Roxbury Prep Charter School
2014 - 2017 Technology Plan

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Mission and Executive Summary

Roxbury Prep Charter School prepares students to enter, succeed in, and graduate from outstanding college preparatory high schools and colleges.

To fulfill this mission, Roxbury Prep Charter School must provide its students with access to the information, tools, and technological fluency required to succeed in the academic and professional world. In doing so, the school will balance the need for the most "up-to-date" technology with the actual demands of the curriculum, the need for reliability, and the need for wide-spread adoption.

As with all activities at the school, the primary goals and benchmarks by which Roxbury Prep Charter School will measure the success of its technology program relate to academic achievement and the educational attainment of its students. The second set of goals and benchmarks that the school will use to evaluate the technology program's effectiveness are linked to student/teacher fluency in technology, the ease-of-access to technological tools and applications, the scope of their adoption in the day-to-day education of students, and technology's impact on building community. Finally, technological tools will allow the schools to monitor student achievement and other indicators. This, in turn, will allow Roxbury Prep Charter School to measure the overall efficacy of the school's educational program and help guide instruction.

Two additional conditions unique to the schools heavily influenced the design of the technology plan to ensure the most efficient use of funds: 1.) the schools will grow incrementally, but continuously, at a clearly defined pace; and 2.) the schools has a strong commitment to engaging families.

The school's goals for technology, along with these unique conditions, shaped a plan that requires a robust phone system, a high-bandwidth data connection, a flexible local area network, and relatively extensive deployment of computers throughout the schools.

As a charter school, the state places a high burden of accountability on the school which means that the school already anticipates implementing frequent qualitative and quantitative measures of progress and impact. Data-gathering on student achievement, student behavior, quality of instruction, and student participation in various components of the school's program (including technology) were key considerations in the school's design. Similarly, the school's design provides for frequent surveys of all community members and regular forums for community feedback.

The team responsible for monitoring the technology program consists of the schools leader, the technology coordinator, and teachers. The schools leader, in turn, reports to the Board of Trustees which approves the annual schools budget, including expenditures for technology.

Information Technology Assessment

Current Program Status
Roxbury Prep Charter School is a school that opened in August of 2011 to an initial class of 75 students in grade Five. The school has expanded one grade and 75 students per year until it is a full middle and high schools, grades 5 through 12 and 500 students.

Roxbury Prep Charter School has allocated and secured appropriate funds for the "Future Acquisitions" that the follow below in the **Inventory of Voice and Data Equipment and Services**.

Needs Assessment, Conditions & Impact on Plan
Along with the goals outlined later in this document, Roxbury Prep Charter School has developed its Technology Plan to address several conditions that are unique to the school:

1. The school will grow steadily for the next few years, adding three classrooms and sites each year.
The school's design is to start small and grow a community from the "ground up." Fortunately, this growth is highly predictable. Roxbury Prep Charter School must balance the added up-front cost of purchasing equipment/infrastructure to meet definite future needs with the potential future costs of expanding capacity if the school implements a system to meet first year needs only.

2. A critical element of Roxbury Prep Charter School's design is the capacity to connect families with classroom instruction. In practice this means that Roxbury Prep Charter School must have the following capacities: 1) Families must have easy access to teachers by phone; 2) To facilitate this, the school must have a robust phone system which can accommodate menus, submenus, at least 18 extensions, 20 voicemail accounts in year 3, and extensions to cell phones; and 3) To maximize the financial efficiency of this system, it must be able to converge with the data network with "power-over-ethernet" and IP standards.

Inventory of Voice and Data Equipment and Services

	Labs	Class-Room	Admin.	Other	Future Acquisitions		
					Yr 1	Yr 2	Yr 3
Computers (list by type)							
A. Desktop: Multimedia		(0) X			0	0	0
B. Desktop: Admin.			(0) X		10	8	8
C. Laptop: Multimedia		(0) X			75	75	75
Number of Computers listed above that are Internet ready		0	0		85	83	83
Peripheral Devices							
A. Printers		(0) X	(0) X		5	3	1
B. Scanners		(0) X			1	1	0
C. Assistive/Adaptive Devices[1]					0	0	0
D. Digital Cameras	1				1	1	1
E. TV Monitors		(0) X			1	0	1
F. VCRs/Laser Disk Players		(0) X			1	0	1
G. Projection Devices		(0) X			20	3	1
H. Video Cameras					1	0	1
I. Distance Learning Equipment		(0)			1	0	0
Software (List by Type)[2]							
A. Operating System		(0) X	(0) X		90	83	83
B. Office Productivity		(0) X	(0) X		85	83	83
C. Instructional		(0) X			30	10	3
D. Multimedia/Graphic		(0) X			34	32	11
E. Network (Server)				(0) X	1	1	0
F. Network (Email)				(0) X	0	1	1
Network Equipment							
A. File Servers				(0) X	1	2	1
B. Routers/Access Points					20	50	0
C. Switches/Hubs					15	20	0
Number of additional rooms wired for internal connections		(0) X	(0) X		5	12	5
Telecomm. Equipment							
A. NBX/PBX System				(0) X	1	0	0
B. Extensions/Phones		(0) X		(0) X	15	8	8
C. Cell Phones		(0) X			6	4	3
D. Other: Autodialer				(0) X	1	0	0
Telecomm. Links[3]							
A. Full or fractional T1					1	2	0
B. Loop-Start Trunk Lines					1	5	1

[1] Continual needs assessments will determine and modify this number as required.
[2] Totals for "Software" category indicate the number of machines running the software.
[3] Future totals reflect the number of connections entering the building.

Planning Process and Future Needs Assessment
At the end of each schools year, Roxbury Prep Charter School's staff will assess the impact of current technology in order to: 1) evaluate the impact of schools technology, 2) determine the quality and scope of its implementation, 3) assess progress towards the school's stated goals, and 4) identify needs for the upcoming application year.

Technology Objectives and Plans

Objectives

Roxbury Prep Charter School's technology plans and programs were developed with the following general goals in mind:

1. Students will meet or exceed the Boston Public Schools on all standardized assessments.
2. Students will be on or above grade level according to assessments and standards.
3. Students will enter, succeed in, and graduate from outstanding college prep high schools and colleges.
4. Students and teachers will possess a positive relationship with technology and its applications.
5. Students and teachers will view technology as a tool and have fluent in its various uses.
6. Students and teachers will access resources made available through the internet and relevant software applications.
7. Students and teachers will have access to the most reliable, up-to-date technologies that have widespread deployment in schools and/or the commercial sector.
8. Technology will be embedded throughout the schools in a transparent manner.
9. Technology will help integrate families into the life of the school.
10. Technology will balance the needs at the temporary and permanent facilities.
11. Technology will balance the need for expected growth with efficient cost.
12. Teachers and administrators will have access to tools to monitor the quality and impact of academic instruction and other schools routines.

Specific Strategies for Objectives 1-3

1. Students will meet or exceed the Boston Public Schools on all standardized assessments.
2. Students will be on or above grade level according to assessments and standards.
3. Students will enter, succeed in, and graduate from outstanding college prep high schools and colleges.

To achieve these objectives, Roxbury Prep Charter School will:

- Research and implement age-appropriate, high-quality instructional software that allows students to work independently; adapts to meet individual needs; and generates reports to track individual student progress according to schools, city, and state academic benchmarks.
- Provide each classroom with access to a mobile laptop lab with laptops that have multimedia capacity and internet connectivity to accommodate this instructional software implementation.
- Research and implement high-quality, scientifically researched professional development software and online resources to improve the quality of instruction.
- Provide each teacher with a laptop computer that has multimedia capacity and internet connectivity to accommodate these professional development tools.
- Conduct frequent surveys on the implementation of instructional software and online tools.
- Conduct frequent assessments of student performance.
- Conduct frequent surveys of other schools to compare scope of instructional tools.

Specific Strategies for Objectives 4-6

4. Students and teachers will possess a positive relationship with technology and its applications.

5. Students and teachers will view technology as a tool and have fluent in its various uses.
6. Students and teachers will access resources made available through the internet and relevant software applications.

To achieve these objectives, Roxbury Prep Charter School will:

- Provide each classroom with access to a mobile laptop lab with laptops that have multimedia capacity and internet connectivity.
- Provide direct instruction in computing through a multi-tiered approach:
  - Students will use the computer in self-guided software applications.
  - As part of the English Language Arts curriculum, students will learn to touch-type to publish their written assignments.
  - As part of the social studies and science curriculum, students will learn to use the web for research as part of their research assignments.
  - As part of their afterschools activities, students will participate in an enrichment class dedicated to technology and computing.
- Provide each classroom with wireless network access to facilitate ease of access for the teacher and accommodate the more dynamic instructional methods required for early elementary students (e.g., working on a rug, using instructional stations in different parts of the classroom, etc.).
- Provide wireless capabilities in teacher laptops to access the internet flexibly and provide display equipment such as projectors to turn the laptop into a vibrant instructional tool (e.g., project images, streaming video stories, streaming audio stories, etc.).
- During an annual professional development and training period, instruct teachers on the use of technology tools, software, and infrastructure.
- Provide an annual professional development stipend to pursue curriculum planning opportunities.
- Provide access to distance learning equipment to be used with its sister schools in the Uncommon Schools network.
- Conduct frequent surveys on the implementation of tools, equipment, and capabilities.
- Conduct frequent assessments of student performance.
- Conduct frequent surveys of other schools to compare scope of tools, equipment, and capabilities.

Specific Strategies for Objectives 7-11
7. Students and teachers will have access to the most reliable, up-to-date technologies that have widespread deployment in schools and/or the commercial sector.
8. Technology will be embedded throughout the schools in a transparent manner.
9. Technology will help integrate families into the life of the schools.
10. Technology will balance the needs at the temporary and permanent facilities.
11. Technology will balance the need for expected growth with efficient cost.

All of the strategies to fulfill "Objectives 1-6" apply to these objectives; however, Roxbury Prep Charter School also will:

- Design and implement a blended local area network that combines hard-wired and wireless data network access.
- Design and implement data services that balance cost and long-term needs.
- Provide a PBX system that will accommodate the schools at full scale and allow the schools to converge its voice and data networks.
- Provide adequate staffing to support teachers in integrating curriculum with technology, to assist end-users with technical support, and to maintain the local area network.
- Conduct frequent surveys of families and teachers on the implementation of tools, equipment, and capabilities.
- Conduct frequent assessments of student performance.
- Conduct frequent surveys of other schools to compare scope of tools, equipment, and capabilities.

Specific Strategies for Objective 12
12. Teachers and administrators will have access to tools to monitor the quality and impact of academic instruction and other schools routines.

All of the strategies to fulfill "Objectives 1-11" apply to these objectives; however, Roxbury Prep Charter School also will:

- Maintain a computer-based grading system.
- Maintain a computer-based student information system.
- Maintain a web-based database of student achievement information.

Plan Administration and Budgeting

Current Plan Approval Status
Approved.

Annual Budgeting
Roxbury Prep Charter School has a Board of Trustees that approves the annual budget each year. The budget numbers which follow were approved by the school's chartering authority and represent the school's current allocation to technology.

Expense Item	Year 1 Cost	Year 2 Cost	Year 3 Cost
Data Technology	$180,000	$200,000	$200,000
Telephony/Telephone Services	$30,000	$40,000	$40,000
Internet Services	$60,000	$80,000	$80,000
TOTAL	$270,000	$320,000	$320,000

Evaluation
As part of the annual needs assessment and planning process, Roxbury Prep Charter School will conduct an annual evaluation of the school's technology plan. This evaluation will consist of:

1. A detailed inventory of equipment, services, and capabilities actually implemented at the schools;

2. A comparison between actual implementation and the preceding Objectives and Strategies;
3. A detailed review of student achievement results and teacher performance evaluations;
4. A detailed review of family surveys, student surveys, and staff surveys related to technology;
5. A detailed review of constituent feedback from other forums including monthly Family Involvement Committee Meetings (essentially a monthly parent meeting open to all families);
6. A review of surveys conducted on other similar schools and their technology programs;
7. A detailed review of projected expenses versus actual expenses.

The team responsible for conducting this annual evaluation, gathering the data, and generating a report will consist of the Principal, the Technology Coordinator, select teachers, and any relevant external consultants. Based on this evaluation, the schools will adjust its Technology Plan accordingly.