Rochester City School District

TECHNOLOGY PLAN
2012 - 2017

Executive Summary | *Annmarie Lehner*
Information Technology Officer

In today's educational landscape, the lines between instruction and technology continue to narrow. Most activities students encounter during their school day have some connection or dependency on technology. Curriculum is accessible digitally; teachers deliver instruction using interactive whiteboards; students submit homework electronically; students are assessed via online testing; the internet is used continuously for research; our libraries are becoming media centers, rich with digital resources; school facilities must have wireless capacity to accommodate the growing number of mobile devices used in our buildings. Instruction no longer stops at the end of the traditional school day. Teachers remain connected with their students after the school day ends via learning management systems, portal environments or cloud-based collaborative environments. Teachers and students require the technology necessary to extend the school day. Organizational infrastructures must be continually monitored and upgraded to accommodate the ever-growing technology requirements of our students and staff. At the Rochester City School District, we have been focused on meeting these demands and on implementing technology-rich educational opportunities to keep our students engaged and to prepare them with advanced 21st century skill sets.

2012-13

The 2012-13 school year was focused on the completion of the foundational work required to deliver more advanced digital instructional programs.

- Both iPad and Desktop PC stations were installed in all Pre-K, K, 1st & 2nd grade classrooms
- Through the implementation of 2400+ wireless access points, all 54 elementary and secondary campuses reached wireless capacity
- SmartBoards installations were completed in all core classrooms in all elementary and secondary schools
- Laptops deployed to all teachers completed
- BrainHoney Learning Management System (LMS) was implemented ('Rochester eLearning")
- Mobile Device Management (MDM) solution and Asset Management system was implemented to maintain the inventory and maintenance of the more than 35,000 devices in our district.
- Computer labs were established in all schools
- Laptops for classroom use was expanded

The development of the eLearning platform expanded throughout the year to include:

- **Common Core Curriculum**
  NYS Common Core Curriculum is available to all teachers via RCSD's eLearning Platform. The Curriculum has been organized to better reflect RCSD Instructional Goals, and for teachers to easily identify and access material for use in the classroom. RCSD eLearning also provides suggested scaffolding and resources, created by RCSD teachers, to best meet the needs of the District's ELL and LOTE students.

- **Online Regents Prep Courses**
  Regents Prep Courses, authored by RCSD teachers, were developed and deployed to all RCSD staff teaching regents courses in our schools, as well as to the students enrolled in these classes. These courses provide students with tools that help determine areas of need as well as strength regarding the standards assessed by the Regents Exams.

- **Online Credit Recovery Program (OCR)**
  OCR Courses are available for students who have previously failed the traditional offering of a credited course. The OCR program is a robust electronic learning platform that allows for flexible instructional delivery, person-

alization of instruction and supports a student-centered approach to learning. Students participating in the program access high quality course content online; courses are aligned with the applicable New York State learning standards.

- **Professional Development for Staff**
  The District is transitioning to an online model of Professional Development. Historically, Professional Development classes had been limited to times and locations that matched the availability of the intended audience. With many schools on differing schedules, and the advent of extended day learning implementations, finding times that allow participation in these PD opportunities became problematic. Further, finding physical space, centrally located, and properly equipped has become more difficult. Providing Professional Development via a virtual model negates these issues. Staff are able to view and learn the material 24/7 from any location equipped with network access. As the physical space restrictions on the number of participants disappear, more staff can take the course. Additionally, the material remains available for review after the course concludes.

- **Online Courses**
  The selection and development of a suite of online courses to be used in our future Virtual Program Offerings, as well as Blended Learning classes, began in 2012-13, with the vetting of teachers versed in the curriculum. This foundational work was needed in order to provide teachers with the opportunity to utilize the curriculum as resource materials within the classroom, as well as to provide a method of extending the traditional school day by providing digital resources and coursework to students.

2013-14

While the 2012-13 school year was greatly dedicated to the development of Rochester eLearning, the start of 2013-14 began with the focused deployment of this platform to all teachers and students in the district.

eLearning Deployment

- Students enrolled in an OCR course can now participate in that course through Rochester eLearning. Teachers of our regent's classes have access to the Online Regents Prep Courses developed for these classes. In addition, all students enrolled in these classes are also enrolled in the Online Regents Prep Course for that class, allowing them to prepare for the Regents Exam while completing the actual course.
- K-5th grade ELA teachers now deliver instruction while utilizing Smart Notebook lessons that have been developed to align with all lessons in the NYS Common Core curriculum.
- Teacher registration in online professional development courses continues to grow, and will further increase as professional development course offerings expand.
- At the start of the 2013-14 school year, the District's first Virtual Courses were launched. Student enrollment in this first year capped at 100, with students enrolling from all RCSD secondary schools, and also included Rochester home-schooled students.

District Data Warehouse – School Performance Analytics (SPA)

District leadership and staff have also made a dramatic shift in the use of technology to inform instruction. Our internal Data Warehouse solution, "School Performance Analytics" or SPA, was developed utilizing Oracle Business Intelligence Enterprise Edition or OBIEE technology. This platform was selected for its robust capacity to deliver an enterprise solution:

- Industry-Standard Business Intelligence Solution
- Offers framework to consolidate data from various sources and present it in a manner customizable to each user
- Delivers role-based intelligence for all roles in the organization
- Provides capabilities for enterprise reporting, ad hoc query and analysis, dashboards, and scorecards

Our School Performance Analytics solution provides capabilities to:

- *Analyze trends across diverse subject areas* Monitor student assessment, attendance, and discipline
- *Offer better insight into student profiles and performance* View and track progress by student, cohort group, teacher, or subject area
- *Allow for continuous monitoring of attendance and interventions* Uncover patterns in students, classes, schools and take immediate action
- *Provide consistent, immediate access to data* Allow staff to continually monitor progress and make adjustments

In 2013-14, the SPA platform expanded to include Principal and Teacher Dashboards, as well as a comprehensive Early Warning System which allows staff to utilize research-based indicators to identify their at-risk students, allowing staff to provide intervention strategies to help get students back on track.

SPA has expanded to become the primary data source for all teachers, school administrators and leadership in the district.

Day in the Life Visioning Exercise

The Council of Great City Schools asked Denver CSD & Rochester CSD to lead a visioning exercise in our districts, as a first step in leading and planning for the future. Our goal was to build a vision of what we believe an average day of our students should look like and consist of IF we are preparing them for success after graduation...success with life in the 21st century.

- *What technologies should be available to them in school/out of school?*
- *How should they use them?*
- *How should they use collaborative tools to connect with teachers and other students, both inside and outside of school?*
- *How will this challenge them?*
- *How can the availability of these technologies make their learning more challenging?*

To answer these questions, we recruited and selected a cross-functional, representative group that included teachers, students, principals, parents, IT staff and technology vendors. Before we gathered together, each individual did some reading and thinking about education and the future. We then met as a group to collaborate as we envisioned the future and sketched specific points in a student's day in the life of a 21st century learner.

Ultimately, our visioning work resulted in the creation of a short video for each of our districts. As you watch, consider this a 3 year vision for the day in the life of a Rochester City School District Student. You can find our video here: **www.rcsdk12.org/dayinthelife**.

This visioning exercise also provided us with a direct path towards our future technology roadmap.

2014-15

2014-15 is our pilot year for digital instructional programs in our District:

- **1:1 Student Device Program:** includes 7 schools, both Secondary and Elementary; Chromebook adoption as 1:1 device
- **Blended Learning Schools:** secondary 1:1 schools are also delivering blended learning courses to their students
- **Student-Run Helpdesks:** 1:1 Secondary schools – students supporting students
- **zSpace Labs: 3-8 STEM Curriculum** A virtual reality environment for immersive exploration, visualization, and learning. zSpace is an immersive, interactive hardware and software platform for students, educators, researchers. zSpace gives depth to the digital learning experience by improving the way things are studied, explored, designed and visualized. zSpace has been implemented in two elementary schools.

Digital Learning Plan

Our 2014-15 pilot programs will provide us with foundational knowledge and experience to build a recommended roadmap for future expansion to additional schools. This roadmap will be developed in collaboration with the Administration and Teaching and Learning Divisions, which will ensure that operational, financial and instructional considerations are included in the digital learning plan developed for our schools.

DISTRICT MISSION AND GOALS

Mission Statement

The mission of the Rochester City School District is to provide a quality education that ensures our students graduate with the skills to be successful in the global economy.

Strategic Goals

GOAL 1 Student Achievement and Growth: We will ensure that each of our students is academically prepared to succeed in college, life and the global economy.

GOAL 2 Parental, Family, and Community Involvement: We will engage and collaborate with all our stakeholders, to hold ourselves collectively accountable for our students' success.

GOAL 3 Communication/Customer Service: We will continually inform and seek input from parents, students, staff and members of the Rochester community, to continuously improve the quality of our instructional programs and operations.

GOAL 4 Effective and Efficient Allocation of Resources: We will stabilize our finances and fund our priorities, to focus resources on significantly improving student achievement.

GOAL 5 Management Systems: We will improve the efficiency and effectiveness of management systems that impact operations of Central Office and our schools, to facilitate the accomplishment of all goals and objectives.

Technology Planning Process

Rochester City School District's Technology initiatives are directly tied to the District's strategic goals and objectives. The District's IT Governance Committee, comprised of District Senior Leadership, is responsible for directing, controlling and measuring the IT activities and processes of the organization.

The accountability of the IT Governance Committee spans

- New business or instructional functionality is being added
- A move to a new or updated platform is being made
  - Presentation layer
  - Database
  - Technical platform
  - Programming language
- An old system is being replaced (lifecycle)
- A system is being in-sourced or outsourced either partially or completely
- The work has enterprise implications

The IT Governance Committee is required to ensure sufficient organizational capability exists to enable the processes within its scope to perform and deliver the results expected by the business. Its primary role is to exercise its authority in support of the IT process owner's endeavors to achieve the outcomes expected and to periodically evaluate performance and monitor remedial actions to remedy instances of poor performance.

The IT Governance Committee follows the below guiding principles:

- **Common Information Systems:** Develop common systems and share available information systems.

- **Asset Reuse:** Reuse existing capabilities before you buy, buy before you build.
- **Sourcing Strategy:** Acquire Information Technology in a manner that makes use of full and open competition and maximizes return on investment.
- **Research and Acquire "Off-The-Shelf" solutions:** Proactive analysis of off-the-shelf solutions that meet the needs of the business needs to be a function of the IT Organization.
- **Strategic Planning:** Strategic Planning will be integrated across the state to help focus on common shared service opportunities.
- **Resource Sharing:** High demand IT resources with knowledge of common shared service capabilities will be leveraged across the state.
- **Constituent Value:** Deliver value to the state, citizens and business customers cost effectively and at acceptable levels of service.
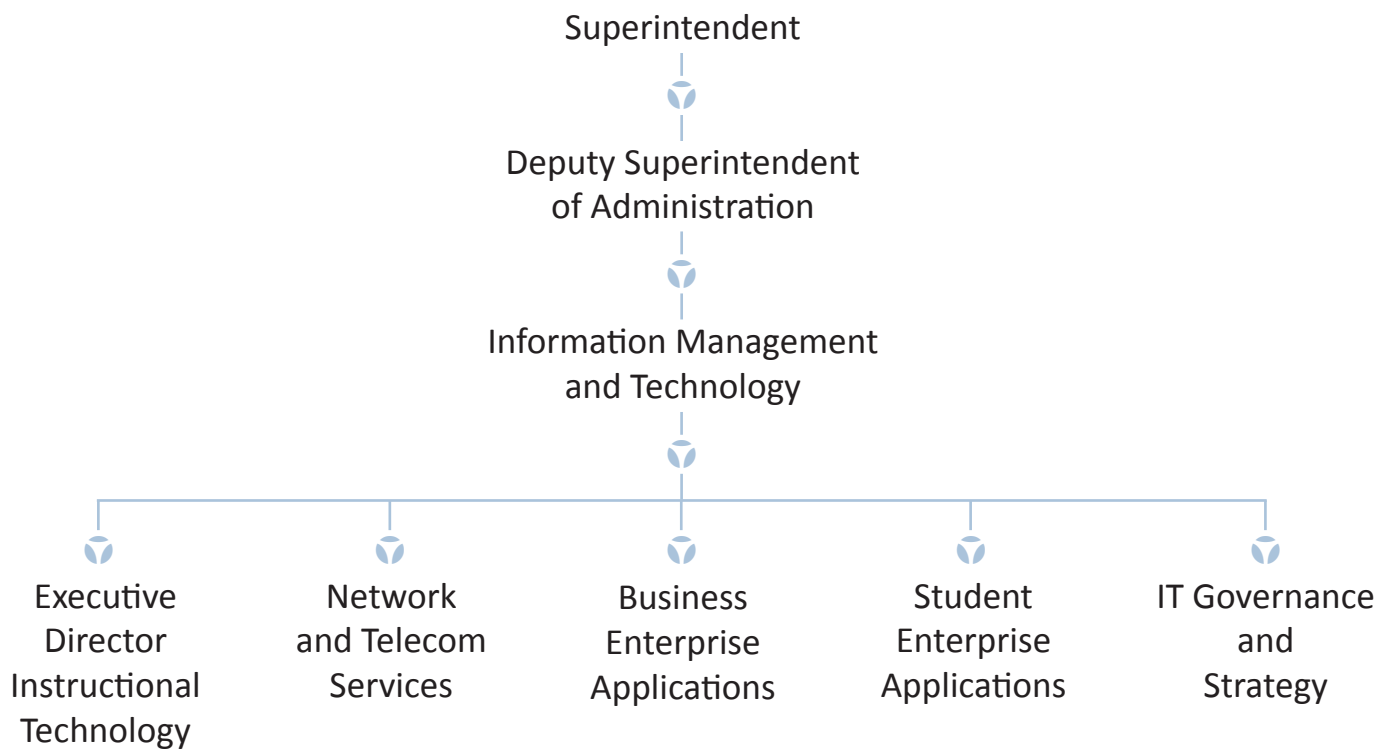
The IT Governance Committee will:

- Evaluate the current and future use of IT, including strategies, proposals and supply arrangements.
- Determine and consistently applies criteria for prioritizing and deciding on IT investments across the district
- Review and advise the CIO on resource, scope and/or schedule changes to IT initiatives
- Direct preparation and implementation of plans and policies to ensure that use of IT meets business objectives.
- Monitor the performance of IT against plans, district objectives, and the use
- Make recommendations to the CIO on the district's IT governance policies phyllus

Information Management and Technology

```
                    Superintendent
                         │
                         ◉
                         │
              Deputy Superintendent
                of Administration
                         │
                         ◉
                         │
              Information Management
                 and Technology
                         │
                         ◉
                         │
   ┌──────────┬──────────┼──────────┬──────────┐
   ◉          ◉          ◉          ◉          ◉
Executive   Network    Business    Student   IT Governance
Director   and Telecom Enterprise  Enterprise    and
Instructional Services Applications Applications  Strategy
Technology
```

CURRENT TECHNOLOGY STATE

Network Infrastructure

The Rochester City School District technology infrastructure is built with 1 Gigabit and 10 Gigabit Ethernet over single-mode fiber connecting the Main Data Framework (MDF) of each of the District's schools and facilities throughout the city of Rochester, NY. Within each building, gigabit Ethernet over multi-mode fiber connects each of the MDFs to the Intermediate Data Frameworks (IDF) while category 5e/6 cable delivers connectivity to class-rooms and administrative offices. We have standardized on Cisco switches throughout the district. Our phone system is standardized on the Mitel 3300 VOIP system. Currently, we are using Cisco 5540 Firewalls but in the next 3-6 months, we will be installing Check-point 13800 Next Generation firewalls which have greater throughput and advanced IPS including Zero Day Attack detection. The network connects almost 30,000 desktop and laptop computers, Chromebooks, iPads, and printers.

Wireless

IM&T has standardized on Cisco Wireless technology, our core wireless controller is a Cisco Series 8500. It can support up to 6000 Wireless Access Points as well as 64,000 clients. Currently, we have 2400 Wireless Access Points and roughly 30,000 clients district-wide. In the last 18 months, all high schools including Hart St. & Martin St. Locations were upgraded and now have a density of 1 Wireless Access point per classroom. This is an optimal solution with each access point able to support up to 50 clients; with wireless overlap in many of the buildings, the number of clients supported per classroom increases exponentially. In the next 12 months, through either Smart Bond funding and/or E-Rate Category 2 funding the same density of wireless will be achieved in the elementary schools. Presently, 5-6

elementary schools have 1 WAP per classroom density and the remainder 1 WAP per 2-3 classrooms. Once funding is attained, and all elementary schools are upgraded, the district will have over 3600 Wireless Access Points active throughout. All Access points will support either 802.11n or 802.11ac technology.

Virtual Server Environment

District servers are 98% virtual with over 300 Servers in our environment. IM&T is utilizing the latest VMware vSphere technology with multiple vCenters. The virtual servers' data are hosted by state of the art Dell M620 Blades and a Dell Compellent Storage Area Network Device with over 130 TB of fully redundant usable storage. Email is provided by Microsoft Exchange while file sharing and collaboration is done through Microsoft SharePoint. The District also provides remote access through Citrix so employees are able to work outside the District and still connect to resources within.

Disaster Recovery Site

Currently, the RCSD Disaster Recovery Site is housed at Monroe BOCES #1 on Linden Park in Rochester, NY. This site provides the district a single rack of clean power, air conditioning and high security. The rack consists of the same RCSD standard technology such as Cisco switching, VMWare with Dell Blades and Dell Compellent Storage. This facility is connected back to the district with a 10 Gigabit Ethernet Fiber connection. In the near future, all district building will have a 2nd path back to the DR Site via a fiber ring.

Student Enterprise Applications

The Student Enterprise Applications (SEA) department supports all transactional student systems and any derivative systems storing or reporting student data. Our primary transactional system is our student information system (SIS), PowerSchool SMS (formerly Chancery SMS) which is used to maintain and report student records

including student schedules, grades, attendance, demographics, assessment scores, contact information, discipline, interventions, etc. It also generated Report cards, transcripts, letters, and other official student records. PowerSchool then feeds requisite student data to a variety of other applications both in-house and hosted. One such application is our web-based gradebook system PowerTeacher which allows teachers to manage both rubric and assignment based gradebooks, provides teachers reporting and email functionality to keep students and parents informed on class progress, and integrates with ParentCONNECTxp (PCXP) for online viewing of assignments and grades. PCXP is the district's parent and student portal that allows online, 24 hour access to important student information including class assignments, grades, attendance, etc.

We also provide data and support for several major hosted applications such as iepDirect, Welligent, Destiny, Nutrikids, MapNet, and Blackboard Connect each managing a specific function for the district. iepDirect is our special education specific data management system that manages the IEP drafting process, evaluations and eligibility determination, CSE/CPSE meeting schedules and invitations, timeline tracking and compliance, and due process and procedural safeguards. Welligent is our student health information system used to maintain all student health records including immunizations, office visits, medications, etc. Destiny is a web-based, integrated, library management software system that manages all library inventory and media assets and provides students with access to digital content and resources. Nutrikids is the food service management system that includes a point of sale (POS) module, free and reduced application processing, menu planning, nutritional analysis, inventory, and cost management. MapNet is our web-based integrated solution to manage

daily transportation tasks including optimizing routes and bus schedules, serve the different transportation requirements of the physically challenged, consider safety requirements, accommodate rider time limits, assist with medical needs, and establish district wide policies to ensure stops are placed in safe locations. Finally, Blackboard Connect is our mass notification system supporting phone, email, and text message communications. It is used to automatically notify parents/ guardians of student absences, as well as communicate with students, staff, and families of upcoming events and emergency situations.

In addition to the data management systems above, we also provide integration and support for educational software, most notably assessment systems such as NWEA, aimsweb, eDoctina, and FitnessGram. NWEA and aimsweb are both web-based assessment platforms used by teachers and administrators to assess student progress and identify specific educational needs. The assessment contents are provided by the respective vendors and administered to students. eDoctrina is our platform for delivering custom formative assessments where teachers can create and administer their personally designed assessments to gauge mastery of the curriculum.

Ultimately, student related data from all of the aforementioned systems is collected and housed in our district wide data warehouse, reporting, and analytics system called School Performance Analytics (SPA). SPA is built on an Oracle Business Intelligence framework and is developed in house to meet the specific needs of RCSD educators. This system contains more than 1000 custom reports that provide the district a meaningful look at a complex data in order to make more informed decisions.

Business Enterprise Applications

Business Enterprise Applications Department is responsible for main-

taining the "Business Critical Applications" which support District Back Office Operations. These applications are based on Oracle Database platform and built on Oracle's PeopleSoft Suite of Enterprise Applications.

Oracle's PeopleSoft applications are designed to address the most complex business requirements. They provide comprehensive business and industry solutions, enabling organizations to increase productivity, accelerate business performance, and provide a lower cost of ownership.

The applications currently in operation at the District include:

PeopleSoft HCM Applications:
Oracle's PeopleSoft Human Capital Management enables the District to architect a global foundation for HR data and improved business processes. PeopleSoft Human Capital Management delivers a robust set of best-in-class human resources functionality that enables to increase productivity, accelerate business performance, and lower cost of ownership in the following business process areas:

• Employee Self service
• Manager Self service
• Human Resources
• Payroll
• Time & Labor
• Benefits Administration
• eBenefits
• Position Management
• ePay
• Online Recruiting
• Performance Evaluation

PeopleSoft Financials Applications:
Oracle's PeopleSoft Financial Management leverages best practices to achieve world-class finance processes, meet financial and statutory requirements, and efficiently delivers greater visibility into business-critical information. An integrated suite of procurement applications that dramatically cut all supply management costs. PeopleSoft Supplier Relationship Management reduces spend on goods and services, streamlines procure-

to-pay processes, and drives policy compliance. It enables project-centric organizations and departments to establish core operational processes that support full project lifecycle management-across operations and finance-from project selection, planning and staffing, through execution, cost control, and analysis.

Current applications modules in operation include:

- General Ledger
- Commitment Control/ Budgets
- Purchasing
- Accounts Payable
- Grants
- Project Costing
- Asset Management
- eProcurement
- Travel and Expense
- PeopleSoft EPM Planning & Budgeting Application
- PeopleSoft Enterprise Portal Applications
- Substitute Calling and Management Application
- SPA – Data warehouse feed from PeopleSoft
- External Systems Integrated with PeopleSoft
  - Concur Travel Management
  - AppliTrack–Online Recruitment
  - ImageNow
  - New York Retirement System
  - Vendor/Benefit Management
  - Active Directory
  - Banks
  - Punchout Sites(Staples, Dell, Grainger, School Specialty etc)
  - PCard Payment
  - IM & T bank for ACH Payment
  - Daily feed of Employee info to SMS, Brainhoney, CONNECTED

RCSD Enterprise Business Applications Facts (2013-14 School Year)

- 50,000 logins/month
- 5,600 unique users/month
- $800,000,000 of financial transactions a year
- 6,238 requisitions/year
- 5,484 purchase orders/year
- 28,876 voucher/year
- 29,272 payments/year through AP

- 25000 ePRO work flow transactions/year
- 6,200 performance evaluations/year
- 449,749 pay earnings/year
- 2,937,513 time entries for payment
- 34,103 changes to the employee job records

State of Schools Technology

Computer Labs
Every elementary school has at least one stationary lab many have more than one. Most of these labs have been refreshed proactively have up to date hardware and software, that includes the migration away from Windows XP to Windows 7. The District current "In Warranty" baseline (oldest) desktops are the Dell 760 series machines. These are our oldest "In Warranty" computers and they have about 12 months left of coverage .

Within the next year we will need to replace about 15 labs or 450 lab computers to stay within a PC Lab inventory of "In Warranty" or up to date machines. Our high schools all have a great number of labs including 18 computer labs at Wilson High School and 20 at East High School. All other high schools have multiple labs and most of these are also "In Warranty" state and there is no immediate need to upgrade most of these labs. A cautionary note should be considered, getting behind in these areas, or letting machines stay in schools beyond "In Warranty" status poses a great deal of risk for the amount of time needed for service and the overall cost of upgrading many labs at one time. It should also be noted that the District has about 700 Macintosh computers in labs throughout elementary and secondary schools. An aggressive approach to evaluating curriculum and the proposed instructional need for Apple computers versus PC's, is underway and wherever they instructional need does not justify Apple configuration, the machines are being refreshed with PC's that better suit the enterprise management tools of the RCSD.

Mobile Carts
As of spring of 2015 we have about 116 Computer Carts in our schools, mostly Dells. These included Netbooks (which are being phased out); Dell Latitudes (most "In Warranty" status); MacBook Carts. IM&T has a proactive approach to evaluate and update all of these machines by the end of the summer 2015, resulting in no out-of-warranty machines, no netbooks, and very few MacBook Carts.

Classroom Banks of Machines
All elementary and K-8 Schools have banks of computers in most of the classrooms. Many of these machines are in place so that there are center areas of technology for students. The major impact instructionally is that teachers have opportunities to use Response to Intervention Software at the appropriate skill level for students. There is a wide variety of technology here and perhaps the area more likely to find machines that are out of warranty yet remain functional because of the low level of use that they endure. All XP machines are being continuously and aggressively sought out for replacement

ChromeBooks-Spring 2015
IM&T has added 100 Chromebook Carts in our K-12 schools during the 2014-15 School year. We expect that number to grow to 150 by the end of the July 2015. Each cart contains about 25 Chromebooks. This new wave of technology has been a solution to imperfect batteries on traditional laptops and results in a significant reduced effort for maintenance. These data do not include Chromebook deployments in our 1:1 schools (see below).

1:1 Technology
1:1 Technology is in place in 6 schools including one K-6 school, one K-8 school, Rochester International Academy, and 3 high schools. Although this instructional endeavor is predominately a Chromebook implementation there are two programs where iPads

are the most appropriate instructional choice. Most of these 1:1 initiatives have been launched this year and the plan to expand in this area is aggressively being considered and pursued.

It should also be noted that a pervasive and thorough implementation of electronic resources including course curriculum and professional development for teachers, is available and implemented as a component of the eLearning Platform or the RCSD and as a requirement of the hardware implementation. A complete training program for teachers and administrators in also a requirement of a school based 1:1 program.

iPads
All of the District's PreK-2 classrooms have a bank of 4 iPads, this includes all K-2 Special Education Self Contained rooms as well as all Autism classrooms. The iPad environment is supported by a Casper MDM solution that is homegrown as well as a District ITunes store. A specific pool of resources is available to teachers. These resources tied to individual student learning objectives and are predominately focused on skill development for Math and ELA.

This fleet of 2400+ is between 3 and 4 years old and will need to be replaced within the next 12 months.

Interactive White Boards— SMARTBoards
IM&T, in collaboration with the District's Facilities Department, has installed about 2,400 SMARTBoards in our K-12 classrooms, this includes all core instructional classes. The effort to place SMARTBoards in all instructional core locations has taken about 5 years to complete. Teacher professional development opportunities have been the hallmark of this successful implementation. Traditionally teachers have had access to both face to face and online learning PD, however IM&T has now migrated to a purely distance/

blended-learning model for professional development, which has proven to be very efficient and effective.

IM&T has worked with Teaching and Learning to provide resources for teachers including all components of the Common Core Curriculum and corresponding homegrown Smart Notebook lessons. All of these resources are available to all teachers within the IM&T's eLearning platform.

Currently, our hardware fail rate of the first generation Smart projectors is nearing 5% per year and that is expected to increase. The maintenance in this area is one of the most demanding, costly and time consuming. Wrapping this recycle/replacement cost into the District Facilities Modernization Program (FMP) and the District's Capital Improvement Plan (CIP) is the desired state.

FUTURE TECHNOLOGY DIRECTION

In the coming years, we will continue to technology infused classrooms that promote the use of technology through deliberate, consistent professional development of our teaching staff. We will utilize the learnings from our 2014-15 pilot programs in order to expand 1:1 initiatives and blended learning instruction to additional schools, through a tactical plan that has been adopted by the Superintendent and our Board of Education. Our Technology Plan is directly aligned with our district's strategic initiatives, which have been carefully identified as a pathway to the achievement of our district mission: *"To provide a quality education that ensures our students graduate with the skills necessary to be successful in the global economy."* Our district mission states, *"Every child is a work of art, create a masterpiece."* We believe it is our responsibility to take part in this mission and recognize that our students' success is incumbent on technology skill development as a component of the education of the whole child.

STRATEGIC TECHNOLOGY GOALS, INITIATIVES AND PERFORMANCE MEASURES

The following goals, initiatives, objects, and performance measures set the direction for technology priorities and investments within the Rochester City School District.

This technology plan addresses five key focus areas and goals:

- **Instructional** – Provide learning pathways to students that enhance and enrich their technological proficiency and foster the development of meaningful ways to collaborate, communicate, and create.
- **Operations** – Advance administrative/operations systems for efficient and effective service delivery and management practices
- **Infrastructure** – Ensure a robust, reliable, scalable, and dynamic computing and network infrastructure that help enables Rochester City School District's academic and business goals
- **Innovation**—Improve student learning by "re-thinking" how technology may be used to support the creation or delivery of curriculum in an effort to engage and motivate more students and provide continuous learning opportunities.
- **Decision Making** – Improve the accuracy, reliability and availability of data to allow for timely, focused, and informed decision making.

FOCUS AREA: INSTRUCTIONAL

Strategic Goal 1: Produce technologically proficient students who apply technology tools daily in a meaningful way to collaborate, communicate, and create.

INITIATIVE	2012-13	2013-14	2014-15	2015-16	2016-17
Virtual Learning: Increase enrollment and access of secondary school students to online courses	__	Project Start	Expand	Expand	Expand
Electronic Grade Book: Implement and online grade book that integrates with the student management system and parent portal	Sustain	Sustain	Sustain	Sustain	Sustain
eLearning Management System (LMS): An enterprise application designed to facilitate virtual learning opportunities for teaching staff and students	__	Project Start	Sustain	Sustain	Sustain
Online Credit Recovery (OCR): A cost-effective, comprehensive and flexible tool to help students pass courses they had previously failed and earn the credits they need to graduate from high school. This resources extends the school day and the school year.	Project Start	Expand	Expand	Expand	Expand
Regents Prep (ePrep): Provides an online presence for teachers to assign as an additional resource to students in a traditional classroom, as well as an additional required module for all students in any OCR course that culminates in a New York State Regents test	Project Start	Sustain	Sustain	Sustain	Sustain
Advanced Placement (VAP): Online access to qualified students now includes a College Board Advanced Placement program delivered online and approved by College Board.	Project Start	Expand	Expand	Expand	Expand
Common Core: Migrate the Common Core State Standards (CCSS) to LMS in order to facilitate ease of access for teachers. Develop smart notebook lessons to complement each common core lessons. Provide component for professional growth in each of these modules so that teachers have continued access to up to date information as the initiatives grows and morphs.	Project Start	Sustain	Sustain	Sustain	Sustain
Online Professional Development: A diverse set of courses constructed within eLearning that have been developed inform teachers regarding instructional best practices; the use of electronic enterprise tools, a means to further professional growth as define in Teacher Improvement Plans. The platform also serves as a vehicle for many departments to create unique professional development opportunities for specific staff	__	__	Expand	Expand	Expand

FOCUS AREA: OPERATIONS

Strategic Goal 2: Advance administrative/operations systems for efficient and effective service delivery and management practices.

INITIATIVE	2012-13	2013-14	2014-15	2015-16	2016-17
Student Health and Wellness Tracking: Evaluate the current technology and implement the best solution for tracking student health/wellness	__	__	Project Start	Sustain	Sustain
Special Ed Tracking: Evaluate the current technology and implement the best solution for planning and tracking against requirements	__	Project Start	Expand	Sustain	Sustain
Electronic Performance Evaluations: Implement PeopleSoft ePerformance	__	Project Start	Sustain	Sustain	Sustain
Electronic Assessment: Exploit technology to enhance the District's ability to evaluate student performance, report that performance in real time and allow for instructional adjustments to suit students individual needs	__	Project Start	Sustain	Sustain	Sustain
Professional Development: Provide asynchronous and blended access for a greater number of staff to take advantage of the Instructional Technology courses	__	Project Start	Sustain	Sustain	Sustain

FOCUS AREA: INFRASTRUCTURE

Strategic Goal 3: Ensure a robust, reliable, scalable, and dynamic computing and network infrastructure that helps enable Rochester City School District's academic and business goals.

INITIATIVE	2012-13	2013-14	2014-15	2015-16	2016-17
Print Management: Implement District-wide print management	Sustain	Sustain	Sustain	Sustain	Sustain
Central Office Refresh	__	Project Start	Sustain	Sustain	Sustain
Disaster Recovery Planning: Provide capability for the District to continue normal operations after experiencing a serious incident	__	Project Start	Sustain	Sustain	Sustain
Web and Video Conferencing: Enhance communication and training using video	__	__	Project Start	Sustain	Sustain
Infrastructure Maintenance & Upgrades: Address critical network components, such as hardware, wiring closets, switches/routers, etc. to ensure operational efficiency and sufficient capability to meet requirements	Sustain	Sustain	Sustain	Sustain	Sustain
Elementary School Wireless Expansion	__	__	Project Start	Sustain	Sustain
District Wide Security Upgrade (Endpoint, Firewalls)	__	__	Project Start	Sustain	Sustain
District Wide Internet Bandwidth Increase	__	__	__	Project Start	Sustain
Office 365 for Education (Exchange, Lync, OneDrive)	__	__	Project Start	Sustain	Sustain

FOCUS AREA: INNOVATION

Strategic Goal 4: *Advance administrative/operations systems for efficient and effective service delivery and management practices.*

INITIATIVE	2012-13	2013-14	2014-15	2015-16	2016-17
1–1 Take Home Pilot	___	Project Start	Sustain	Expand	Expand
Virtual School of Learning	___	Project Start	Expand	Expand	Expand

FOCUS AREA: DECISION MAKING

Strategic Goal 5: *Improve the accuracy, reliability and availability of data to allow for timely, focused, and informed decision making.*

INITIATIVE	2012-13	2013-14	2014-15	2015-16	2016-17
Data Warehouse: Implement a repository of organizational data designed to facilitate reporting and analysis	Sustain	Sustain	Sustain	Sustain	Sustain

Relationship Between Strategic Technology Initiatives and the RCSD Strategic Map

Strategic Technology	Student Achievement	Parental, Family, and Community Involvement	Communications/ Customer Service	Effective, Efficient Allocation of Resources	Management Systems
INSTRUCTIONAL					
Virtual Learning	✓				
Electronic Grade Book	✓	✓			
eLearning Management System (LMS)	✓				
Online Credit Recovery (OCR)	✓				
Regents Prep (ePrep)	✓				
Advanced Placement (VAP)	✓				
Common Core	✓				
Online Professional Development				✓	
OPERATIONS					
Student Health and Wellness Tracking	✓		✓		
Special Ed Tracking	✓				
Electronic Performance Evaluations		✓			✓
Electronic Assessment		✓			
Professional Development	✓			✓	
INFRASTRUCTURE					
Print Management				✓	✓
Central Office Refresh				✓	
Disaster Recovery Planning				✓	✓
Web and Video Conferencing		✓		✓	✓
Infrastructure Maintenance/Upgrade				✓	✓
Elementary School Wireless Expansion		✓		✓	
Districtwide Security Upgrade				✓	✓
Districtwide Internet Bandwidth Increase				✓	✓
Office 365 for Education				✓	✓
INNOVATION					
1-1 Take Home Pilot	✓			✓	
Virtual School of Learning	✓		✓	✓	
DECISION MAKING					
Data Warehouse	✓	✓	✓	✓	✓