TAHOMA Future Ready Students

Technology Plan 2019-2023

Quality Learning *Every Day in Every Classroom for Every Child*

Introduction

Vision

The Tahoma School District recognizes that technology is a driving force for change in how people communicate and acquire knowledge in a rapidly changing world. Today, technology is an essential tool that allows our students and staff opportunities to communicate, collaborate and create content as a community of learners to ensure that all students graduate with the knowledge and skills necessary to live, learn and work in the 21st Century. In our vision to support student learning, students, staff, parents, and the community work together to provide the tools and experiences every student needs to create an individual, viable and valued path to lifelong personal success.

This vision is supported by the district's eight Future Ready Skills which specifically address the skills and dispositions essential to success but aren't typically found in traditional curriculum. We believe that technology is integral for students to achieve these skills. With technology, collaboration can be realized with a wide audience both in and out of the classroom, complex thinkers are challenged in new ways with access to unprecedented quantities of information, and new tools allow students to produce evidence of their learning in sophisticated digital ways.

Future Ready Skills
Collaborative Teammate
Community Contributor
Complex Thinker
Conscientious Worker
Effective Communicator
Quality Producer
Responsible Decision-Maker
Self-Directed Learner

To this end, we must strive to provide digitally rich and relevant experiences for our students. Researcher and author Michael Fullan, noted for his work in systemic educational change and the influence of school leadership on student success, suggests there are four criteria for integrating technology and how we teach to produce exciting, innovative learning experiences for all students. These new experiences must be:

- Irresistibly engaging for students and teachers
- Elegantly efficient and easy to use
- Technologically ubiquitous 24/7
- Steeped in real life problem solving

To realize student experiences that meet these aims, we must provide learning environments that are globally connected and present multiple opportunities for authentic collaboration, communication, and creativity. We must ensure easy access to appropriate tools, well-developed curriculum aligned to standards and skilled teachers well-supported to implement new strategies.

Where we are

Our schools endeavor to provide learning environments that use technology to engage students and provide new learning experiences. Progress is the result of the integration of technology through curricular changes, professional development, technology lessons, and a solid infrastructure that enables our students to access a wide variety of technology tools, both hardware and software, and high-speed internet access. Our curriculum continues to adapt to new requirements and new standards.

To best meet these new requirements and standards, increasing access to technology for resources, information, productivity and collaboration is essential. Starting in 2018, the district provides all secondary students with take home devices.

The district continues to:

- Endeavor to provide learning environments that are globally connected and include opportunities for collaboration, communication, and creativity and engage in real-life problem solving as supported by our Future Ready Skills.
- Acknowledge that the use of technology tools, both hardware and software, should not emphasize particular devices or applications, but instead emphasize gaining the knowledge and transferable skills necessary to use technology tools now and in the future.
- Provide computing devices in a manner that allows access as needed.
- Assist students with difficult or no access to online resources at home.
- Maintain existing technology infrastructure and update it as needed to provide access for students and staff to meet their learning and work goals.
- Actively investigate and trial new technology tools that are easy to use, efficient, and integrate and support the achievement of district learning goals.
- Establish effective communication structures with staff and community to ensure continued support of technology levies necessary for successful implementation of the district's technology plan.
- Annually review the technology plan and revise as necessary to reflect advances in technology, changes in curricular needs and teaching strategies.

Support

- Staff professional development is available for use of productivity software.
- Staff professional development is available for use of software and apps with students.
- Two instructional technology coaches, one elementary and one secondary, are available to work with teachers and students integrating technology into instruction as needed.
- Technology teacher leaders assist with professional development, "how to" questions, integration of technology into curriculum and instruction and software training.
- Technology Operations department supports technology tools and maintains infrastructure.

Hardware tools

- All students in grade 6-12 have take-home devices.
- Grade 5 has a 1-to-1 computer to student ratio. The devices stay at school.
- Grade K-5 average 1 computer for every 1.5 students.
- Grades K-4 utilize mobile computer carts for full-class computer access.
- Grades 1, 2 and 3 classrooms have 6-8 learning center laptops based on class size that remain in the classroom.
- Kindergarten classes have iPad access (six iPads per classroom).
- Elementary Project Lead the Way classrooms have 1-to-1 iPad in-class access.

- BYOD (Bring Your Own Device) is allowed in grades 6-12
- Up-to-date infrastructure with virtualized servers running Microsoft Server software.
- High speed Internet access available on all computing devices.
- High speed fiber connections between schools and to the internet.
- Internet content filter with customized filtering dependent on grade level.
- High-speed wireless access available in all buildings. Access points are located in every classroom and learning space.
- All learning spaces include a display device (example: interactive LCD projectors).
- Document cameras are present in learning spaces as needed.
- All certificated staff have laptops for mobile access and productivity.
- VoIP (Voice over IP/internet) phone system in place utilizing Skype for Business.

Software Tools

- Microsoft Office including Word, PowerPoint, Excel, Outlook, OneNote, Skype for Business.
- Internet Explorer, Microsoft Edge, and Chrome web browsers available for staff and students.
- Tahoma School District is a G-Suite district (formerly Google Apps for Education).
- Discovery Education subscription for access to online digital content (video).
- Assistive software for reading and/or writing difficulties available as needed. Examples include Read Out Loud and CoWriter.
- Video-on-demand server for curricular videos, school announcement and presentations.
- Partnership with the King County Library System provides all student with library access.
- Follett library check-out system includes access to a variety of databases as well access to district library books.

Elementary Software Tools

- Raz-Kids reading software at grades K- 3.
- Type to Learn keyboarding software for grades 2-5.
- Think Central as part of the K-5 math curriculum.
- Pixie for presentations including audio and photos.
- Starfall/More Starfall for K-3 reading and math skills.
- Dreambox for math intervention and differentiation.

Where we are going

The Consortium for School Networks (COSN), is a highly respected national organization that supports technology education in schools. The COSN mission is to explore future trends in K-12 education with an emphasis on the role of technology in education and career opportunities. The 2016 report concluded that computer coding as a new form of literacy, online learning, robotics, collaboration and students as creators were the major trends in education for the next several years.

Teaching & Learning chose Project Lead the Way (PLTW) STEM classes at elementary and middle levels to accelerate our capacity to address these trends. Coding as Literacy is the major emphasis in PLTW Launch at grade K-4 with robotics rounding out the tech emphasis at grade 5. Robotics continues with middle school classes and clubs, classes at the high school, and is a source of district pride with the highly successful Bear Metal robotics competition team.

Middle school offerings of PLTW include 3D Design and Modeling, Green Architecture, Energy and Environment, Medical Detective, and Flight and Space. These courses provide deeper, collaborative learning experiences in unique learning spaces and continue to broaden student exposure to these future trends.

Curriculum and Instruction

Vision

Digital resources, devices, and tools continue to be strategically and intentionally used to support and accelerate four priority targets to ensure students have the knowledge, skills, and tools they need to create an individual, viable and valued path to lifelong personal success. These priority targets are:

- Meeting the Common Core State Standards in ELA Literacy and Math and the Next Generation Science Standards.
- Real, purposeful, and effective collaboration (within and outside of the classroom and school).
- Personalized and flexible learning options for students that promote self-direction and ownership of the learning.
- Real-world rich learning tasks that require creativity, communication, research, and collaboration.

Curriculum

Learning targets guide when and how technology is used. Technology is never invested in solely for its own sake, instead it is leveraged and prioritized to

- Help students meet learning goals aligned to district and state standards
- Provide access to up-to-date enhanced resources aligned to district curriculum
- Support differentiation. Technology tools make it easier for teacher to adapt and modify learning activities and resources to meet the needs of diverse learners.
- Technology tools can be used to give teachers and students timely feedback regarding whether students are learning, allowing teachers to respond more quickly when students are confused and move on more readily when everyone has learned the material
- Staff professional development in effective use of technology with students is offered as new curriculum is adopted.
- The TSD K-5 Scope and Sequence of technology skills are reviewed and revised as technologies change and incorporated into the elementary day as appropriate.
- Elementary Project Lead the Way units introduce computational thinking, computer programming, and robotics.
- Online safety and cyberbullying prevention lessons are in place at a variety of grade levels.
- Technology integration into the curriculum is ongoing, with emphasis in the core content areas of Language Arts and Social Studies.
- Investigation and adoption of online digital resources including textbooks.

Where we are

Implementation of lessons in grades K-5 introduce and develop proficiency in technology skills. Lessons around safety and security, digital citizenship, cyberbullying and research and information literacy are in use--both systemically as part of the curriculum and episodically (e.g. during an assembly, etc.).

The Common Core English Language Arts (ELA) standards, especially those around research, guide a systematic approach to integration in the core content areas of Language Arts, Social Studies and Science. The Next Generation Science Standards and science curriculum provide guidance for technology integration in this subject area.

Common Core State Standards
A real-world approach to learning and teaching that require a practical, real-life application of knowledge to prepare students for success in college, work and life. These K-12 learning standards go deeper into key concepts in math and English language arts.

Recently adopted or revised elementary and secondary curriculum integrate technology to support learning and student acquisition of technology skills. Consistent use of technology in the curriculum, where appropriate, is encouraged.

Where we are going

Below you will find the specific strategies, projects, and goals for the next four years for each targeted area.

- **Meeting the Common Core State Standards in ELA Literacy and Math**
  - Create authentic opportunities for students to learn and achieve the Common Core standards.
- **Real, purposeful, and effective collaboration (within and outside of the classroom and school)**
  - Identify K-12 core curriculum using authentic collaboration and plan where this work might be expanded to enhance learning in other areas.
  - Identify potential NEW authentic collaboration opportunities K-12 within our curriculum; develop lessons and activities to embed 21st Century collaboration tools and strategies.
  - Continued leveraging of GoTahoma (G Suite) for collaborative projects as appropriate.
  - Identify and implement cross-grade level and cross-school collaboration opportunities.

- **Personalized and flexible learning options for students that promote self-direction and ownership of the learning**
  - Leverage technology for differentiation of instruction though use of alternative resources, student choice, and alternative assignments.
  - Investigate the possibility of offering a menu of student-choice, self-directed, and online learning options for secondary students.
  - Leverage communication technologies that allow students to participate when not in the classroom.
  - Support and expand "flipping" initiatives wherein instruction occurs outside the classroom through the use of video communication tools and the classroom becomes a center for more personalized learning, guidance and student interactions.
  - Online career planning tools help student identify appropriate course work.

Staff Professional Development

Vision

Professional development related to technology use is focused and prioritized in these areas:

- Just-in-time training for teachers using technology tools to meet student learning goals as specified in district curriculum or initiatives.
- Training that promotes best practices, effective, productive, and efficacious use for staff and students.
- Differentiation of technology training in technology tools
- Differentiation of training in both curriculum-based and spontaneous technology use with students
- Support of newly adopted curriculum.
- Day-to-day school-level support as needed.

Where we are

Below is a sampling of current approaches used to meet the three support priorities.

- Just-in-time training for teachers using technology tools to meet student learning goals as specified in district curriculum or initiatives.
    - Required sub-release days for departments or grade levels prior to implementing a new technology rich project.
    - Optional/invitational sub-release days for teachers seeking increased knowledge or skills related to integrating and supporting technology use in their classroom.
    - Summer Technology and Learning Conference (3-4 day conference at the end of June for teachers and staff).
- Training that promotes best practices, effective, productive, and efficacious use for staff and students.
    - Summer Technology and Learning Conference (3-4 day conference at the end of June for teachers and staff).
    - August technology training days (3-6 ½ day sessions in tool use).
    - F1 Tuesdays--periodic quick tips and tricks for teachers and staff.
    - Short, after-school invitational/optional trainings for teachers and staff on topics ranging from Google forms in the classroom to managing your Outlook Inbox.
- Day-to-day school-level support as needed.
- Designated technology teacher leaders (10Tech Teacher Leaders) in each building available to help teachers as needed.

Where we are going

- We must prioritize regular review and revision of professional development plans based on changes in curriculum, technology tools and student learning goals. Suggested enhancements may include:
    - More virtual opportunities for staff to learn/get support.
    - Leverage social media (example: Google+ Hangouts or Microsoft Lync) to deliver professional development and interact with teachers and staff.

    - Additional professional development for major initiatives.
    - Include opportunities afforded by the district early release schedule.
- Annually review and revise, as needed, the numbers and roles of professional development personnel, i.e. Instructional Coaches. Tech Summit and 10 Tech Teacher Leaders to ensure maximizing use of resources in meeting prioritized support needs.

10 Tech Teacher Leader Team

Classroom 10 Technology Teacher leaders (10Tech Teacher Leaders) are classroom teachers who work with the Instructional Technology Coaches to help teachers in implementing best technology practices and technology use in the classroom.

These 10Tech Teacher Leaders support district technology integration efforts through trainings and on-site assistance to building and teams. 10Tech Teacher Leaders collaboratively plan and implement a training schedule to meet building and district goals with T&L Technology staff. 10Tech Teacher Leaders may also participate in district level R&D

Technology Summit

The Technology Summit is composed of one designated 10Tech Teacher Leader from each school, representatives from Teaching and Learning, Technology Operations, school administration and Special Education. The Instructional Technology coordinator is responsible for facilitating this committee.

The Technology Summit one of the decision making committees that is responsible for feedback and input to determine:

- Annual spending priorities for the technology levy to meet technology plan goals.
- Annual revision and recommendation of the district Technology Plan.
- Revision and recommendation of a four-year Tech Plan that coincides with the four-year cycle of the voter approved Technology Levy.
- All Tech Plan and Tech Levy recommendations go to the Technology Advisory Committee for review, revision and recommendation to the School Board for final approval.

Technology Summit	**One position per school** (9 Tech Summit) $1500 * 9 buildings = $13,500 per year Benefits: $12,000 x 30%=$4,050 Annual Cost: $17,550	**Total Cost:** **$70,200**

Elementary 10 Tech Teacher Leaders

This position supports district technology integration efforts through trainings and on-site assistance to building and teams. 10Tech Teacher Leaders collaboratively plan and implement a training schedule to meet building and district goals with T&L Technology staff. 10Tech Teacher Leaders may also participate in district level R&D.

Elementary TTTL Positions	Up to 18 positions $500 stipend x 3 per building x 6 buildings = $9,000 per year 1 Skyward (Standards based grading, data, assessment) $500 stipend x 6 buildings = $3000 Total Benefits: $12,000 x 30%= $3,600 Annual Cost: $15,600	**Total Cost:** **$62,400**

Secondary 10 Tech Teacher Leaders

The position provides on-site school support of Software (Tech), Skyward, Google Apps

Tech Support TTTL

Support teachers with the use of the Microsoft products and integration of a variety of technologies in the classroom.

Project TTTL: Used as needed. Assigned to a subject area project that integrates technology into the curriculum or as a tech advisor to a unit being authored or revised by Teaching & Learning. Project TTTLs may also participate in district level R&D.

Tech Support TTTLs	**Annual Cost** 2 Tech Support TTTL at Maple View MS, Summit Trail MS (4) 3 Tech Support TTTLs at THS (as needed) (3) 1 Skyward/Homeroom Support TTTL at Maple View MS, Summit Trail MS (2) 2 Skyward/Homeroom Support TTTLs at THS (as needed) (2) 1 Google Apps Support TTTL at Maple View MS, Summit (2) 2 Google Apps Support at THS (2) 15 X $500 = $7,500 Benefits: 30% x $7,500= $2,100 Annual Cost: $9,600	**Total Cost:** **$38,400**

Professional Development and Support

TTTL's and Instructional Technology Coaches will provide specialized training and support as new curriculum tools are implemented. This will be on an as-needed basis and determined by Teaching & Learning, the 10Tech Teacher Leaders and principals.

Training and Support	**2019-20**	**2020-21**	**2021-22**	**2022-23**	
Per diem costs for trainers and trainees outside of work hours or cost of substitutes for release time.	$80,000	$80,000	$80,000	$80,000	$320,000

Other Training Options	**2019-20**	**2020-21**	**2021-22**	**2022-23**	
Summer 10Tech Conference & Back to School training 4-day Summer tech institute offered after school dismisses in June 2 days of optional staff training in August for Skyward, SWIFT, GoTahoma	$9,000	$9,000	$9,000	$9,000	$36,000

Staff can earn clock hours for time in attendance. *Conference presenter: $75/hr. +Benefits= $100/hr.* *Presenters up to 80 hours= $8,000* *Conference materials/supplies $1000*					
Conferences Attendance at conferences based on identified needs. **Annually** NCCE Northwest Tech Conference Google in the Classroom **Bi-Annually** NECC (National Level)	$13,000	$18,000	$13,000	$18,000	$62,000
Video Library In-house videographer to video and edit teacher sourced video resources.	$8,000	$8,000	$8,000	$8,000	$32,000

Instructional Technology Coordinator and Coaches

Provide leadership and support for professional development, curriculum development, implementation of best instructional practices, research and development, and evaluation of potential solutions that will meet teaching and learning needs for students and staff.

	2019-20	**2020-21**	**2021-22**	**2022-23**	
2 Instructional Coaches 1 Instructional Tech Coordinator /Coach Salary, CR days, benefits	$357,000	$375,000	$394,000	$413,000	$1,539,000

Staff Professional Development Totals

	2019-20	**2020-21**	**2021-22**	**2022-23**	
	$509,750	**$532,750**	**$546,750**	**$570,750**	**$2,160,000**

Information Management and Evaluation

Vision

Tahoma School District strives for improved, systemic means to gather and evaluate information for data-driven decision making. Accountability considers the alignment between goals, assessments, and results. To effectively hold ourselves accountable to our district outcomes, we must have clearly articulated, measurable goals with identified data points and targets on the front end.

Decision-making must be consistently informed by data, research, and results. Once decisions have been made, they must then be communicated to all stakeholders in the system being transparent in providing a summary of the data, research, and results that guided the decision-making.

Where we are

The collection, integration and ability to share data with multiple audiences is an ongoing challenge for all school districts. As the amount of data increases the usefulness of that data to multiple audiences is undermined by limited capacity to make the resulting information accessible in a timely way. This increase in data can be directly tied to the increasing number of student assessments. Annually, state-mandated online Common Core Assessments will be administered in grades 3-10, as will End of Course assessments at the high school level. Additionally, there are over 150 standards based district assessments and additional classroom-based and other common assessments dependent on grade level and subject. All of these aforementioned assessments are all administered online. Our high student access to computers allows us to perform these online assessments for an entire grade levels.

Assessment data is collected and visually displayed for teachers and administrators through the web-based program Homeroom, hosted by School Data Solutions. Data collected is used to differentiate instruction and measure student growth for the Teacher Principal Evaluation system (TPEP) and used on an annual basis to monitor systems level work.

Where we are going

Technology provides powerful data collection, processing and display tools which allows the district to share and display information for timely decision making and action. Continued use of programs designed to aggregate and display data is integral to the successful use of data in decision-making and evaluation. Students may also access data to reflect on progress and determine current and future course of action relevant to his/her own learning. As programs such as Homeroom and Classroom evolve, we must remain flexible in our thinking to take advantage of these programs.

Students in grades 3-10 will be taking state-mandated Common Core assessments and End of Course tests. Our continued high student access to computers will continue to allow us to administer online assessments for entire grade levels

Program Evaluation:
Program evaluation is a formalized approach to studying the goals, processes, and impacts of projects, policies and programs. Measurement of progress toward goals associated with Classroom 10, best practices and alignment with Common Core will help to determine which programs and practices are having the greatest impact on instructional practice and student learning.

All major initiatives will have an evaluation component with success indicators and benchmark points determined during planning and work plan development.

Technology Usage	2019-20	2020-21	2021-22	2022-23	
Data Collection	$5,000	$5,000	$5,000	$5,000	$20,000
Program evaluations- outside consultants.	$15,000	$15,000	$15,000	$15,000	$60,000

Integrated Data Systems:
The focus now is on Assessment for Learning. This requires assessment data accessible to teachers and administrators to inform next steps in instruction and interventions. Homeroom, a web based program accessible to all staff, is designed to make data available in a timely way using graphical displays that teachers and administrators can easily access to help indecision-making.

	2019-20	2020-21	2021-22	2022-23	
School Data Solutions Student Data Management: School Data Solutions/ Homeroom/ Classroom/ Personal Pathways $5/student	$41,000	$42,000	$43,000	$44,000	$170,000
Data Base Administrator- to manage student information systems and enterprise data management.	$55,000	$56,000	$57,000	$58,000	$226,000
Skyward Data Manager: Increased salary based on systems integration required with additional tech systems added from technology integration.	$21,000	$22,000	$23,000	$24,000	$90,000
Software Program Development Contract with developers to build software to meet future needs	$50,000		$50,000		$100,000
Tahoma School District Website	$15,000	$18,000	$20,000	$20,000	$73,000

Information Management and Evaluation Totals

	2019-20	2020-21	2021-22	2022-23	
	$202,000	**$158,000**	**$213,000**	**$166,000**	**$739,000**

Device Refresh and Additions

Vision

Tahoma School District recognizes that student and staff devices should not emphasize any particular device. For students, we emphasize access to tools that that provides a learning environments that is globally connected and provides opportunities for collaboration, communication, and creativity for students. Students need to have the tools that allow for this learning environment whenever and wherever needed. For staff, we provide devices that allow efficiency in job functions, access to software and services as determined by job requirements and provides opportunities for collaboration, communication, and creativity as needed.

This requires planned device replacement taking advantage of advances in technology. Specific device replacement is outlined in annual spending plans and broadly outlined in this section. Annually, an annual technology spending plan is presented to the School board for approval in the springtime to provide more detail based on the then current educational needs and pricing.

Elementary Student Devices:

- Grade 5 has a 1-to-1 student to computer ratio.
- Grades K-4 maintain a 1.5-to-1 or less student to computer ratio.
- All K-3 classroom have 6 or more devices depending on class size.
- Devices added as needed due to population growth or curricular demands.
- Device type determined by student need and detailed in annual spending plan.

Secondary Student Devices:

- Grades 6-12 have a 1-to-1 computer to student ratio
- Grades 6-12 take devices home

Staff devices:

- Devices provided and regularly refreshed for staff.
- Device type and allocation determined by job requirements.

	2019-20	2020-21	2021-22	2022-23	
Student Device Refresh	**$650,000**	**$650,000**	**$650,000**	**$650,000**	**$2,600,000**
Other Device Refresh	**$200,000**	**$200,000**	**$200,000**	**$200,000**	**$800,000**
Totals					**$3,400,000**

Student Tools and Access

Vision

Tahoma School District recognizes that the use of technology tools should emphasize gaining the knowledge and transferable skills necessary to use technology tools now and in the future. We recognize that our learning environments must be globally connected and provide opportunities for collaboration, communication, and creativity. Students need to have the tools that allow for this learning environment whenever and wherever needed. For those without this access, the school district must become the primary institution to bridge this gap between the haves and the have-nots.

Where we are

We provide access to a variety of software tools, including but not limited to Microsoft Office, Google Apps for Education, and assistive software such as Read OutLoud™ and CoWriter™

Where we are going

We expect the rapid changes in computing devices and software to be the norm. Our annual review and 1 year spending decisions will allow us to continue to be flexible enough in our technology plan to take advantage of advances in technology. The chosen technology tools, both hardware and software, will not emphasize particular devices or applications, but instead are chosen based on the educational need of the targeted user and technology available at the time.

Software: Maintain existing licensing agreements with Microsoft. Continue use of Google Apps for Education.					
	2019-20	**2020-21**	**2021-22**	**2022-23**	
Microsoft school agreement • Server software • Operating System • Office	$90,000	$90,000	$95,000	$95,000	$370,000
Annual software subscriptions/licenses Elementary reading Keyboarding Math intervention and differentiation Various as needed	$100,000	$100,000	$100,000	$100,000	$400,000
STEM Enhancement funds including Project Lead the Way	$25,000	$25,000	$25,000	$25,000	$100,000

Tools for Special Populations:
Special populations include Special Education, English Language Learners and the Highly Capable. The district will continue consultation with outside specialists regarding updated tools/ strategies, professional development and technology to support student learning and the new Common Core online student assessment accommodations. This strategy provides a resource library of technology tools to meet special population student needs. Tools added over time provide time for staff to learn to effectively implement new tools and allows for change as technology advances.

	2019-20	2020-21	2021-22	2022-23	
Tools that support special populations	$20,000	$20,000	$20,000	$20,000	$80,000
Student Accommodation Tools	$25,000	$25,000	$25,000	$25,000	$100,000

	2019-20	2020-21	2021-22	2022-23	
Refurbish devices for families with difficult access at home. Cost of licenses from Microsoft for devices.	$1,000	$1,000	$1,000	$1,000	$4,000
Discovery Education Video	$12,500	$12,500	$12,500	$12,500	$50,000
Library management software annual fees: • Follett software • ESD hosting	$11,300	$11,300	$11,300	$11,300	$45,200
Tools for electronic book sign-out (eBooks)	$5,000	$5,000	$5,000	$5,000	$20,000
Information resources online subscriptions	$5,000	$5,000	$5,000	$5,000	$20,000
Battery Replacement	$5,000	$5,000	$5,000	$5,000	$20,000

Student Tools and Access Totals

	2019-20	2020-21	2021-22	2022-23	Total
	$299,800	**$299,800**	**$304,800**	**$304,800**	**1,209,200**

Staff and Building Tools

Vision

Tahoma School District acknowledges that our learning environments must be globally connected and provide opportunities for collaboration, communication, and creativity. Teachers and staff require technology tools that make this learning environment possible.

Where we are

Teacher instructional stations have been provided for every teaching space including libraries. The workstations consist of a classroom display device (ex: LCD projector) and document camera. These aid in the visualization of learning through presentation software, video and audio information from a variety of sources including online resources, sharing of student work and other resources.

Other equipment necessary for staff use is included in this section of the technology plan as outlined below.

Where we are going

Staff equipment will be added or replaced as needed. The chosen technology tools, both hardware and software, will not emphasize particular devices or applications, but instead are chosen based on the educational need of the targeted user and technology available at the time.

Costs are estimates based on anticipated numbers of classrooms and students and current pricing.

As student work becomes more collaborative, there will be the need for more flexible workspaces for students. The concept of access to a Learning Commons for student may result in the coninued transformation of libraries (or other spaces) for this purpose.

Classroom instructional stations:

- All teaching areas have an interactive classroom display device (ex: LCD projector) and document camera

	2019-20	**2020-21**	**2021-22**	**2022-23**	
Classroom Instructional Stations	$127,500	$127,500	$127,500	$127,500	$510,000

Other Tools: Tools added over time to provide time for staff to learn to effectively implement and allow for changes as technology advances.

	2019-20	2020-21	2021-22	2022-23	
Network printers	$15,000	$15,000	$15,000	$15,000	$60,000
Peripherals (cameras, camcorders)	$10,000	$10,000	$10,000	$10,000	$40,000
Bulbs and batteries- projectors and devices	$1,000	$5,000	$5,000	$5,000	$16,000

Stop Loss:
School allocated incentive funds for replacement of damaged or stolen equipment. Any funds not spent may be spent by schools on technology tools. Budget allocation is $2 per FTE.

TSHS- $4000 CRES- $1500 RCES- $1500
MVMS- $2000 GPES- $1500 SLES- $1500
STMS- $2000 LWES-$1500 TES- $1500

	2019-20	2020-21	2021-22	2022-23	
Stop/Loss	$18,000	$18,000	$18,000	$18,000	$72,000

Garage:
For the purchase of new, non-standard technology tools for research as to possible future use.

	2019-20	2020-21	2021-22	2022-23	
Garage	$15,000	$15,000	$15,000	$15,000	$60,000

Learning Environment-Staff and Building Totals

	2019-20	2020-21	2021-22	2022-23	Totals
	$186,500	**$190,500**	**$190,500**	**$190,500**	**$758,000**

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Infrastructure

Vision

Establish and maintain a network infrastructure that is secure, reliable, scalable and responsive while providing the necessary capacity and flexibility for students and staff to access the information and tools necessary to meet learning and job goals.

Where we are

Since 2006, the technology operations department has progressed from an infrastructure that supported one or two computers per classroom and one computer lab per school to now supporting over 7,000 computers including more than 6000 wireless laptops and other devices. This infrastructure provides:

- Fast and reliable access to services such as file storage, email and high-speed internet access.
- Content filtering, virus protection and other security measures to help ensure the system's security.
- Wireless access in all classrooms and other strategic areas to ensure a responsive and reliable experience.
- Server virtualization to consolidate hardware and provide dynamic failover in case of hardware failure.
- A high-speed fiber connection to each School as well as multiple connections to the internet to provide redundancy.
- Network access for BYOD (Bring Your Own Device).
- A VoIP (Voice over IP/internet) phone system that saves the district approximately $50,000 / yr. in phone system maintenance and connection costs.

Where we are going

Technology operations recognizes that technology tools, both hardware and software, will continue to rapidly change and are dependent on robust access to district services, the Internet and cloud based services. To this end, we will continue to develop and maintain an infrastructure that supports the various devices that best serve learning and job goals while providing a reliable, flexible and seamless experience for students and staff.

Servers, Storage and Network Hardware

Through annual review, servers, storage and network hardware are refreshed and additional capacity added as needed. Off site (out of district) backup ensures the ability for complete system restoration in the event of a major disaster (fire, earthquake, volcanic eruption).

	2019-20	2020-21	2021-22	2022-23	
Server and Storage Refresh		$200,000			$200,000
Wireless		$110,000			$110,000
Web Filtering License	$57,000			$60,000	$117,000
Additional hardware	$15,000	$15,000	$15,000	$15,000	$60,000
Skype for Business	$5,000	$5,000	$5,000	$5,000	$20,000
Firewall/Inter. router Refresh		$80,000		$50,000	$130,000
Load Balancer Refresh		$20,000			$20,000
District Area Network Switches				$50,000	$50,000

Internet Cost	2019-20	2020-21	2021-22	2022-23	
Bandwidth fee for Internet access	$30,000	$40,000	$50,000	$50,000	$170,000

Consultants and Training	2019-20	2020-21	2021-22	2022-23	
Consultant fees as needed for projects	$30,000	$30,000	$30,000	$30,000	$120,000
Technology Operations training	$10,000	$10,000	$10,000	$10,000	$40,000

Personnel Salaries & Costs					
	2019-20	2020-21	2021-22	2022-23	
Technology Operations salaries and benefits	$441,000	$463,000	$486,000	$511,000	$1,901,000

Infrastructure Totals					
	2019-20	2020-21	2021-22	2022-23	
	$588,000	**$973,000**	**$596,000**	**$781,000**	**$2,938,000**

Bond Issuance

	2019-20	2020-21	2021-22	2022-23	
Bond Issuance	$110,000				$110,000

Contingency Fund

	2019-20	2020-21	2021-22	2022-23	
	$100,000	$100,000	$100,000	$100,000	$400,000

Tech Plan Totals

	2019-20	2020-21	2021-22	2022-23	
Totals	**$2,846,050**	**$3,104,050**	**$2,801,050**	**$2,963,050**	**$11,714,200**
2019-23 Collections	**$2,700,000**	**$2,700,000**	**$2,700,000**	**$2,700,000**	**$10,800,000**
+/- collections	**+$146,050**	**+$404,050**	**+$101,050**	**+$263,050**	**+$914,200**
Unused contingency and cost savings estimate from current levy					**$940,000**

Glossary of Terms

ActivBoard

ActivBoard is a brand of interactive whiteboard manufactured by Promethean, Inc*. An interactive whiteboard is a large, wall mounted interactive display that connects to a computer. A projector projects the computer's desktop onto the board's surface where users control the computer using a pen. The board is typically mounted to a wall or floor stand.** The Tahoma School District has provides and supports ActivBoards in all secondary math classrooms (including Special Education math classrooms). These are being replaced with interactive projectors.

*http://www.prometheanworld.com/us/english/education/home/
**http://en.wikipedia.org/wiki/Interactive_whiteboard

Common Core State Standards

A real-world approach to learning and teaching that require a practical, real-life application of knowledge to prepare students for success in college, work and life. These K-12 learning standards go deeper into key concepts in math and English language arts.

For more information: Common Core
http://www.k12.wa.us/CoreStandards/

Core Curriculum

The Core Curriculum is the set of common curriculum required of all students and considered the necessary general education for students. In general, reading, writing , mathematics and social studies comprise the core curriculum.

Differentiation

Differentiation is the practice of providing different students with different avenues (often in the same classroom) to acquiring content by developing teaching materials and assessment measures so that all students within a classroom can learn effectively, regardless of differences in ability.

For more information: Differentiated Instruction
http://en.wikipedia.org/wiki/Differentiated_instruction

Flipped Classroom

The flipped classroom is a form of blended learning in which students learn new content online by watching video lectures, usually at home, and what used to be homework (assigned problems) is now done in class with teacher offering more personalized guidance and interaction with students, instead of lecturing. *

For more information: Flip teaching
***http://en.wikipedia.org/wiki/Flip_teaching**

Future Ready Skills

The district's eight Future Ready Skills specifically address the skills and dispositions essential to success but aren't typically found in traditional curriculum. The skills provide teachers and students with important focus beyond academic content and curriculum. Teachers in our district look for ways to formally and informally teach and incorporate these skills into their classroom and provide regular opportunities for students to practice, and reflect upon their growth in the skill areas.

- Collaborative Teammate
- Community Contributor
- Complex Thinker
- Conscientious Worker
- Effective Communicator
- Quality Producer
- Responsible Decision Maker
- Self-Directed Learner

For more information: Tahoma Future Ready
http://www.tahomasd.us/pages/Tahoma_School_District_409/Departments/Teaching_Learning/5364639595780592914f

G Suite (formally Google Apps for Education/ GoTahoma

Google apps supervised and administered by the Tahoma school district domain. GoTahoma is used by teachers and staff to provide opportunities for collaboration, communication, and creativity. Google docs, Presentation, Spreadsheets, Forms, email and Sites are example of the tools that are used wit in the GoTahoma domain.

For more information: Google Apps for Education
http://www.google.com/enterprise/apps/education/products.html

Interactive Projectors

An interactive projector connects to a computer and projects the computer's desktop onto the board's surface where users control the computer using a pen.

Mobile Device Management/MDM

Software that allows technology operations to provision, monitor, secure and troubleshoot mobile devices such as tablets and cell phone.

Social Media

Social media refers to interaction among people in which they create, share, and/or exchange information and ideas in virtual communities and networks.· These interactions occur online using tools such as Facebook, Pinterest, Twitter, LinkedIn, Instagram and Google+. When social media is used for educational purposes, educators will use systems that are age appropriate and which may be restricted to school-controlled applications.

For more information: Social Media
***http://en.wikipedia.org/wiki/Social_media**

STEM: Science, Technology, Engineering and Mathematics learning

A common definition is

STEM education is an interdisciplinary approach to learning where rigorous academic concepts are coupled with real-world lessons as students apply science, technology, engineering, and mathematics in contexts that make connections between school, community, work, and the global enterprise enabling the development of STEM literacy and with it the ability to compete in the new economy.(Tsupros, 2009).

For more information: STEM: Defying a Simple Definition
http://www.nsta.org/publications/news/story.aspx?id=59305
or
https://en.wikipedia.org/wiki/Science,_Technology,_Engineering,_and_Mathematics

10Tech Teacher Leader (TTTL)

Classroom 10 Technology Teacher leaders (10Tech Teacher Leader) are classroom teachers who work with the Instructional Technology Coaches to help teachers in implementing best technology practices and technology use in the classroom.