

2016-2019

Technology Plan



***Brick Township
Board of Education***

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INFORMATION TECHNOLOGY SYSTEMS

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Attachments: Budget Detail of Accounts for 2016-17
 Summary of Technology Investments for the past 4 years

BRICK TOWNSHIP STAKEHOLDERS

James Baio	IT Manager
Jonathan Barresi	High School Administrator
John Barton	Board Member
Salva Berry	Middle School Computer Teacher
Kevin Campbell	Middle School Administrator
Michael Conti	Parent / Community Member
Sean Cranston	District Math Supervisor
Vincent Doyle	High School Teacher
Ross Ellicott	IT Manager
Nancy Evans	Elementary Teacher
Thomas Gialanella	Interim Superintendent of Schools
James Gfroehrer	Technology Systems Analyst
Colleen Kerr	Elementary School Administrator
Marianne Kerrigan	High School Teacher / Media Specialist
Susan McNamara	District Testing Coordinator / Data Analyst
Patricia Osborne	Middle School Teacher
Candida Rivera	Elementary School Teacher / Media Specialist

I. Executive Summary

A. Vision

The Brick Township Public School District, in partnership with our families and community, is committed to high expectation and excellence for all students and staff. With a combined effort of home, school, and community, we strive to ensure that all students have the foundation to become effective communicators, inspired learners, productive workers, and responsible global citizens. Through the use of transformational technology we will empower our students to be independent thinkers, designers, creators, explorers and dreamers.

B. Primary Strategies:

- Collaboration with all stakeholders—board members, central office, principals, teachers, parents, and students - to implement effective technology practices.
- Focus on goals to improve achievement and instruction
- Target Curriculum updates to support Digital Learning
- Analyze how Technology can be used to Differentiate Instruction
- Utilize Data-driven Decision Making
- Create networks of instructional experts and teacher leaders to extend instructional capacity through the effective use of technology
- Develop a team of instruction-focused administrators who foster an environment and culture conducive to the comprehensive integration of technology
- Build a system of ongoing professional development that responds to the needs of staff
- Provide incentives for professional growth
- Continually learn, assess, and readjust practice

C. District Overview

The district includes 12 schools and various departmental buildings for transportation, maintenance, and warehousing. We service approximately 9,100 students, and employ about 1,500 staff. The district has 2 High Schools, 2 Middle Schools and 8 Elementary Schools.

The Technology Department is comprised of two divisions:

- IT Services: Core function is to procure, deploy and maintain district hardware, software and network resources
 - IT Services provide the technological foundation to promote our primary strategies listed above.
- Instructional Technology: Focuses on how staff utilizes the technology resources available in and out of the classroom.
 - Instructional Technology also provides all technology related professional development for all staff members in the district.
 - Teachers and administrators use technology tools and strategies for continuous improvement of curriculum and instruction and to assess, gather, analyze, evaluate, and communicate information.

II. Technology

A. Infrastructure

Current Status:

Network Switch Equipment: The district currently has a mix of hardware in place. Most of the infrastructure is comprised of older Cisco 6500 series switches and 3700 series switches that were installed more than 7 years ago. This equipment is outdated and is no longer supported by the vendor. In 2014-15, the replacement process was initiated. Approximately 30% of the switch infrastructure was replaced with new Cisco/Meraki cloud managed switches.

Wide Area Network (WAN): Buildings are interconnected via several different methods. Private fiber WAN links are in place for: VMMS, VMES, LMES, BMHS, BTHS and WWES. Connectivity at these locations varies from 1GB to 10GB at the High Schools. Leased 1GB WAN connections from Comcast Business support the following facilities: HES, MES, DPES, EHYES, OES, and LRMS.

Access Points: As of 2015, the district upgraded its wireless network infrastructure. 450 Meraki N Access Points were placed in classroom across the entire district. Each classroom in the high schools and the middle schools received an access point. Elementary schools received an access point in every other classroom.

Internet & Telecommunications Services: The district has 2 Internet Service connections for the purpose of redundancy. The primary Internet Connection is 1GB from Comcast Business. The secondary connection is 100MB from LightPath. The district's VOIP phone system is supported by 6 PRI circuits to handle inbound and outbound calls. 50 POTS line are in place supporting emergency services, management services and fax services.

Security Services: The district employs a SonicWall Super Massive 9400 Firewall to load balance and manage Internet traffic. This device is designed to handle:

- Network Protection
- Web Content Filtering
- Firewall and IPS
- Content Filtering
- SSL & IPSec VPN
- Anti Virus and Spyware Protection
- Bandwidth Optimization
- IM and P2P Control
- Email Security
- Threat Protection
- Application Control

This device was just put in place for the 2015-16 school year.

Infrastructure Goals			
Goal	Actions for 2016-17	Actions for 2017-18	Actions for 2018-19
Update Network Switch Equipment	Purchase phase II replacement network switch equipment for Middle Schools and partial Elementary Schools	Purchase phase III replacement network switch equipment for remaining Elementary Schools	Maintain new Infrastructure with Support Agreements
Upgrade & Maintain Access Points	Place new AC Access points in the two High Schools, moving the existing N access points to the Elementary schools. Renew Meraki Licensing for the existing 450 Access Points	Maintain Access Point Infrastructure	Maintain Access Point Infrastructure
Expand & Maintain WAN Connections	Upgrade WAN connection to 10GB at VMMS, VMES, LMES, and WWES.	Install private Fiber WAN connections with 10GB capacity for HES, MES, DPES, EHYES, OES, & LRMS	Maintain Existing WAN Infrastructure
Enhance Internet & Telecommunications Services	Utilize the Broadband Consortium to procure more cost effective services Upgrade the secondary Internet circuit from 100MB to 1GB Implement Virtual Fax Service / Eliminate excess POTS lines	Maintain Internet and Telecommunications Circuits	Maintain Internet and Telecommunications Circuits
Review and Strengthen Security	Perform a Security Audit to confirm the district's network and resources are thoroughly protected from both internal and external threats. Implement solutions and services that may be recommended.	Continue to monitor and fine tune security measures, optimizing the level of protection in place.	Continue to monitor and fine tune security measures, optimizing the level of protection in place.

B. Operational / Administrative Systems

Current Status:

Security Systems: The district has approximately 350 surveillance cameras installed using Synology DVR software to record and manage content. An Infinias Card Access solution is in place supporting approximately 75 card readers / door access systems. The district completed a 2 phase installation of a district-wide Radio Communications system. 350 digital radios and 6 repeater sites make up the system, providing communications channels that span the footprint of the district, for each of 12 schools, the transportation department, the maintenance department, and emergency management.

Communications Systems: A Cisco Unified Communications Solution was installed about 5 years ago providing VOIP based phone services and voice mail. Microsoft Office 365 is the platform that facilitates e-mail for staff. Currently students do not have access to e-mail. The Motorola Radio solution is a key component of daily operational communications at the building level. Website services are hosted on a platform called Dot-Net-Nuke. Schools manage their own content with support at the district level. Honeywell is used to facilitate mass communications to students, parents and staff. A two year project, began in 2015-16 to replace all of our buildings' outdated Public Address Systems. The Rauland-Borg Campus Telecenter system was the selected solution. Phase 2 will be completed in 2016-17.

Information Management Systems: Genesis, IEPDirect, Performance Plus, and Systems 3000 are the district's primary Information Management Systems. Genesis manages all of our student data, provides information to parents via Parent Portal, and facilitates all State reporting for NJSMART and NJ Homeroom.

IEPDirect is a web-based solution that supports the management of all required data specifically for Individual Education Plans and the Special Education Department.

Performance Plus is the district's assessment and data warehouse management system. All Testing and Assessment data resides in this system, giving teachers and administrators the ability to analyze student performance. The system also facilitates online benchmark testing for the district.

The Systems 3000 Application Software handles: human resource data for all employees and required state reporting; Payroll Process Management; and supports GAAP budgeting, finance, and purchasing needs.

Secondary Management Systems: Departmental Management Systems also include: VersaTrans – a Bus / Transportation Management Solution; Primero Edge – a Food Services / POS Management System, AESOP – a Staff Attendance / Substitute Management System; Applitrack – a Human Resources Applicant / Hiring Management Solution; I-Observation – a Staff Evaluation Management System; Follett Destiny – A Library Resource Management System; and School Dude – a Facilities, Work Order, and Inventory Management System.

Academic Systems: The district utilizes many software applications and web resources to support the process of Teaching and Learning, which will be discussed further in the Digital Learning section of this plan.

The following are some of the Core Systems used: OnCourse – Curriculum Mapping and Classroom Management; Think Central – K-6 core content for ELA and Math; Learning A to Z – Software to support Reading and Writing at the elementary level; Achieve 3000 – Provides differentiated instruction for Reading & Writing at the Middle School level. The APEX Online Learning solution is used at the High schools to provide additional / alternate learning opportunities for students.

Printing / Copying: In 2015-16, the district implemented a centralized, managed Copying and Printing solution with PaperCut Software, Savin Copiers, and HP printers. 63 multi-function (print-copy-scan) devices are distributed across the district serving the needs of the staff. A district print shop is utilized to produce high volume documents. 110 HP printers were placed in classrooms, media centers and offices to support the needs of the students and staff. This solution affords the district the ability to manage printing, while controlling costs.

Productivity Software: Microsoft Office / Office 365 applications (Word, Excel, PowerPoint, Access, Outlook, Publisher, etc.) are used at all levels of the district to support academic and operational tasks. Google Apps for Education and the Apple I-Life suite of applications are also used extensively. The Adobe Creative Suite, AutoCAD and AutoDesk Software Applications are used to support the STEAM initiatives of the district.

File Storage: The district uses several resources to store electronic files for students and staff. On-site servers and Network-Attached-Storage (NAS) devices house a majority of the data. With the implementation of Cloud Storage solutions such as Google Drive and Microsoft's One Drive, students and staff are now beginning to utilize these mechanisms.

Backup / Disaster Recovery / Archiving: The district employs several layers in its backup strategy. Backup data is housed on local disk storage, replicated to a secondary district site, as well as uploaded to an off-site storage facility through the Mozy service. E-mail Archiving occurs through a service provided by CGS. All e-mail sent and received by Exchange (Office 365) is journaled and archived. The solution provides easy access to search and retrieve email for legal and investigative purposes.

Operational/Administrative Systems Goals			
Goal	Actions for 2016-17	Actions for 2017-18	Actions for 2018-19
Enhance Security Camera Surveillance Systems	Add cameras at the Elementary Schools	Update the DVR Software for High Schools	Maintain the System
Upgrade the Card Access System	Replace Card Access Interface Modules	Replace Master Control Systems to integrate with the Rauland Telecenter	Complete configuration to include Time & Attendance function
Maintain and expand use of Communication Systems	Maintain E-mail, Telephone, Honeywell, and Radio Systems Establish a Social Media Presence for district level communications	Maintain E-mail, Telephone, Honeywell, Radio Systems, and Social Media tools	Maintain E-mail, Telephone, Honeywell, Radio Systems, and Social Media tools
Complete Replacement of Public Address Systems	Budget for & Install BTHS, VMES, EHYES	Budget for & Install WWES, and Card Access Integration	Maintain All Systems in good working order.
Enhance the Backup and Archiving Solution utilized	Explore using Google and Microsoft for backup and archiving services	Implement more cost-effective solutions while expanding functionality	Maintain services put in place.
Maintain existing Centralized Printing solution	Fine tune process to reduce annual costs	Promote more electronic file sharing vs printing to reduce paper/toner usage	Maintain all systems in good working order.
Maximize usage of all Information Systems, Management Systems, and Academic Systems	Complete two-way data exchange for VersaTrans Implement Bus GPS tracking system.	Consider Upgrades and/or replacements for Systems 3000	Implement Document Storage and Security Enhancements on Genesis.
Strengthen all Processes & Systems supporting online testing	Verify all Chromebook and Laptops are updated with most recent PARCC, DLM, and Access Apps	Expand usage and functionality of OLA	Maintain all Systems & procedures for online testing.
Address File Storage needs	Upgrade Servers and SAN to support current & future file storage needs	Select district Cloud Storage solution (Google Drive or One Drive) and implement migration strategy	Maintain all solutions
Better track all hardware devices and repairs	Implement Integrated Inventory / Helpdesk Solution	Ensure all devices are labeled appropriately with Asset and name tags	Verify Inventory Annually

C. Hardware

Current Status:

Classroom Technology Equipment: Throughout the years, classrooms have been equipped with a variety of devices including Interactive Projection Systems, White Boards and Document Cameras. About 50% of the classrooms across the district have a newer, modern projection system. The other half of the classrooms have older, legacy systems. There are still about 20 classrooms that do not have a projection system installed. A systematic replacement of the older, legacy devices needs to occur, while addressing the classrooms that do not have units.

Student / Teacher Computers: The district has a significant hardware base that is currently in transition. As of three years ago, most of the technology resources were older desktop computers. In 2013, the district started an initiative to change the technology model. The goal was to eventually have a 1-to-1 implementation district-wide for students and teachers. The plan called for the replacement of desktop computers with mobile devices. The Classroom model transitioned from a station of 3-4 desktop computers to a cart of mobile devices, with every student having access to a computer.

At present, the district has achieved approximately 75% of its goal. Over the past 3 years, more than 6,500 mobile devices have been purchased for students and teachers to use in the classroom. A laptop computer has been assigned to every teacher. Until a full 1-to-1 capacity is reached, student computers are shared across classes, giving every student access to technology several days a week. The expectation is that a full 1-to-1 implementation will be in place for the 2017-18 school year.

Another element of the plan was to standardize the hardware resources available for students by grade level. That plan calls for I-pads to be utilized in grades PK to 2. Students in grades 3 to 8 use Chromebooks, and High School students have PC Laptops and Macbooks. Appropriate software and Apps have also been identified and purchased to support the educational use of these devices.

Computer Labs: The Middle and High schools contain computer labs dedicated to the Computer, Business, Programming, CAD and Digital Arts curricula. Additionally, each of the school's Libraries has a group of desktop computers for students to conduct research and complete projects. Most devices in these labs are outdated desktop computers that no longer meet the needs of the curriculum. These computer labs need to receive updated desktop and/or laptop computers.

STEM/STEAM Labs: Over the past few years the district has begun to develop and implement STEM initiatives at the elementary and middle schools. Students have been exploring robotics, circuitry, programming, coding, as well as utilizing creative and design applications. During the 2015-16 school year, administrators developed a plan to establish a STEM Academy at both High Schools. This academy will continue a higher level implementation of what was begun at the Elementary & Middle schools. Full blown collaborative STEM labs are currently being planned for the 2016-17 school year.

Assistive Technologies: The district utilizes a variety of devices to support the needs of the Special Services Department. Such include: Supplemental Audio Systems; Text to Speech and Speech to Text devices; I-Pads and specialized Apps geared towards the needs of individual students; ADA modifications built in to computer devices; as well as specialized software for the visually or hearing impaired.

Hardware Refresh Cycle: The district's Hardware Replacement Schedule is as follows:

<u>Hardware:</u>	<u>Life Cycle</u>
Desktop Computers	5 years
Chromebooks	4 years
PC Laptops	5 Years
Macbook Laptops	6 years
Projectors	6-7 years
Printers/Copiers	6-7 years
Network Infrastructure	7-8 years

Unfortunately, due to budget constraints, these timelines have not always been followed. Operational expenditures associated with technology need to be treated as necessary and consistent budget line items.

Current Hardware Inventory Summary:

STAFF COMPUTERS				STUDENT LAB COMPUTERS				STUDENT MOBILE DEVICES			
School	Desktop-Office	Laptop-Staff	TOTAL Staff Devices	Apple Mini	Lab-Computer	Library-Computer	TOTAL Lab Computers	Laptops-Student	Chromebooks	I-Pads	TOTAL - Mobile
BMHS	100	175	275	26	120	66	212	1050	0	30	1080
BTHS	80	150	230	26	96	36	158	950	0	30	980
LRMS	35	85	120		72	30	102		675	80	755
VMMS	40	105	145		72	18	90		725	30	755
HES	10	20	30		0	5	5		48	82	130
LMES	20	38	58		0	5	5		96	170	266
VMES	20	51	71		0	5	5		144	204	348
MES	20	38	58		0	5	5		96	152	248
DPES	20	38	58		0	5	5	48	96	158	302
EHYES	30	65	95		0	5	5		144	270	414
OES	20	33	53		0	5	5		96	153	249
WWES	15	20	35		0	5	5		0	120	120
TOTALS	410	818	1228	52	360	190	602	2048	2120	1479	5647

Hardware Goals			
Goal	Actions for 2016-17	Actions for 2017-18	Actions for 2018-19
Replace all outdated desktop and laptop computers for Admin / Support Staff	Purchase an allotment of devices to achieve 85% capacity	Purchase remaining quantity of devices needed to achieve 100%	Begin to actively implement district refresh cycle.
Ensure all teaching staff have a current laptop	Purchase 40 laptops to complete this goal	Maintain all staff laptops	Begin to actively implement district refresh cycle.
Ensure all classrooms have highly functional Interactive Presentation Systems	Replace outdated LCD projectors. Replace / add Document Cameras as and where needed. Place new Media PC devices in classrooms	Continue project as outlined in 2016-17 until all classrooms have been addressed.	Begin to actively implement district refresh cycle.
Complete the 1-to 1 Implementation of Student Computers	Purchase an allotment of student devices to achieve 85% capacity	Purchase remaining quantity of student devices needed to achieve 100%	Begin to actively implement district refresh cycle.
Review the Purpose & Design of Computer Labs. Upgrade HS and MS Computer Labs to support the curriculum requirements.	Replace outdated desktop computers in Libraries and Computers Labs with new devices (Laptops and/or Desktops)	Maintain all Labs in good working order	Maintain all Labs in good working order
Review the Purpose & design of Library / Media Centers	Analyze usage of space in Middle & High schools Libraries to determine how to optimize Digital Learning Experiences.	Develop & Implement plan as determined by administration, changing layout and furniture supporting a collaborative environment.	Continue adopted plan, implementing components supported by the current budget.
Develop STEM, Maker, or Innovation Labs	Order collaborative furniture, 3D Printers & Scanners, Install Creative & design Software	Continue to develop and enhance STEM labs	Continue to develop and enhance STEM labs
Review Classroom layout and furniture with a focus on student collaboration and individualized learning	Conduct a study of classroom space and furniture to determine how well current classrooms support collaboration, active and interactive learning.	Develop a multi-year plan to update classroom spaces with appropriate furniture. Start the implementation of this plan with budgeted purchases.	Continue the implementation of the multi-year plan to update classroom spaces.
Actively Implement the district's Hardware Refresh Plan	Annually plan for and purchase a portion of replacement equipment per the multi-year plan.	Annually plan for and purchase a portion of replacement equipment per the multi-year plan.	Annually plan for and purchase a portion of replacement equipment per the multi-year plan.

D. Support Maintenance

Current Status:

Technology Support Staff: The IT department currently employs: 2 district level staff members to oversee and manage all aspects of Technology; 1 Systems Analyst to support the Data Center; 1 Helpdesk/Office Support Staff member; and 3 field technicians to support all technologies in the district's 12 school facilities. School level support is not adequate for the amount of Technology implemented and the size of the district.

Vendor Maintenance / Support: The district uses vendors to support various hardware solutions or to supplement such support when specific skills are necessary beyond the capabilities of our staff. Maintenance contracts are maintained on mission critical systems, such as the Network Infrastructure, and the Telecommunications System. All Computer Devices are purchased with a minimum of 3 years support, or spare equipment is allocated when devices are packaged with 1 year support.

SYSOPs & Webmasters: Each school has two staff members identified to assist with the integration of Technology at the school level. These staff members are full-time teachers who get a stipend for an additional period to respond to Technology questions or work on the school's website.

Support/Maintenance Goals			
Goal	Actions for 2016-17	Actions for 2017-18	Actions for 2018-19
Provide an adequate number of Technology Staff to support schools	Recommend to hire 1 additional Tech Support staff member	Recommend to hire 1 additional Tech Support staff member	Recommend to hire 1 additional Tech Support staff member
Increase Educational Technology Support for Digital Learning	Expand role of Math & Literacy Coaches to include PD support relative to Technology.	Employ Content Coaches at the High school, where they currently do not exist.	Strengthen Technology & Learning skills of all Coaches
Continue to utilize Maintenance / Support services contracts for critical services.	Maintain Service agreements for Cisco VOIP, Switch and Access Points.	Maintain Service agreements for Cisco VOIP, Switch and Access Points.	Maintain Service agreements for Cisco VOIP, Switch and Access Points.

E. Budgeting

The district will develop an annual budget that supports Digital Learning for all students and teachers across the district. The budget will reflect hardware, software, infrastructure upgrades, as well as fixed costs for Staff, required Management Systems & Services and Vendor Support. The annual budget will:

- Maximize E-Rate funds to support both Category 1 and 2 services.
- Utilize Multi-Year Lease Purchase funding mechanisms to accelerate the replacement of all outdated equipment
- Be stable and consistent with built-in expenditures to support the ongoing replacement of hardware according to the district's Hardware Refresh Cycle.

2016-17 Budget: The following figures represent actual expenditures as approved by the Board of education for 2016-17.

5 Yr. Lease/Purchase Funds for Hardware:	\$1,774,500.00
Fixed Costs	\$1,247,530.00
Hardware Investment	\$ 350,000.00
BUDGET TOTAL:	\$1,597,530.00

2017-18 Budget: The following figures represent the projected costs for 2017-18.

Fixed Costs	\$1,250,300.00
Hardware Investment - Refresh Cycle	\$ 500,000.00
BUDGET TOTAL:	\$1,750,300.00

2018-19 Budget: The following figures represent the projected costs for 2018-19.

Fixed Costs	\$1,250,300.00
Hardware Investment – Refresh Cycle	\$ 550,000.00
BUDGET TOTAL:	\$1,800,300.00

See the Appendix for a complete account listing of funds for the 2016-17 school year.

III. Curriculum and Digital Learning

Current use of Technology in Teaching & Learning K-12:

The use of technology in teaching and learning K-12 in the Brick Township Schools is primarily driven by the technology components associated with new program adoptions for different curriculum areas at all levels; technology components associated with summative assessments for different curriculum areas at all levels; web based applications that are used across the grade levels to support instruction in the classroom; and the hardware utilized at each level: iPads, Chromebooks, MacBooks, Interactive White Boards. In looking at the SAMR Model the use of technology for teaching and learning K-12 is primarily at the Enhancement Level. Some of those uses include, but are not limited to:

- Publisher technology tools associated with new adoption materials
- Interactive Projection Systems
- Student Response Systems
- Online Assessments
- Online instructional delivery systems
- Microsoft Suite of Applications
- Variety of Websites, Apps, and YouTube Videos that are aligned to the standards and the scope and sequence of the specific curriculum.

Goals and Actions for Teaching & Learning K-12:

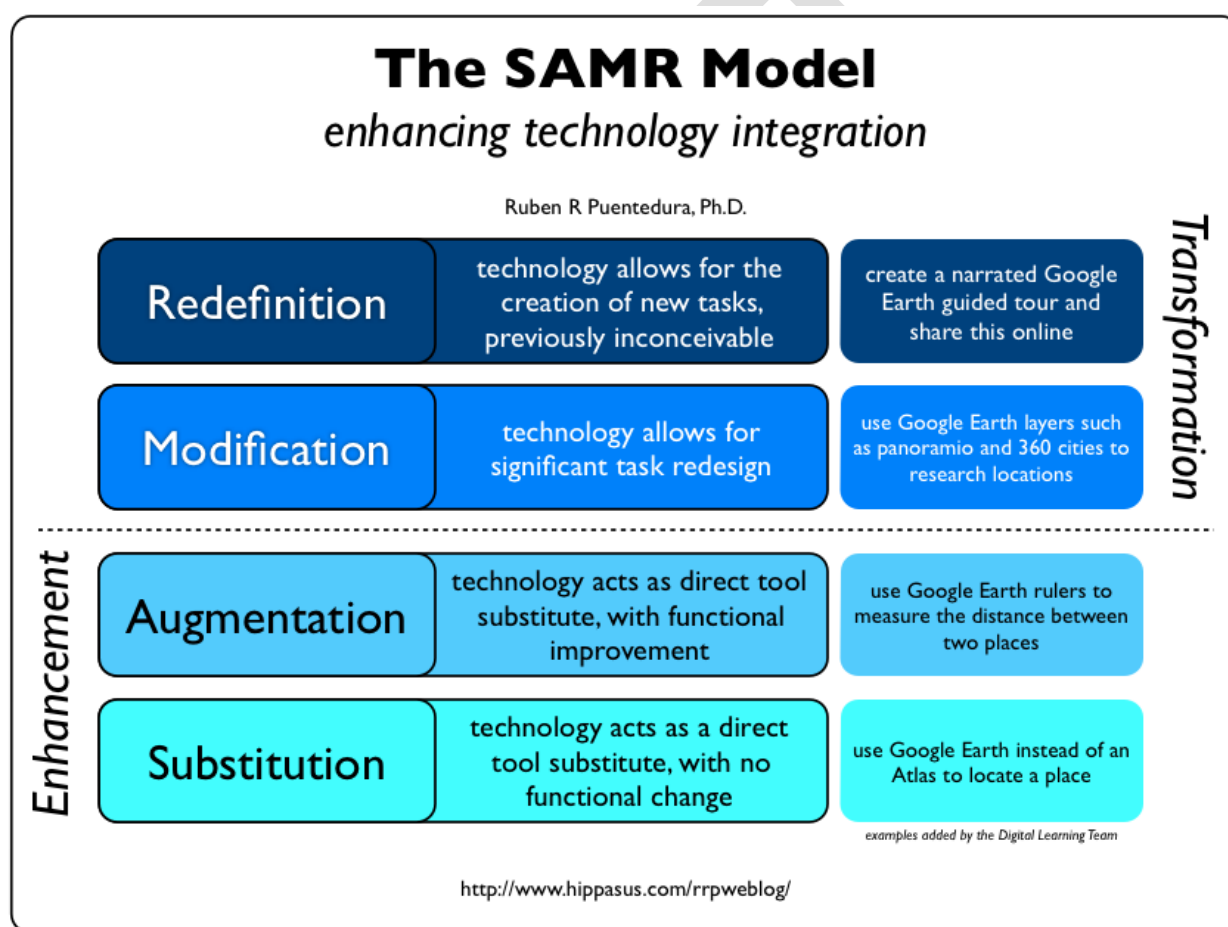
In order to leverage technology for teaching and learning K-12 in the Brick Township Schools we endeavor to do the following over the next three years:

- Move from using technology as an add-on to the existing curriculum to an intentional use of technology within the adopted curriculum to develop and support higher order thinking skills and achieve desired learning outcomes.
- Implement curriculum planning practices, pedagogy and assessment methods that support a student-centered approach of the utilization of technology at a transformational level which best supports each student's learning journey and in which the teacher is the facilitator of the road map for that journey.
- Design and implement teaching and learning experiences that empower students to become explorers capable of utilizing their individual and collective talents to solve real-world problems.
- Design and implement teaching and learning experiences which support the transformation shift of utilizing technology for standards based learning and real-world problem solving.
- Design and implement a curriculum framework for all content areas in which the content standards and related digital curriculum resources align with and support digital age learning and work.

The actions necessary to achieve this leveraging of technology for teaching and learning K-12 in the Brick Township Schools is embodied in all of the components of the Brick Township Technology Plan 2016-2019. Each component is an integral piece in moving the districts use of technology from enhancing teaching and learning to transforming teaching and learning for the 21st Century!

In order to accomplish this goal we will need to guide teachers in being more reflective about their use of technology in the classroom. Through this reflection we hope to professionally develop staff to redefine how they utilize technology for teaching and learning. One of the models we will use with teachers, to examine their use of technology, is the SAMR model created by Dr. Ruben Puentudura.

The **S**ubstitution **A**ugmentation **M**odification **R**edefinition model offers a method of seeing how computer technology might impact teaching and learning. It also shows a progression that adopters of educational technology often follow as they progress through teaching and learning with technology. As one moves along the continuum, computer technology becomes more important in the classroom but at the same time becomes more invisibly woven into the demands of good teaching and learning.



IV. Professional Development

Technology Related Professional Development in the Brick Township Schools has been primarily application based. Some of the areas of technology professional development to date include, but are not limited to:

- Technology component associated with new program adoptions for different curriculum areas at all levels.
- Web based applications used across the grade levels to support instruction in the classroom.
- Hardware training for iPads, Macbooks, & Chromebooks, Interactive Projectors.
- Application software for lesson planning and curriculum building.
- Application software assessment delivery and data management and analysis.
- Application software for data storage of student records.
- Application software for student growth objectives, observation and evaluation of staff.
- Application software for classroom management and sharing.
- Application software for communication, file sharing, and information sharing.
- Application software for word processing, spreadsheets, email, etc.

Goals and Actions for new, innovative Technology-Related PD initiatives:

Moving forward our goal is to design professional development that provides our teachers with the tools to enhance their instruction through the integration of technology which will assist them in preparing our students to become empowered, responsible members of today's diverse global society.

According to the National Educational Technology Standards for Students, International Society for Technology Education: "Effective integration of technology is achieved when students are able to select tools to help them obtain information in a timely manner, analyze and synthesize the information, and present it professionally. The technology should become an integral part of how the classroom functions—accessible as all other classroom tools."

Some of the new technology tools and ideas we endeavor to incorporate into our classrooms K-12 to move the utilization of technology for teaching and learning from enhancement to transformation include, but are not limited to:

- Online Learning and Blended Classrooms
- Project-Based Activities Incorporating a variety of Technology
- Game Based Learning and Assessment
- Learning with Mobile and Handheld Devices
- Student Response Systems
- Web-Based Projects, Explorations, and Research
- Student Created Media like Podcasts, Videos, or Prezi
- Collaborative Online Tools: Wikis, Google Docs, Google Classroom
- Social Media

V. Policies, Procedures and Guidelines

The district reviews and updates its Computer Acceptable Use Policies on a regular basis, based on the needs of newer or enhanced Technologies. The Technology Department and the district Technology Committee shall make recommendations for such change relative to desired Usage and Implementation strategies. These recommendations shall be presented to the Superintendent for his/her consideration and the consideration of the Board.

- The district would like to develop a Social Media Presence and promote the use of Social Media Tools in a responsible manner. Such is in conflict with the specifications of the current Policies.

VI. Evaluation Plan

Three-Year Technology Plan Evaluation Narrative	
Describe the process to regularly evaluate this plan as <u>effectively</u>. . .	
<i>a. integrating technology</i>	• Evaluate with subject area supervisors the lessons and student projects that are used in the classrooms • Maintain a high availability of quality technology resources for faculty and students • Work with principals to ensure that teachers are able to attend district technology workshops and other events
<i>b. enabling students to meet challenging state academic standards</i>	• Maintain a high quality software catalog • Ensure that departments are working collaboratively to provide students with challenging work • Make sure that opportunities are provided for students to engage in higher order thinking activities • Evaluate how many students are meeting or exceeding the state standards for all curricula areas
<i>c. developing life-long learning skills</i>	• Does the work we provide students challenge them to think and interact in new and creative ways? • Are there differentiated instructional strategies being implemented in the classroom setting? • Do students have the technology tools needed to transcend the line between school and the rest of the modern world?

ATTACHMENTS - 2016-17 Detail Budget

Fixed Costs in Budget		
Acct Desc	Description	Amount
TECHNOLOGY - LIBRARIES	Annual Subscription Fees (All Schools)	\$15,000.00
	TOTAL	\$15,000.00
Acct Desc	Description	Amount
COMMUNICATIONS/TELEPHONE	Comcast Business (Warehouse/Backup)	\$1,800.00
COMMUNICATIONS/TELEPHONE	Pots Lines (\$3000/month for District)	\$24,000.00
	TOTAL	\$25,800.00
Acct Desc	Description	Amount
COMM SRV/ BOARD MTG TAPE	Community Service/Board Meeting Taping	\$3,000.00
	TOTAL	\$3,000.00
Acct Desc	Description	Amount
	Salaries TOTAL	\$289,180.00
Acct Desc	Description	Amount
GEN ADMIN-TECHN-SUMMER	Summer / PT Staff Hours	\$15,000.00
GEN ADMIN-TECHN-SUMMER	Projector / Audio Systems Installations (2nd Shift)	\$15,000.00
	TOTAL	\$30,000.00
Acct Desc	Description	Amount
TECH. OFFICE SUPPLIES	Office Supplies	\$750.00
	TOTAL	\$750.00
Acct Desc	Description	Amount
TECH CONSULTANTS MAINT	CARD ACCESS SUPPORT	\$10,000.00
TECH CONSULTANTS MAINT	CISCO TAC SUPPORT	\$15,400.00
TECH CONSULTANTS MAINT	DELL Storage Support	\$4,000.00
TECH CONSULTANTS MAINT	E-RATE CONSULTANTS FEES	\$15,000.00
TECH CONSULTANTS MAINT	EMAIL ARCHIVE / RETRIEVAL	\$14,000.00
TECH CONSULTANTS MAINT	Hardware Repair	\$20,000.00
TECH CONSULTANTS MAINT	ISTE FEE	\$100.00
TECH CONSULTANTS MAINT	SURVEILLANCE CAMERA SUPPORT	\$10,000.00
TECH CONSULTANTS MAINT	TELEPHONE SUPPORT	\$7,500.00
TECH CONSULTANTS MAINT	WEBSITE SUPPORT - DotNet	\$4,000.00
	TOTAL	\$100,000.00
Acct Desc	Description	Amount
TECH - TRAINING	CBT Nuggets Services (5 seats)	\$4,500.00
TECH - TRAINING	Staff Training Workshops	\$2,800.00
TECH - TRAINING	ISTE/Techspo Workshops	\$1,500.00
	TOTAL	\$8,800.00
Acct Desc	Description	Amount
TECH TRAVEL/TRAINING	Tech Travel	\$1,000.00
	TOTAL	\$1,000.00

Acct Desc	Description	Amount
TECH.PURCH.SVC./LICENSE	Adobe Creative Suite	\$2,000.00
TECH.PURCH.SVC./LICENSE	Antivirus SW Server Fees	\$1,500.00
TECH.PURCH.SVC./LICENSE	Firewall Support Fees	\$3,000.00
TECH.PURCH.SVC./LICENSE	Instant Alert - Honeywell Fees	\$20,000.00
TECH.PURCH.SVC./LICENSE	Microsoft Virtual Desktop	\$10,000.00
TECH.PURCH.SVC./LICENSE	Microsoft Campus Agreement	\$90,000.00
TECH.PURCH.SVC./LICENSE	Mozy Backup	\$3,500.00
TECH.PURCH.SVC./LICENSE	MUA WAN Maintenance Fees	\$2,500.00
TECH.PURCH.SVC./LICENSE	Phone - Single Wire Fees	\$6,250.00
TECH.PURCH.SVC./LICENSE	School Dude Fees	\$5,000.00
TECH.PURCH.SVC./LICENSE	SIS - Genesis Fees	\$27,000.00
TECH.PURCH.SVC./LICENSE	T-Pass Support Fees	\$4,000.00
TECH.PURCH.SVC./LICENSE	Renew for 300 Licenses Learning A-Z - Elementary	\$55,000.00
	TOTAL	\$229,750.00
Acct Desc	Description	Amount
Tech-Internet Access	COMCAST BUSINESS 1 GB ISP	\$43,000.00
Tech-Internet Access	Comcast Ethernet WAN Services (6 Bldgs)	\$95,500.00
Tech-Internet Access	LIGHTPATH/XTEL 1GB ISP + 100K Minutes p/m	\$45,500.00
Tech-Internet Access	MUA/BOE FIBER ANNUAL CONTRACT (4 of 4)	\$50,000.00
	TOTAL	\$234,000.00
Acct Desc	Description	Amount
Tech-District Supplies	Phone Parts (7911/18/199 942/12/344 962/0/230) 2.5	\$6,000.00
Tech-District Supplies	Various Replacement Parts	\$6,000.00
	TOTAL	\$12,000.00
Acct Desc	Description	Amount
SP. SERVICE COPY MAINT.	Copier Maintenance	\$19,530.00
SUPER COPY MAINT.	Copier Maintenance	\$4,885.00
CENTRAL COPY SCHOOL ADM	Copier Maintenance	\$13,975.00
BUS.OFFICE/COPIER MAINT	Copier Maintenance	\$6,390.00
TECHNOLOGY COPY MAINT.	Copier Maintenance	\$3,340.00
MAINT. DEPT. COPY MAINT.	Copier Maintenance	\$1,505.00
TRANSP. COPY MAINT.	Copier Maintenance	\$2,630.00
CENTRAL COPYING FACULTY	Copier Maintenance	\$230,115.00
CENT. COPY ATHLETICS	Copier Maintenance	\$2,630.00
	TOTAL COPIER/PRINTER FEES	\$285,000.00
Total Fixed Cost in Budget		\$1,234,280.00

Hardware Costs in Budget		
Acct Desc	Description	Amount
Tech-District Supplies	360 Laptops for High Schools (\$600ea)	\$215,000.00
Tech-District Supplies	400 Chromebooks for Middle Schools (335ea)	\$135,000.00
TECH SUPPLIES/SPEC. SVC.	Case of 10 Apple I-Pads	\$4,250.00
	TOTAL District Supplies	\$354,250.00
Acct Desc	Description	Amount
TECH SUPPLIES/BTHS	STEM Supplies	\$1,500.00
TECH SUPPLIES/BMHS	STEM Supplies	\$1,500.00
TECH SUPPLIES/LRMS	STEM Supplies	\$1,500.00
TECH SUPPLIES/VMMS	STEM Supplies	\$1,500.00
TECH SUPPLIES/DPR	STEM Supplies	\$1,000.00
TECH SUPPLIES/HERB	STEM Supplies	\$1,000.00
TECH SUPPLIES/VME	STEM Supplies	\$1,000.00
	TOTAL School Supplies	\$9,000.00
Acct Desc	Description	Amount
Tech-Districtwide Equip	Capital Expense	\$0.00
	Capital Investment in Budget	\$0.00
Total Hardware Costs in Budget		\$363,250.00
Total IT Department Budget		\$1,597,530.00
% of District Budget		1.11%
LP Finance Payment		\$373,324.00
Hardware Investments		
Tech-Districtwide Equip	Switches, Routers & Access Points	\$300,000.00
Tech-Districtwide Equip	Replacement Public Address Systems (4 schools)	\$275,000.00
Tech-Districtwide Equip	Servers, Storage SAN, DVR	\$55,000.00
Tech-District Supplies	220 Interactive Projectors (\$1400ea)	\$308,000.00
Tech-District Supplies	10 Digital Encoders (\$1,200ea)	\$12,000.00
Tech-District Supplies	500 Media Settop Boxes (\$250ea)	\$125,000.00
Tech-District Supplies	500 classroom tech wallmount units (150ea)	\$75,000.00
Tech-District Supplies	300 Document Cameras (\$300ea)	\$90,000.00
TECH SUPPLIES/SPEC. SVC.	25 Soundfield Systems (\$1,100ea)	\$27,500.00
Tech-District Supplies	300 PC Desktops for MS & HS Computer Labs	\$180,000.00
Tech-District Supplies	40 Staff Dell Laptops (600ea)	\$24,000.00
Tech-District Supplies	100 Office Desktop Computers (\$500ea)	\$50,000.00
Tech-District Supplies	60 Laptop Carts	\$66,000.00
Tech-District Supplies	675 Chromebooks to Replace Netbooks	\$187,000.00
	Total Purchases via LP Finance	\$1,774,500.00

ATTACHMENTS – Details of Technology Investments over the past 4 years:

2015-16 Purchases	
Item	Value
Savin Copiers	\$714,500.00
HP Printers	\$85,000.00
AllCom/Motorola Systems	\$194,600.00
Apple Computers	\$24,600.00
Open Systems PA Systems	\$748,000.00
Cisco Phone Upgrade	\$105,000.00
Network Switch Equipment	\$251,984.00
Surveillance Cameras	\$28,250.00
Soundfield Systems	\$19,000.00
LCD Projectors	\$57,500.00
Auditorium Projectors	\$11,600.00
Staff Laptops	\$27,100.00
Laptop Carts (24)	\$36,700.00
Sonic Firewall	\$36,250.00
Dell Staff Computers (92)	\$50,000.00
Dell Chromebooks (550)	\$157,000.00
10 Dell 13" Chromebooks	\$4,100.00
TOTAL	\$2,551,184.00
2014-15 Purchases	
Item	Value
25 Mac Mini Lab computers	\$15,000.00
100 Macbook Air Laptops	\$78,000.00
70 Ipads	\$26,500.00
Meraki & Cisco Switch Eq	\$88,000.00
Dell CBs & Carts	\$54,000.00
75 HP CBs-Middle	\$25,000.00
85 HP Laptops	\$50,000.00
Motorola / AllComm Radios	\$140,000.00
21 Dell Projectors	\$29,500.00
25 Surveillance Cameras	\$10,400.00
5 Dell Desktops	\$3,500.00
5 Sony Displays	\$2,750.00
TOTAL	\$522,650.00

2013-14 Purchases	
Item	Value
Cisco/Meraki Network Eq	\$349,700.00
Promethean Tables	\$178,500.00
Synology DVRs	\$49,000.00
14 Laptop Carts	\$9,700.00
100 Laptop Carts	\$107,500.00
1325 HP Chromebooks	\$436,900.00
54 Dell Projectors	\$69,200.00
230 Dell Laptops	\$110,000.00
Projector Speakers	\$30,000.00
988 Macbook Laptops/27 Carts	\$1,064,210.00
1110 I-Pads	\$553,850.00
TOTAL	\$2,958,560.00
2012-13 Purchases	
Item	Value
176 Dell Projectors	\$261,000.00
40 Dell Laptops	\$40,000.00
115 Dell Desktops	\$69,000.00
UPS Equipment	\$181,600.00
Servers	\$17,500.00
190 I-Pads	\$91,000.00
7 Carts	\$18,200.00
325 13"MBA / 1100 11"MBA	\$1,554,087.00
TOTAL	\$2,232,387.00

Grand Total	\$8,264,781.00
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