FLAGSTAFF
UNIFIED SCHOOL DISTRICT

TECHNOLOGY PLAN

JULY 1, 2016– JUNE 30, 2019
# LEA Profile

**LEA NAME:** Flagstaff Unified School District  
**CTDS:** 03-02-01-000  
**NUMBER OF SCHOOLS IN LEA:** 16  
**E-RATE BILLED ENTITY NUMBER (if not applicable, indicate N/A):** 143151

## Technology Plan Contact Information

### Primary Technology Plan Contact Information

<table>
<thead>
<tr>
<th>Name: Mary Knight</th>
<th>Telephone #: 928-527-6120</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Director of Technology</td>
<td>Fax #: 928-527-6125</td>
</tr>
<tr>
<td>Address: 3285 E. Sparrow Ave. Flagstaff, AZ 86004</td>
<td>E-mail: <a href="mailto:mknight@fusd1.org">mknight@fusd1.org</a></td>
</tr>
</tbody>
</table>

### Secondary Technology Plan Contact Information

<table>
<thead>
<tr>
<th>Name: Rick Smith</th>
<th>Telephone #: 928-527-6301</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Assistant Director of Technology</td>
<td>Fax #: 928-527-4202</td>
</tr>
<tr>
<td>Address: 4000 N. Cummings Flagstaff, AZ 86004</td>
<td>E-mail: <a href="mailto:rsmith1@fusd1.org">rsmith1@fusd1.org</a></td>
</tr>
<tr>
<td>Member</td>
<td>Title</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Heather Breedlove</td>
<td>Tech. Integration Coordinator</td>
</tr>
<tr>
<td>Jannette Bressler</td>
<td>Teacher</td>
</tr>
<tr>
<td>Emily Connors</td>
<td>Teacher</td>
</tr>
<tr>
<td>Adria Curtin</td>
<td>Technology Teacher</td>
</tr>
<tr>
<td>Jean Dunham</td>
<td>Library Media Specialist</td>
</tr>
<tr>
<td>Rosemary Groves</td>
<td>Library Media Specialist</td>
</tr>
<tr>
<td>Laurie Jeffers</td>
<td>Teacher</td>
</tr>
<tr>
<td>Shelley Kelch</td>
<td>Library Media Specialist</td>
</tr>
<tr>
<td>Mary Knight</td>
<td>Director of Technology</td>
</tr>
<tr>
<td>Steve McAllister</td>
<td>Technology Teacher</td>
</tr>
<tr>
<td>Phaedra Namingha</td>
<td>Technology Support</td>
</tr>
<tr>
<td>Joe Nieto</td>
<td>Lead Technician II</td>
</tr>
<tr>
<td>Jennifer Parker</td>
<td>Library Media Specialist</td>
</tr>
<tr>
<td>Karen Patty</td>
<td>Technology Support</td>
</tr>
<tr>
<td>Jeremy Schroeder</td>
<td>Teacher</td>
</tr>
<tr>
<td>Rick Smith</td>
<td>Asst. Director of Technology</td>
</tr>
<tr>
<td>Katie Warke</td>
<td>Response to Intervention Spec.</td>
</tr>
<tr>
<td>Sheryl Wells</td>
<td>Instructional Technology Coach</td>
</tr>
<tr>
<td>Heather Zeigler</td>
<td>Digital Literacy Specialist</td>
</tr>
</tbody>
</table>

The FUSD District Technology Committee *meets monthly* on the first Tuesday of each month.
Core Resources and Values

**National Education Technology Plan—**
**Future Ready Learning: Reimagining the Role of Technology in Education**
The National Education Technology Plan (NETP) sets a national vision and plan for learning enabled by technology through building on the work of leading education researchers; district, school, and higher education leaders; classroom teachers; developers; entrepreneurs; and nonprofit organizations. The principles and examples provided in this document align to the Activities to Support the Effective Use of Technology (Title IV A) of Every Student Succeeds Act as authorized by Congress in December 2015.

**Future Ready Pledge**
In support of the FUSD board’s vision and goals and to affirm the commitment for FUSD to provide a Future Ready education for students, the superintendent of FUSD has taken the Future Ready District Pledge (Appendix A) which engages the district in activities such as:
- Fostering and leading a culture of digital learning within our schools
- Helping schools and families transition to high-speed connectivity
- Empowering educators through professional learning opportunities
- Accelerating progress toward universal access for all students to quality devices
- Providing access to quality digital content
- Offering digital tools to help students and families Reach Higher
- Mentoring other districts and helping them transition to digital learning

**ISTE (International Society for Technology In Education)—Essential Conditions**
The ISTE Essential Conditions are the 14 critical elements necessary to effectively leverage technology for learning. They offer educators and school leaders a research–backed framework to guide implementation of the ISTE Standards, tech planning and systemwide change.

- Shared Vision
- Empowered Leaders
- Implementation Planning
- Consistent and Adequate Funding
- Equitable Access
- Skilled Personnel
- Ongoing Professional Learning

- Technical Support
- Curriculum Framework
- Student-Centered Learning
- Assessment and Evaluation
- Engaged Community
- Support Policies
- Supportive External Context
Learning

“All learners will have engaging and empowering learning experiences in both formal and informal settings that prepare them to be active, creative, knowledgeable, and ethical participants in our globally connected society.”

Future Ready Learning: Reimagining the Role of Technology in Education
2016 National Education Technology Plan

“To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas, to conduct original research in order to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and non-print texts in media forms old and new.”

Common Core State Standards

“All learners will:
• have access to authentic learning activities appropriate to their development whenever and wherever they need.
• use appropriate strategies and technology to collaborate, construct knowledge and develop solutions to real-world problems.
• communicate effectively with global audiences.”

Long Range Strategic Goals Transforming Education:
Enabling Learning for All Arizona Students
The Arizona Long-Range Strategic Educational Technology Plan, 2009

Current Status of Technology for Learning within FUSD

Level and method of technology integration

With universally available technology in every classroom (laptop, document camera and projector), teachers are integrating technology for student learning on a variety of levels throughout all subject areas. Additionally, the presence of mobile devices (primarily in the form of iPads) provide additional opportunities for technology integration. The broadest technology integration initiative, the 2012-15 implementation of iPads in grades K-12, has been completed with funds from the Flagstaff community supported 2012 Bond. As a result, each elementary grade level, K-5, has a cart of 30 iPads. At the secondary level, the four core content area departments, English, Math, Science and Social Studies, two carts of 35 iPads were provided to each department. Additionally, some schools have purchased additional iPad carts with a variety of funding sources--Title I, PTO, etc.
Teachers also have the option of leveraging student personal devices (BYOD) for instruction by utilizing FUSD’s Personal Device Wireless Local Area Network (PDWLAN). Currently, this resource is primarily being used on a limited basis for instructional purposes at the secondary level; however, the network is available for grades K-12.

In a continuing effort to provide universal access for all students to quality devices and quality digital content work will continue on the transition and addition of resources as possible.

**Digital Literacy Skills**

During both the 2014-15 and the 2015-16 schools years, the 21st Century Skills Assessment (CSA) was used to assess 5th, 6th, 7th, and 8th grade student technology proficiency. 6th and 7th grade students were assessed at the end of their required nine week technology classes while 5th and 8th grade students were assessed in April/May. Students achieving a score of 300+/500 on the 21st CSA are considered to be proficient in the use of computer-based technology. The 21st CSA uses interactive performance-based tasks and multiple-choice questions to address 100% of the ISTE Standards for Students by measuring student technology proficiencies on all 24 performance indicators within:

- Creativity and Innovation
- Communication and Collaboration
- Research and Information Fluency
- Critical Thinking, Problem Solving and Decision Making
- Digital Citizenship
- Technology Operations and Concepts

**SY 2014-15 21st CSA - Percentage of Students Classified as Proficient and Advanced**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Completions</th>
<th>Overall</th>
<th>Creativity</th>
<th>Communication</th>
<th>Research</th>
<th>Critical Thinking</th>
<th>Digital Citizenship</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>505</td>
<td>50%</td>
<td>51%</td>
<td>51%</td>
<td>42%</td>
<td>53%</td>
<td>43%</td>
<td>49%</td>
</tr>
<tr>
<td>6-8</td>
<td>1332</td>
<td>22%</td>
<td>15%</td>
<td>16%</td>
<td>27%</td>
<td>24%</td>
<td>35%</td>
<td>28%</td>
</tr>
</tbody>
</table>
The 2014-2015 school year was the first year that this specific assessment was administered. Spring 2015 CSA results were shared with school principals and several facilitated discussions and group activities resulted in each elementary principal determining an action plan to improve technology proficiency rates among students at their school sites.

With increasing enrollment spring 2016 results demonstrated fairly static percentage changes, yet in looking at raw numbers the number of students reaching proficient and advanced increased in 5th grade from 257 in 2015 to 330 in 2016. There was a similar increase in 6th-8th grade numbers as well, with growth in the proficient and advanced designations from 294 in 2015 to 335 in 2016. It is encouraging to see the growth trend in only the second year of technology assessment administration. The 21st CSA will continue being used to assess student technology proficiency, inform technology curriculum decisions, and to monitor progress towards digital literacy skill goals among FUSD 5th and 8th grade students.

The 21st CSA will continue being used to assess student technology proficiency and monitor student digital skill development. Administrative conversations will remain focused on digital learning and appropriate targets will be set to increase both district and school readiness and implementation of digital learning.

To extend assessment of student technology skills, the FUSD’s Elementary Standards Report for grades 1-5 includes marks for technology proficiency. Skills will be assessed using Arizona Technology Standards.

**Delivering Online Curriculum--Northern Arizona Distance Learning (NADL)**

FUSD utilizes online courses available through Mesa Distance Learning. Typically 100+ students per year take part in these online courses. This particular student population consists of students with social issues that make attending the traditional school environment challenging, preferred home school students (often religious reasons),

<table>
<thead>
<tr>
<th>Grade</th>
<th>Completions</th>
<th>Overall</th>
<th>Creativity</th>
<th>Communication</th>
<th>Research</th>
<th>Critical Thinking</th>
<th>Digital Citizenship</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>696</td>
<td>47%</td>
<td>48%</td>
<td>56%</td>
<td>41%</td>
<td>55%</td>
<td>53%</td>
<td>44%</td>
</tr>
<tr>
<td>6-8</td>
<td>1385</td>
<td>24%</td>
<td>36%</td>
<td>18%</td>
<td>20%</td>
<td>28%</td>
<td>31%</td>
<td>26%</td>
</tr>
</tbody>
</table>
expecting teens or teen parents, students on probation or recovering from substance abuse, and students with various health issues. Currently, Mesa Distance Learning offers over 87 courses online (for grades 7-12) ranging from basic core classes such as Algebra and Biology, Government and Economics to Mandarin Chinese, Service Learning, Multicultural Literature and Mythology. Mesa is always adding courses online with the most recent additions being Financial Concepts for Teens, Introduction to Information Technology, Guitar and Digital Photography. The Northern Arizona Distance Learning Program acquired Arizona Online Instruction (AOI) approval in the Spring of 2014 and will become the 16th FUSD school in July, 2016. Plans for program expansion are synonymous with this transition to AOI school status. Our plans are to continue to utilize Mesa Distance Learning as our curriculum provider while also working to design and establish some of our own online courses and/or increase the blended learning opportunities provided to our students. Moreover, FUSD plans to grow its online middle school and high school options over the next three years.

**Online Credit Recovery Programs**
Standards-based online curriculum provides courses in a wide range of core subjects and a limited number of electives. This curriculum is available at all FUSD’s secondary schools and Teenage Parent Program (TAPP) and is currently used for credit recovery purposes.

**Student and parent involvement through online and technology resources--**
Access to student attendance, grades, schedules, and more is provided to students and parents through an online module available through our student information system. In addition, district, school and classroom level information is contributed and shared through the district website. FUSD administrators utilize our mass communication system, to notify families of district and school events and information. Finally, every classroom is equipped with a phone to enable improved communications between parents and teachers/administrators as well as being a tool for safety purposes.

Social media tools are used to inform community members of announcements, events, awards, press releases, and student activities taking place within its schools and administration. This extends to digitizing and posting informational flyers pertinent to FUSD’s community.

**Technology for increased authentic learning, increased collaboration and communication skills, and problem solving by students**
Instructional technology resources currently in place contribute to a digital learning
environment in FUSD. Computer labs, mobile labs of laptops and iPads, teacher laptops, interactive whiteboards, projectors, document cameras, student response systems, and sufficient bandwidth for access to online resources are available to teachers, students and administrators.

The combination of infusing these tools into core content along with digital literacy skills enables authentic experiences that are relevant to students' lives and allows them to be connected on a global level.

**Internet Safety Curriculum**
FUSD receives discounted services for telecommunications and Internet access through E-rate. Based on implementation updates made to the Federal Communication Commissions’ (FCC) Children’s Internet Protection Act (CIPA) in July, 2012, recipients of E-rate funds must have an Internet Safety Policy and provide education on student safety in regards to use of the Internet, appropriate behavior while using, but not limited to, such things as social networking websites, online opportunities and chat rooms; and cyberbullying awareness and response. To meet this requirement, all FUSD students are provided with Internet safety education from the following two programs:
- Grades K-5 -- EasyTech
- Grades 6-12 -- Common Sense Media

Once the grade level required content has been completed, the teacher must sign the FUSD Teacher Verification Form and submit that to the technology department, where compliance is tracked.

**Computer Science Opportunities**

FUSD understands and supports the benefits of coding for students. After school coding clubs, yearly Hour of Code student activities, coding workshops for teachers, after school coding clubs for students and community coding partnerships are being
provided and new options are in development to expand access to computer science opportunities.

**Assessment**
A variety of tools are available for assessment purposes. These include, but are not limited to statewide, formative, and summative assessments, benchmarking, reading and civics skills, and digital literacy skills. Assessments continue to transition from paper/pencil to digital formats. Online assessments utilize iPads, laptops, and computer labs.

Technology-based assessments can provide real-time or near real-time feedback and will allow educators to make better informed decisions regarding student learning and adjust instruction accordingly to best meet the needs of the students. Educators, students, and parents will be more informed by the use of teacher, student and parent portals.

**Strategic Goals--Technology for Learning**
- Support Arizona State Standards implementation by providing all students with the opportunity to engage with digital tools and curriculum.
- Cultivate authentic digital age learning experiences
- Continue to provide devices suitable and usable for educational pursuits.
● Work towards a 1 to 1 student/device ratio by increasing the number of devices such as iPads and expanding BYOD opportunities
● Determine value of school-based computer labs refresh
● Evaluate mobile device effectiveness and replace outdated devices with newer, supported devices
● Continue conversion from print to digital curricular resources
● Develop expertise by providing professional development on effective technology integration methods
● Promote real-world challenges and project-based learning using a wide variety of digital learning devices and resources to show competency with complex concepts and content
● Expand online learning opportunities
● Continue the development of professional learning opportunities, in a variety of modalities, based on needs
● Expand computer science opportunities
● Better utilize existing digital literacy curriculum for grades K-8 and define digital literacy expectations for grades 9-12
● Improve student technology skills demonstrated to be necessary for next generation online assessments
● Move to 1 to 1 student to device ratio to provide seamless access to devices for assessment purposes and to prevent disruption of access to devices for instruction

Teaching

Preparation and Development Of Educators
Educators will be supported by technology that connects them to people, data, content, resources, expertise, and learning experiences that can empower and inspire them to provide more effective teaching for all learners.  
All educators will:
● have access to research-based professional development opportunities that are timely and job-embedded as much as possible
● leverage technology and data to improve learning and assessment
● use technology to connect and collaborate with other educators

Future Ready Learning: Reimagining the Role of Technology in Education
2016 National Education Technology Plan
Methods for identifying technology professional development

District technology initiatives as well as non-technology related district initiatives continue to drive technology professional development offerings in terms of both content and frequency. Teacher surveys and requests for specific trainings also guide the professional development offerings. Classroom technologies (e.g., online resources, iPads/apps, interactive whiteboards, document cameras, projectors), standards and technology integration, grade book, and the district content management system are district wide resources that require professional development. Similarly, technology professional development is also shaped by the need to provide training and support for district goals and initiatives that are not directly technology related, such as the professional development registration system and online student assessments. Student achievement data gathered from student assessment in our digital literacy skills curriculum is also utilized to develop professional development offerings to assist teachers in effective use of that curriculum.

Technology professional development availability to faculty, staff, and administrators

Professional development offerings are available in various formats throughout the year. Professional development is also offered at individual school sites on an as-needed basis. Technology Department online professional development options will continue to
be investigated for possible creation and offering to district staff. In addition, technology professional development is delivered during grade level/department collaboration meetings, prep hours, early-release, after-school sessions, and weekend and summer courses. FUSD’s established technology peer coaching program trains coaches to assist collaborating teachers with lesson improvement and rigorous and relevant integration of technology.

**Technology Professional Development incentives**

Individuals receive recertification seat hours and may choose from in-district professional growth or 301 hours.

- Teachers can earn professional growth credit, 301 money or seat hours for attending professional development
- Tech peer coaches are typically rewarded for their time and effort with stipends
- Teacher who facilitate PD courses are compensated for prep time and teaching the course

**Frequency of Technology Professional Development offerings**

The frequency of technology professional development is driven by needs, varies depending on the topics, as well as other ongoing activities and commitments throughout FUSD. Summer offerings may be available and vary in length depending on topic and need. In general, trainings are made available to a variety of audiences. Some opportunities are limited to specific groups, such as technology peer coaches and tech peer coaches’ collaborating teachers.

**Technology Professional Development providers**

Technology professional development is delivered by a variety of means, primarily leveraging internal expertise and job-embedded opportunities but including external resources where appropriate:

- FUSD
  - Technology peer coaches, both new and continuing
  - Technology trainers
  - Technology Integration Coordinator
  - Digital Literacy Specialist
  - Classroom teachers
  - District and School level administrators
- Outside organizations--e.g., Arizona K12 Center staff, ASSET
Strategic Goals--Technology for Teaching

Evaluation & Data Collection
- Recording and subsequent, widespread dissemination of technology-inclusive model lessons and best practices
- Collect and use data from teacher evaluation tool to shape professional development offerings

Curriculum
- Increased awareness and inclusion of state standards and ISTE technology standards in teachers' planning and practice
- Professional Development that continues to focus not just on skills and confidence, but also on meaningful technology integration through lesson planning and improvement
- Systematic inclusion of technology formative assessments throughout the K-12 curriculum
- Increased teacher and student use of digital literacy skills curriculum, with a professional development emphasis on utilizing the curriculum as a customizable, holistic curriculum solution, aligning with technology standards
- Promoting awareness of digital literacy skills, with a particular emphasis on digital citizenship (legal, ethical, and online safety concerns)
- Incorporating student owned devices in instruction

Programmatic Professional Development
- Professional development that supports teachers in how to assess students on technology standards in the elementary report card
- Alternative modes of professional development, including blended learning and online courses
- Coordinated professional development planning that supports the work of existing low-technology user groups to increase technology integration awareness and literacy
- Continued development of and support to ensure the sustainability of technology peer coaching and technology trainer programs
Leadership

All Leaders will:

- Establish clear strategic planning connections among all state, district, university, and school levels and how they relate to and are supported by technology to improve learning.
- Set a vision for the use of technology to enable learning such that leaders bring all stakeholder groups to the table, including students, educators, families, technology professionals, community groups, cultural institutions, and other interested parties.
- Develop funding models and plans for sustainable technology purchases and leverage openly licensed content while paying special attention to eliminating those resources and tasks that can be made obsolete by technology.
- Develop clear communities of practice for education leaders at all levels that act as a hub for setting vision, understanding research, and sharing practices.

*Future Ready Learning: Reimagining the Role of Technology in Education*

2016 National Education Technology Plan

**Current Status of Technology for Leadership**

Administrators staff are provided with a laptop and/or desktop. Building administrative leaders (principals, assistant principals) are also assigned an iPad for evaluations, walkthrough classroom observations and building expertise with mobile devices.

Current uses of technology to support administrators and their responsibilities—district, school-based, student achievement and teacher effectiveness.

<table>
<thead>
<tr>
<th>Technology Resource</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Information System</td>
<td>Student enrollment, attendance, grades, classes, schedules, assessment, health information, lesson plans, etc.</td>
</tr>
<tr>
<td>Student discipline software</td>
<td>Discipline Incidents</td>
</tr>
<tr>
<td>Emails, phone, instant messaging, district/school Website, digital flyers,</td>
<td>Tools for communicating with teachers, staff, students, parents, and the community</td>
</tr>
<tr>
<td>Teacher Performance Evaluation System</td>
<td>Lesson observation, professional activities, and PD course registration</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td>Assessment Software</td>
<td>Student achievement data monitoring and analysis</td>
</tr>
<tr>
<td>Internet</td>
<td>Instructional resources, collaboration</td>
</tr>
<tr>
<td>Site-based technologies--Computer labs, desktops, laptops, laptop carts, ipad carts, interactive whiteboards, projectors, document cameras, personal devices</td>
<td>Productivity and collaboration</td>
</tr>
<tr>
<td>Curriculum Tools</td>
<td>Credit recovery, digital literacy skill development, assessment</td>
</tr>
</tbody>
</table>

**Strategic Goals--Technology for Leadership**

- Modeling of relevant use and integration of technology by administrators
- Regular, active administrator participation in technology professional development and tech initiatives
- More consistent communication of expectations related to the integration of technology and how teachers are evaluated
- Increased participation in voluntary, embedded, technology-related PD to ensure that technology integration expectations can be met
- Inclusion of technology integration concepts in new-hire qualifications and ongoing faculty and staff evaluations
- Walk-throughs to assess the quality and quantity of technology integration and to compare first-hand observation with self-reporting data
- Calibration in use of technology portion of teacher evaluation tool
- Increased awareness and inclusion of state standards and ISTE technology standards for Administrators

**Infrastructure**

**Enabling Access and Effective Use**

All students and educators will have access to a robust and flexible learning infrastructure capable of supporting new types of engagement and providing ubiquitous access to the technology tools that allow students to create, design and explore. The
essential components of an infrastructure capable of supporting transformational learning experiences to include the following:

- Ubiquitous connectivity. Persistent access to high-speed Internet in and out of school
- Powerful learning devices. Access to mobile devices that connect learners and educators to the vast resources of the Internet and facilitate communication and collaboration
- High-quality digital learning content. Digital learning content and tools that can be used to design and deliver engaging and relevant learning experiences
- Responsible Use Policies (RUPs). Guidelines to safeguard students and ensure that the infrastructure is used to support learning

Building a robust infrastructure for learning begins with an understanding of the goals and desired outcomes that support engaging and empowering learning experiences. When based on learning goals, technology infrastructure decisions become clear.

*Future Ready Learning: Reimagining the Role of Technology in Education*

*National Education Technology Plan, 2016*
Current Status of District Infrastructure
The school district utilizes Metro Optical Ethernet (MOE) to support the wide area network that provides internet connectivity to 15 of the district’s 16 schools.

<table>
<thead>
<tr>
<th>Grade Levels</th>
<th>Connection Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary schools*</td>
<td>200 Mbps</td>
</tr>
<tr>
<td>* Leupp School</td>
<td>25 Mbps microwave</td>
</tr>
<tr>
<td>Secondary schools</td>
<td>300-400 Mbps</td>
</tr>
</tbody>
</table>

The district's internet connection is a 1Gb connection and is shared by all of the schools and sites. The internet connection’s utilization during the school day is between 30-70%. Traffic shaping is being used to improve the availability and performance of mission critical apps. Currently, FUSD relies on E-rate discounted services for Internet access to the district at large including Leupp School’s microwave connection.

Wireless network access is available to teachers, students and staff at all district schools and sites. School wireless networks are being refreshed with a combination of district and Erate funds. Middle and high schools wireless refresh was completed in 2015-16. Elementary wireless refresh will follow as funds are available.

Access to technology/technology replacement cycle
- Students have access to one or more computer labs comprised of 30 or more computers in each of the schools.
- Increasingly, students have access to mobile devices as iPad carts are implemented throughout the district.
- One or more computers are available in each classroom or library.
- 100% of schools have one or more mobile carts comprised of 20 or more laptops/mobile devices available for student use.
- Every teacher in the district has a district issued laptop assigned to him or her.
- An iPad is provided to teachers as iPad carts are implemented at their grade level/department.
- Administrators have a district issued laptop and iPad assigned to them.
- Every classroom has a projector and document camera.
- Interactive whiteboards are available at approximately 75% of schools, primarily at the elementary level.
- Voice amplification systems are primarily installed in elementary classrooms with a limited number of systems available in middle school classrooms.
Teacher/Administrator laptops have been refreshed in the 2015-2016 school year. Estimated refresh for iPads will be on 5-6 year cycle.

Technology infrastructure for department procedures

<table>
<thead>
<tr>
<th>Department/Service</th>
<th>Technology Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business/Inventory/Purchasing/ HR/Depts</td>
<td>Financial Accounting System</td>
</tr>
<tr>
<td>District Communications</td>
<td>VoIP phone system</td>
</tr>
<tr>
<td></td>
<td>Mass notification system</td>
</tr>
<tr>
<td></td>
<td>Instant Messaging</td>
</tr>
<tr>
<td></td>
<td>Student Information System</td>
</tr>
<tr>
<td></td>
<td>Email</td>
</tr>
<tr>
<td>State Reporting</td>
<td>Student Information System</td>
</tr>
<tr>
<td>Transportation</td>
<td>Routing software</td>
</tr>
</tbody>
</table>

Staffing levels vs. devices/infrastructure requiring support

<table>
<thead>
<tr>
<th>Device/Infrastructure Component</th>
<th>Number of Devices</th>
<th>Number of Support Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workstations/mobile devices/Software/end user support</td>
<td>7300 desktop &amp; mobile devices</td>
<td>4</td>
</tr>
<tr>
<td>Printers/AV-projectors/document cameras</td>
<td>500 printers 550 projectors 570 document cameras Variety of additional devices</td>
<td>1</td>
</tr>
<tr>
<td>Network/WAN/LAN/VoIP</td>
<td>18 sites</td>
<td>1</td>
</tr>
<tr>
<td>Servers/network storage</td>
<td>42 servers</td>
<td>1</td>
</tr>
<tr>
<td>Internet security/filtering/antivirus/Email account management/Access control servers &amp; software</td>
<td>Internet security/filtering/anti-virus for all desktops/laptops/1200 email accounts/Security systems (access and video) for 18 sites</td>
<td>1</td>
</tr>
<tr>
<td>Student Information System/SAIS</td>
<td>1 districtwide database</td>
<td>1</td>
</tr>
<tr>
<td>Finance System</td>
<td>1800 accounts</td>
<td>1</td>
</tr>
</tbody>
</table>

Strategic Goals--Infrastructure
● **Connectivity**
  ○ Increase district internet connection to accommodate continuing transition to digital resources
  ○ Student access at home to reduce the "homework gap"

● **Hardware**
  ○ Wireless access points to expand existing wireless network
  ○ 1 to 1 student devices to provide individual access to instructional resources and assessment purposes
  ○ Network audit to ensure that routers, switches and firewalls are capable of handling increased internet bandwidth needs
  ○ Network switches to provide for expansion of VoIP and wireless network
  ○ Additional network data storage for student and staff needs
  ○ Continued virtualization of servers as needed to reduce carbon footprint

● **Software**
  ○ Additional network monitoring and bandwidth management tools to ensure equitable and reliable internet access
  ○ Online conferencing/training tool

● **Staffing**
  ○ Site-based technology support positions
  ○ Dedicated network/lab administrator position to support school labs district wide
  ○ Reduce number of devices per technician