



## Technology Plan

June 2018 - June 2022

### **District Vision**

*Every child achieves academic excellence.  
Every child becomes emotionally and physically stronger.  
Every child discovers and grows their talents.*

### **District Mission**

We are a community working together to inspire high academic achievement among all students, serve their needs, challenge their minds, and enrich their lives, laying a foundation for success and participation in our democratic society and as citizens of the world.

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## Introduction

In today's rapidly changing world, the use of technology is an integral part of our students' lives, learning how to use technology tools effectively and ethically is a component of 21st-century learning and is reflected the Common Core State Standards. These 21st-century skills, which include creativity, collaboration, communication, and critical thinking are commonly referred to as the "4 Cs". It's Menlo Park City School District responsibility to prepare students for this future. The classrooms must have the equipment, technology, and technical support which allow teachers to use technology in their everyday lessons seamlessly. With the integration of technology, the district needs to support teaching and learning that promotes intellectual growth and lifelong learning for students and staff.

The School Board approved 2016-2022 Strategic Directions in the area of technology support this vision.

1. Create a culture of innovation around technology that encourages teachers to seek, try, evaluate, and select the best tools which present the most promise at the most reasonable cost with a desire to scale tools district-wide that serve the purpose of student engagement, personalization, and learning.
2. Allow MPCSD Universal Technology Tools to evolve into an organic, focused, robust, and supported educator -approved tool belt ensuring that our educators, students, and parents are not overwhelmed with too many digital initiatives and are able to focus on our teaching and learning priorities.
3. Develop universal understanding and implementation of the SAMR Model across the district as the framework for technology integration, instructional planning, and evaluation.
4. Continue to develop high value, vertically aligned digital citizenship tools and curriculum similar to the Digitals Drivers license created at Hillview Middle School as well as partnering with outside organizations to provide the most current and effective tools, training, and mindsets for students, parents, and staff for remaining safe and responsible online and using digital tools effectively.
5. Ensure MPCSD students and educators have universal access to up -to- date and relevant hardware and software as well as a seamless wireless network that supports the growing demands of EdTech devices and content.
6. Provide effective, differentiated, timely, and ongoing professional development to MPCSD educators as they continue to ensure that technology serves teaching and learning and allows us to remain focused.
7. Catalyze the work of the District's Technology Committee and continue to seek meaningful partnerships with technology companies and thought -leaders around EdTech who share our purpose and vision.

## **The future of technology and how it will impact education**

As we embark on the Fourth Industrial Revolution, it's clear that technology will play a central role in nearly all aspects of our lives. Research by the [World Economic Forum](#) estimates that 65% of children entering school will find themselves in occupations that today do not exist.

By 2020 it's estimated there will be 1.5 million new digitized jobs across the globe. At the same time, 90% of organizations currently have an IT skills shortage, nearly 75% of educators and students feel there is a gap in their ability to meet the skills needs of the IT workforce. To prepare the students for the digital economy, education must adapt as fast as the demand for technology skills is growing and evolving.

There are four changes that will have a direct impact on classrooms, and are predicted to become mainstream over the next five to seven years include:

1. **The layout of the classroom will change immensely.** Seating arrangements in the future will be flexible so that they are appropriate for the task that students are working on, and there will also be more focus on the comfort of the students.
2. **Virtual and augmented reality will change the educational landscape.** The use of this technology means that geography and the costs will cease being a barrier for teachers who want to give students access to enrichment material that can only currently be found outside of the school building. This technology accommodates various learning styles by adding sound, video, images, and interaction to what used to be a text based.
3. **Flexible assignments will accommodate multiple learning styles.** Instead of passing out an assignment to write a research paper, the teacher will outline for students what skills or understanding they must demonstrate to successfully complete the assignment. The student will then be given the autonomy to decide how they will do that.
4. **MOOCs (massive open online course) and other online learning options will impact secondary education.** In the future, students will feel less inclined to spend 4 years in high school learning the basics, plus another 4 years in college. Instead, students can sign up for free classes designed and taught by professors at prestigious universities that are created and distributed using MOOC.

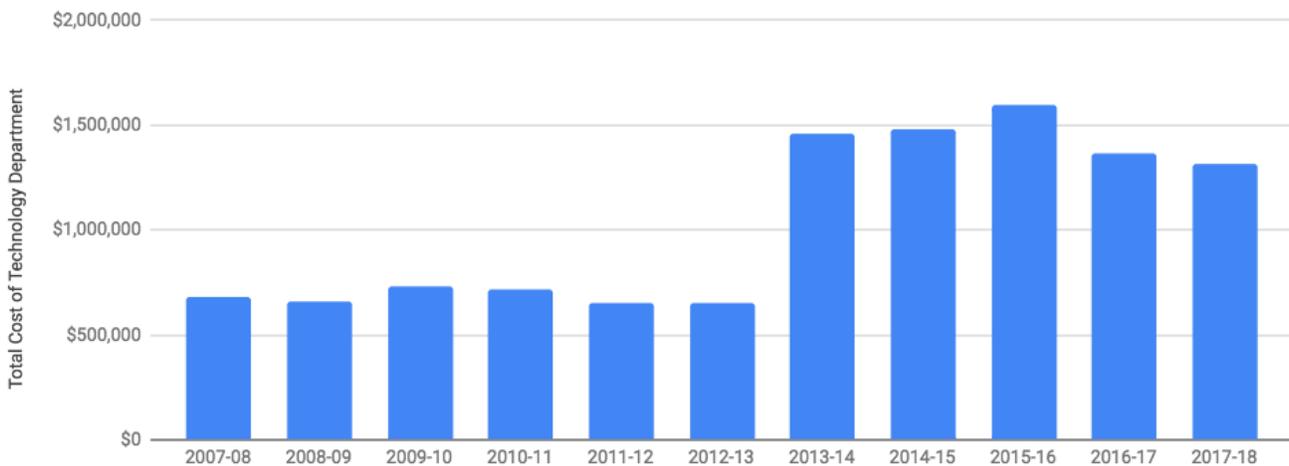
## MPCSD Technology Programs

*“Computing is not about computers anymore. It is about living.” --Nicholas Negroponte*

In order to support all instructional and non-instructional use of technology throughout the district, the Technology department maintains a robust technical infrastructure platform in all schools and the district office. The district also provides basic technical support to all staff members.

Funding for technology hardware and network infrastructure has been historically provided by many sources, including the district general fund (which includes parcel tax funding) and voter-approved school improvement bonds. Annually about \$1.4 million from Measure A 2000 are spent on the district’s technology-related needs. Below is a chart showing Technology expenditures of the last decade. Technology related cost represents about 3 % of total expenditures.

Total Cost of Technology Department



Starting in 2013/14, the District’s technology cost increased significantly as a result of the 1:1 iPad program adoption at Hillview MS. In 2015/16, expenditures peaked to about \$1.6M because the District took advantage of one-time monies to make an early lease payment for teacher computers. As part of the Measure X parcel tax and budget reductions, ongoing expenditures were reduced by about \$90,000 annually from 2014/15 levels. The department was able to meet the District needs by reducing expenditures through greater efficiency, utilizing the lease purchase format to spread the cost of purchases over several years, and use of one-times monies including the sale of older equipment.

### **B.1 Hillview 1:1 iPad Program**

Hillview first piloted the 1:1 program in the 2010-2011 school year. A single 8th-grade academy was issued iPads, and after a successful implementation, that pilot expanded in 2012-2013, to the entire 8th grade. We began the 2013 - 2014 school year with the 8th graders again using iPads from day one but then distributed the devices to 7th graders in January and to 6th graders in February.

As Hillview rolled out our iPad 1:1 program during the 2013 -2014 school year, the staff engaged in professional development on how to fully utilize the iPad's potential. The staff at Hillview continue to seek ways to continue to support teaching in learning utilizing technology. Teachers have migrated from traditional textbooks to online curriculum to best support students and to enrich teaching and learning.

In 2016-17 the program grew to be 1:1 iPad+ (More than just iPads!) with the Hillview "Digital Driver's License" program. The "Digital Driver's License" educates students on how to use the device efficiently and responsibly, and earning the license is a prerequisite for them to take their iPads home. The components of the program will include such units as internet safety and security, digital footprint and reputation, information literacy, and copyright and academic integrity.

While the 1:1 iPad program has been highly successful with staff and students, given the rapidly evolving changes in mobile technology, and looking at best practices in teaching and learning, the 1:1 program should be evaluated by Hillview Middle School with the support of the District's Technology Committee. The evaluation process should include empathy sessions with students and staff regarding the program, balance of screen time vs. non screen time and is the iPad still the appropriate device. A written report based on the findings and includes future recommendations should be conducted during the span of this technology plan.

To support the staff and students there is a full-time tech support technician assigned to Hillview who is onsite all day Monday-Friday.

**Recommended Actions and Timelines for 1:1 iPad Program (items in gray have been implemented or in progress)**

<b>Item No.</b>	<b>Timeline:</b>	<b>Activity &amp; Measurable Objective:</b>	<b>Person(s) Responsible</b>	<b>Costs:</b>
B.1.3	2017-18	The technology department will lease 690 iPads for 2017-18 6th and 7th graders.	Director of Technology Technology and Innovation Coach	\$73,160 annually (4yr Lease)
B.1.2	2017-18	The district moved to a "self Insurance" model to expedite repairs and minimize costs to district and families.	Director of Technology CBO HV IS Tech II	+\$26,000
B.1.3	2018-19	The technology department will lease 400 iPads for 2018-19 6th graders and for future growth over the next four years.	Superintendent CBO Director of Technology	\$39,130 annually (4yr Lease)
B.1.4	2022-23	The technology department will lease 700 iPads for 2021-22 6th and 7th graders.	Director of Technology CBO HV IS Tech II	\$75,000 annually (4yr Lease)

## B.2 Student Services Learning Centers

MPCSD is committed to supporting all students and this commitment is essential for our students with special needs. In an effort to meet these needs in the spring of 2016 the Director of Students Services working with the Student Services staff and the MPCSD tech department did an analysis of the technology in its Learning Centers. Based on the findings and feedback from the staff it was important to refresh the technology in the Learning Centers. During summer 2016, the Learning Center classrooms received forty-seven (47) MacBook Airs, three (3) Mac Minis with monitors, twenty-five (25) iPad Airs, an iPod Touch and HP color printers. The funding came primarily from Students Services but the Technology department budget also covered some of the costs. Technology Department provides technical support for maintenance and some of the more specialized equipment is supported by Student Services. In spring 2020 the Director of Technology will meet with the members of the Student Services to determine if another refresh is needed.

For budgeting purposes, the District should be setting aside \$40,000 to \$50,000 for refreshing dedicated special education technology every four/five years.

## B.3 Incubating Innovation

MPCSD launched a innovation incubator program called “i-cubed.” “i<sup>3</sup>” is a collaborative community of MPCSD educators and students who are striving to change the public school learning experience so that *all students* can achieve beyond their dreams AND are consistently engaged in learning throughout their school experience. i<sup>3</sup> (i-cubed) stands for “imagine, inspire, innovate” -- encapsulating both the creative and aspirational aims of the group.

It has five elements which are the foundation for creating student-centered learning experiences: learning personalized, evidence and mastery-based progress, meaningful work, student wellness and agency, and collaboration for all. i<sup>3</sup> teachers are incorporating these elements into their classrooms and instruction in a wide variety of ways, including but not limited to: spending more time getting to know each child’s strengths and dispositions; infusing more voice and choice for students into nearly every aspect of the classroom; incorporating flexible furniture into their classroom design; giving students frequent feedback on their work as well as multiple opportunities to demonstrate mastery over time; designing rich learning experiences that are built around students’ own questions; intentionally fostering deeper social-emotional learning skills; and sharing out best practices with colleagues.

Technology serves as a lever in i<sup>3</sup> to help accomplish these lofty goals. For example, truly personalizing learning for the whole child requires that teachers have easy access to each child’s progress data as well as their profile as a learner, in addition to having a means of giving each learner the “just right” instruction at the right time, and then giving timely feedback to that learner. In i<sup>3</sup>, the AltSchool platform makes this level of deep, meaningful personalization possible. The platform also makes it easier and more efficient for students to set and monitor their own goals as well as take more responsibility for their learning, increasing student agency. i<sup>3</sup> teachers are also using the platform to increase collaboration and to share evidence of learning with parents. While there is consensus among some leaders and teachers that AltSchool provides great customization and flexibility as a Learning Management System, teachers will be afforded the opportunity to choose Google Classroom within the i<sup>3</sup> cohort #2. As the point of i<sup>3</sup> is not the

technology, providing teachers with flexibility and choice to the degree that the technology can be supported is a priority

In addition to LMS platforms, i<sup>3</sup> teachers are exploring other ways that they can leverage technology to innovate so that they better meet the needs of their learners. For example, four 4th grade teachers have created a theory of action that if they eliminate the “front of the room” by putting their screen (LED TV) on a movable cart, they will be able to transfer more ownership for learning to students and be able to deepen the flexibility and effectiveness of their small groups. The Technology department has enabled this pilot by providing four adjustable carts, two TVs (to replace existing SMARTBoards), and an Apple TV. The four teachers in the pilot are meeting monthly to share best practices and ensure they are leveraging their movable carts for the greatest learning impact; they’ll be reporting their results back to the Technology team.

*AltSchool Cost*

The Altschool learning platform has an initial cost of \$5,000 per teacher and ongoing annual subscription cost of \$2,500. For 2018-19, \$100,000 of one time funds were spent for 20 teachers who are part of the initial program. If the program continues with these 20 teachers into the 2019/20 school year the cost will be about \$50,000. Google Classroom is free; however, add ons that require paid subscriptions and separate professional development may be necessary to provide similar benefit to what is available in AltSchool.

**Recommended Actions and Timelines for Zone of Innovation Technology ((items in gray have been implemented or in progress))**

<i>Item No.</i>	<i>Timeline:</i>	<i>Activity &amp; Measurable Objective:</i>	<i>Person(s) Responsible</i>	<i>Costs:</i>
<i>B.3.1</i>	<i>2018-19</i>	<i>Working with the Technology and Innovation Coordinator and the Director of Technology will provide multiple classrooms with Mobile Smart TV's and an Apple TV's to provide teachers with a flexible classroom for teaching and learning. (*Classrooms that already have Smart TV's the cost is less than \$1000 per room)</i>	<i>Director of Technology Technology and Innovation Coach</i>	<i>\$2500 per Classroom</i>
<i>B.3.2</i>	<i>2018-19</i>	<i>Technology and Innovation Coordinator and the Director of Technology will meet with the teachers to gather feedback on the technology setup to determine is standard to expand.</i>	<i>Superintendent Director of Technology Technology and Innovation Coach 13 Teachers</i>	<i>N/A</i>

**B.4 Family Engagement (College-Bound)**

The Menlo Park City School District provides a safe and welcoming environment for the District’s English Language Learners and Low-SES families. Under the direction of the Educational Services Department, the Family Engagement Coordinator working with the Director of Technology provide each elementary library with ten iPads to be checked out to support the students as needed. The iPads are preloaded with the apps used at the schools to continue students learning at home or away from the school. The district hosts multiple parent meetings and workshops to engage and

support students, families, and the community. The district working with Comcast assist Low-SES families with applying for “Internet Essentials” connectivity so all students can have high-speed internet at home.

### **B.5 Wellness (Digital Health)**

The Menlo Park City School District has a strong commitment to student wellness. In the area of technology, this commitment can range from physical in a variety of ways such as ergonomics, limiting EMF exposure from WIFI to finding a healthy balance screen time with media and technology, online safety, use of social media, and age-appropriate use of technology.

Currently, Hillview has digital driver license program and the elementary school also discuss healthy technology use with students. During the life of this plan, the District needs to expand and develop clear guidelines and best practices that promote digital health and wellness for the various student age groups. As research and best practices emerge in the relatively new world of digital hygiene, MPCSD must be prepared to respond and adjust with an eye toward a balanced approach.

### **Recommended Actions and Timelines for College Bound Technology**

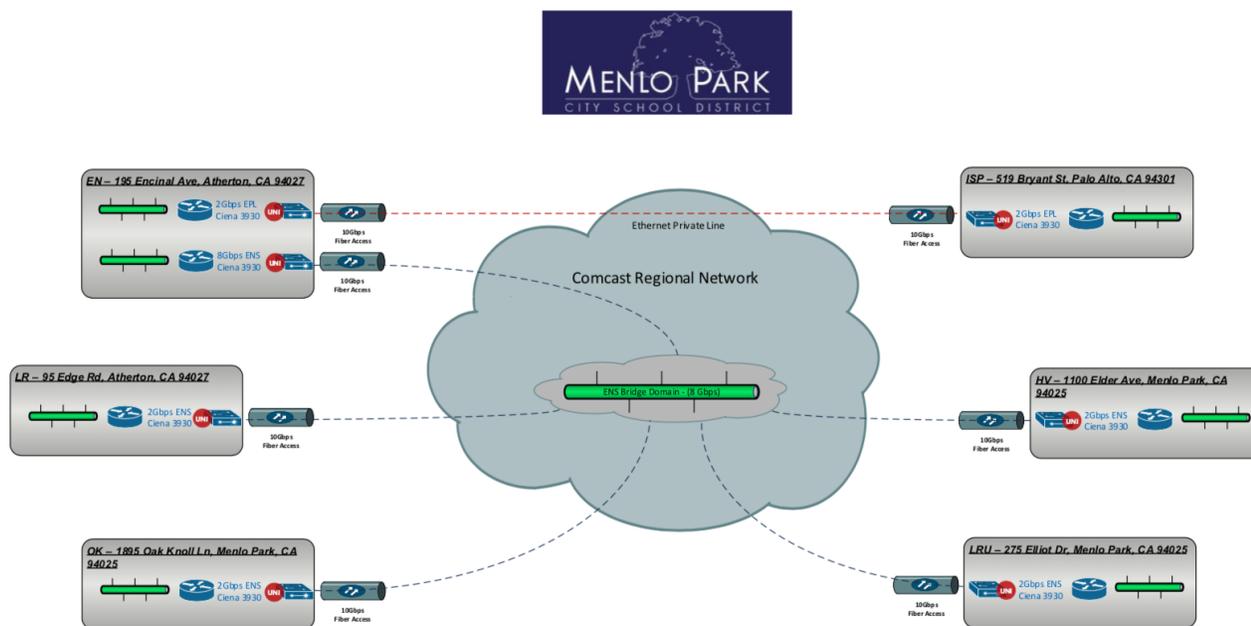
<i>Item No.</i>	<i>Timeline:</i>	<i>Activity &amp; Measurable Objective:</i>	<i>Person(s) Responsible</i>	<i>Costs:</i>
<i>B.4.1</i>	<i>2018-19</i>	<i>Working with the Family Engagement Coordinator, school site leadership and the Director of Technology will determine is there a need to expand the existing iPad program.</i>	<i>Family Engagement Coordinator, School leadership &amp; Director of Technology</i>	<i>N/A</i>
<i>B.4.2</i>	<i>2019-20</i>	<i>Based on the findings from 2018-19 the Director of Technology working with the Family Engagement Coordinator will add additional iPads and if funding is available.</i>	<i>Director of Technology Family Engagement Coordinator</i>	<i>\$62 per iPad (Case, JAMF and App licensing)</i>
<i>B.4.3</i>	<i>2020-21</i>	<i>Replace any iPad 4th Generation College Bound iPad with iPad Air from Hillview Teacher iPad refresh</i>	<i>Director of Technology Family Engagement Coordinator</i>	<i>\$40 per iPad (Case)</i>

### **Technology Infrastructure and Operations**

#### **C.1 Internet Connectivity**

In 2016 the district issued an RFP for Internet services to replace the expiring iNet contract. Comcast was awarded the contract and provides the district with a fiber backbone that utilizes a Metro Ethernet connection to provide internet to all schools and district office. With the increase of online curriculum, subscriptions and number of devices the district moved from a 1Gbp connection to 2Gbps managed fiber connection with our internet service provider. The increase in internet bandwidth should meet the needs of staff and students for the life of the contract. However, if that is not the case the district has the ability to upgrade the connection speed up to 10Gbps at any point during the 5 year contract with Comcast. The district receives partial funding (40%) for its internet connection utilizing USAC erate funding. The annual cost for internet access is \$64,440 in 2018/19.....Increasing the speed to 4Gbps will cost \$92,208.

## MPCSD - Comcast Fiber Network Design



<b>Comcast Managed Fiber Costs</b>			
<b>Connection Speed:</b>	<b>Monthly:</b>	<b>Annual:</b>	<b>With eRate:</b>
2Gbps Managed Fiber	\$8,950	\$107,400	\$64,440
4Gbps Managed Fiber	\$11,526	\$138,312	\$92,208
10Gbps Managed Fiber	\$18,381	\$220,572	\$147,048

### C.2 MPCSD Network

The Cisco network switched backbone is a mix of 10Gbps and 1Gbps network equipment. The current switches with the MPCSD internal network range from 2-8 years old and some of these do not support Power Over Ethernet (POE) which limits the number ports available for adding additional phones, access points and/or POE devices. It's critical to make sure the network and phone service are functional in case of an emergency and/or power failure. In 2017 the district invested \$23,000 in Uninterrupted Power Supply (UPS) for all core network hardware at each data cabinet throughout the district to be equipped with the appropriate UPS as a battery backup. To ensure the maximum amount of backup time replacing of the batteries in each UPS should be done on a regular basis (every two years). If the District were to expand its camera surveillance system throughout the campuses and use the existing infrastructure extensive upgrading of the network switched would be needed to support POE+ cameras.

## MPCSD Cisco Switches

	3560/G	3560X	2960S	2960X	ISR4331	2960G			
Encinal/DO/TERC	16	2	9	0	1	0			Replace ASAP
Hillview	3	1	14	4	1	1			
Laurel	10	1	10	0	1	0			Replace Soon
Oak Knoll	6	1	10	0	1	0			
Laurel Upper	0	1	0	5	1	0			No Replacement Needed in next 7 years
Totals	35	6	43	9	5	1	99		

In summer of 2014, the Technology Department replaced the multiple Windows Servers (File Server & MPCSD Domain Controller) and add another server to support “Virtual” Servers to support multiple services such as JAMF MDM, Smoothwall and PaperCut. During the span of this technology plan, there should be no need to replace any of these servers. However, the need for additional file storage space continues to grow so the district will continue to explore “cloud” based solutions for non-confidential files such as Google and other services like Amazon AWS, Box, or DropBox Business.

All school sites and the district office have wireless access. The district years ago made the decision to go with AeroHive Access Points. Over the last four years with the increase of devices and the use of online resources, there is a need to move to one Access Point (AP) per classroom. Currently, the district has deployed two models of AeroHive Access Points (AP230 and AP350). The AP230 supports 802.11ac gigabit technology along with supporting older 802.11n technology devices. The AeroHive AP350 which is installed largely in the elementary schools is 802.11n however, newer devices can connect to these AP’s, the connection speed is limited to the limits of 802.11n technology. There are currently two school sites which have one AP per classroom and have the ability to use 802.11ac gigabit technology. The remaining sites are using AeroHive AP350’s, with an Access Point in every other classroom and an Access Point in each fifth-grade classroom. Over the next four years, the district should refresh the existing AP350’s and add additional AP’s to support teaching and learning in all classrooms starting with fourth grade down to finally Kindergarten. As well as look at possibly refreshing Hillview Middle School to the new 802.11ax wireless technology as 802.11ax clients become readily available. The management of the AeroHive Access Points is a cloud-based solution which allows the district tech department the flexibility to monitor and make changes while off site if needed.

Manufacturer & Model:	Number of AP’s:	Installed:
AeroHive 350 (802.11n)	107	2012-14
AeroHive 230 (802.11ac)	106	2015-17

In 2015 the Technology Department moved from Meraki to JAMF as its Mobile Device Management (MDM). The move to JAMF was dictated by the needs to be able to manage iPads more efficiently and in a timely manner. The district MDM is hosted internally and is the Technology Department manages and maintains the system. There is an annual cost based on the number of iPads currently the fee is \$6.00 per iPad.

The district provides its own content filter (Smoothwall) to ensure that children are not exposed to pornography, obscene information or anything else harmful to minors. Content filtering is CIPA (Children’s Internet Protection Act) compliant.

The district utilizes Microsoft’s Active Directory as the network operating system. Active Directory provides for flexible interoperability with other district technology systems.

**Recommended Actions and Timelines for network infrastructure to Support Teaching and Learning in the classrooms**

<b>Item No</b>	<b>Timeline:</b>	<b>Activity &amp; Measurable Objective:</b>	<b>Person(s) Responsible</b>	<b>Costs:</b>
C.2.1	2018-19	The Tech Department will work with AeroHive Engineers to do perform a wireless survey for each school site.	Director of Technology Aerohive Engineer IS Tech’s	N/A
C.2.2	2018-19	The Director of Technology and IS Network Administrator will work with Cisco rep on refresh plan and costs for switches that support POE+	Director of Technology IS Network Administrator	N/A
C.2.3	2019-20	Refresh 5th Grade classrooms, Library and Elementary School offices with 802.11ac Access points.	Director of Technology IS Network Administrator	\$18-20,000
C.2.4	2019-22	The district will begin to upgrade each data cabinet with new Cisco POE+ switches. Beginning with each MDF data cabinet at each site. Then expanding to IDF cabinets based on costs and funding. The district could utilize deferred maintenance and erate Category 2 funds for these upgrades that need to occur over the next three fiscal years.	Director of Technology CBO IS Network Administrator	\$180,000 - 200,000
C.2.5	2020-22	Replace all remaining 802.11n Wireless Access Points with 802.11ac and/or 802.11ax if ax devices are in use within MPCSD network.	Director of Technology CBO IS Network Administrator	\$65,000
C.2.6	2020-21	Renew Aerohive Access Point Hive Manager Licensing for Global Service Support and Hardware Advanced Replacement	Director of Technology IS Network Administrator	\$35,000

**C3: Telephone (VOIP) System & Hardware**

Currently, the district hosts its own Cisco Voice over Internet Protocol (VOIP) phone system. This technology allows us to make voice calls using a broadband Internet connection instead of a regular

analog phone line. The system was initially installed in 2007 under the Measure U Bond program. The district Cisco phone system core hardware and software including Cisco Unified Call Manager and Unity Connection software were upgraded in 2016. This upgrade provides the district with the ability to expand its number of phones and upgraded the software from Unity 6.5 to 11. This upgrade also gave the district greater functionality and mobility by providing the ability for end users to receive “voicemail to email” and “find me follow me” call forwarding. Majority of the phone handsets are over 10 years old. While there is currently no need to replace the existing model of phones within the district, the current model of Cisco phones utilized by the district is no longer available to purchase from Cisco so other options will need to be considered if the same functionality is desired. The tech department will research the best options and model of Cisco IP phones to replace the current model and phase in replacements during the next 4 years beginning with District and School Offices.

The district currently has using two separate Primary Rate Interface (PRI’s) which integrate with the Cisco VoIP phone system. During the span of this technology plan, the district should investigate ways to help reduce costs and to fully utilize VoIP technology, such as moving to Session Initiation Protocol (SIP) trunking or options such as hosted solutions.

All classrooms and common room phone integrate with the Bogen paging system at each school site that provides the ability to page school-wide in case of an emergency. The district is working on providing the ability to page and do “All Calls” district-wide from the district office and is hoping to have this in place during the 2018-19 school year.

The MPCSD phone system is housed in the district MDF data center located on the Encinal campus and is maintained by the Technology Department.

**Recommended Actions and Timelines for infrastructure to support VOIP technology**

<b>Item No</b>	<b>Timeline:</b>	<b>Activity &amp; Measurable Objective:</b>	<b>Person(s) Responsible</b>	<b>Costs:</b>
C.3.1	2018-19	The Tech Department will work with Cisco rep and resources to identify replacement IP phones since existing Cisco phones are “End of Life”.	Director of Technology IS Tech Network Amin	N/A
C.3.2	2018-19	The Tech Department will work with Sound & Signal to provide the ability to district-wide paging from District Office.	Director of Technology Network Amin/IS Tech Sound & Signal (Contractor)	\$2,500
C.3.3	2018-22	Perform a yearly health check on Smoothwall Firewall/Content Filter	Director of Technology Network Amin/IS Tech	\$500 annually
C.3.4	2019-20	Phase in replacement phones as needed beginning with District Office and TERC (43 Phones)	Director of Technology Network Amin/IS Tech	\$20,000
C.3.5	2020-21	Replace School Office phones with new Cisco phone. Pending Funding*	Director of Technology Network Amin/IS Tech	\$28,000*

C.3.6	2020-21	Renew Smoothwall Firewall/Content Filter license	Director of Technology Network Amin/IS Tech	\$8,350 3yr lease
C.3.7	2022-24	Replace School Classroom Phones with new Cisco phone. Pending Funding*	Director of Technology Network Amin/IS Tech	\$82,000*

#### C4: Student and Staff Data Systems

##### Student Information System

All schools and the district office use PowerSchool as the Student Information System (SIS) which is hosted by Pearson. PowerSchool houses all official student data and is the central hub for all instructional database applications including CALPADS, Illuminate, Clever along with the Follett Destiny library and textbook management system, school lunch system and Google Apps for Education. All teachers take their attendance using PowerSchool and Hillview Middle school uses PowerTeacher Pro for recording student assignments and grades.

The district utilizes PowerSchool a hosted solution that provides for all database administration, support, and maintenance, and allows district Technology staff to focus administrative efforts on data analysis and reporting that informs instruction and curricular planning.

##### Attendance Tracking and Reporting

All classroom teachers record daily student attendance directly into PowerSchool using the included online tools. Electronic record-keeping reduces errors that occur when information is recorded on paper and then is subsequently keyed into the database. In the spring of 2018 Hillview Middle school prototyped the use of School Messenger’s “Safe Arrival” for parents to easily notify the school of a student absence by either calling-in or using the School Messenger app to do so. Starting in the 2018-19 all schools in MPCSD will utilize this service.

##### Online Student Registration and Enrollment

In order to streamline student information updates into PowerSchool, all student registration/enrollment including annually updating existing student information by parents are done by families utilizing online registration system. This process minimizes the use of paper, as well as ensures that accurate student information is input into the SIS on a timely basis.

##### Student Assessment System

The district utilizes Illuminate Education for assessment, data analysis and reporting that informs instruction and curricular planning. Using Illuminate teachers are able to provide assessments to evaluate each student learning needs in a timely manner and adjust instruction as needed. Starting in 2017-18 the elementary school sites began using Illuminate for student report cards. Starting in the 2018-19 school year the Education Services has a dedicated Data Analyst to support the technical needs with Illuminate and other data needs to support curriculum and instruction.

##### Student Data Privacy

The district takes student data privacy very seriously and reviews all vendor user agreements for all software and online subscriptions. As a part the process of review the district reviews is there any data collected and if so what data is being collected. Along with is any data being shared with

anyone else. The district also looks to see if the vendor has signed the Future of Privacy Forum (FPF) and The Software & Information Industry Association (SIIA) “[Student Privacy Pledge](#)”.

With the ever-increasing amount of technology available to schools its essential that the district provides staff development in the area of student data privacy so all staff understands the importance of protecting student data.

The district website also maintains a [webpage](#) regarding student data privacy information and resources for parents. As best practices and the law evolve, MPCSD must remain nimble, responsive, and alert to the ever-changing world of digital privacy and keep student data privacy a core focus of our technology procurement and implementation.

**Recommended Actions and Timelines that support the Student Information System and other essential services (items in gray have been implemented or in progress)**

<i>Item No</i>	<i>Timeline:</i>	<i>Activity &amp; Measurable Objective:</i>	<i>Person(s) Responsible</i>	<i>Costs:</i>
C.4.1	2018-19	Migrate from SchoolMint to Infosnap for 2019-20 student registration	IS Tech Data Admin District Registrar	\$9,120
C.4.2	2018-19	District Wide implementation of School Messenger “Safe Arrival” for elementary schools.	Director of Technology School Principals IS Tech Data Admin School Office Attendance Staff	\$3,900 Annual Subscription
C.4.3	2019-21	PowerSchool/InfoSnap Student Registration (yearly renewal)	Director of Technology CBO	\$5,220

**C5: Communications**

Information is being shared among all district stakeholders in order to foster collaboration and engage all members of the Menlo Park City School District community. The district is committed to providing timely communication among all parents, students, staff and community members. This section outlines the various electronic communication methods and tools supported by the district Technology department for use by students, staff, and volunteers in the district.

The district utilizes Google Apps for Education for email, calendaring and contact management for all staff. Students are also provided with Google Apps for Education accounts that include an email address. However, email is not enabled until a student enters the 6th grade.

File Sharing, Productivity and Collaboration Google Apps for Education is also utilized for its suite of messaging integrated file sharing, productivity and collaboration tools for both Staff and students.

Online Presence: Websites, Electronic Newsletters, and Social Media. The district’s primary online presence is mpcsd.org and the district and all schools maintain websites that are hosted by

Blackboard/SchoolWires which provides an easy updating and management system of all content on the websites. PTA volunteers and staff members update our websites on a regular basis.

The district utilizes the School Messenger Integrated Communication System for important emergency and non-emergency email and phone communication to parents. School Messenger is integrated with the district’s SIS, PowerSchool. The contact information housed in this database is provided by families when they register their children for school each year. This information is maintained in a confidential database and is not shared or sold with anybody outside of the district. This system is used for official announcements generated from the administrative team at schools and the district office.

The district office and the schools have also sent out newsletters to families utilizing a variety of different communication tools (ie. Constant Contact, School Messenger, See-Saw and Living Tree). Families may opt out of these messages if they so desired. Community members who do not have students enrolled in the district may subscribe to a district-wide newsletter (ie. Constant Contact).

The district office and schools also utilize a wide variety of Media platforms (ie. Twitter, Facebook, YouTube, Vimeo) to communicate news and activities happening in the district. All posted content is approved by the school principal or the district Superintendent.

All content posted on the internet must adhere to privacy guidelines and regulations outlined in the district board policies, state and national policy.

Data Systems Budget Items	2018-19	2019-20	2020-21	2021-22
PowerSchool SIS	\$11,750	\$11,750	\$11,750	\$11,750
PowerSchool - Student Registration				
C.4.1 - Migration from SchoolMint to PowerSchool Infosnap	\$9,500	\$0	\$0	\$0
C.4.3 - Infosnap Registration (2019-22 Annual Subscription)	\$0	\$5,500	\$5,500	\$5,500
School Messenger				
School Messenger Alert System Annual Licensing	\$6,950	\$6,950	\$6,950	\$6,950
C.4.2 - Safe Arrival All Sites	\$3,900	\$3,900	\$3,900	\$3,900
BlackBoard - MPCSD Website	\$12,445	\$12,445	\$12,445	\$12,445
	\$44,545	\$40,545	\$40,545	\$40,545

**C6: Paging, Bell and Clock System**

At each of the schools, the District has an integrated Bogen paging, bell, and clock system. The system allows for the interior, exterior and classroom paging, bell schedule, and synchronized central clock system. The paging system can be accessed from regular classroom and office phones. The systems were originally installed at Encinal Oak Knoll and Laurel School Lower Campus in 1998-2000 and have been expanded with new construction of the school in 2008-12. In 2017, the

hardware and software were upgraded Bogen Quantum IP base Intercom to allow greater flexibility and windows based assess and updating. This will reduce the need for technical support as most adjustments can be made by the staff. The Hillview School and Laurel School Upper Campus also have the Bogen Quantum IP base Intercom system that was installed in 2012 and 2016 with the construction of the new schools. These systems are robust and the main hardware will have a 10-15 year lifespan. The actual clocks and speakers will need some replacing throughout the years as they fail but the system is fairly low maintenance.

**C7: Emergency Communication System**

The District has a new emergency radio system for its schools, administrators, maintenance buses, and vans that was purchased in 2018. The system is managed by MetroMobile with local towers and has a monthly subscription cost for the entire District of about \$540 a month. The radio system allows for continued communication with the loss of power, land-based phones, loss of internet access and loss of cell reception. In addition to being the emergency communication system for the District, it is also used by the transportation department to communicate with the schools and each other for all transportation-related issues. The staff has been trained on how to use the system. The schools have base stations and radios. Administrators and key staff personnel have radios. The radios have a 7-10 year lifespan and the radio batteries have a 2-4 year lifespan.

**D: Staff, Student and Classroom Technology**

**D.1: Standards and Overview**

All certificated staff and administrators are equipped with a MacBook Air laptop and an Apple iPad Air that can access the internet. These laptops and iPads can be screen-mirrored to the classroom display using “AirPlay”. The K-5 staff laptops and iPads were acquired in 2015 and are on a 4-year lease. The 6-8 staff laptops and iPads were acquired in 2016 and are on a 4-year lease. With the district moving to a 4-year refresh cycle for teacher devices, as each lease expires the district undertake a new 4-year lease to refresh the staff laptops and iPads. All other staff are provided with the appropriate computer hardware for their job function.

Classroom Standards		
K-2 Classrooms	Grades 3-5 Classrooms	Grades 6-8 Classrooms
SMARTBoard and projector	SMARTBoard and projector or Smart TV	SMARTBoard and projector or Smart TV*
Document Camera	Apple TV	Mac Mini
6 iPads	Document Camera	Laptop Carts (MacBook Air and Chromebook)
iPad Cart	Laptop Carts (MacBook Air and Chromebook)	
	iPad Carts	

*\*Smart TV's installed in Classrooms who do not need the touch capability such as Music and Drama rooms.*

Each campus has a mix of student mobile devices that are shared among all classrooms and programs at the school. These devices include iPads, MacBook Airs and Chromebooks. All K-2 Classrooms are currently equipped with 6 iPad Airs which teachers use for center-based activities. Some K-2 teaching staff desire to increase access to technology in the classroom, when appropriate Working with site leadership and Ed Services, the tech department will evaluate the technology and device ratio for the K-2 classrooms being mindful of the amount of screen time and age-appropriate technology.

There are two computer labs (Encinal and Laurel LC) that have 26 iMac desktop computers that typically the lower grades use. Each elementary site has access to multiple iPad carts which are loaded with district and school site apps. There are also 11” MacBook Air laptop carts at each school site for video and higher level projects. In 2016 the district prototyped the use a Chromebooks starting with one Chromebook cart at each of the elementary school sites. Based on feedback from teachers and students from multiple empathy sessions the tech department has expanded the number of Chromebooks from 90 to 833. To go along with the addition of Chromebooks and iPad on carts the tech department has replaced the existing aging and added new carts altogether. Each school principal ensures the equitable distribution of mobile devices based on classroom and program requirements. Mobile devices are stored in locked carts or boxes that can be moved around the campus as needed.

Many of these student mobile devices were acquired in 2012 or later. In order to ensure sustainable device stability and quality, the district will be moving towards a standard lifecycle of five-six years for all student mobile device hardware during the course of this plan.

The Tech Department maintains a fixed asset inventory that tracks all computer hardware as well as all other equipment. An operational goal for the Technology department will be to upgrade and standardize this inventory management process in conjunction with the adoption and implementation of standardized imaging and deployment systems for all computer hardware.

The district will refresh all staff computer equipment every four-five years and student devices every five-six years to ensure the best value and optimal performance. Setting a hardware lifecycle replacement policy is a best practice that is recommended for all educational agencies by the US Office of Education: Office of Educational Technology: “Beyond four years, the combination of student wear and tear and software updates require devices to be replaced.... Devices should be disposed of by resale, donation, salvage, recycling or other form of disposal to minimize harm to the environment.”

Teacher/Staff Devices:	Total Number	Student Devices:	Total Number
Laptops	275	Laptops (MacBook Air)	170
iPads	285	Chromebooks	833
Desktops	70	1:1 iPads	1045
Document Cameras	125	iPads (Carts)	825
Printers	165	Classroom iPads	495

Projectors	140	Desktop Computers	70
SMARTBoards	132	College Bound iPads	30
Smart TV's	67		
Total	1493	Total	3368

### Emerging Technologies

Technological and emerging innovations are having a significant impact on educational systems at all levels. The use of virtual classrooms, mobile devices, digital readers, on-demand video, online gaming, and cloud-based LMSs are now routinely used in education. Over the next few years, we will see VR go fully stand-alone and mobile with the use of items like Facebook's Oculus Go, Lenovo and Google-created Mirage Solo headset and the HTC Vive Focus. The use of smartwatches and fitness devices such as Apple Watch Series 4 will give staff and students real-time health information that's easily accessible. The emergency of augmented-reality on phones, mass-market glasses and goggles and AR headsets such as Magic Leap's One will become common, and AR is not just visual technology it will also incorporate spatial audio with the introduction of Bose AR audio glasses. As these emerging technologies continue to develop and become more readily available the use of such technology could offer staff and students new and exciting ways to explore subject matter beyond traditional ways.

MPCSD welcomes the future and in the 2017-18 school year, Encinal school introduced the "Enspire Lab" to ensure both staff and students have access to emerging technology. This space provides its users with a variety of technology including such things as MakerSpace kits, 3D printing, Virtual and Augmented Reality hardware, and software along access to iPads and laptops for projects. In 2018-19 the District provided \$72,000 district-wide through Menlo Park - Atherton Education Foundation (MPAEF) grant for STEAM Labs at each school site.

The recommendation for prototyping emerging technology is to utilize the STEAM labs, this offers all staff and students access to the technology, but limits the overall costs during the prototyping phase before expanding into the classrooms.

**Recommended Actions and Timelines for hardware and software that supports staff use of technology (items in gray have been implemented or in progress)**

<i>Item No</i>	<i>Timeline:</i>	<i>Activity &amp; Measurable Objective:</i>	<i>Person(s) Responsible</i>	<i>Costs:</i>
D.1.1	2018-19	All teacher laptops will be updated to Mac OS 10.12 and will be provided a district external Hard Drive that will be set up as a "Time Machine" backup drive.	Director of Technology IS Techs I and II	\$12,625
D.1.2	2018-19	All teacher iPads will be updated to 11.4.x and all Apps will be updated to support the iOS updates.	Director of Technology IS Techs I and II	\$1,000

D.1.3	2018-19	The tech department will explore and identify options to image Mac OS devices.	Director of Technology IS Techs I and II	N/A
D.1.4	2018-19	Upgrade existing HV Mac Mini with SSD	Director of Technology IS Techs I and II	\$3,950
D.1.5	2019-20	All Elementary teacher devices (Laptops and iPads) will be refreshed and Device Management will be utilized to provide tech staff to provide software updates with greater ease.	Director of Technology IS Techs I and II	\$110,000 4 yr lease
D.1.6	2019-20	Renew Smart Notebook Software Licensing (two years)	Director of Technology	\$8,100
D.1.7	2020-21	All Middle School teacher devices (Laptops and iPads) will be refreshed and Device Management will be utilized to provide tech staff to provide software updates with greater ease.	Director of Technology IS Techs I and II	\$25,000 4 yr lease
D.1.8	2020-21	Replace all existing HV Mac Mini's with a new computer to support Smart Notebook software and hardware.	Director of Technology IS Techs I and II	\$35,000

**Recommended Actions and Timelines for hardware and software that supports student use of technology (items in gray have been implemented or in progress)**

Item No	Timeline:	Activity & Measurable Objective:	Person(s) Responsible	Costs:
D.1.9	2018-19	Replace aging student MacBook Airs (2GB/64GB SSD) and carts with Chromebooks and Anthro Ergotron Carts	Director of Technology IS Techs I and II	\$62,000
D.1.10	2018-19	Refresh all sixth-grade student iPads with new iPad Airs	Director of Technology IS Techs I and II	\$39,605 (4yr lease)
D.1.11	2018-19	Replace iPad 4th generation on carts at elementary sites with iPad Airs from 2017-18 eighth grade students	Director of Technology IS Techs I and II	\$6,000 (cases)
D.1.12	2019-20	Expand the number of iPads currently in K-2 Classrooms from six to eight utilizing refreshed elementary	Director of Technology IS Techs I and II	\$45 per iPad (Case & MDM licensing)
D.1.13	2020-21	Encinal and Laurel Lower Campus computer labs to be refreshed.	Director of Technology IS Techs I and II	\$60,000
D.1.14	2021-22	Refresh the (690) 2017 leased HV student iPads with the newest model to keep students using updated hardware.	Director of Technology IS Techs I and II	\$73,165 (4yr lease)

## D2: Classroom Presentation Systems

Each classroom in the district includes a wall mounted electronic audio-visual presentation system. Each classroom also has a document camera that can be connected to the display for presentation of non-electronic materials.

The district installed SMARTBoards (model SB680) in all classrooms in 2008. These systems are costly and time-consuming to maintain, as they require a significant annual investment in projector bulbs and require twice yearly cleaning in order to extend projector life beyond a few years. Over the last few years, teachers are using the interactivity considerably less and many are no longer using this feature at all. Over the next few years the Technology Department, the Coordinator of Tech & Innovation along with a group of teachers will explore Interactive whiteboard options to replace the existing boards. At Laurel Upper Campus all classrooms have a passive LED/LCD audio-visual display system that incorporates wireless projection capabilities such as the Apple TV, Chromecast and/or ChromeBits. These tools will allow for both teacher and student presentation using mobile devices.

An operational goal of this plan will be to continue the upgrades and refresh these systems during the life of this plan. Including existing document cameras will be compatible with the new presentation systems.

### **Recommended Actions and Timelines for classroom presentation systems (items in gray have been implemented or in progress)**

<i>Item No</i>	<i>Timeline:</i>	<i>Activity &amp; Measurable Objective:</i>	<i>Person(s) Responsible</i>	<i>Costs:</i>
<i>D.2.1</i>	<i>2018-19</i>	<i>Prototype Mobile Smart TV's in i3 classrooms</i>	<i>Director of Technology IS Techs I and II</i>	<i>\$2,500</i>
<i>D.2.2</i>	<i>2018-19</i>	<i>Prototype Apple TV's in classrooms with Epson Projectors</i>	<i>Director of Technology IS Techs I and II</i>	<i>\$1200</i>
<i>D.2.3</i>	<i>2018-19</i>	<i>Research SMARTBoard replacement and/or alternative solutions for classrooms that utilize Smart Notebook software and hardware.</i>	<i>Director of Technology Tech &amp; Innovation Coach IS Techs I and II Teacher committee</i>	<i>N/A</i>
<i>D.2.4</i>	<i>2019-20</i>	<i>Expand deployment of Apple TV's into other classrooms as determined with school site administration depending on funding availability.</i>	<i>Director of Technology School Principals IS Techs I and II</i>	<i>\$3000</i>
<i>D.2.5</i>	<i>2019-22</i>	<i>Refresh existing SMARTBoards with an appropriate solution based on findings and teacher input and funding.</i>	<i>Director of Technology School Principals IS Techs I and II</i>	<i>TBD</i>

## D3: Copiers and Printers

The district provides each school with leased, professionally serviced copy machines that include network printing capabilities. The copy machines customer service agreement include toner and

service. The district has moved to a four-year lease based on the usage and the needs of sites. The current lease is set to expire in June 2022.

The district has had a long-standing standard for providing each teacher with a classroom printer. Typically each classroom is provided a “Black & White” printer but depending on the layout of the campus some classrooms have a “color” printer to make it easy for teachers and students to print in color if needed. However, with the costs of the color toner on the school budgets, the color printers will be replaced with a black & white printer when they need to be replaced and/or reach the end of life. All other site printing hardware is provided by the Tech Department but supplies are provided by the individual school sites. Technical support for the printers is provided by the Tech Department.

**Recommended Actions and Timelines for printing and copying (items in gray have been implemented or in progress)**

<b>Item No</b>	<b>Timeline:</b>	<b>Activity &amp; Measurable Objective:</b>	<b>Person(s) Responsible</b>	<b>Costs:</b>
D.3.1	2018-19	Monitor copying/printing usage and report to site leadership the for each their school site to help reduce waste and environmental impact.	CBO Director of Technology	N/A
D.3.2	2018-19	Print management - copy codes and ID badges for staff	Director of Technology IS Techs I and II Sharp Technician and Trainer	\$1000
D.3.3	2019-21	Replace existing color printers at school sites with B&W printers as existing printers fail or no longer cost effective to maintain.	Director of Technology IS Techs I and II	\$18,000

**E: Technical Support**

The district provides technical support to all sites using a central help desk model using School Dude. The department is staffed by five full-time support staff, with two Level I IS Support Technicians, and three Level II IS Support Technicians (Network Administrator, Data Management, Mobile Device Administrator). Level I IS Support Technician supports the initial response and troubleshooting of all computer hardware and classroom presentation systems; Level II IS Support Technician address network troubleshooting and advanced computer hardware configuration and set-up. The Technology Department has an Apple Certified Technician and is set up to do repairs/service on laptops and desktop computers owned by MPCSD. The district has access to Apple’s Global Service Exchange (GSX) for parts and diagnostic software.

Additional support is provided for user account management for PowerSchool (the Student Information System), CALPADS and all data associated applications including Google Apps for Education. Help Desk supervision, website support, educational technology support, and all technology purchasing and project coordination, is provided by the district Director of Technology.

It is imperative that the Technology Department stay up to date with current technology and have the ability to take part in professional development. The Director of Technology allocates \$12,000 yearly from the technology budget for professional development so department members can attend training such as PowerSchool University, Mac Administrators Conference, Google, JAMF Users Conference as well as other conferences and training.

Staff requiring support can obtain this support by entering a ticket describing their problem at the district’s Technology page on the district website. If it is not possible to request support using that tool, or if the support request is urgent in nature, the staff may call the Tech Department Office for support.

Over the last four years, the number of devices has dramatically grown to its current number of over 4800 including both staff and student devices. Based on the district current staffing the device to tech support ratio is 1:1200 device’s. In addition to another school site (Laurel Upper Campus) has been added. With the growing demands of state reporting (CALPADS) the ability of the tech department to meet deadlines is getting to the point where it will hard press to do so. The recommended baseline standard by the [Public Policy Institute of California \(PPIC\)](#) for the number of staff per device in education is 1:300. The fact that the tech department staff has had no staff changes over the last four years, shows the commitment and dedication to supporting teachers and students. However, with the ever-increasing demand on the technology department during the span of this technology plan, the number of support staff should be annually reviewed. It is also essential to have staff cross-trained in case of emergency and/or staff changes to minimize disruptions/outages that impact on teaching and learning.

**Recommended Actions and Timelines for ongoing professional development and staffing to ensure the MPCSD Tech Department is able to meet the needs of the staff and students in a timely manner (items in gray have been implemented or in progress)**

<i>Item No</i>	<i>Timeline:</i>	<i>Activity &amp; Measurable Objective:</i>	<i>Person(s) Responsible</i>	<i>Costs:</i>
<i>E.1.1</i>	<i>2018-22</i>	<i>Provide IT Staff with ongoing staff development to support district goals</i>	<i>Director of Technology IS Techs I and II</i>	<i>\$12,000 Annually</i>
<i>E.1.2</i>	<i>2018-19</i>	<i>Provide customer service training for department</i>	<i>Director of Technology HR IS Techs I and II</i>	<i>TBD</i>
<i>E.1.3</i>	<i>2018-19</i>	<i>The Director of Technology will work with CBO and Superintendent to plan for the addition of an IS technician</i>	<i>CBO Director of Technology</i>	<i>N/A</i>
<i>E.1.4</i>	<i>2019-20</i>	<i>College interns to assist with supporting school sites</i>	<i>Director of Technology CBO</i>	<i>\$35,000</i>
<i>E.1.5</i>	<i>2021-22</i>	<i>Additional IT Staff (full time) if funding is available</i>	<i>Director of Technology CBO</i>	<i>\$75,000</i>

## F.1 Budget Summary

Description	2018-19	2019-20	2020-21	2021-22
Programs:				
Student Pads (Hillview 1:1)				
B.1.1 - 2017-18 - 690 (4yr lease)	\$73,160	\$73,160	\$73,160	\$0
B.1.3 - 2018-19 - 400 (4yr lease)	\$39,605	\$39,605	\$39,605	\$39,605
B.1.4 - 2018-19 - 400 (4yr lease)	\$0	\$0	\$0	\$75,000
B.3.1 - i3 Mobile TV Stands, Smart TV and Apple TV	\$5,000	\$5,000		
B.3.1 - i3 Mobile TV Stands only	\$900	\$900		
College Bound iPads				
B.4.2 & B.4.3 - iPad Cases and licensing	\$0	\$1,000	\$1,000	\$1,000
STEAM, Libraries, Music, Drama Classrooms (Smart TV')	\$12,000	\$10,000	\$0	\$0
<b>Infrastructure:</b>				
Cisco Switch Upgrades				
C.2.4 - Replace existing switches with new POE+ switches in each IDF Cabinet (30) *90K Deferred Maintenance & 45K Tech Budgets	\$20,000	\$20,000	\$45,000	\$45,000
Wireless Access Points Upgrades				
C.2.3 - 5th-grade classrooms, Libraries, and school offices		\$18,000		
C.2.5 - Classroom K-4	\$0	\$0	\$30,000	\$30,000
C.2.6 - Aerohive License Renewal	\$0	\$0	\$35,000	\$0
Smoothwall				
C.3.6 - Smoothwall (3 yr lease)	\$8,350	\$8,350	\$8,350	\$8,350
C.3.3 - Smoothwall Health Check	\$500	\$500	\$500	\$500
Cisco Phones				
C.3.4 - DO/TERC Cisco Phone Refresh	\$0	\$20,000		
C.3.5 - School Offices Cisco Phone Refresh (Pending Funds*)	\$0		\$28,000	
C.3.7 - Classroom Phone Refresh (Pending Funds*)	\$0			\$82,000
<b>Staff, Student and Classroom Technology</b>				
Document Cameras	\$1,500	\$5,000	\$10,000	\$10,000
Smart TV's (classroom)	\$6,500	\$4,500	\$0	\$0
SMARTBoard				

C.2.5 - SMARTBoard 680 replacements	\$0	TBD	TBD	TBD
<b>Teacher Devices (Laptop &amp; iPad)</b>				
D.1.1 - Teacher external HD's (Backup)	\$12,625	\$0	\$0	\$0
D.1.4 - SSD Mac Mini Upgrade	\$3,950	\$0	\$0	\$0
D.1.5 - Elementary Teacher Devices (4yr lease)	\$0	\$115,000	\$115,000	\$115,000
D.1.7 - Middle School Teacher Devices (4yr lease)	\$20,223	\$20,223	\$30,000	\$30,000
D.1.8 - Refresh Mac Mini's	\$0	\$0	\$35,000	\$0
<b>Student Devices</b>				
D.1.9 - Chromebooks & Carts (K-5)	\$72,000	\$45,000	\$30,000	\$60,000
D.1.10 - Chromebooks & Carts (6-8)	\$0	\$0	\$30,000	\$0
Pad Carts (K-5)				
D.1.11 - iPad Cases	\$6,000	\$15,000	\$0	\$0
D.1.13 - Encinal computer lab	\$0	\$30,000	\$0	\$0
D.1.13 - Laurel LC computer lab	\$0	\$0	\$30,000	\$0
5th Grade iPads (4yr Lease)	\$39,130	\$39,130	\$0	\$35,000
Apple TV's				
D.2.4 - Prototype Apple TV w/ Epson Projectors	\$2,600			
Classroom Printers				
Laurel UC Classrooms	\$1,100	\$0	\$0	\$0
D.3.3 - Replace classroom Color printers w/ B&W	\$9,000	\$18,000	\$12,000	\$12,000
<b>Software Licensing</b>				
JAMF Licensing				
MDM iOS license	\$15,000	\$18,600	\$18,600	\$18,600
Smart Notebook			\$0	
D.1.6 - 2 yr Smart Notebook license	\$0	\$8,100	\$0	\$8,100
Microsoft				
Microsoft Office 365 Licensing	\$0	\$0	\$0	\$0
Microsoft Pro	\$5,015	\$5,015	\$2,500	\$2,500
Site Improve - Quality Assurance for websites	\$6,000	\$6,000	\$6,000	\$6,000
VPP App Licensing	\$5,000	\$5,000	\$5,000	\$5,000
Technology Department				
Technology Department Professional Development	\$12,000	\$12,000	\$12,000	\$12,000

Other Operational Expenditures	\$90,000	\$90,000	\$85,000	\$85,000
Fiscal Year Expenditure Totals	<b>\$467,158</b>	<b>\$633,083</b>	<b>\$681,715</b>	<b>\$680,655</b>

**Summary and Findings:**

The goal of this report has been to provide a current status of the District technology systems and planning over the next 3 to 4 years. In 2016/17 as part of the District cost reductions efforts about \$100,000 of budget reduction were made in the technology budget, the tech department has been able to address the growing demands by selling surplus equipment and use of some one-time funds. Along with the move towards Chromebooks and no longer purchasing but instead leasing staff devices (MacBook Airs and iPads) and Hillview student iPads which dramatically helps spread costs over years as opposed to large fluctuating costs.

However, while staff and student devices have been addressed the need to address the core infrastructure is critical. In order to maintain the integrity of the system and continue robust support for the increased student and staff devices, the department will need additional funding. These additional funds combined with other funds from deferred maintenance will allow the District to maintain its technology infrastructure for years to come. The sale of surplus equipment and/or one-time funds is not a sustainable model that supports the growing demands within MPCSD. Moving forward it's essential that the technology budget is restored by \$100,000 to address the various items within the plan that supports teaching and learning for both staff and students.