Local Technology Plan
(School Year 2012-2013 through 2014-2015)

Benchmark 1
Commitment to a Clear Vision and Implementation Strategies

A. Vision, Mission, Core Values & Goals

Vision Statement
The vision of the Carlisle Public Schools is to inspire intellectual and ethical excellence so our students are prepared to participate in a global community.

Mission Statement
The mission of the Carlisle Public Schools is to provide a collaborative and caring community in which each student is known, understood, and valued so that students can learn to their fullest potential in a safe, inclusive environment with high expectations and clear standards for all.

Core Values
- Academic Excellence

- Creativity

- Respect

- Responsibility

District Goals
1. **Provide a rich curriculum in order to maximize student learning**
    The district will assess the curriculum through review cycles and utilize the benchmarks to foster vertical and horizontal articulation and implementation in curriculum, assessment, and instructional practices. Our staff development plan will lead to ongoing student assessment and differentiated instruction to meet the needs of all Carlisle students and prepare them for high school and for a global community.

2. **Build a community of respect in a safe and healthy learning environment.**
    The district will promote and maintain an inclusive, safe, and respectful environment that fosters leadership and healthy living. The administration, staff, and students will engage in honest and open dialogues to further encourage the development of a culture of trust and respect.

3. **Integrate technology**
   The district will integrate technology into the curriculum. Staff development opportunities will be provided to encourage the integration of technology benchmarks into units of study to support student achievement and proficiency.

4. **Meet space needs and manage the resources of the Carlisle Public Schools**
   The district will work closely with the School Building Committee, MSBA, and town to meet the space needs of the staff and students at the Carlisle Public Schools. The district will promote efficient management of CPS resources.

B. District Technology Committee

Joyce Mehaffey	Superintendent/Principal
Susan Pray	School Business Manager
Carolynn Luby	Network Manager
Cynthia McCann	Technology Integration Specialist
Sandy Kelly	Library/Media Specialist
Nanette Johnson	Technology Assistant
Claire Wilcox	Assistant to the Superintendent

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.

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D. Budget

1. The Carlisle Public School 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. The budget includes funding from several sources; the general fund, long-term capital projects and local grants.

2. The budget includes staffing, infrastructure, hardware, software applications, professional development, support, and contracted services. We have a .7FTE Technology Integration Specialist, a full time network manager, and a full time technology aide who assists both of these positions. The Town of Carlisle is very generous with

their support of technology in education.

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. The Carlisle Public School District plans to apply annually 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 technology items, to ensure that the items are appropriate, cost-effective, and sustainable.**

   A key part of our grant and budget approval process is to gather input from the technology staff. When teacher's request particular technology items, the technology staff first consults with the vendor and tests the software or hardware on the school's equipment before final approval for the purchase is given.

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.**

   There are regular meetings of the technology team at which changes in technology are discussed and progress is monitored. As required, changes are made in the implementation and planning of technology based on the outcome of these meetings.

Benchmark 2
Technology Integration and Literacy

A. Technology Integration[1]

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.**

    • All teachers use technology for attendance and report cards, and to communicate with parents, staff, and administration. Many have class or grade level websites. Department folders are used to share files. Google docs is used to develop documents collaboratively. Almost all classrooms have interactive whiteboards and document cameras.
    • Teachers meet weekly in their grade level teams ad technology is a frequent topic of the meetings.

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.**

    • The computer carts are in constant use. There is one cart for each grade level K-1. There are also three half carts used by science, health/grade 6 language arts, and the learning center. World language also shares with grades 4 and 5. We are currently piloting and iPad initiative in 7th grade. Students use computers for research projects, create web pages and presentations, collaborate with Google Docs, create online presentations, math programs, literacy programs, world language programs, and graphic organizers.

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[1] 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.

B. Technology Literacy

1. **At least 90% of eighth grade students show proficiency in all the** *Massachusetts Technology Literacy Standards and Expectations* **for grade eight[2].**

   - The Carlisle School District does not formally assess eighth graders, but determines their proficiency by observation.

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).[3]**

   - The Carlisle School District administered the TSAT in fall of 2008 and again in spring of 2012. This will indicate the progress made in teacher literacy over the past 4 years and will help indentify areas that need to be addressed.

C. Staffing

1. **The district has a district-level technology director/coordinator.**

   - Carlisle School District has a network manager who works closely with the technology integration specialist and the technology assistant to make sure that our network is operational the maximum amount of time and that all applications run smoothly. The network manager works closely with all users to make sure that selected applications will run successfully on thee school network and also to ensure that applications are coordinated across areas where appropriate. Everything is overseen by the Business Manager.

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

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

2. **The district provides one FTE instructional technology specialist per 60-120 instructional staff to coach and model.**

   - As noted in the Carlisle School District Report Card released by the DESE, the district currently has 57.4 teachers. We have a .7 FTE technology integration specialist on our staff. This is a .012/1 ration or the equivalent of 1 FTE per 83 teachers. This compares favorably with the DESE guideline of .017/1 to .008/1 or 1 FET per 60-120 teachers.

3. **The district has staff specifically dedicated to data management and assessment.**

   - The assistant to the superintendent is responsible for data management and assessment and all DESE student and staff related reporting. She works directly with the superintendent, principals, and teachers around assessment analysis and data verification.

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.**

   - The district plans to offer a technology workshop during our professional development afternoons with a variety of choices. Teachers can choose to attend the sessions that best meet their needs. This will be in addition to courses offered through Carlisle College, EDCO, and other outside sources.

B. **Technology professional development is sustained and ongoing and includes coaching, modeling best practices, district-based mentoring, study groups, and online professional development.**

   - The technology integration specialist regularly meets with teachers as requested on an as needed basis to provide specialized professional development. The TIS also provides courses and workshops

throughout the school year. In addition, grade level teams share and discuss files used with their interactive whiteboards, web sites for student research, and other technology related resources.

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.[4]**

- The TSAT was administered in the spring of 2012 and the results will help determine future technology integration professional development offerings.

D. **Administrators and teachers consider their own needs for technology professional development.[5]**

- Teachers and administrators have the opportunity to register for technology professional development through several avenues. The Carlisle School is a member of the EDCO Collaborative, with offers Technology professional develo9pment throughout the year. Internally, Carlisle College courses are offered each year in topics such as Active Board, Google Docs and others. Lastly through our professional development funding program, teachers may take courses offered through colleges, universities, and professional organizations in the area and on-line. Administrators and teachers research the various options, and make decisions about which technology courses would benefit them. For courses to be reimbursed by the district, the superintendent gives final approval.

Benchmark 4
Accessibility of Technology

A. **Hardware Access**

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

[5] 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).

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 computers.)**

    *   As of this writing, there are 405 computers available for students to use for instructional purposes. These are high-capacity, Category A, computers as defined in the State's Technology Implementation Plan guidelines for 2010-11. Plus, every teacher has a laptop or a desktop dedicated to their instruction, adding another 67 Category A computers.

        The district is on a schedule to replace 20% of its computers each year, and funding has permitted it to adhere to this schedule. With approximately 650 students attending, the district would have to purchase twice as many computers than the current schedule in order to achieve the State's goal of 1 computer per student.

        The scheduling of 12 mobile lab carts along with 14 library computers has allowed the district to maximize the use of computer resources. Plus, the district is looking to use iPads to supplement computers.

        With the purchase of iPads that approach the functionality of computers, we bring our student-to-computer ration closer to 1-to-1. This year the district put 57 iPads into the hands of teachers and students. Including these devices, the ration approximates 1 to 1.25.

2. **The district provides students with emerging technologies appropriate to their grade level.**

    *   iPads and appropriate apps have proven to be effective tools to deliver both individualized and class instruction and versatile enough for students in all programs at all grade levels. An iPad Pilot is in progress now in which three consecutive groups of 22 seventh graders will have an iPad to take home for a period of about a month. The iPads are strictly managed so that they are CIPA compliant at school as well as at home and include only the apps that their teachers have requested.

        As part of the building project, the district has purchased Promethean ActivBoards with touch technology for the lower grade levels, preK to 2. When the district was comparing these new boards to the older boards that use only a pen, we observed students as they interacted with it. It became obvious that the touch feature made it easier for students to manipulate objects. The district will be providing staff development and support for this new technology.

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.**

   - iPads apps have definitely expanded the tools Special Education teachers can use with their students. Apps suitable for students in Special Education and Speech & Language account for roughly 50% of all app purchases. Some of these apps have been adopted by general education teachers, as well. For example, Dragon Dictation has bee installed on all iPads to help students write move efficiently.

4. **The district has procurement policies for information and instructional technologies that ensure usability, equivalent access, interoperability and SIF compliance[6].**

   - Before technology-related items are approved for purchase, requests must be cleared by the network manager to ensure usability with existing network and technology equipment. The district is flexible in that some requests might require different hardware or modifications that are not compatible. These requests can sometimes be accommodated by providing the proper equipments. For example, two year ago, the district sought to track students year to year with standardized test in literacy. This task required a Scantron scanner to machine score the test in-hours. A computer that was compatible with the scanner and software was purchased.

5. **The district provides technology-rich classrooms, with access to devices such as digital projectors, electronic whiteboards, and student response systems.**

   - By the end of this school year 2011-12, almost all classrooms will have Promethean ActivBoard electronic whiteboards. There are ten classrooms sets of ActiVotes or ActivExpressions that integrate with ActivInspire software which is used with the ActivBoards. Elmo document cameras, DVD/VCR players and speaker systems are standard equipment for almost every classroom.

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[6] For more information, see the website for the SIF Association (http://www.sifinfo.org/us/index.asp).

6. **The district has established a computer replacement cycle of five years or less.**

    - The 5-year replacement cycle has been an established practice for more that 10 years.

B. **Internet Access**

1. **The district provides connectivity to the Internet for all computers in all classrooms in all schools, including wireless connectivity.**

    - Campus-wide wireless will be in place by the beginning of the 2012-13 school year. This was one of the important goals cited in the district's previous Tech Plan. Areas of the school that previously had no internet jacks, namely the Auditorium and the Gymnasium, will now have wireless coverage due to the building project.

      Separate wireless SSIDs and VLANs for students, staff and guests will enhance security and efficient use of bandwidth.

2. **The district provides an external Internet connection to the Internet Service Provider (ISP) of 100 Mbps per 1,000 students/staff.[7]**

    - The district plans to increase its bandwidth to the internet from 12Mbps to 50 Mbps by the beginning of the 2012-13 school year.

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.**

    - All classrooms are wired to the school's network. By September 2012, there will also be campus-wide wireless access to the school's network and the internet. The bandwidth to each worked computer is 1Gb/

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**

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[7] 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).

1,000 students/staff.

- The Carlisle Public School district is in the midst of an MSBA- and Town-funded building project. This project includes and upgrade of all network switches and wireless access points. All buildings are currently connected at least 1 Gb. By September 2012, all buildings will be connected on a 10-Gb backbone.

  There is a long-range plan in the town to connect all municipal building, including the school district, by fiber.

  The Carlisle Public Schools network infrastructure consists of HP switchers providing up to 1 Gb to the desktop with a 10-Gb backbone. This network has five principal parts:

  1. a Comcast business-level cable modem internet connection for all port-80 web traffic
  2. an EarthLink T-1 internet connection for all other traffic
  3. a firewalled network for school computers, printers and wirrless access points
  4. a DMZ for school web servers
  5. separate VLANs for students, staff, printers, IP phones and building systems

2. **The district provides access to servers for secure file sharing, backups, scheduling, email, and web publishing, either internally or through contracted services.**

- The Carlisle Public Schools network currently consists of approximately 475 workstations and 12 servers. 95% are running on Apple's Mac OS X (10.6) "Snow Leopard" operating system. The remaining machines are running on Windows XP, Windows 7 or Linux. The district provides services to all students for file-sharing and to staff for file-sharing, email, report cards, IEPs, SIMS data and backup.

  95% of school computers are apple machines running Mac OS 10.6. The setup for the use of these computers is highly customized. Co9mputer user accounts at the school are hosed on tow Apple Xserves: one for students and on for staff. All students in Kindergarten through Grade 8 have individual network home directories, which they can access from any Mac OSX desktop or mobile lab laptop in the school. Teachers use portable home

directories on teacher laptops that synchronize with their network accounts. The severs provide policy management and allow each and every user's personal preferences to be reflected whenever and wherever they log in. All accounts on these servers are backed up every night to external drives in other buildings. All workstations have virus protection

The district plans to develop a disaster-recovery strategy.

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.**

   - School library computers are available Monday to Thursday from 7:45 am to 3:15 pm, and until 3:00 Friday. Desktop computers with internet access are also available to middle schoolers who participate in the after-school Homework Club.

2. **The district disseminates a list of up-to-date list of places where students and staff can access the Internet after school hours.**

   - The district provides laptops to all teachers who want them. They may take these computers home with them.

   The district directs students to Carlisle's Gleason Public Library for computer and internet access outside the school day. The Gleason Library is open Mondays, Tuesdays, Wednesdays and Thursdays until 9pm, Fridays until 5 pm, and Saturdays until 3 pm. The Gleason Library offers access to desktop computers and an open wireless network. This information is posted on the school's website.

E. Staffing

1. **The district provides staff or contracted services to ensure that its network is functioning at all times.**

   - The district currently employs 2.0 FTE IT support personnel: a network manager and a technology assistant. In addition, a network consultant is funded for approximately on day's work per month. All staff members are informed at the beginning of each year about how to

initiate tech help requests. This support system is currently working well as evidenced by minimal disruption to curriculum delivery.

A couple of high school and/or college students are paid to help during summer vacation.

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.**

- As the Carlisle Public Schools is fully contained at one campus location, the Tech Department is never far away from staff of students. The Tech department responds to telephone, email, walk-in and paper request. Routine problems are resolved within the hour. Issues that require testing and isolation of variables might not be resolved for weeks. In these cases, the Tech Department works with the hardware manufacturer or software tech support to find a satisfactory outcome and potential work-arounds for users.

3. **The district provides at least one FTE person to support 400 computers. Technical support can be provided by dedicated staff or contracted services.**

- The district currently provides 2.0 FET IT support personnel to support 475 computers: a network manager and a technology assistant.

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.**

- The district will explore the use of Edmoto as a safe way to collaborate and share content.

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.**

- Regional databases available through the Massachusetts Library System are accessed from the school and home.

C. **Classroom applications of virtual learning include courses, collaborative projects, field trips, and discussions.**

- Virtual field trips take place in world language classes. Collaborative projects take place via Googledocs. The district has recently purchased Noodletools and has begun to use it as a means for collaboration and resource sharing. The district would like to explore opportunities for virtual professional development and learning communities.

D. **The district maintains an up-to-date website that includes information for parents and community members.**

- The Carlisle School District website (http://www.carlisle.k12.ma.us) is updated as needed on a daily basis. Information on the website is intended for parents, students, Carlisle community members, and anyone seeking information about the Carlisle School. It includes information about the district, the curriculum, staff listings, and publications such as the Handbook, the monthly newsletter, and the calendar of events, along with other information. The website is available 24x7 and is hosted by the Merrimack Educational Collaborative.

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.**

- The network is centered around a Joe Box firewall which also functions as a DHCP server and internet-content filtering device. The Comcast connection to the Internet is routed through the Joe Box firewall as well. The Joe Box's MEC guard internet content filtering feature provides CIPA- compliant filtering.

  The district's AUP is reviewed regularly and revised as necessary to include changes in technologies and threats to student safety. It is published on the school website at (http://www.carlisle.k12.ma.us/school/tech/policies_plans/aup.htm).

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.[8]

- The Technology Integration Specialist and Library Media Specialist present the AUP and review it with all students in grades three through eight with the teachers present. Students sign each rule when they understand it and signed AUPs are filed. In addition, the AUP is included in teachers' policy manuals and teachers' sign a form indicating they have reviewed the policies. Finally, the AUP is included in the Student Handbook and posted on the school website.

C. The district has a plan to protect the security and confidentiality of personal information of its students and staff.[9]

- The district uses the iPass Student Information System for both student and staff personal information. All users of the system have unique log-in names and passwords and a specific level of access based on job functions. The system administrator, with input from the superintendent and principals, assigns the level of access each user has on a need-to-know basis.

D. The district complies with federal and state law[10], 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.

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[8] 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.edgovblogs.org/duncan/2009/12/online-safety-guidebook-for-parents/).

[9] 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).

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

- Carlisle Public Schools pays its internet provider an annual fee to archive email on all school email accounts. All teachers and staff have an account, and are instructed to sign all correspondence with an automatic signature stating, "In compliance with M.G.L. c. 66, all email correspondence to and from the Carlisle Public Schools is being archived."

  In the Spring of 2012, generic email accounts for students use were assigned to the iPads in the iPads Pilot in order to facilitate communications between teachers and students. The same signature that the district requires of teachers will be part of the setup for the next group of students participating in the iPad Pilot program.