



Technology Plan

Fiscal Years 2016-2019

February 2016

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Abstract

This Technology Plan seeks to provide the users and staff of the Villa Park Public Library with a plan for the effective and efficient utilization of current and future technologies. The Library's use of these technologies is in direct support of its statement of purpose:

“...to provide access to the universe of information and to make as much of this universe as is of immediate relevance and interest maximally accessible to the residents of Villa Park...”

Policy 101: Statement of Purpose

Specific objectives are detailed below in relation to the fiscal year for which they are planned.

Technology Vision Statement

The Villa Park Public Library sees automation as an extremely important tool for enhancing the delivery of library services and wants to utilize this tool in every possible way that is affordable to an organization operating within the constraints of tax-cap funding. In coming years, the Library hopes to use automation in extending patron self-service in the areas of circulation, reference and information (currently we offer self-searching of the Library holdings catalog, other automated databases, including the Internet, and selected online and CD-ROM products). We will use automation to enhance collection development (providing reference and periodical titles in automated format, plus the imaging of documents such as local newspapers and local information files). We will use automation for communication and training purposes, inside and outside the organization; for record keeping; and for the acquisition and processing of library materials. In many of these activities, we will join with the other public library members of the Library Integrated Network Consortium (LINC), which will allow us to be more cost-efficient, while improving accuracy and timeliness, and also reducing effort. We look to our membership in LINC as an opportunity to share our resources and also to build on our resources through the contributions of others--to bring all these resources within easy, affordable access of our patrons as quickly and smoothly as possible.

Technology Assessment/Inventory (Current)

As stated in the Technology Vision Statement, the Library is currently a member of LINC. This consortium consists of nine public libraries and uses SirsiDynix as its automation vendor. LINC personnel at the LINC office located in St. Charles, Illinois, manage hardware and software maintenance of the SirsiDynix system. Currently, LINC is funded by tiered monthly automation fees from member libraries.

SirsiDynix's software includes circulation, cataloging, and the public access catalog, and provides staff access to the consortium's bibliographic and patron databases. As a member of Online Computer Library Center, Inc. (OCLC), the Library contributes to a national database of bibliographic records and utilizes the records from this database.

Digital Reference & Electronic Resources

Patrons have access to the Library's browser-based public access catalog both within and outside the library. The catalog also provides access to the following electronic resources:

- A2Zdatabases
- Ancestry Library
- Atomic Training
- BookFlix & TrueFlix
- Booklist Online
- Britannica
 - Encyclopædia Britannica
 - Spanish Resource Center
- Chicago Tribune (from ProQuest)
- Consumer Reports
- EBSCO Masterfile Complete
- eRead Illinois
- Financial Ratings Series
- Gale/Cengage Learning (includes the following)
 - Books & Authors
 - Chilton Library*
 - Health and Wellness Resource Center
- HeritageQuest Online
- Hoopla
- LearningExpress Library
- Library Aware*
- Mango Languages
- Morningstar
- MyMediaMall
- NewsBank (includes the following)
 - Chicagoland Newspapers (Chicagoland newspapers, Villa Park Suburban Life, State Journal-Register)
 - Chicago Tribune Historical Archive
 - America's News Magazines
- NoveList & NoveList K-8
- OCLC
 - FirstSearch
 - WorldCat
- Record Information Services
- Zinio

* New subscription in FY2015-2016

In addition to the subscription databases listed in the Digital Reference & Electronic Resources section, the Library has also invested in e-reference titles through the Gale Virtual Reference Library. These are reference e-books that the Library has purchased to replace a number of print reference series as they become out of date. GVRL titles are accessible through a Gale website and are linked through the Library's online catalog.

The Library offers a "search across all collections" function, powered by Serials Solutions, which allows patrons to search across multiple reference databases with a single query. This year, LINC is working to implement the eResource Central platform, which will integrate subscription database search results into the Enterprise catalog. LINC staff are collaborating with the SWAN library consortium, who are currently implementing this product.

The Library has made remote access available to patrons for electronic resources whenever possible. Currently, all electronic resources except Ancestry Library allow usage via the Internet using a Web proxy service managed by LINC. The Library has integrated remote access to include the FirstSearch database made available by the Illinois State Library.

The Library currently provides access to the Internet at 27 staff workstations, 12 public workstations located in Adult Services, and 4 public workstations located in Youth Services. 15 of these public workstations (11 in Adult Services and 4 in Youth Services) have both Microsoft Office products and access to the Internet (including the online electronic resources referenced above). There is 1 Express Station in Adult Services providing access only to the Internet, limited to 15-minute sessions. In addition, 3 multimedia stations located in Youth Services offer children access to recreational media. Youth Services also offers 2 iPad stations dedicated to early literacy software for preschool through third grade patrons.

Two personal computers are designated as word processing/Microsoft Office stations, for use by patrons who have not signed the Internet Agreement. One is located in Adult Services, the other in Youth Services.

Wireless Internet access and wireless printing are available to patrons. Multiple access points provide coverage to most of the building on a network that is separated from the main network by the firewall.

As of early 2016, most Library computers use the Microsoft Windows 7 operating system. Many computers are also licensed up to Windows version 8.1. In the coming year, Library staff will evaluate the recently-released Windows 10 for future deployment. Any new desktop computers purchased will normally include licensing for the most recent version of Windows.

The Library has begun acquiring a collection of popular tablet and e-reader devices from leading manufacturers. These are intended both for public circulation and for staff to gain experience and familiarity supporting the Library's downloadable media services on devices patrons are likely to own. In 2014, the Library acquired (4) additional iPads through a grant from Target for early literacy initiatives. Two of these are permanently installed in Youth Services as described above, and two will be available to circulate.

Hardware Owned

The following is a list of equipment currently owned by the Library as well as a list of the functions of the workstations:

- 4 Dell file servers
 - 1 – 6-core 2.00 GHz Xeon server with 900 GB disk array, 32GB of memory (purchased 2014)
 - 1 – Dual 6-core 2.00 GHz Xeon server with 900 GB disk array, 16 GB of memory (purchased 2012)
 - 1 – Quad-core 2.26GHz Xeon server with 584 GB disk array, 4 GB of memory (purchased 2009)
- 1 Todd Diskjockey 2000 CD-ROM server (100 CD capacity, 2 DVD-ROM drives, 160 MB RAM)
- 1 Synology DiskStation DS214+ Network Attached Storage (NAS) device
- 79 Windows PCs (includes obsolete pending disposal)
- 1 iMac computer
- 10 Laptop computers
 - 1 – Dell Latitude E5510 (purchased 2010)
 - 1 – Dell Latitude E6520 (purchased 2011)
 - 1 – Dell Latitude E6520 w/docking station (purchased 2012)
 - 2 – Dell Latitude E6540 (purchased 2014, 2015)
 - 5 – Dell Precision M4300 (donated 2013)
- 1 Zebra Technologies TLP 2844 bar code duplicator
- 3 Centec self-checkout stations
- 4 LCD/DLP Video projectors
- 16 Metrologic/Honeywell handheld laser barcode scanners
- 1 Cordless handheld laser barcode scanner

9	Black & white laser printers
4	Color laser printers
2	Digital cameras
1	Digital video camera
2	Audio mixing board/sound rack
1	Color flatbed scanner
1	BookScan Station
71	Thermal receipt printers
1	Cordless receipt printer
1	Network Router (owned by LINC)
10	Wireless access points
	4 – Aerohive AP230 802.11a/b/g/n/ac access points
	4 – Linksys wireless “G” access points (purchased 2008)
	2 – Linksys wireless “G” access points, formerly used as Annex wireless bridge (purchased 2008)
2	Sonicwall network security firewalls (purchased 2015, 2011)
1	48-port network switch
7	24-port network switches
3	5-port switches
1	4-port hub
6	Wireless 802.11g PCMCIA network cards
1	Electronic whiteboard
1	Large (42”) LCD display
1	40” Smart LCT TV
1	19” LCD TV
1	VHS/DVD recorder
2	DVD players
1	VCR
1	CRT TV
1	TV/VCR
2	DVD/VCR units
2	A/V receivers
1	Fax machine
1	Video surveillance system, including 15 cameras, 1 DVR, 1 LCD monitor
1	Konica Minolta Bizhub 222 copier/printer (purchased 2010)
1	Konica Minolta Bizhub C280 color copier/scanner/fax (leased 2011 to 2015)
1	Konica Minolta Bizhub C35 color copier/scanner/fax (purchased 2011)
1	ShoreTel Unified Communications telephone and voicemail system
7	Apple iPad tablet
4	Amazon Kindle tablet/reader
2	Barnes & Noble Nook reader

Hardware Leased

1	Konica Minolta Bizhub 224e copier/printer (leased 2015 to 2020)
1	Konica Minolta Bizhub C454 color copier/printer (leased 2013 to 2018)
1	Pitney Bowes postage meter (leased 2013 to 2016)

Workstation Operations

5	Adult Services PACs (Public Access Catalogs)
3	Youth Services PACs (Public Access Catalogs)
12	Adult Services Internet workstations (11 with MS Office, 1 is Express)
4	Youth Services Internet workstations
3	Youth Services multimedia/gaming workstations

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- 1 Youth Services word processing workstation
 - 1 Youth Services Internet reservation station
 - 2 Print release stations
 - 1 Lobby information screen
 - 5 Laptops
 - 26 Staff workstations
 - 6 All-in-one training lab PCs
 - 12 Workstations in storage or being deployed

Software

Most workstations have Microsoft Windows 7 Professional installed as the operating system. Microsoft Office Professional and SirsiDynix Workflows are available at all staff workstations. The Print Shop version 15 and Adobe Creative Suite are available on select workstations. Microsoft Office 2010 is also available on Internet stations and word processing stations for patron use. In 2015, the Library substantially completed upgrading to the Windows 7 operating system across staff and public computers. All Library computers, with the exception of machines used for digital signage and games stations, have Symantec Endpoint Protection for virus and security protection.

Accomplishments in 2015-2016

The Library staff has completed or will complete a number of technology projects in FY2014-2015. Some of these include:

- Automation and Public Services staff designed, built, and implemented the Library's new Digital Media Lab, providing patrons an array of equipment and software for photo editing, video conversion, video editing, and post-production, and music editing. Lab equipment includes an iMac computer, flatbed scanner including slide and negative attachments, VHS/DVD recorder, LCD TV, studio headphones, and an assortment of cabling.
- Administration, maintenance, and automation staff worked to vacate the Library Annex and relocate all staff and equipment to newly-redesigned work spaces on the 2nd floor of the Library. Projects included new data cabling in the Library, reconfiguration of office furniture, and removal of all existing equipment in the Annex.
- Worked with Sound Incorporated to design and implement new ShoreTel Unified Communications system to replace the Library's 12-year old telephone and voicemail systems. The project provides all new handsets, including several cordless handsets, a unified voicemail system, and web-based management hosted in a virtualized hardware environment. The Library realized a significant cost savings by having staff install most of the required network cabling.
- Automation staff substantially completed upgrading Library computers to the Windows 7 operating system
- The Library added a second VMWare server and worked with Current Technologies on additional virtualization of network services
- Automation and Public Services staff collaborated on the design and implementation of new computer lab equipment, allowing quick setup and take-down for computer classes previously taught in the Library Annex
- Automation staff replaced the Library's Dell Sonicwall security firewall with an upgraded version and 3-year subscription package, resulting in cost savings over the life of the agreement

Remaining Projects in FY2015-2016

- Automation and maintenance staff will finish the installation of surface raceway systems housing network cabling installed to support the Library's new phone system.
- The Library will replace one VMare server and migrate several virtualized servers to the new equipment.
- Library staff will begin evaluating Microsoft Windows 10 and determine systems that may be upgraded during Microsoft's free upgrade period.
- Automation staff will continue to collaborate with Administration and the Library's architect on building renovation/expansion plans.
- Automation staff will evaluate the Microsoft Office 365 platform as a potential replacement for the Library's email service and for additional calendaring/collaboration features. The Library currently qualifies for this service at no cost under Microsoft's educational offerings.

Technology Needs Assessment (Community and Library Needs)

Training public and staff on new and existing equipment and software has been recognized as an integral part of the Library's Technology Plan.

The Illinois Century Network, our Internet services provider, recommends that we replace network equipment on a regular three-year rotation, with the exception of the routers, which can be replaced every five years. Budget realities, however, sometimes prevent the Library from meeting this recommended schedule.

Staff recommends that \$4,000 be budgeted each fiscal year for automation contingencies such as network infrastructure, printers, battery backups, and cabling.

Staff will look for grants whenever possible to aid in funding the Library's technology needs.

Building/Wiring Infrastructure

A reliable network cabling and electrical infrastructure is necessary for the Library to provide a full range of services to patrons and staff, including computer workstations, desktop and wireless internet, and telephone services. As more Library services become internet-delivered, cloud-based, or otherwise reliant on emerging technologies, the Library must continue to invest in its physical infrastructure to support its mission. While we have updated our network and cabling to support current programs, the Library has an aging cable infrastructure that will need to be maintained and/or upgraded to support future needs.

The Library previously maintained separate wiring networks for data (computers/internet) and voice (telephones), as was standard in commercial buildings since computer networks came into widespread use in the 1980s. As part of its migration to a new VOIP telephone system in January 2016, the Library has been able to abandon most of the aging telephone wiring dating from the 1990s back to original 1969 construction. While voice extensions are now using the data network, long-term challenges remain.

The Library's data network has been installed in phases dating back to the 1990s and consists of Category 5, Category 5e, and Category 6 cabling. Approximately one-third of the network is Category 5 cabling that was installed during the 1997 renovation. While this is sufficient for our 100Mb/s computer network, the specifications do not support Gigabit (1000Mb/s) Ethernet, and our vendors do not recommend its use for voice applications. Most of the remaining cabling is Category 5e, installed at various times since the late 1990's, and is theoretically able to support higher-speed applications; however, while the cable itself is Category 5e, other components of the network (patch panels, wall jacks) are not all sufficiently rated. Incremental upgrades were made where necessary to accommodate the new phones, but older cabling was not generally replaced during the project. In short, the Library is operating on a patchwork of cable infrastructure installed over a nearly 20-year period that is beginning to reach the end of its useful life in today's ever-expanding digital world.

The Library also has other physical deficiencies which may be more difficult to address within the current building footprint:

- Modern buildings typically have dedicated server/network rooms with physical security, specialized cooling/ventilation systems, and fire protection. Our network equipment is located in the open in the same 2nd floor workroom as Automation and Administration staff.
- There is no network/telecom room on the 1st floor. All network cabling is terminated on the 2nd floor, and some legacy phone cabling is terminated on the 1st floor in the general maintenance room where it is neither secure nor protected from an adjacent outside door.
- There is underground data/electrical raceway system on the 1st floor, but it does not cover all areas, and there is no system on the 2nd floor. Given the original design of the building, this makes installing cable difficult and has resulted in cable "choke points" in the ceiling such as the areas around the elevator, particularly on the 1st floor.

All of these issues were examined and analyzed in the Library's capital needs assessment conducted in 2015. The Library Board will need to make decisions on the scope and timing of long-term upgrades to the Library's infrastructure, either in conjunction with or separate from any future renovation or expansion project.

Telephone System

In 2016, the Library replaced its aging telephone and voicemail systems with a new Voice-over-IP (VOIP) and integrated voicemail system. In deference to budgetary realities, the Library made the decision to maintain the current four (4) analog POTS (Plain Old Telephone Service) lines to connect to the system from our voice carrier (currently CallOne). While POTS lines are historically very reliable, other options should also be considered as part of any future building plan:

- An ISDN PRI line is a type of digital service that can handle multiple incoming calls on a single pair of copper. One line can support up to 23 simultaneous calls, without needed separate outside phone numbers, and offers more advanced routing features than we have currently.
- A SIP trunk is a connection that uses VOIP technology as described above, but connects to the service provider. In other words, the phone service comes in through the internet itself instead of through separate phone lines. This is similar to Comcast Voice or AT&T U-Verse in residential use.

Either type of digital trunk would provide advantages, features, and more flexibility than is currently available through legacy analog service, but would require additional investments in hardware as well as increased service costs.

Internet Connectivity

The Library currently maintains two connections to the internet:

- Metro Ethernet/fiber lines to the Illinois Century Network (ICN) with a bandwidth of 3 Mbps. The fiber connection and ICN costs are currently paid by LINC.
- Comcast Business cable service at 16 Mbps downstream and 5 Mbps upstream. The Library pays for this connection itself.

In 2015, the Library upgraded its ICN internet connection from AT&T T1 lines to Switched Ethernet Service over fiber optic lines. At the time, the Library expected to increase ICN bandwidth to 10Mbps, but the cuts to the Illinois state budget eliminated all free bandwidth allotments from ICN. Bandwidth and usage must continue be monitored to ensure the Library is meeting the needs of today's and tomorrow internet and media applications. Staff recommends increasing the Comcast connection speed to provide needed bandwidth for patron and staff internet usage.

Future LINC Considerations

The LINC consortium will be losing one member in 2016 as Franklin Park Public Library migrates to the SWAN consortium, and discussions are ongoing amongst the LINC libraries concerning the future of LINC once the current SirsiDynix contract expires in 2018. Villa Park Public Library must consider the ramifications if LINC chooses to dissolve and individual libraries join SWAN or other library consortia. Beyond the ILS, other services provided by LINC that the Library may need to provide for itself in the future include:

- Fiber internet connectivity to ICN (approximately \$375/month at current rates)
- Email hosting and archiving
- Web hosting

In addition, the Library may need to provide on its own certain services such as bibliographic records (OCLC, Collection HQ) currently negotiated by and paid through LINC. Transitioning the ILS to SWAN or another consortium would also need careful consideration and planning.

Specific Goals for Meeting Future Technology Needs

As stated in its Vision Statement, the Library views automation as a tool for enhancing the delivery of library services. Specific goals include:

- Providing personalized service through electronic means – assisting patrons with PINs, TXT reference, email notifications, electronic readers’ services.
- Incorporate electronic forms on the Web site in order to expand reference services to patrons.
- Reorganize and expand the Library’s Intranet.
- Provide electronic resources in the most cost-effective manner; i.e. subscription Internet sites, government Web sites, CD-ROMs. Determine feasibility of offering remote users access to additional products.
- Provide ongoing training for Library staff, Board, and public (see following section).
- Cooperate with other libraries, government entities, and other agencies to pool resources.
- Plan and implement hardware and software upgrades to fileserver, workstations, and security equipment.
- Utilize wireless technology as a supplement to the Library’s existing network, thus providing staff and patrons the benefits of this mobile automation tool.
- Respond to all trouble reports in a timely, cost-effective manner. Department goal is to respond within two days.

Staff Core Competencies

As technology permeates all levels of the Library’s operations and services, every staff member must be comfortable using applications, computers, and other equipment. A core of technology competency is required of all staff members, to contribute to the overall effectiveness of the organization, whether they work behind the scenes or interacting with the public. As more Library services are available electronically and through the internet, it is essential that all staff have the necessary training to assist and advise patrons on the use of Library technology, software, and services, both in the Technology Center and using personal devices such as laptops, tablets, and smartphones. Staff members are required to meet the staff core competencies.

LINC personnel provide basic training for the Library staff on SirsiDynix functions. The Library provides additional one-to-one SirsiDynix training for new staff. Money is allocated for staff training and continuing education. Staff are encouraged to attend technology/computer workshops and classes either online or in person. The Library maintains a subscription to Atomic Training, a service available to patrons and staff offering web-based video training on a variety of software products, web technologies, and professional development topics. Professional development workshops are also available to staff through library organizations such as RAILS and LACONI.

Specific Strategies (Action Steps) / Timetable / Budget

Fiscal Year 2016-2017

The Library plans to act on the following items in FY2016-17. Specific costs are itemized in the table below:

- Purchase approximately 13 desktop computers and monitors and 3 laptop computers as part of the technology replacement cycle.
- Replace one network switch as part of the technology replacement cycle
- Replace a 12 year-old black & white printer in the Technology Center
- Purchase (1) Windows tablet for mobile reference use
- Purchase (1) WiFi internet hotspot and data plan for outreach and circulating use
- Purchase cassette/CD and vinyl/digital conversion equipment for use in Digital Media Lab
- Purchase additional cordless handheld scanner for outreach use
- Replace the coin vending unit on the 2nd floor copier
- Purchase portable hard drives for offsite backup/disaster recovery
- Renew software license agreements with Symantec (antivirus), Express Metrix (usage/metering), Adobe (Creative Cloud), and Public Web Browser.
- Renew Deep Freeze software maintenance and expand licensing for all Technology Center internet PCs, allowing less-restrictive security to patrons
- Renew maintenance agreements for self-checkout, PC Reservation, print management, and network infrastructure
- Begin paying maintenance charges applying during the 2nd year of the new phone system and the BookScan Station.
- Increase Comcast cable internet bandwidth to 50Mbps/10Mbps
- Automation staff will work closely with Administration, Public Services, and architectural consultants to develop proposals for future building renovation/expansion

Non-Capital Outlay/Cabling or Wireless solutions	02-01-5540	\$750.00
Non-Capital Outlay/PCs and Monitors	02-01-5500	\$18,000.00
Non-Capital Outlay/Hardware Replacements		
<ul style="list-style-type: none"> • Black & white laser printer - \$1,500 • Switch replacement - \$2,000 • Tablet - \$1,000 • WiFi hotspots - \$100 • DML audio equipment - \$500 • Handheld barcode scanner - \$300 • Coin vending tower - \$2,000 	02-01-5530	\$7,400.00
Non-Capital Outlay/Server Upgrades		
<ul style="list-style-type: none"> • Backup drives - \$200 	02-01-5550	\$200.00
Non-Capital Outlay/Software Upgrades		
<ul style="list-style-type: none"> • Symantec AV - \$500 • Express Metrix - \$300 • Adobe CC - \$600 • Faronics / Deep Freeze - \$700 • Public Web Browser¹ - \$125 	02-01-5520	\$2,225.00

Contractual/Automation Services		
• Aerohive WiFi management - \$400		
• Cisco maintenance - \$275		
• Sonicwall maintenance ² - \$0		
• PC Reservation maintenance - \$525		
• Print release/vending maintenance - \$2,340		
• BookScan Station maintenance - \$795	01-01-5103	\$11,480.00
• Self-check maintenance - \$2,385		
• Telephone system maintenance - \$900		
• Collection HQ - \$2,250		
• EventKeeper - \$1,000		
• Graphic Stock - \$100		
• Shoutbomb - \$360		
• Summer Reading Club service - \$150		
Contractual/Automation Monthly (LINC)		
• Automation monthly charge - \$51,500	01-01-5101	\$51,620.00
• Web hosting - \$120		
Contractual/Broadband Services³		
• Cable Internet - \$1,900	01-01-5105	\$2,400.00
• Mobile broadband - \$500		
Contractual/Technology Services⁴		
• Technology consulting/contracting - \$3,500	01-01-5125	\$3,500.00
Contractual/OCLC		
	01-01-5104	\$4,900.00
Contractual/Rental/Lease		
• KMBS Bizhub C454 @ \$241.52/month * 12 months	01-01-5102	\$4,758.24
• KMBS Bizhub 224e @ \$105.00/month * 12 months		
• Postage meter @ \$50.00/month * 12 months		
Total Technology Costs--FY 2016-2017		\$107,233.24

¹The Library is currently able to license Public Web Browser at no cost through the RAILS system. Since the current agreement through RAILS ends in December 2016, the cost to renew for VPPL is reflected here as a contingency

²In 2015, the Library upgraded its Dell Sonicwall security firewall, including a 3-year service plan that provides long-term savings. Annual service renewal will resume in FY2018-19.

³New budget category proposed for FY2016-2017

⁴New budget category added for FY2015-2016 approved budget

Fiscal Year 2017-2018

The Library plans to act on the following items in FY2017-18. Specific costs are itemized in the table below:

- Purchase approximately 13 desktop computers and monitors as part of the technology replacement cycle.
- Replace one network switch as part of the technology replacement cycle
- Renew software license agreements with Symantec (antivirus), Express Metrix (usage/metering), Adobe (Creative Cloud), Faronics (Deep Freeze), and Public Web Browser.
- Renew maintenance agreements for self-checkout, PC Reservation, print management, BookScan Station, network infrastructure, and phone system
- Lease one multifunction copier to replace the 2nd floor public copier when it reaches end of life.

Technology costs are itemized below:

Non-Capital Outlay/Cabling or Wireless solutions	02-01-5540	\$750.00
Non-Capital Outlay/PCs and Monitors	02-01-5500	\$16,000.00
Non-Capital Outlay/Hardware replacements	02-01-5530	\$2,000.00
<ul style="list-style-type: none"> • Switch replacement - \$2,000 		
Non-Capital Outlay/Software Upgrades		
<ul style="list-style-type: none"> • Symantec AV - \$500 • Express Metrix - \$300 • Adobe CC - \$600 • Faronics / Deep Freeze - \$150 • Public Web Browser¹ - \$125 	02-01-5520	\$1,675.00
Contractual/Automation Services		
<ul style="list-style-type: none"> • Aerohive WiFi management - \$400 • Cisco maintenance - \$400 • Sonicwall maintenance² - \$0 • PC Reservation maintenance - \$550 • Print release/vending maintenance - \$2,640 • BookScan Station maintenance - \$795 • Self-check maintenance - \$2,385 • Telephone system maintenance - \$900 • Collection HQ - \$2,250 • EventKeeper - \$1,000 • Graphic Stock - \$100 • Shoutbomb - \$360 • Summer Reading Club service - \$150 	01-01-5103	\$11,930.00
Contractual/Automation-Monthly (LINC)		
<ul style="list-style-type: none"> • Automation monthly charge - \$51,500 • Supplemental operational fee⁵ - \$2,000 • Web hosting - \$120 	01-01-5101	\$53,620.00
Contractual/Broadband Services ³		
<ul style="list-style-type: none"> • Cable Internet - \$2,000 • Mobile broadband - \$500 	01-01-5105	\$2,500.00
Contractual/Technology Services ⁴		
<ul style="list-style-type: none"> • Technology consulting/contracting - \$3,600 	01-01-5125	\$3,600.00
Contractual/OCLC	01-01-5104	\$4,900.00

Contractual/Rental/Lease

- KMBS Bizhub C454 @ \$241.52/month * 12 months
- KMBS Bizhub 224e @ \$105.00/month * 12 months 01-01-5102
- Replacement for Bizhub 222 @ \$120/month * 12 months \$ 6,198.24
- Postage meter @ \$50.00/month * 12 months

Total Technology Costs--FY 2017-2018 \$103,173.24

¹The Library is currently able to license Public Web Browser at no cost through the RAILS system. Since the current agreement through RAILS ends in December 2016, the cost to renew for VPPL is reflected here as a contingency

²In 2015, the Library upgraded its Dell Sonicwall security firewall, including a 3-year service plan that provides long-term savings. Annual service renewal will resume in FY2018-19.

³New budget category proposed for FY2016-2017

⁴New budget category added for FY2015-2016 approved budget

⁵The Library anticipates LINC will discontinue the supplemental operational fee in FY2017, but we present the original budgeted amount here as a contingency toward future consortium developments

Fiscal Year 2018-2019

The Library plans to act on the following items in FY2018-19. Specific costs are itemized in the table below:

- Purchase approximately 13 desktop computers and monitors as part of the technology replacement cycle.
- Replace one network switch as part of the technology replacement cycle
- Replace one virtualization server as part of the technology replacement cycle
- Renew software license agreements with Symantec (antivirus), Express Metrix (usage/metering), Adobe (Creative Cloud), Faronics (Deep Freeze), and Public Web Browser.
- Renew maintenance agreements for self-checkout, PC Reservation, print management, BookScan Station, network infrastructure, and phone system
- Lease one multifunction copier to replace the Public Services Office copier when it reaches end of life.

Technology costs are itemized below:

Non-Capital Outlay/Cabling or Wireless solutions	02-01-5540	\$750.00
Non-Capital Outlay/PCs and Monitors	02-01-5500	\$16,000.00
Non-Capital Outlay/Hardware replacements	02-01-5530	\$2,000.00
• Switch replacement - \$2,000		
Non-Capital Outlay/Server Upgrades	02-01-5550	\$6,000.00
• Virtualization server- \$6,000		
Non-Capital Outlay/Software Upgrades		
• Symantec AV - \$500		
• Express Metrix - \$300		
• Adobe CC - \$600	02-01-5520	\$1,675.00
• Faronics / Deep Freeze - \$150		
• Public Web Browser ¹ - \$125		
Contractual/Automation Services		
• Aerohive WiFi management - \$400		
• Cisco maintenance - \$400		
• Sonicwall maintenance ² - \$1,700		
• PC Reservation maintenance - \$550		
• Print release/vending maintenance - \$2,640		
• BookScan Station maintenance - \$795		
• Self-check maintenance - \$2,385	01-01-5103	\$13,630.00
• Telephone system maintenance - \$900		
• Collection HQ - \$2,250		
• EventKeeper - \$1,000		
• Graphic Stock - \$100		
• Shoutbomb - \$360		
• Summer Reading Club service - \$150		
Contractual/Automation-Monthly (LINC)		
• Automation monthly charge - \$51,500		
• Supplemental operational fee ⁵ - \$2,000	01-01-5101	\$53,620.00
• Web hosting - \$120		
Contractual/Broadband Services ³		
• Cable Internet - \$2,000	01-01-5105	\$2,500.00
• Mobile broadband - \$500		
Contractual/Technology Services ⁴		
• Technology consulting/contracting - \$3,600	01-01-5125	\$3,600.00

Contractual/OCLC	01-01-5104	\$4,900.00
Contractual/Rental/Lease		
<ul style="list-style-type: none"> • KMBS Bizhub C454 @ \$241.52/month * 3 months • KMBS Bizhub 224e @ \$105.00/month * 12 months • Replacement for Bizhub 222 @ \$120/month * 12 months • Replacement for Bizhub C280 @ \$250/month * 12 months • Postage meter @ \$50.00/month * 12 months 	01-01-5102	\$ 7,024.56
Total Technology Costs--FY 2018-2019		\$111,699.56

¹The Library is currently able to license Public Web Browser at no cost through the RAILS system. Since the current agreement through RAILS ends in December 2016, the cost to renew for VPPL is reflected here as a contingency

²In 2015, the Library upgraded its Dell Sonicwall security firewall, including a 3-year service plan that provides long-term savings. Annual service renewal will resume in FY2018-19.

³New budget category proposed for FY2016-2017

⁴New budget category added for FY2015-2016 approved budget

⁵The Library anticipates LINC will discontinue the supplemental operational fee in FY2017, but we present the original budgeted amount here as a contingency toward future consortium developments

Areas for Future Expansion

The Library would like to implement several other technological innovations. However, due to budgetary restraints, the Library has determined not to plan for these items during any particular fiscal year. Instead the Library will refer to this portion of its Technology Plan as its "Technology Wish List" and will look to apply for grants and other sources of funding to assist in the implementation of these services. Other contingencies, which the Library cannot plan for during any particular year, will also be added to this "wish list".

Internet Connectivity

The Library may need to increase Internet bandwidth during the next several years to meet growing patron demand. In 2010, the Library added a cable modem from Comcast to provide additional bandwidth for patron Internet usage; this is currently used for the wireless network and for some Technology Center computers. The Library expects to upgrade its ICN internet connection in 2015 from 3 Mb/s to 10 Mb/s after upgrading the AT&T T1 lines to Switched Ethernet Service.

Internet utilization should be monitored on an ongoing basis as emerging video, voice, and gaming services use increasing amounts of bandwidth.

Automation Staffing

The Library expects to continue expanding the availability and use of computer technology and multimedia in the future. The Library will likely have a need in the future for additional automation staff hours to cope with expanding technology and patron and staff expectations of timely service and support. As a result, the Library may need to explore restructuring its organization to establish Automation as a separate department.

Other Areas of Potential Growth

The Library will:

- Consider the purchase and implementation of a prepaid debit card system for use with existing copiers and printers.
- Monitor emerging technologies such as netbooks, electronic books, and cloud computing
- Explore the possibility of hiring additional automation staff to assist in ongoing projects.
- Add additional digital signage to promote Library services, programs, collections, and special events.
- Add videogame stations in the Teen area.
- Monitor the utilization of the public wireless network and plan to expand capacity in the future if the need is indicated.
- Library staff will evaluate digital viewing and printing options for replacing the microfilm/microfiche reader.
- Consider adding an additional (6) all-in-one PCs for lab/training/teen programming use