activities include some of the following: research, multimedia, simulations, data analysis, communications, and collaboration. Teachers integrate evolving technologies that enhance student interest, inquiry, analysis, collaboration, and creativity.

B. Technology Literacy

1. At least 90% of eighth grade students show proficiency in all the *Massachusetts Technology Literacy Standards and Expectations* for grade eight³.
2. 100% of teachers are working to meet the proficiency level in technology, and by the school year 2014-2015, 90% of teachers will have mastered 90% of the skills in the Massachusetts Technology Self-Assessment Tool (TSAT).⁴

C. Staffing

² The Massachusetts Department of Elementary and Secondary Education defines technology integration as the daily use of technology in classrooms, libraries, and labs to improve student learning.

³ The *Massachusetts Technology Literacy Standards and Expectations* are available on the Department's website (<http://www.doe.mass.edu/edtech/standards.html>).

⁴ The *Technology Self-Assessment Tool* is available on the Department's website (http://www.doe.mass.edu/edtech/standards/sa_tool.html).

1. The district has a district-level technology director/coordinator.
2. The district provides one FTE instructional technology specialist per 60-120 instructional staff to coach and model.
3. The district has staff specifically dedicated to data management and assessment.

Benchmark 3

Technology Professional Development

- A. At the end of five years, at least 90% of district staff will have participated in high-quality, ongoing professional development that includes emerging technology issues, technology skills, universal design, and research-based models of technology integration.
- B. Technology professional development is sustained and ongoing and includes coaching, modeling best practices, district-based mentoring, study groups, and online professional development.
- C. Professional development planning includes an assessment of district and teachers' needs. The assessment is based on the competencies listed in the Massachusetts Technology Self-Assessment Tool.⁵
- D. Administrators and teachers consider their own needs for technology professional development.⁶

Benchmark 4

Accessibility of Technology

- A. Hardware Access
 1. By 2014-2015, the district has an average ratio of one high-capacity, Internet-connected computer for each student. (The Department will work with stakeholders on a regular basis to review and define high-capacity

⁵ The *Technology Self-Assessment Tool* is available on the Department's website (http://www.doe.mass.edu/edtech/standards/sa_tool.html).

⁶ A sample administrator technology self assessment tool is available on the Department's web site (http://www.doe.mass.edu/edtech/standards/tsat_sampadmin.html). Administrators may also want to refer to the *National Educational Technology Standards (NETS•A) and Performance Indicators for Administrators* published by the International Society for Technology in Education (http://www.iste.org/Content/NavigationMenu/NETS/ForAdministrators/2009Standards/NETS-A_2009.pdf).

computers.)

2. The district provides students with emerging technologies appropriate to their grade level.
3. The district maximizes access to the general education curriculum for all students, including students with disabilities, using universal design principles and assistive technology devices.
4. The district has procurement policies for information and instructional technologies that ensure usability, equivalent access, interoperability and SIF compliance⁷.
5. The district provides technology-rich classrooms, with access to devices such as digital projectors, electronic whiteboards, and student response systems.
6. The district has established a computer replacement cycle of five years or less.

B. Internet Access

1. The district provides connectivity to the Internet for all computers in all classrooms in all schools, including wireless connectivity.
2. The district provides an external Internet connection to the Internet Service Provider (ISP) of 100 Mbps per 1,000 students/staff.⁸
3. The district provides bandwidth of at least 10/100/1 Gb to each classroom. At peak, the bandwidth at each computer is at least 100 kbps. The network card for each computer is at least 10/100/1 Gb.

C. Networking (LAN/WAN)

1. The district provides internal wide area network (WAN) connections from the district to each school between schools of at least 1 Gbps per 1,000 students/staff.
2. The district provides access to servers for secure file sharing, backups, scheduling, email, and web publishing, either internally or through

⁷ For more information, see the website for the SIF Association (<http://www.sifinfo.org/us/index.asp>).

⁸ For more information, see the 2008 report *High-Speed Broadband Access for All Kids: Breaking through the Barriers* published by the State Educational Technology Directors Association (SETDA), available on SETDA's website (<http://www.setda.org/web/guest/2020/broadband>).

contracted services.

D. Access to the Internet Outside the School Day

1. The district provides access to its computer labs before and after school to ensure that students and staff have adequate access to the Internet outside of the school day.
2. The district disseminates a list of up-to-date list of places where students and staff can access the Internet after school hours.

E. Staffing

1. The district provides staff or contracted services to ensure that its network is functioning at all times.
2. The district provides resolves technical problems within 24 hours, so that they do not cause major disruptions to curriculum delivery. The district provides clear information about how to access technical support, which can be provided in person or remotely.
3. The district provides at least one FTE person to support 400 computers. Technical support can be provided by dedicated staff or contracted services.

Benchmark 5

Virtual Learning and Communications

- A. The district encourages the development and use of innovative strategies for delivering high-quality courses through the use of technology.
- B. The district deploys IP-based connections for access to web-based and/or interactive video learning on the local, state, regional, national, and international level.
- C. Classroom applications of virtual learning include courses, collaborative projects, field trips, and discussions.
- D. The district maintains an up-to-date website that includes information for parents and community members.

Benchmark 6

Safety, Security, and Data Retention

- A. The district has a CIPA-compliant Acceptable Use Policy (AUP) regarding Internet and network use. The policy is updated as needed to help ensure safe and ethical use of resources by teachers and students.
- B. The district educates teachers and students about appropriate online behavior. Topics include cyberbullying, potential risks related to social networking sites and chat rooms, and strategies for dealing with these issues.⁹
- C. The district has a plan to protect the security and confidentiality of personal information of its students and staff.¹⁰
- D. The district complies with federal and state law¹¹, and local policies for archiving electronic communications produced by its staff and students. The district informs staff and students that any information distributed over the district or school network may be a public record.

⁹ To learn more about teaching students about safety and the Internet, see Net Cetera: Chatting with Kids About Being Online, a free guidebook produced through a partnership of federal agencies and the technology industry (<http://www.edgoblogs.org/duncan/2009/12/online-safety-guidebook-for-parents/>).

¹⁰ To find out how state agencies in the Executive Branch must protect personal information, as well as to find training tools related to this effort, see the Commonwealth's website (<http://www.mass.gov/?pageID=afsubtopic&L=6&L0=Home&L1=Research+%26+Technology&L2=IT+Policies%2c+Standards+%26+Guidance&L3=Legal+Guidance&L4=Privacy+%26+Security&L5=Executive+Order+504&sid=Eoaf>).

¹¹ Information about state regulations is available from the state's Record Management Unit (<http://www.sec.state.ma.us/arc/arcrmu/rmuidx.htm>).