

# Waterford Public Schools

## 2015-2018 Technology Plan



## Technology Committee Members

|                       |                               |                          |
|-----------------------|-------------------------------|--------------------------|
| Patti Backes          | Music                         | Quaker Hill School       |
| Kelly Barnes          | Technology Coordinator        | Waterford High School    |
| Matt Cadorette        | Library Media Specialist      | Waterford High School    |
| Kristin DeLea         | Science                       | Clark Lane Middle School |
| Christopher Discordia | Principal                     | Quaker Hill School       |
| Sara Egan             | Second Grade                  | Quaker Hill School       |
| Lisa Hellen           | Speech & Language Pathologist | Clark Lane Middle School |
| Lily Huang            | Third Grade                   | Oswegatchie School       |
| Stephanie Kindel      | English                       | Waterford High School    |
| James Lovering        | Physics                       | Waterford High School    |
| Wendy McCabe          | Support Center                | Great Neck School        |
| Laura McCue           | Fourth Grade                  | Great Neck School        |
| Robyn McKenney        | Technology Coordinator        | Elementary Schools       |
| Alison Moger          | Assistant Principal           | Waterford High School    |
| Jeanne Morgan         | Special Education             | Clark Lane Middle School |
| Kathryn Prpich        | Social Studies                | Waterford High School    |
| Beth Sheridan         | Language Arts                 | Clark Lane Middle School |
| Martha Shoemaker      | Fourth Grade                  | Quaker Hill School       |
| Robin Shine           | Technology Coordinator        | Clark Lane Middle School |
| Kim Thibeau           | English                       | Waterford High School    |
| Whitney Wadecki       | Kindergarten                  | Quaker Hill School       |
| Lauren Ziluck         | Mathematics                   | Waterford High School    |

## Information Technology Department

|                    |                                |
|--------------------|--------------------------------|
| Ed Crane           | Director of Technology         |
| Mark Geer          | System Support Technician      |
| Catherine Grohocki | Data Analyst                   |
| William Reynolds   | PC Technician                  |
| Jeff Robillard     | Certified Network Engineer     |
| David Sanford      | Helpdesk/Network Administrator |

## Philosophy

The Waterford Public School System is committed to the purposeful integration of technology throughout the curriculum. Our shared vision derives from a belief that technology integration is an essential component of curriculum development and instruction.

- Students at the elementary level will develop strong foundational technology skills, cross-application confidence, and a basic understanding of digital citizenship concepts. Through exposure to diverse experiences in technology, students will develop the attitudes and aptitudes necessary to be purposeful consumers and producers of technology and share their knowledge effectively through the use of technology tools.
- Middle School students will build on their elementary experiences. Through exposure to diverse digital learning experiences and purposeful technology integration, students at each grade level will develop proficiency and independence in the use of varied applications. Authentic learning experiences that encourage students to problem solve and develop the skills necessary to be responsible users of technology will be provided. Students will explore the use of technology to interact with a global community.
- High School students will apply the technology skills they have acquired to solve complex problems, innovate, create new content, and collaborate effectively. Students will be confident, ethical, and independent users of users of technology. They will be perseverant problem solvers, communicators, and team players, prepared to succeed in college, career and a global society.

## Challenge 1- Developing Computational Thinkers

**We must strive to provide:**

***“...the skills and knowledge students need to learn effectively and live productively in an increasingly global and digital world.” ISTE***

This goal promotes the use of technology to enhance the educational program for all students, fosters 21st Century Learning Skills, and facilitates the transformation of learning environments. Technology will be leveraged to empower today’s learners. Students will become creative contributors to their local and global communities; they will think critically, synthesize information, demonstrate appropriate digital citizenship, and progress from technology consumers to technology producers. Opportunities for productive struggle will be embedded in learning activities.

This goal is designed to address the challenges of an unpredictable and changing world. Our goal is to cultivate digital literacy and empower students to become lifelong learners. As educators, we feel that it is critical for students to have global experiences, become self-directed learners, and participate in activities that promote collaboration and risk-taking in flexible learning spaces.

In connection with Waterford Public Schools’ shared technology vision, students will have equitable access to quality technology resources. They will be exposed to emergent technologies in the classroom in an effort to achieve higher levels of learning. Students and teachers will embrace the messiness of learning inherent to technology integration. A project based approach to learning, coupled with a problem solving mindset, will create powerful learning experiences for students in Waterford Public Schools. Opportunities to participate in twenty-first century learning experiences as defined by this goal will facilitate a change in instruction and learning.

## Goal 1: Creativity and Innovation

| Educational Objective  | Strategies for Implementation  | Outcomes  | Responsible Party   | Timeline   |
|--|--|---|---|--|
| <b>1. Expand use of Google Apps for Education (GAFE).</b>  | 1-1 Teachers and Students will utilize GAFE to collaborate with others (schools, students, teachers, professionals, etc.).               | 1-1 Statistics from the Google console will be used to determine level of usage and collaboration.<br><br><a href="https://support.google.com/a/answer/4589321?hl=en">https://support.google.com/a/answer/4589321?hl=en</a> | IT Department   | Additional mobile devices will be added to the educational technology budget for SY16-17 |
|  | 1-2 The distribution of Google Apps through the GAFE administrative console will be explored in order to maximize the potential of GAFE. | 1-2 Establish and share criteria for selecting new Apps.  | IT Staff<br><br>Technology Coordinators<br><br>Administrative Staff | June 2016  |
| <b>2. Integrate Coding instruction in K-12</b>   | 2-1 The district will provide opportunities for students to engage in coding activities.   | 2-1a District wide participation in the hour of coding.   | Administration<br>IT Staff<br>Tech Coordinators<br>Teachers         | December 2017  |
|  |  | 2-1b Use Technology Committee time to identify potential connections in subject area curricula.   | Administration<br><br>Teachers<br><br>Tech Coordinators             | Spring 2017  |
|  |  | 2-1c Explore purchasing options for coding equipment K-12 (e.g. Bee Bots, Drones, Raspberry Pi, Arduino, Spheros)   | Technology Committee<br>Technology Coordinators                     | Ongoing  |
| <b>3. Provide opportunities for innovative instruction (e.g.: project-based learning, flipped learning, blended learning, virtual environments, augmented reality, gamification, challenge-based, authentic learning).</b> | 3-1 District technology leaders will model and promote the use of innovative technology resources and instructional practices.           | 3-1a Create baseline data for quantifying the number of innovative projects taking place in each school environment.  | Technology Coordinators   | June 2016  |
|  |  | 3-1b Create baseline data for quantifying the number of innovative technology PD opportunities that are offered.  | Technology Coordinators   | June 2016  |

| Educational Objective   | Strategies for Implementation   | Outcomes  | Responsible Party   | Timeline                                     |
|---|---|---|---|--|
| <b>4. Explore potential for creation of innovative learning spaces.</b>   | 4-1 Explore the maker movement with students in all schools.  | 4-1a Establish process for procurement of supplies / resources for high school makerspace.  | Administration<br>Tech<br>Coordinators                    | June 2017                                    |
|   |   | 4-1b High School Students will collaborate with advisors to develop goals and an action plan for launching a makerspace.  | Students<br>Technology<br>Coordinators                    | June 2018                                    |
| <b>5. Provide opportunities for meaningful interdisciplinary collaboration amongst colleagues.</b>                      | 5-1 Expand time allocated for collaboration during District Technology Committee meetings.                                | 5-1 Teachers will have at least five hours planning and collaboration during Technology Committee meetings to incubate and perpetuate new ideas.  | Technology<br>Coordinators                                | June 2016                                    |
| <b>6. Opportunities for students to create, share, and defend original work to multiple audiences will be provided.</b> | 6-1 Students will learn a variety of tools and formats for presenting original ideas in the classrooms and computer labs. | 6-1 Student surveys will be developed and administered over time to quantify growth in the number and variety of opportunities that students have to publish original works using diverse applications and formats (e.g. Classroom Blogs, websites, twitter, glogster, etc.). | Technology<br>Coordinators                                | Annually in February (beginning in Feb 2017) |
|   | 6-2 Students will learn age appropriate presentation skills.  | 6-2 The scope and sequence will clearly identify age appropriate standards for presentation and publication to be implemented at each grade level.  | Technology<br>Coordinators<br><br>Technology<br>Committee | June 2016                                    |

| Educational Objective   | Strategies for Implementation  | Outcomes   | Responsible Party                         | Timeline  |
|---|--|--|---|---|
| <b>7. Create opportunities for students to assume technology leadership roles in the classroom.</b>   | 7-1 Explore feasibility of the IT staff providing training and support for student technology helpers after school.  | 7-1 Collect baseline data on: student attendance at training sessions and effectiveness of program.  | IT Staff                                  | June 2017   |
|   | 7-2 Create and disseminate a student survey collecting information regarding student interest in technology and soliciting student feedback about district technology. | 7-2 Utilize survey data for planning and implementation purposes.  | Technology Coordinators                   | Annually in February (beginning in February 2017) |
|   | 7-3 Explore potential for development of Speed Geeking opportunities and Student Technology Helpers.   | 7-3a Plan discussion groups with students and pilot activities in which students assume technology leadership roles; meeting minutes will be provided. | Administrators<br>Technology Coordinators | June 2018   |
|   |  | 7-3b Collect baseline data on: student attendance at meetings and effectiveness of program.  | Technology Coordinators                   | June 2018   |
| <b>8. Explore systems in which Digital Badges are used to acknowledge staff and student learning.</b> | 8-1 Develop and pilot a system for tracking achievements and awarding badges as recognition of mastery.  | 8-1a Explore Digital Badge Systems with District Technology Committee and award badges to committee members for Technology Activities.                 | Technology Coordinators                   | June 2017   |
|   |  | 8-1b Develop systems to award digital badges to teachers to recognize completion of technology professional development activities.                    | Technology Coordinators<br><br>Teachers   | June 2017   |
|   |  | 8-2 Develop systems to track digital badge distribution that recognizes student mastery of technology concepts, skills, and challenges.                | Technology Coordinators<br><br>Teachers   | Fall 2017 (ongoing)                               |

## Goal 2 - Research and Information Fluency

| Educational Objectives:   | Strategies for Implementation  | Outcomes  | Responsible Party  | Timeline (Completion Date) |
|---|--|---|--|----------------------------|
| <b>1. Students at all grade levels will locate, synthesize and communicate age-appropriate information obtained from digital sources.</b>     | 1-1 Students will be exposed to district's research databases.   | 1-1 Subscription database analytics will be used to determine the amount of student use.  | K-12 Media Center Staff  | Ongoing                    |
|   | 1-2 Assignments will be scaffolded to require the use of age-appropriate research strategies (e.g. Internet searching, website evaluation, Boolean commands, keywords, etc).     | 1-2 The Technology Scope and Sequence Students will clearly identify age-appropriate research strategies (e.g. Internet Searching, website evaluation, key words, etc).   | Technology Coordinators<br><br>K-12 Media Center Staff                                       | June 2016                  |
|   | 1-3 Students will paraphrase, summarize, and quote from digital sources, as well as differentiate between these skills.  | 1-3 Students will maximize technology tools to organize and articulate their learning (e.g. use of electronic notetaking tools and digital graphic organizers will be expanded).  | Technology Coordinators<br><br>K-12 Media Center Staff                                       | June 2018                  |
| <b>2. Students at all levels will provide attribution for sources used in projects (developmentally appropriate information and formats).</b> | 2-1 Properly citing sources of information from multiple sources to complete the research process. Students at all grade levels will cite resources at an age-appropriate level. | 2-1a Age appropriate citation formats will be developed and distributed to 100% of teachers (e.g. use of electronic citation tools will be expanded)<br><br>2-1b Age appropriate assessments will be developed to measure student understanding of searching strategies | Technology Coordinators<br><br>K-12 Language Arts Specialists<br><br>K-12 Media Center Staff | June 2018                  |



## Goal 3 - Communication, Collaboration, and Global Learning

| Educational Objectives:   | Strategies for Implementation  | Outcome  | Responsible Party                                       | Timeline  |
|---|--|--|---|-----------|
| <b>1. Expand opportunities for global and collaborative learning (ex. Skype, Google Hangouts)</b>   | 1-1 Teachers will engage classes in a variety of online video conferencing opportunities.                                      | 1-1 Collect data to demonstrate that classes at each grade level have had opportunities utilize video conferencing software.   | Teachers<br>Technology Coordinators                     | June 2018 |
|   | 1-2 Utilize collaboration tools (e.g. GAFE) to expand the classroom to include students in other classes, schools, towns, etc. | 1-2 Collect data to demonstrate that collaboration opportunities have occurred.  | Technology Coordinators<br><br>Teachers                 | June 2018 |
| <b>2. The potential for Social Media to enhance learning will be explored by administrators and teachers.</b>                               | 2-1 Teachers and Administrators will use social media to promote school activities and communicate messages to students.       | 2-1 All administrators will have a social media presence or demonstrate increased use of social media to communicate.  | Administrators  | Ongoing   |
|   | 2-2 We will leverage the power of social media to provide authentic learning experiences for students (ex. #hashtag).          | 2-2 Teachers will share successes using social media to provide authentic learning experiences (e.g. Faculty Meetings, Tech Committee, PLCs).  | Teachers<br>Administrators<br>Tech Committee            | Ongoing   |
|   | 2-3 We will maintain BOE technology policies that support the educational technology goals of the district.                    | 2-3 Technology Committee members will have input into district wide policies.  | Technology Committee Members<br>District Administrators | Ongoing   |
| <b>3. Increase opportunities for online collaboration and communication with GAFE (with respect to COPPA) inside and outside of school.</b> | 3-1 Students will do peer editing and co-writing through the use of Google Drive to produce collaborative projects.            | 3-1 Statistics from the Google Consul will be used to determine level of usage and collaboration.<br><br><a href="https://support.google.com/a/answer/4589321?hl=en">https://support.google.com/a/answer/4589321?hl=en</a> | IT Staff  | June 2017 |

| Educational Objectives:  | Strategies for Implementation                            | Outcome   | Responsible Party        | Timeline  |
|--|--|---|--------------------------|-----------|
| <b>4. Expand GAFE into ELEM schools (with respect to COPPA) to introduce opportunities for online collaboration and communication.</b> | 4-1 Pilot Google Docs in grade 4 and 5.                  | 4-1a Pilot teachers will share learnings at technology committee.   | IT department / Teachers | June 2016 |
|  |  | 4-1b All students in grades 4 and 5 in all elementary schools will have access to a personal Google Drive.                                | Administration           | June 2018 |
|  | 4-2 Explore opportunities for use of GAFE in grades K-3. | 4-2 Elementary focus groups will discuss and evaluate feasibility of using GAFE in grades K-3. They will provide a formal recommendation. | Tech Coordinator         | June 2018 |

## Goal 4: Digital Citizenship

Cultivate digital literacy in all students by facilitating experiences for students to learn the skills necessary to be critical and effective consumers of digital resources and to understand the impact of their digital footprint.

| Educational Objectives:   | Strategies for Implementation  | Outcomes   | Responsible Party                               | Timeline (Completion Date) |
|---|--|--|---|----------------------------|
| <b>1. Students at all grade levels will be required to learn about their digital rights &amp; responsibilities.</b>   | 1-1 Students will be exposed to the concepts of Fair Use, Infringement and Public Domain.  | 1-1 A skills progression will be designed and embedded in Scope and Sequence.  | Technology Committee                            | June 2017                  |
|   | 1-2 Students will understand copyright, including the consequences moral and ethical issues of Digital Law which apply to illegal downloading, plagiarizing. | 1-2 Age-appropriate expectations and recommendations will be developed and provided to all curriculum teams for adoption into curricula. | Technology Coordinators<br>Technology Committee | June 2017                  |
| <b>2. Expand opportunities for students and teachers to understand and apply concepts related to digital security (e.g. privacy, security, and online safety)</b> | 2-1 Students and teachers will learn best practices for digital security.  | 2-1a A skills progression will be designed and embedded in Scope and Sequence.   | Technology Coordinators<br>Technology Committee | June 2016                  |
|   |  | 2-1c Students will be provided opportunities to demonstrate their understanding of Digital Citizenship.                                  | Technology Coordinators / Teachers              | June 2017                  |
|   |  | 2-1c Teachers will be provided opportunities to engage in professional development about Digital Citizenship.                            | Technology Coordinators                         | June 2017                  |

| Educational Objectives:  | Strategies for Implementation  | Outcomes   | Responsible Party                   | Timeline (Completion Date) |
|--|--|--|-------------------------------------|----------------------------|
| <b>3. Facilitate opportunities for students to practice digital netiquette and develop healthy digital habits.</b> | 3-1 Students be provided opportunities to use digital tools (e.g. email, Skype, GAFE, etc) and will be instructed on appropriate netiquette when engaged in using these tools. | 3-1a Students will use proper netiquette when using digital tools (e.g. email, Skype, GAFE, etc.) as evidenced by teachers and formative assessments.  | Teachers                            | Ongoing                    |
|  |  | 3-1b Students will demonstrate responsible online behavior in order to develop a positive digital footprint. They will understand the social, emotional, professional and legal ramifications of their online behaviors. | Technology Coordinators<br>Teachers | June 2017                  |

## Goal 5: Technology Operations & Concepts

| Educational Objectives:   | Strategies for Implementation   | Outcomes  | Responsible Party   | Timeline  |
|---|---|---|---|-----------|
| <b>1. All students K-12 will receive basic skills and application instruction in a planned, equitable, and consistent manner.</b> | 1-1 Develop a scope and sequence.   | 1-1 A comprehensive technology skills Scope and Sequence will be developed for grades K-12  | Technology Coordinators<br>Technology Committee                   | June 2016 |
|   | 1-2 Develop cross application confidence, including district-wide, universal protocols for common procedures (e.g., "save as.") | 1-2 Consistent vocabulary and expectations for common procedures will be developed and distributed.   | Technology Coordinator<br>Technology Committee                    | June 2016 |
|   | 1-3 Basic technology skills instruction will be embedded in into all content-area curricula.                                    | 1-3a Instruction will be based on Scope and Sequence as a guide to developing appropriate technology skills.  | Technology Coordinators<br>Technology Committee                   | Ongoing   |
|   |   | 1-3b The technology Scope and Sequence will be shared with teachers to familiarize them with K-12 technology expectations (ex. Faculty meetings or PLC time). | Technology Coordinators<br>Technology Committee<br>Administrators | Fall 2017 |
| <b>2. Students will employ basic troubleshooting skills.</b>  | 2-1 Students will be familiar with function of basic computer components and vocabulary.  | 2-1a A comprehensive technology skills Scope and Sequence outlining technology operations and concepts will be developed for grades K-12                      | Technology Coordinators<br>Technology Committee                   | June 2016 |
|   |   | 2-1b Consistent vocabulary and expectations for common procedures will be developed and distributed.  | Technology Coordinators<br>Technology Committee                   | June 2017 |

|  |  |  |   |                        |
|--|--|--|---|------------------------|
|  |  | 2-1c Basic troubleshooting strategies will align with skills delineated in the Scope and Sequence                          | Computer Lab Managers<br>Teachers         | Fall 2017<br>(ongoing) |
|  |  | 2-1d The technology scope and sequence will be shared with teachers to familiarize them with K-12 technology expectations. | Technology Coordinators<br>Administrators | Fall 2017              |

## Challenge 2: Facilitate Change Through Professional Growth and Leadership

**“When teachers succeed, students succeed”** *Waterford Professional Learning and Evaluation Plan*

We must strive to promote:

**“...an environment of professional learning and innovation that empowers educators to enhance student learning through the infusion of contemporary technologies and digital resources.”** ISTE

Waterford schools strive to provide an engaging, rigorous, and relevant educational technology experiences for all students. To accomplish this goal, every member of the school community will contribute to the creation of a digital age learning culture that promotes powerful and purposeful technology integration. In order to perpetuate this culture of learning in an ever-changing environment, the district will provide opportunities for members to engage in continuous professional growth and development.

The professional development model will drive change and build local capacity. The district is invested in cultivating teacher leaders who will model and teach appropriate technology use. We will catalyze their enthusiasm and expertise to engage other members of the school community in utilizing technology. Instructional time will be allocated to explore resources, innovative practices, and technologies. Teachers will be encouraged to engage in activities such as Personal Learning Networks, professional conferences, and PLCs.

**Goal: Create an environment of professional learning and innovation.**

| Educational Objectives:  | Strategies for Implementation   | Outcomes   | Responsible Party | Timeline  |
|--|---|--|-------------------|-----------|
| <b>1. Technology will be included in school and district goals</b> | 1-1 Administrators will emphasize importance of Teachers working with Coaches to integrate technology | 1-1a Time for technology professional development will be allocated (e.g. staff meetings, PLC, team time, PD days, etc.)           | Administrators    | June 2018 |
|  |   | 1-1b Teachers will actively participate in all technology integration lessons with the goal of transfer of ownership of knowledge. |                   |           |

| Educational Objectives:   | Strategies for Implementation  | Outcomes  | Responsible Party                                  | Timeline  |
|---|--|---|--|-----------|
|   | 1-2 Emphasize importance of technology standards (ongoing discussions about tech integration/instruction, faculty meetings, PLC) | 1-2 Technology standards will be embedded into the collaborative planning sessions of the District Technology Committee.  | Technology Coordinators                            | Ongoing   |
|   | 1-3 Emphasize the importance of technology becoming part of the evaluation process / tied to teacher goals.                      | 1-3 This will be discussed with administration and technology committee.  | Technology Coordinators / Assistant Superintendent | Ongoing   |
| <b>3. Facilitate opportunities for teacher risk taking and innovation by providing access to appropriate Professional Development Opportunities</b> | 3-1 Targeted PD for ISTE standards integration and SAMR model will be provided for teachers on a planned and ongoing basis.      | 3-1 District Administrative staff will provide opportunities for Tech PD on Staff Development Days or PLC times.  | Technology Coordinators<br>Administration          | Ongoing   |
|   | 3-2 Create a learning environment that is safe and supportive of the risk-taking associated with learning new technology skills. | 3-2a Technology coordinators will provide a variety of learning opportunities for teachers that address the unique needs, skill levels, and learning styles of teachers (see 5-2) | Technology Coordinators                            | June 2018 |
|   |  | 3-2b Identify District Technology Leaders through Digital Badges.   | Technology Coordinators                            | June 2017 |
| 3-2c Ed Camps will be implemented district wide.  | Technology Coordinators<br>Administrators  | June 2017   |  |           |



| Educational Objectives:  | Strategies for Implementation   | Outcomes  | Responsible Party                                      | Timeline  |
|--|---|---|--|-----------|
| <b>4. Social Media and Personal Learning Networks (PLNs) will be used to enhance professional learning</b> | 4-1 Members of the school community will use social media (i.e. Twitter, Facebook, Listservs, Blogs) to engage in professional sharing, learning, and growth. | 4-1 Survey data over time will quantify growth in the number of teachers utilizing some form of social media to facilitate their personal learning and professional growth. | Technology Coordinators                                | June 2018 |
| <b>5. Administrators will model use of digital age tools to deliver professional development.</b>          | 5-1 Administrators will share innovative strategies for professional development.   | 5-1 All administrators will employ at least one innovative strategy to provide professional development for teachers  | Administrators   | Ongoing   |
|  | 5-2 District Technology Coordinators will work to deliver professional development in innovative ways.  | 5-2 Professional Development is personalized and differentiated through the use of technology.  | Technology Coordinators<br><br>District Tech Committee | June 2018 |

### Challenge 3: Amplify learning through cultivation of responsive infrastructure

Technology in education is dynamic and evolving. The Waterford IT department promotes the educational mission and business functions of the Waterford Public Schools by providing cutting edge technology resources in a robust and stable network environment. Further, they seek to provide equitable access to technology for all members of the school community. In pursuit of this goal, the IT Director works with technology staff and administrators to identify software and hardware resources that will enrich and extend the academic program, while streamlining administrative tasks. Software purchases/licenses related to *Network Security & Operations*, *Business Functions*, and *Curriculum* are reviewed annually. Based on identified district goals, priorities, and licensing requirements, the IT Director will budget for software purchase, maintenance, or renewals annually.

The District will continue to provide effective network infrastructure through a systematic and planned program of maintenance and purchasing. The Waterford IT Department supports a \$5,000,000 investment in equipment. Technology equipment will be upgraded in an ongoing manner. When making decisions about technology resource acquisition, factors such as equity, best practice, security requirements, and academic programming will be considered. The IT department will take advantage of opportunities to extend the life of computing devices when appropriate. In addition, equipment life cycles have been studied and defined in order to most effectively plan for equipment upgrade, deployment, and replacement (example: Desktop computer lifespan = 6 years). The IT department will continue to apply criteria for the identification, piloting and evaluation of new resources.

In order to perpetuate the continued growth and improvement of our technology infrastructure, it is critical that the IT staff be supported through ongoing opportunities for training and through support from experts when complex or specialized problems must be addressed.

| Educational Goals:   | Strategies for Implementation   | Outcomes   | Responsible Party            | Timeline  |
|--|---|--|------------------------------|-----------|
| <b>1. Increase bandwidth to schools throughout the district.</b> | 1-1 Deploy 10G Fiber between Main Data Center at BOE Office and school buildings (QH, OSW, GN, CLMS, WHS) | 1-1 There will be increased network speeds across the district in support of anywhere, anytime learning. | IT Director<br>IT Department | June 2018 |

| Educational Goals:  | Strategies for Implementation  | Outcomes   | Responsible Party            | Timeline   |
|---|--|--|------------------------------|--|
|   | 1-2 Upgrade switch infrastructure to facilitate 10G fiber upgrade between buildings  | 1-2 Wireless infrastructure at elementary schools will be robust and support the increased number and variety of wireless devices in use at the school | IT Director<br>IT Department | July 2016  |
|   | 1-3 Deploy 10G fiber between data closets within each school building.   | 1-3 Fiber will be deployed   | IT Director<br>IT Department | WHS<br>Clark Lane<br>2018<br>Elem Schools ongoing                                      |
|   | 1-4 Maintain Wide Area Network   | 1-4 Annual Budgeting, monitoring and updating as necessary (ex. telephones, TV, security)  | IT Director                  | Ongoing  |
| <b>2. Provide robust wireless infrastructure in all WPS buildings to facilitate use of mobile devices for instructional purposes.</b> | 2-1 Update wireless infrastructure at Elementary Schools. Replace Wireless controller, access points, and increase saturation and performance. | 2-1<br>Wireless will be upgraded   | IT Director<br>IT Department | Dec 2017   |
| <b>3. The District will expand use of innovative practices and emergent technologies to enrich the educational program.</b>           | 3-1 The IT department will deploy technologies and resources that have been proven to be effective in district pilots.                         | 3-1 Deployment of the following technologies will be expanded:<br>Virtual Desktops<br>iPads<br>Chromebooks   | IT Director<br>IT Department | Virtual Desktops @GN AUG 2016<br><br>Chromebook rollout to elementary schools SEP 2017 |
| <b>4 Operating systems and productivity software will be consistent and up to date throughout the district.</b>                       | 4-1 Updates, maintenance and proper licensing of all network management operations and security software (Network Operating Software)          | 4-1 Maintain the safe, secure and reliable environment.  | IT Director<br>IT Department | Aug 2016   |

| Educational Goals:   | Strategies for Implementation   | Outcomes  | Responsible Party  | Timeline   |
|--|---|---|--|--|
|  | 4-2 Updates, maintenance and proper licensing of all school system / business functions software (School System Software)(ex. Power School, Aesop, AppliTrack)      | 4-2 Leverage software for efficiency and management of school operations                    | IT Director<br>IT Department                                   | Aug 2016   |
|  | 4-3 Updates, maintenance and proper licensing of all academic software (Curriculum Software)(ex. BrainPop, Discovery, WorldBook)                                    | 4-3 Support the K-12 academic program   | IT Director<br>IT Department                                   | Ongoing  |
| <b>5 Maintain appropriate network security in accordance with State Laws/regs/COPPA, CIPA and the educational mission of WPS</b> | 5-1 Filtering and Firewall infrastructure will be maintained in accordance with law and WPS BOE policies and procedures.  | 5-1 Install Implement systems that will improve the safety related to online collaboration. | Inventory Manager<br>IT Department                             | Transition to new CIPA based filter system August 2016 |
|  | 5-2 Filtering and firewall settings will facilitate the educational mission of the district.  | 5-2 Students are protected while having access to important educational materials           | IT Director<br>IT Department<br>Inventory Manager              | Ongoing  |
| <b>6. Maintain a Safe, Robust, Reliable Network infrastructure.</b>  | 6-1 Continuously evaluate Network infrastructure and assess availability and suitability of resources available to the Waterford Public Schools learning community. | 6-1 An updated, detailed, infrastructure inventory will be maintained                       | Administrators<br>IT Director<br>Tech Coordinators<br>IT Staff | Ongoing  |
|  | 6-2 Budget requests for infrastructure upgrades as needed.  | 6-2 Annual Budget Request   | Administrators<br>IT Director<br>Tech Coordinators<br>IT Staff | Ongoing  |

| Educational Goals:  | Strategies for Implementation  | Outcomes  | Responsible Party  | Timeline  |
|---|--|---|--|---|
|   | 6-3 Replace virtual servers as they become obsolete.   | 6-3a Replace VMware Enterprise Server (Stores Majority of Virtual Servers)  | IT Director  | July 2016   |
|   |  | 6-3b Replace Virtual Desktop Server   | IT Director  | July 2018   |
| <b>7. Pilot emergent technologies and provide technology infrastructure to support current educational trends and mandates.</b> | 7-1 Provide software and personnel to meet district reporting data management requirements.                          | 7-1 The District will be able to access and analyze appropriate data for decision-making.                         | IT Staff<br>IT Director  | IT Dept restructure<br>AUG 2016<br><br>Software Ongoing |
|   | 7-2 Provide budgetary support for piloting technology devices/resources that facilitate learning anywhere, any time. | 7-3 Budget requests will include requests for pilots of technology devices and resources as appropriate           | Administrators<br>IT Director<br>Tech Coordinators<br>IT Staff | Ongoing   |
| <b>8. Maintain support for specialized services as needed.</b>  | 8-1 Maintain budgetary support through annual budgeting process.   | 8-1 District will have access to specialized expertise in emergent situations (telephones, network security etc.) | IT Director  | Ongoing   |
|   |  | 8-2 Increase network reliability and uptime.  | IT Director  | Ongoing   |
|   |  | 8-3 District will continue to order replacement parts as needed.  | IT Director<br>IT Staff  | Ongoing   |
|   | 8-2 Maintain contracts with specialized support outfits.   | 8-2 Contracts will be reviewed and updated annually.  | IT Director  | Annually  |

| Educational Goals:   | Strategies for Implementation   | Outcomes  | Responsible Party       | Timeline                               |
|--|---|---|-------------------------|--|
| <b>9. The district will provide effective infrastructure through a systematic and planned program of maintenance and purchasing.</b> | 9-1 Adhere to district standards and protocols for core system replacement. | 9-1a DVR server and camera system will be optimized to maintain a secure environment  | IT Director<br>IT Staff | Annually                               |
|  |   | 9-1b Interactive learning platforms will be updated to meet the needs of the learning environment. (Promethean Boards, Projectors, audio sound fields)                    | IT Director<br>IT Staff | Phase 1 July 2017<br>Phase 2 July 2018 |
|  |   | 9-1c Replacement of CLMS TV Studio  | IT Director<br>IT Staff | July 2017                              |
|  | 9-2 Adhere to district standards and protocols for device replacement.      | 9-2a Replace and update equipment that is at the end of lifecycle at individual schools (ex. Desktops- 6 year replacement; Laptops - 6 Yr replacement; Chromebooks- 4 yr) | IT Director<br>IT Staff | Annually                               |