



Technology Plan

Fiscal Years 2017-2020

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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. Please see the section **Future Consortium Considerations** for further details.

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:

- AtoZdatabases
- Atomic Training
- BookFlix & TrueFlix
- Booklist Online
- Britannica
 - Encyclopædia Britannica
 - Spanish Resource Center
- 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
- Hoopla
- LearningExpress Library
- Library Aware
- Morningstar Investment Center
- MyMediaMall
- NewsBank (includes the following)
 - Chicagoland Newspapers (Chicagoland newspapers, Villa Park Suburban Life, State Journal-Register)
 - Chicago Tribune Historical Archive
 - America's News Magazines
 - America's Obituaries & Death Notices
- NoveList & NoveList K-8
- OCLC
 - FirstSearch
 - WorldCat
- ProQuest
 - Ancestry Library
 - Chicago Tribune
 - HeritageQuest Online
 - ProQuest Obituaries
- Record Information Services
- Transparent Languages*

* New subscription in 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.

Downloadable eBooks, audiobooks, music, and videos are searchable through the eResource Central platform, branded as "Digital Catalog" in the Library's online catalog and implemented by LINC in 2015. In 2016, Hoopla Digital content was also added to this interface. LINC staff are collaborating with the SWAN library consortium, who are currently implementing the same search 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 5 public workstations located in Youth Services. 16 of these public workstations (11 in Adult Services and 5 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.

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

As of early 2017, most Library computers use the Microsoft Windows 7 operating system. Many computers are also licensed up to Windows version 8.1. Over the last several months, staff have been evaluating and testing the Windows 10 operating system for future use in the Library, and Windows 10 will be made available to patrons on new all-in-one PCs purchased in 2016 to replace the current Technology Center internet stations. 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 2.40 GHz Xeon server with 2400 GB disk array, 32GB of memory (purchased 2016)
 - 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 Synology DiskStation DS214+ Network Attached Storage (NAS) device
- 78 Windows PCs (includes obsolete pending disposal)
- 1 iMac computer
- 1 Mac Mini computer
- 1 Apple TV
- 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
- 18 Metrologic/Honeywell handheld laser barcode scanners

- 1 Cordless handheld laser barcode scanner
- 9 Black & white laser printers
- 3 Color laser printers
- 2 Digital cameras
- 1 Digital SLR camera, lenses & accessories
- 1 Digital video camera
- 2 Audio mixing board/sound rack
- 1 Color flatbed scanner
- 1 BookScan Station
- 9 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
- 6 24-port network switches
- 3 5-port switches
- 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
- 3 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 (lease renewed 2016 to 2019)

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)
- 5 Youth Services Internet workstations
- 3 Youth Services multimedia/gaming workstations

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- 1 Youth Services Internet reservation station
 - 2 Print release stations
 - 1 Lobby information screen
 - 1 Minecraft server
 - 5 Laptops
 - 26 Staff workstations
 - 6 All-in-one training lab PCs
 - 13 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 2016

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

- The Library contracted with Sound Inc. to design and implement a new integrated VOIP telephone and voicemail system. Library staff completed necessary upgrades in wiring infrastructure to accommodate the new system. Installation was completed in February 2016.
- Automation staff, in conjunction with the Library's technology consultant Current Technologies, deployed a new network server specified in the Technology Plan and completed the full virtualization of the Library's server infrastructure. The Library now maintains (3) VMWare server hosts each with multiple virtual servers.
- Automation staff participated in numerous meetings with department heads and the Library's architect to assist in development of the Library's renovation & expansion plans.
- Automation and Public Services staff have been evaluating and planning for a deployment of the Microsoft Windows 10 operating system on new computers purchased in 2016 for public use in the Technology Center. Installation should begin by February 2017.
- The Library launched a new website designed by Weblinx, Inc., following a design period guided by the Library's virtual services librarian and input from various staff. The new site maintains the Wordpress content management system in order to leverage existing institutional expertise, with a fresh layout designed for improved viewing on mobile and tablet devices as well as on desktop computers. The Library also contracted its own web server hosting outside of LINC.

Remaining Projects in FY2016-2017

- Library staff have evaluated potential options for email hosting services in response to the anticipated migration away from LINC in the future. The Library determined to move forward with the cloud-based Microsoft Office 365 email & groupware platform, and automation staff continue to work with Current Technologies and the LINC Automation Task Force to plan a migration in the spring of 2017. Additional costs are described in this Technology Plan.
- The Library will install new all-in-one PCs, purchased in 2016, to replace the current Technology Center public internet stations. The new computers will have Windows 10 installed and be protected by DeepFreeze, allowing patrons a less restrictive operating environment.
- The library is evaluating proposals to lease or purchase a large-format color printer.

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-fourth of the current 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. Staff recommends that the Library plan in future years to replace all of the 1997-era Category 5 network cabling infrastructure with Category 6 wiring, supporting gigabit Ethernet.

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, costs have risen dramatically in recent years and it is widely understood that AT&T plans to migrate away from legacy copper infrastructure in their central offices within the next decade. Other options should also be considered either as a component of or in the absence of any future building renovation/expansion plan:

- An ISDN PRI line is a type of digital service that can handle multiple incoming calls on a single pair of copper or fiber. 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 in concept 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 possible increased service costs. The Library has obtained quotes from our voice provider for implementing ISDN PRI service over fiber and staff have determined that is not yet cost-effective to replace the POTS service at this time.

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 50 Mbps downstream and 10 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. In 2016, the Library increased the Comcast connection speed from 15Mb/s to 50Mb/s to provide needed bandwidth for patron and staff internet usage. Library staff are evaluating options and pricing for fiber internet as the Library takes over responsibility for the AT&T service in conjunction with the planned migration from LINC to SWAN. The Library anticipates taking over responsibility for the AT&T contract and ICN service in 2018.

Future Consortium Considerations

Over the past year, the Library has been considering future solutions for its automation needs. The LINC consortium was reduced by one member in July 2016 as Franklin Park Public Library migrated to the SWAN consortium. Discussion amongst the remaining LINC libraries resulted in a determination that it would be more cost effective to eventually dissolve LINC and for member libraries to join a larger consortium once the current SirsiDynix contract expires in 2018. SWAN staff have been working with LINC (as well as libraries from the MAGIC consortium in a similar situation) to develop a draft proposal for individual libraries to join SWAN.

In September 2016, the Library Board approved a resolution authorizing an intergovernmental agreement with SWAN. To date, the boards of Glen Ellyn, Batavia, West Chicago, Geneva, and Villa Park have approved this agreement. In January 2017, the SWAN Board reviewed the IGAs from the libraries and approved LINC libraries' membership into SWAN.

Villa Park Public Library must consider the ramifications and prepare for LINC dissolving and our migration to SWAN in the coming years. 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

The Library already took over responsibility for hosting its public website when the new website was introduced in 2016. In addition, while the Library anticipates bibliographic record services (OCLC) being provided by SWAN, the Library may need to provide on its own certain services, such as Collection HQ, currently negotiated by and paid through LINC. Transitioning the ILS to SWAN will also need careful consideration and planning among VPPL, LINC, and SWAN staff.

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 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, including repurposing one (1) catalog station and one (1) reservation station into two (2) additional internet stations in Youth Services
- Replace one network switch as part of the technology replacement cycle
- Replace the Ohrman Room DVD player with a Blu-Ray player supporting high-definition connections
- Renew software license agreements with Symantec (antivirus), Express Metrix (usage/metering), Adobe (Creative Cloud), Faronics (Deep Freeze), and Public Web Browser.
- Purchase Barracuda Essentials for Office 365 email security & archiving solution as part of the Library's migration to Microsoft Office 365 as its new email & communication platform
- Renew maintenance agreements for self-checkout, wireless printing service, BookScan Station, network infrastructure, and phone system
- Replace the Library's PC Reservation and print release system with MyPC and PaperCut products, respectively. The cost listed reflects a 5-year payment plan, including annual maintenance coverage
- Replace the compact copier/printer in the Public Services Workroom with new comparable equipment
- Lease one color multifunction copier to provide additional service on the 1st floor, replacing the 2nd floor public black & white copier when it reaches end of life.
- Lease or request the Friends purchase a large-format color printer for producing library signage and displays

Technology costs are itemized below:

Non-Capital Outlay/Cabling or Wireless solutions	01-02-5540	\$750.00
Non-Capital Outlay/PCs and Monitors	01-02-5500	\$16,000.00
Non-Capital Outlay/Hardware replacements		
<ul style="list-style-type: none"> • Switch replacement - \$2,000 • Blu-Ray player - \$100 • Compact color copier/printer - \$3,500 	01-02-5530	\$5,600.00
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 	01-02-5520	\$1,675.00
Contractual/Automation Services ³		
<ul style="list-style-type: none"> • Aerohive WiFi management - \$500 • Sonicwall maintenance² - \$0 • MyPC/PaperCut - \$1,720 • Wireless printing/vending maintenance - \$1,840 • Collection HQ - \$2,250 • EventKeeper - \$1,000 • Graphic Stock & Fotolia - \$450 • Shoutbomb - \$360 • Summer Reading Club service - \$150 • Barracuda/Office 365 - \$1,800 • Web hosting - \$360 	01-01-5103	\$10,430.00

Contractual/Automation-Monthly (LINC)		
<ul style="list-style-type: none"> Automation monthly charge - \$51,500 	01-01-5101	\$51,500.00
Contractual/Broadband Services		
<ul style="list-style-type: none"> Cable Internet - \$2,000 Mobile broadband - \$250 	01-01-5105	\$2,250.00
Contractual/Technology Services		
<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		
<ul style="list-style-type: none"> KMBS Bizhub C454 @ \$241.52/month * 12 months KMBS Bizhub 224e @ \$105.00/month * 12 months Replacement for Bizhub 222 @ \$150/month * 12 months Postage meter @ \$50.00/month * 12 months Large-format color printer @ \$100/month * 12 months⁴ 	01-01-5102	\$ 7,758.24
Buildings & Contingency/Maintenance of Equipment ⁵		
<ul style="list-style-type: none"> BookScan Station maintenance³ - \$795 Cisco maintenance³ - \$400 Copier maintenance/consumables - \$5,000 Self-check maintenance³ - \$2,630 Telephone system maintenance³ - \$900 	01-01-5236	\$9,725.00
Utilities/Telephone ⁵	01-01-5202	\$5,200.00
Total Technology Costs--FY 2017-2018		\$119,388.24

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 replaced its SonicWall security firewall, including a 3-year service plan that provides long-term savings. Annual service renewal will resume in FY2018-19.

³Some items previously budgeted under Automation Services now budgeted under Maintenance of Equipment

⁴Purchase price approximately \$4,360

⁵Existing budget account not previously listed in Technology Plan

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.
- Upgrade 1997-era category 5 network cabling with category 6 cabling throughout the building
- 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, computer reservation, print release, wireless printing service, BookScan Station, network infrastructure, and phone system
- Continue annual payments for computer reservation and print release systems
- Lease one color multifunction copier to replace the Public Services Office copier when it reaches end of life.
- Buy out the Supply Room color copier lease at fair market value
- The Library will begin paying for the AT&T fiber optic circuit and Illinois Century Network internet bandwidth directly, as a result of the Library's anticipated transition from LINC to SWAN

Technology costs are itemized below:

Non-Capital Outlay/Cabling or Wireless solutions		
• Upgrade Cat5 to Cat6 - \$2,000	01-02-5540	\$2,500.00
• Non-itemized - \$500		
Non-Capital Outlay/PCs and Monitors		
	01-02-5500	\$16,000.00
Non-Capital Outlay/Hardware replacements		
• Switch replacement - \$2,000	01-02-5530	\$3,000.00
• C454 copier buyout - \$1,000		
Non-Capital Outlay/Server Upgrades		
• Virtualization server- \$6,000	01-02-5550	\$6,000.00
Non-Capital Outlay/Software Upgrades		
• Symantec AV - \$500		
• Express Metrix - \$300		
• Adobe CC - \$600	01-02-5520	\$1,675.00
• Faronics / Deep Freeze - \$150		
• Public Web Browser ¹ - \$125		
Contractual/Automation Services³		
• Aerohive WiFi management - \$550		
• Sonicwall maintenance ² - \$1,900		
• MyPC/PaperCut - \$1,720		
• Wireless printing/vending maintenance - \$1,840		
• Collection HQ - \$2,250		
• EventKeeper - \$1,000	01-01-5103	\$ 12,380.00
• Graphic Stock & Fotolia - \$450		
• Shoutbomb - \$360		
• Summer Reading Club service - \$150		
• Barracuda/Office 365 - \$1,800		
• Web hosting - \$360		
Contractual/Automation-Monthly (SWAN)		
• Automation monthly charge - \$38,400	01-01-5101	\$38,400.00

Contractual/Broadband Services		
<ul style="list-style-type: none"> • AT&T fiber circuit⁵ - \$3,800 • IL Century Network Internet⁵ - \$530 • Cable Internet - \$2,000 • Mobile broadband - \$500 	01-01-5105	\$6,830.00
Contractual/Technology Services ⁴		
<ul style="list-style-type: none"> • Technology consulting/contracting - \$3,600 	01-01-5125	\$3,600.00
Contractual/OCLC ⁶		
	01-01-5104	\$0.00
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 @ \$150/month * 12 months • Replacement for Bizhub C280 @ \$225/month * 12 months • Postage meter @ \$50.00/month * 12 months • Large-format color printer @ \$100/month * 12 months 	01-01-5102	\$ 8,284.56
Buildings & Contingency/Maintenance of Equipment ⁴		
<ul style="list-style-type: none"> • BookScan Station maintenance³ - \$795 • Cisco maintenance³ - \$550 • Copier maintenance/consumables - \$5,000 • Self-check maintenance³ - \$2,760 • Telephone system maintenance³ - \$900 	01-01-5236	\$10,005.00
Utilities/Telephone ⁴		
	01-01-5202	\$5,350.00
Total Technology Costs--FY 2018-2019		\$114,024.56

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.

³Some items previously budgeted under Automation Services now budgeted under Maintenance of Equipment

⁴Existing budget account not previously listed in Technology Plan

⁵Cost previously paid through LINC monthly operating funds

⁶Cost included in SWAN monthly operating funds

Fiscal Year 2019-2020

The Library plans to act on the following items in FY2019-20. 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, computer reservation, print release, wireless printing service, BookScan Station, network infrastructure, and phone system
- Continue annual payments for computer reservation and print release systems
- Lease one multifunction copier to replace the Supply Room copier when it reaches end of life.

Technology costs are itemized below:

Non-Capital Outlay/Cabling or Wireless solutions	01-02-5540	\$750.00
Non-Capital Outlay/PCs and Monitors	01-02-5500	\$16,000.00
Non-Capital Outlay/Hardware replacements		
• Switch replacement - \$2,000	01-02-5530	\$2,000.00
Non-Capital Outlay/Server Upgrades		
• Virtualization server- \$6,000	01-02-5550	\$6,000.00
Non-Capital Outlay/Software Upgrades		
• Symantec AV - \$500		
• Express Metrix - \$300		
• Adobe CC - \$600	01-02-5520	\$1,675.00
• Faronics / Deep Freeze - \$150		
• Public Web Browser ¹ - \$125		
Contractual/Automation Services ²		
• Aerohive WiFi management - \$575		
• Sonicwall maintenance - \$2,000		
• MyPC/PaperCut - \$1,720		
• Wireless printing/vending maintenance - \$1,840		
• Collection HQ - \$2,250		
• EventKeeper - \$1,000	01-01-5103	\$12,505.00
• Graphic Stock & Fotolia - \$450		
• Shoutbomb - \$360		
• Summer Reading Club service - \$150		
• Barracuda/Office 365 - \$1,800		
• Web hosting - \$360		
Contractual/Automation-Monthly (SWAN)		
• Automation monthly charge - \$38,400	01-01-5101	\$38,400.00
Contractual/Broadband Services		
• AT&T fiber circuit ⁴ - \$3,800		
• IL Century Network Internet ⁴ - \$530	01-01-5105	\$6,830.00
• Cable Internet - \$2,000		
• Mobile broadband - \$500		
Contractual/Technology Services		
• Technology consulting/contracting - \$3,600	01-01-5125	\$3,600.00
Contractual/OCLC ⁵	01-01-5104	\$0.00

Contractual/Rental/Lease		
• KMBS Bizhub 224e @ \$105.00/month * 12 months		
• Replacement for KMBS Bizhub C454 @ \$250.00/month * 12 months		
• Replacement for Bizhub 222 @ \$150/month * 12 months	01-01-5102	\$ 10,560.00
• Replacement for Bizhub C280 @ \$225/month * 12 months		
• Postage meter @ \$50.00/month * 12 months		
• Large-format color printer @ \$100/month * 12 months		
Buildings & Contingency/Maintenance of Equipment ³		
• BookScan Station maintenance ² - \$795		
• Cisco maintenance ² - \$700	01-01-5236	\$10,295.00
• Copier maintenance/consumables - \$5,000		
• Self-check maintenance ² - \$2,900		
• Telephone system maintenance ² - \$900		
Utilities/Telephone ³	01-01-5202	\$5,500.00
Total Technology Costs--FY 2019-2020		\$114,115.00

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

²Some items previously budgeted under Automation Services now budgeted under Maintenance of Equipment

³Existing budget account not previously listed in Technology Plan

⁴Cost previously paid through LINC monthly operating funds

⁵Cost included in SWAN monthly operating funds

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 must continue to monitor Internet bandwidth to meet ever-growing patron demand. In 2010, the Library added a cable modem from Comcast to provide additional bandwidth for patron Internet usage; this service was upgraded in 2016 is currently used for all general internet traffic other than Sirsi/Workflows and LINC email. The Library planned 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, but reductions in the state budget negated that possibility due to increased cost. Staff will continue to monitor developments in the internet market and work with consultants on long-term network planning.

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.
- Evaluate options to replace the current microfilm reader/printer with digital microfilm station integrated into the Library's print release system