Technology Plan Cover Sheet
2016-2018 (July 1, 2015 – June 30, 2018)

Organization Information

District/Agency/School (legal name): Buffalo Hanover Montrose
District Number: 877

Technology Plan Status

The District/Agency/School has an approved 2013-15 technology plan:
☒Yes ☐No
2016-2018 Technology Plan Date of Creation: February 2015

Identified Official with Authority

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Buffalo-Hanover-Montrose Schools
2016-18 Technology Plan

Technology Needs Assessment. Describe the processes(s) used to determine the technology needs for the LEA for 2016-2018 and briefly summarize the needs that have been determined. Make sure to include any technology needs that will be supported through E-rate discounts, such as telephone, telecommunications access, Internet, and other E-rate eligible services:

Summary of Priorities

Based on the needs assessment process detailed below, the following have been identified as priorities for the Buffalo-Hanover-Montrose Schools for the 2016-18 Technology Plan:

1. Increase student use of technology for learning that is reflective of ethical and transformative use of digital tools and environments to create, communicate effectively, collaborate, and think critically while meeting designed learning objectives.

2. Provide professional development that engages staff in continuous improvement of instructional practice that is relevant and leverages tools available.

3. Improve routing, switching, servers, wireless access and storage to meet increasing instructional use and bandwidth demands of student and district owned devices connecting to our infrastructure.

4. Maintain recommended replacement cycle and support levels with increasing demands.

District Technology Goals

On March 25th, 2015 the District Technology Advisory Committee met to review our current technology goals and their alignment with our district mission, core values, and key expectations. The team also reviewed the results of their previous focus group work. Through a collaborative process we constructed two goals (detailed below).

1. Staff will continually improve the quality of instruction and assessment of communication, creative problem-solving, critical thinking and collaboration in the classroom, incorporating technology to enrich these experiences.

2. Students will continually improve communication, creative problem-solving, critical thinking, and collaboration skills, incorporating technology to enrich these experiences.

Technology Department Goals

On an annual basis, the Technology and Information Services Department (TIS) sets goals aligned with the district goals in four areas: Infrastructure, Information Services, Support, and Instructional Integration. Under the creation, implementation, and measurement of these goals, changing needs are examined on an annual basis through: the collection of data from an annual technology survey, classroom walk-through data collected on the quantity and quality of technology integration, analysis of the measurements collected from the [Service Level Agreements](#) on every service provided in the district, and an annual infrastructure review performed by the Director of Technology and Information Services and Infrastructure Coordinator. In addition to the data collected through our district annual survey and internal data collection, the technology team is present at the building level technology committee meetings to gather information and qualitative, formative data and information on an ongoing basis.

Integration

Results of staff surveys, classroom walk-throughs, an assessment completed by the District Technology Leadership Team, and student focus groups indicate that we have done a good job at increasing the quantity of use of technology, but that we now need to address the quality use of technology as an instructional tool. We will push toward creating learning

experiences that engage students not only in the content, but also in creating, working with others, critical analysis, and sharing ideas. The district supports several collaboration tools and software such as: Google Apps for Education, Google Classroom, Wordpress, Apple Wiki/Blog, Moodle, video streaming, online social media and networking, as well as traditional communication and productivity tools like: office suites, interactive whiteboard tools, video editing, email, research tools, classroom Internet access, curricular programs, and visualization or presentation tools. The Director of Technology and Information Services provides leadership and direction for the district and instructional leaders. Two half-time technology integration specialists work with staff across the district to support teachers and administrators. A technology leadership team at each site is guided by the principal and supported by the TIS department. These site-based technology teams fully understand their building goals and needs in alignment with our district mission, core values, and key expectations.

Professional development is currently offered through a multifaceted approach for instructional, administrative, and support staff across the district. Classes are offered through numerous venues, times, and methods, exemplary professional development projects and pilots are supported, one to one coaching and training is conducted, and professional development time is set aside at the district and site level that focuses on effective instruction and integration of technology. Feedback from staff in the needs assessment process indicates that the approach we have been using is effective. Based on the assessment, we need to continue to leverage the teacher leaders within our sites and find ways for them to take an even more active leadership role. Areas of focus should be 21st Century learning skills (4 C's) and effective integration. This will be reflected in our plan as we move forward.

Infrastructure

All Buffalo Hanover Montrose Schools are connected by Fiber Optic Cable. A ten gigabit (GB) connection is supplied to each elementary, the middle school and the high school. Through a joint project with St. Michael-Albertville (STMA) schools, a ten GB connection is maintained between school districts and a joint one GB connection is used to connect to the 511 building and TIES. A redundant one hundred megabit (MB) connection is used to create a fiber optic ring to TIES for both STMA and BHM Schools. This fiber connection to TIES is used to transport 35 Mbps Internet and support our HR and Finance solutions hosted at the TIES data center. BHM schools also maintains a secondary 10 Mbps Internet service connection in collaboration with the Wright Technical Center in Buffalo. The fiber connection allows us to take advantage of significantly increased Internet bandwidth to meet the exponentially increasing demand. As the traffic grows, infrastructure will have to be improved as well.

In the spring of 2014 we updated our core infrastructure, firewall, router, switches and wireless controllers and added new access points. We also updated our CIPA compliant filter with a bigger appliance to better meet our district's technology needs. After the recent passing of a technology bond levy, we engaged in long-term strategic planning to ensure that we will be able to support updating our technology infrastructure on an ongoing basis over the next ten years.

To support the great learning environments our teachers have in place, we take great pride in having technology systems that work when teachers and students need them to enhance student learning. With the recent passing of the bond referendum, we have been able to strategically plan and address many of our technology needs in terms of improving and sustaining our technology infrastructure, which includes: firewalls, router, switches, wireless

controllers, and wireless access points. As we promised during the bond election, every school will see updates in technology to benefit student learning. Not only are we addressing immediate needs, but we have also developed a strategic plan to continue to add to and sustain our district's technology over the next 10 years.

The major technology projects taking place this spring and summer include a district-wide phone system update, wireless access points updates, and an increase in building technology allocations for replacement cycles and student devices. In the district-wide phone upgrade, we will be updating our phone system core (virtual core), and controllers, and replace our aging phones with new IP phones in school offices and classrooms. The wireless access points updates will provide more connectivity in all of our schools. In February of 2015, we were able to create a guest network that is open to the public for internet access when they are in any of our buildings.

As teachers meaningfully integrate technology into instruction on a daily basis, plans must be made to be able to sustain and maintain a replacement cycle for the technology. The increase in building technology allocations will allow all schools to purchase technologies individualized to their school's specific needs, goals, and programs, while staying in line with the district's mission of "...*preparing all students for a successful future in a changing world*".
School technology committees and administration will make decisions regarding technology purchases such as: student computing devices, classroom sound systems, Smart Boards, projectors, document cameras and other educational software.

Information Services

The district currently uses a single student information system to maintain all student records. This has eliminated inconsistent data silos and promotes the maintenance of accurate

data that can be used by all staff for decision making. A GIS system is used to overlay data through a geographical interface. The district has purchased a data warehouse and analysis solution in an attempt to leverage both formative and summative data to support learning in an efficient and effective manner. We also continue to make efforts to connect as many systems as we can through Single Sign On (SSO) through our Identity Management Tool (IDM). We will continue to expand this capacity as funding allows for a seamless experience for end users.

End User Hardware

The district inventory of hardware is maintained by the Technology and Information Services Department (TIS), but technology budget decisions are managed at the site level. End user hardware inventory is shared with principals and each site on an annual basis and the Technology Director works with the building principals to work towards maintaining the district recommended replacement information. All purchasing is handled by the TIS department to leverage volume pricing and maintain hardware standards and ensure support. At this time a 7-8 year replacement cycle is recommended for hardwired computer labs that are used for lower demand tasks. A 5 to 6-year replacement schedule is recommended for laptop carts and a 5-year replacement schedule is recommended for all staff machines, mobile technologies, and hardware that is used for higher demand tasks. VMWare View virtual desktops are used to leverage old hardware and provide Internet and productivity tools to students in commons areas and has allowed the extended use of district owned computers out to 10-13 years in some cases. The district continues to work toward replacement cycle goals within budget limitations. We have made great strides toward this target, but this will continue to be a challenge and needs to remain a focus throughout the duration of the 2016-2018 technology plan.

Beyond computers and end user devices, the district leverages other classroom technologies to support learning. All classrooms K-12 have mounted projectors installed and all classrooms K-5 have voice amplification systems installed. These are considered technology standards. Smartboards are installed in many classrooms across the district and document cameras are prevalent. These supplemental technologies have not been adopted as a standard, but instead have been installed based on curricular or instructional need. This model has been highly effective from both an instructional and cost perspective for the district.

We are a Bring Your Own Device district, which allows us to leverage student-owned technology devices in the teaching and learning process on our wireless network. Students can access a designated student network and use their school credentials to logon and gain filtered Internet access. The model is based on web interfaces becoming the standard access point. A need for equity of access to educational resources is acknowledged and we have been intentional in purchasing devices for student check out to ensure that all students have access to computing devices.

Our school district recognizes that technology is not a stand-alone item, it is a powerful and important learning tool that is all around us. We strive to continue to use it in meaningful ways on a daily basis within the teaching and learning process. Our ongoing investments in our technology and infrastructure have a positive impact on the students and helps prepare them to be at their best in a changing world.

Goals and Strategies.

Process
The Buffalo Hanover Montrose Schools uses a continuous improvement process driven by the mission, core values, and key expectations outlined by our district's strategic plan and

adopted by the board of education. Technology's role in the district is ubiquitous to us and embedded in meaningful ways into almost everything we do.

District Technology Goals

On March 25th, 2015 the District Technology Advisory Committee met to review our current technology goals and their alignment with our district mission, core values, and key expectations. The team also reviewed the results of their previous focus group work. Through a collaborative process, we constructed two goals to guide our technology work in the district.

1. Staff will continually improve the quality of instruction and assessment of communication, creative problem-solving, critical thinking and collaboration in the classroom, incorporating technology to enrich these experiences.

2. Students will continually improve communication, creative problem-solving, critical thinking, and collaboration skills, incorporating technology to enrich these experiences.

Summary of Priorities

Based on the needs assessment process detailed below, the following have been identified as priorities for the Buffalo-Hanover-Montrose Schools for the 2016-18 technology plan:

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owned devices connecting to our infrastructure.

4. Maintain recommended replacement cycle and support levels with increasing demands.

District Mission Statement

Making a difference by preparing all students for a successful future in a changing world.

Core Values:
- We foster an environment that develops and cares for the whole child.
- All students can learn, though at different rates and in different ways.
- We are dedicated to lifelong learning.
- All learning requires innovation, risk-taking, and the commitment to continuous improvement.
- All staff have a critical role in enhancing student development.
- In all aspects of the district, we adhere to honesty, integrity, fairness, and ethics.

Key Expectations:
- Each student explores strengths and passions through varied educational opportunities.
- Each student demonstrates academic growth and success.
- Student learning and engagement are optimized through high-quality and innovative instructional strategies.
- Everyone in our schools experiences a safe, comfortable, and caring environment.
- The district operates efficiently and effectively.

As part of the district strategic planning process, we developed an action plan around each of the district goals. In this process, we affirmed our belief that technology is embedded in meaningful ways when appropriate, into almost everything we do.

Goal 1: Life Skills - Purposefully integrate life skills to prepare our students to become contributing members of the community.

Description: Effective life skills are invaluable in our changing society. We are committed to cultivating holistic programming for students' long-term success.

Strategies: Teach and assess communication, creative problem-solving, critical thinking, and collaboration in the classroom, incorporating technology where appropriate to enrich these experiences.

In an effort to standardize computer skill exposure and application within our district's elementary schools, a technology scope and sequence team was put together to develop minimal exposure guidelines for students based on their grade level. The team was composed of classroom teachers from each school (including BCMS and BHS), technology integrationist, Director of Teaching and Learning, and the Director of Technology and Information Services. The end result was a document that broke down the Skills Applied (Independent Use), Skills Exposed (Guided Practice), and Key Vocabulary for each grade level. A summer writing team will be put together this summer to take the next step in this process and to locate resources and links to content standards or existing curriculum to meet these exposure requirements.

The technology integrationists and the Director of Technology and Information Services collaborated with leadership teams and teachers to begin a district-wide e-portfolio initiative. In 2014, teachers were trained and all students started an e-portfolio in which they are required to add at least one artifact of learning each year, through graduation. These artifacts will serve as a snapshot of learning that has taken place as we help our students start to create a positive digital footprint. This ongoing portfolio correlates well with our district's digital citizenship curriculum. Technology is an amazing tool and we strive to integrate technology into the learning process in meaningful ways on a regular basis. Not only do we want to give our students opportunities to use technology as a powerful tool, but we also want to teach positive digital citizenship concepts. We view it as more than just a teaching tool; it is a way to prepare responsible technology users for a society full of technology.

Professional Development Plan. Describe the professional development strategies you have in place for 2016-2018 to ensure LEA staff are prepared to use the technology infrastructure, software programs, and online resources provided:

We offer a multi-faceted, individualized staff development plan for staff. Opportunities are provided in the following ways: through training as new curriculum and technology to support learning is implemented; during a district-led day that focused on the effective use of technology to support learning and 21st Century education called "Bring Your Best", by two integration specialists on a one-one, small group, and large group training and consultation; through our online tech help site, and through training provided by TIES. This provides many avenues for professional growth and development in an effort to meet the learning needs of the BHM staff. The two integration specialists have completed a needs assessment across the teaching staff to effectively target identified instructional integration professional growth. They offer individual guidance to classroom teachers, after school training, site level training, coordinate a faculty-wide technology integration day, provide online self-help resources, and lead a cohort of teachers who are focused on improving instruction using technology tools. They also offer help online through their integration web site Tech for Teachers.

In addition to the development opportunities, the district provides:

- Teachers are trained in the new technology tools and resources as curriculum adoption implementations take place.
- Site level and departments plan and carry out training sessions based on identified needs through tech leadership teams, professional learning communities, and grade level/department teams.
- The district technology support team offers training for all district staff after school or during meetings times.
- The district uses TIES trainers for onsite training and uses services at TIES.
- The district uses teacher coaches to provide training on information systems.

Evaluation. Explain the evaluation process for your technology plan for 2016-2018, including timeline, roles and responsibilities, and information gathered to assess how the technology plan goals and strategies are being met:

    The four priorities identified, based on the needs assessment, for 2016-18 are listed below. The Technology Director is responsible to ensure that each of the priorities is accomplished through the district or annual goal setting process and to work with staff to modify plans if necessary.

1. Increase student use of technology for learning that is reflective of ethical and transformative use of digital tools and environments to create, communicate effectively, collaborate, and think critically while meeting designed learning objectives.

    TIS Staff Involved: Technology Director, Integration Specialists

    Progress is being measured through qualitative data collection in focus groups, interviews, and observation that takes place annually. It is also being quantitatively measured through random classroom walk-throughs being completed by school administrators.

2. Provide professional development that engages staff in continuous improvement of instructional practice that is relevant and leverages tools available.

    People Involved: Technology Director, Integration Specialists, Director of Teaching and

    Learning

    The Teaching and Learning and Technology and Information Services departments work collaboratively to offer professional development opportunities that support

technology use and integration into the instructional setting. Programs and trainings are each evaluated through feedback forms and debriefing with planning teams. Each is evaluated for effectiveness based on the goals of the training or program. Each year, in our district technology annual survey, questions measure the effectiveness of our integration specialists and training delivered at sites. Evaluation allows us to expand, modify, and discontinue professional development models, so they meet the changing needs of staff. The impact of the staff development should be evident in changing instructional practices measured through the first priority listed above.

3. Improve routing, switching, servers, wireless access and storage to meet increasing instructional use and bandwidth demands of student and district owned devices connecting to our infrastructure.

   People Involved: Technology Director, Coordinators

   Projects are measured on completion within budget and project plan constraints. Services are measured based on the collaborative [service level agreement](#). The only constant with technology is change and we are constantly looking at our needs and being responsive to them.

4. Maintain recommended replacement cycle and support levels with increasing demands.

   People Involved: Principals, Technology Director, Sr. Technicians, Technicians

   The TIS department maintains inventory and tracks replacement cycles to see if recommendations are being followed. The Technology Director, Sr. Technicians and Technicians work with Principals as budgets allow to strategically replace equipment for the purpose of effective and efficient operations while providing the

best learning environment possible. The district support team performance levels

are measured on a quarterly basis through a customer satisfaction survey and

annually on the district technology survey. The ticketing system used by the

district is also analyzed to monitor incidents. The support team is also evaluated

based on goals that are reset on an annual basis.

Optional Links:

Link to Current Technology Plan.

http://www.bhmschools.org/departments/technology-info-services/forms-and-policies

Children's Internet Protection Act (CIPA)
This LEA has an Internet Safety/Acceptable Use Policy in place.
☒ Yes☐ No
If yes, please provide a link to access the policy at the LEA website:

http://www.bhmschools.org/departments/technology-info-services/forms-and-policies

This school district deploys an Internet filter to protect minors from material that is
pornographic or otherwise harmful to them.
☒ Yes☐ No

Submit the cover sheet and template in PDF or Word (not a scan) by e-mail to:
mde.schooltechplan@state.mn.us.