EMPOWERING MINDS, CONNECTING FUTURES

2024

NORTHWEST ISD

LONG RANGE TECHNOLOGY PLAN

EXECUTIVE SUMMARY

Providing the foundation for learners to reach their full potential now and in the future.

Northwest Independent School District recognizes that technology plays a pivotal role in unlocking educational opportunities and preparing students for success.

This Long Range Technology Plan articulates the district's comprehensive vision for seamlessly integrating technology to create personalized, equitable and future-focused learning experiences.

Key Goals and Strategies:

1. **Personalized Learning** – Focus on student-centered platforms and data-driven decisions to enhance learning outcomes.
2. **Equitable Access** – Provide every student with appropriate devices, reliable internet, and user-friendly technology.
3. **Digital Citizenship** – Implement a comprehensive digital citizenship curriculum and support responsible technology use.
4. **Safety & Security** – Establish robust cybersecurity measures and maintain data privacy.
5. **Collaborative Leadership** – Align technology initiatives with strategic goals and foster stakeholder relationships.
6. **Reliable Infrastructure** – Modernize equipment, ensure strong technology support, and maintain operational continuity.

Through foresight, sustainable funding models, and a student-centered philosophy, this roadmap positions Northwest ISD as a leader for technology-empowered education. With diligent execution, the strategies outlined will provide the foundation for learners to confidently navigate an increasingly digital world.

ACKNOWLEDGEMENTS

We extend our deepest gratitude to everyone whose dedication and expertise have made this Long Range Technology Plan possible.

We are particularly thankful to the Northwest ISD Board of Trustees for their visionary leadership and steadfast support, which drive our pursuit of excellence in education through advanced technology. Special thanks go to our Superintendent, Dr. Mark Foust, and the entire NISD Leadership team for their strategic guidance and ongoing encouragement.

We collaborated closely with our dedicated staff, who brought technical expertise, innovative ideas, and tireless dedication to this ambitious yet achievable plan. As the Technology Leadership Team, we wish to recognize the key contributors: Katy Barrey, Telli Ervin, Greg John, Josh Kimble, Michael Merlan, Xotl Morales, and Ryan Pickens.

This Long Range Technology Plan is a roadmap to the future, designed to enhance our educational environment. Its successful implementation will stand as a testament to the hard work and collaborative spirit of everyone involved.

Cara Carter, CETL
Chief Technology Officer

Chris Lee
Director, Technology Department

Jason Sanders
Director, Instructional Technology Department

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What's our story?

Northwest
INDEPENDENT SCHOOL DISTRICT

STRATEGIC GOALS
2023-2028

Our Core Beliefs

1. Kids come first.
2. Continuous learning is essential to prepare for college and career opportunities.
3. Each student's success is the shared responsibility of students, families, schools, and communities.
4. Learning is influenced by environment.

Our Vision

Northwest ISD empowers learners and leaders to positively impact the world.

Our Mission

Northwest ISD, in collaboration with students, families, communities, and global partners, will engage in a culture of learning that prepares all students to confidently navigate their future.

Strategic Goals

Strategic Goal 1	Strategic Goal 2	Strategic Goal 3
Northwest ISD will provide personalized learning experiences and cultivate the growth and achievement of every student.	Northwest ISD will recruit, value, and retain highly effective staff prepared to meet the individual needs of our students and learning community.	Northwest ISD will foster a safe environment and a culture of engagement that values the voices of all students, staff, families, and community members.

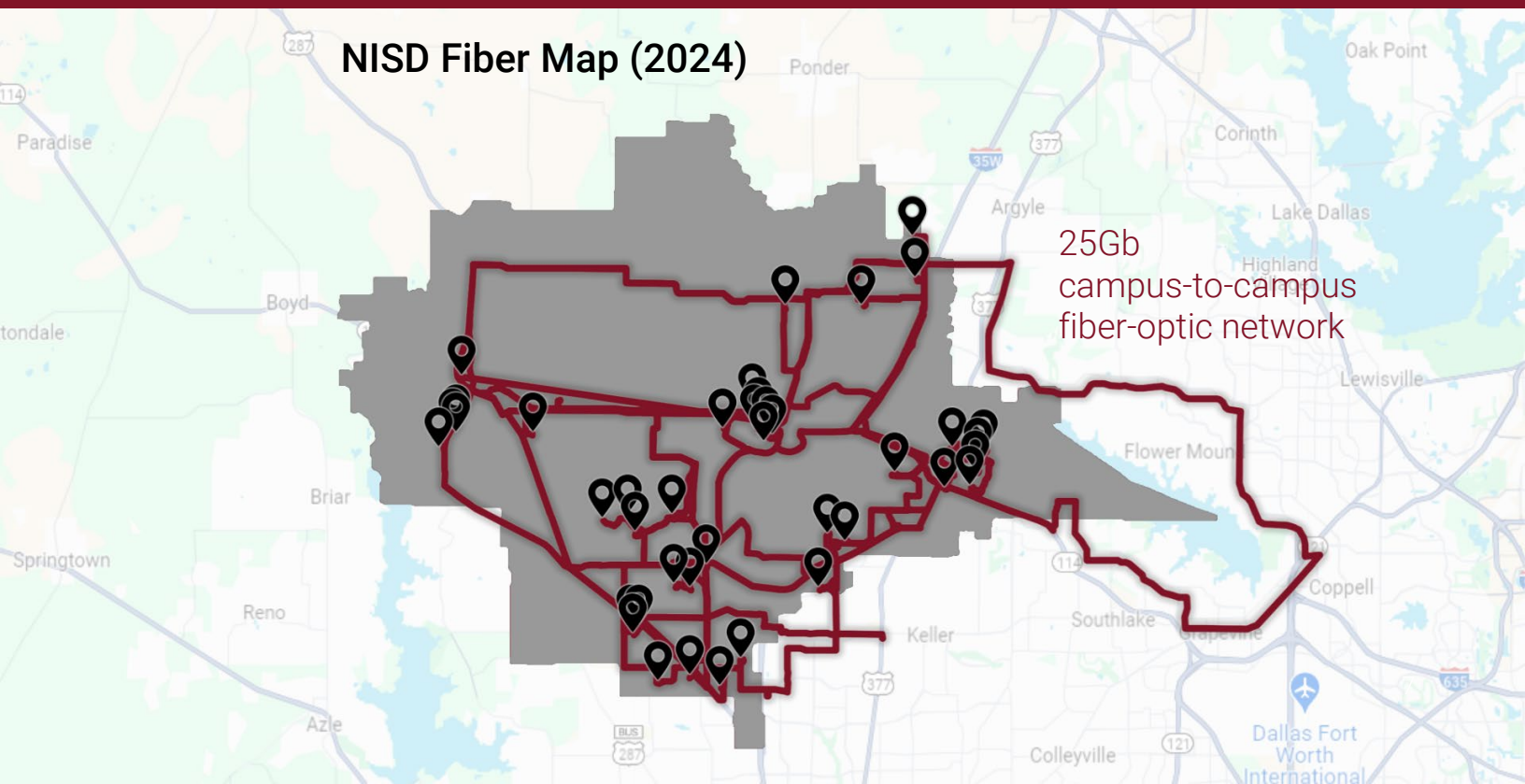
RAPID GROWTH

Physical Area & Infrastructure

Established in 1948 and expanded in 1973, Northwest ISD serves a diverse range of municipalities and counties. It includes Haslet, Justin, Newark, Rhome, Roanoke, Trophy Club, New Fairview, Aurora, Northlake, Drop, and parts of Southlake, Westlake, Flower Mound, and Fort Worth. The district spans 234 square miles, serves Tarrant, Denton, and Wise counties, and covers farmlands, major transportation corridors, and suburban residential areas.

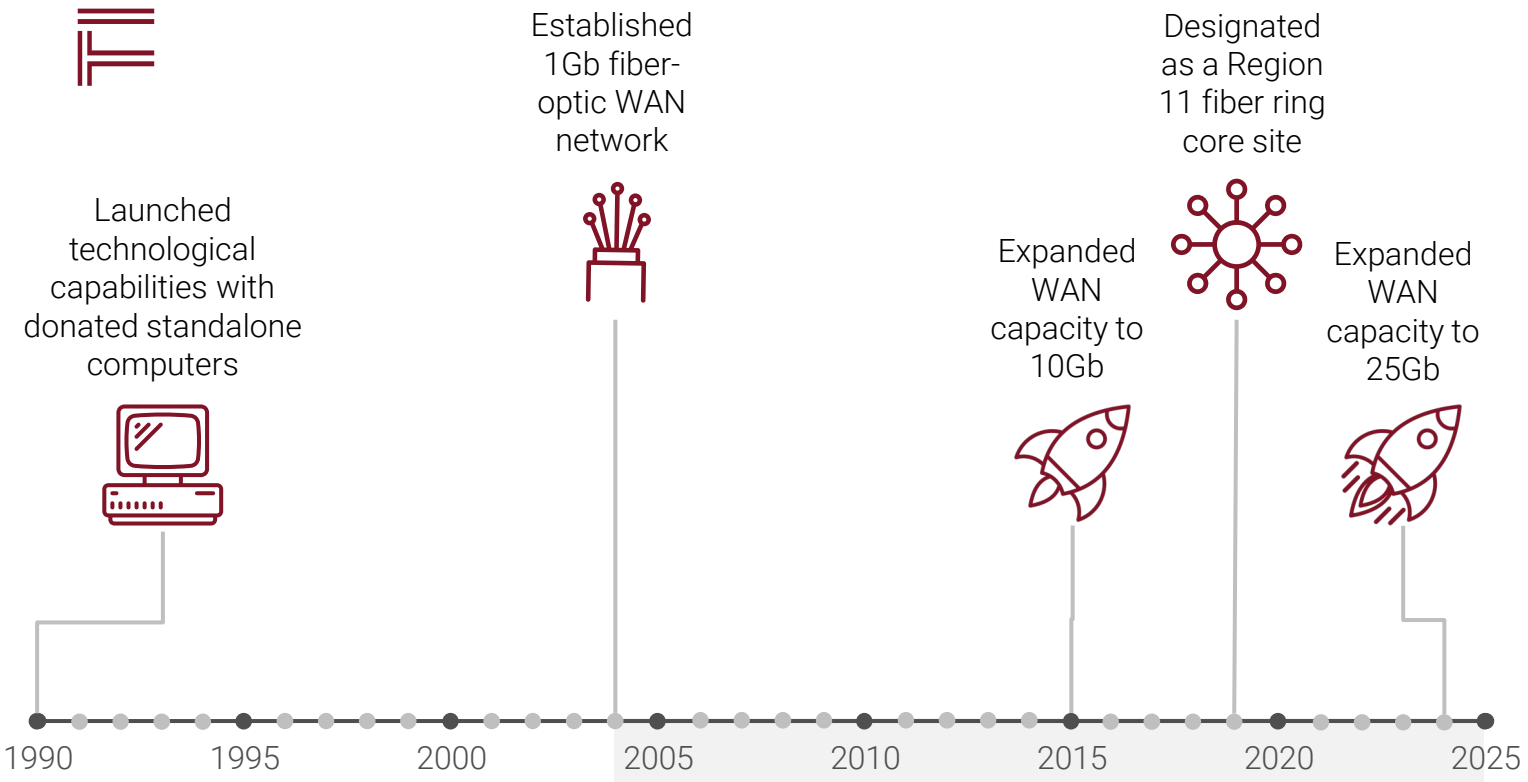
In the early 1990s, Northwest ISD relied on standalone desktop computers donated by American Airlines for information sharing. The journey to connect the district began in 2004 with the construction of a fiber-optic WAN funded by a $2.25 million bond. By project completion, all buildings were connected with a minimum speed of 1Gb, later upgraded to 10Gb in 2015.

Today, the district has a 25Gb campus-to-campus WAN, ensuring resilient connections to all facilities. In 2019, Northwest ISD became a core site in the Region 11 fiber ring, providing network resources to neighboring districts. This robust network guarantees seamless connectivity for students and staff, supporting advanced technological integration across the district.



TIMELINE

From Isolation to Integration: Scalability for Future Growth



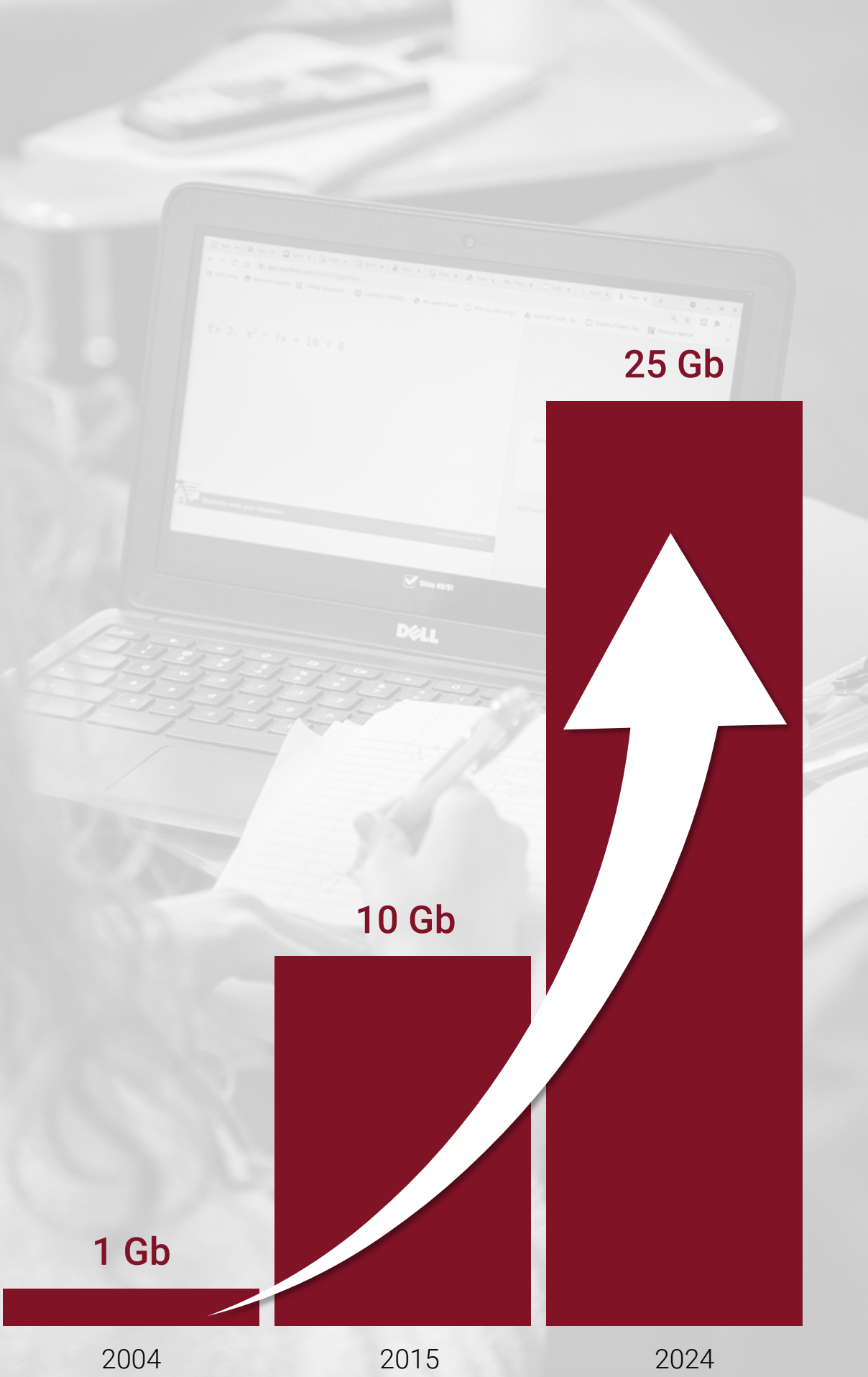
Foundational Technology Era

(1990–2004)
Isolated technology usage without integrated networking; set the groundwork for future advancements

Integrated Network Era

(2004–Present)
Connected, robust network infrastructure; period of scalability, enhanced connectivity, and future-focused growth

CONNECTIVITY SPEED



LEARNING INTEGRATION

Journey to 1:World

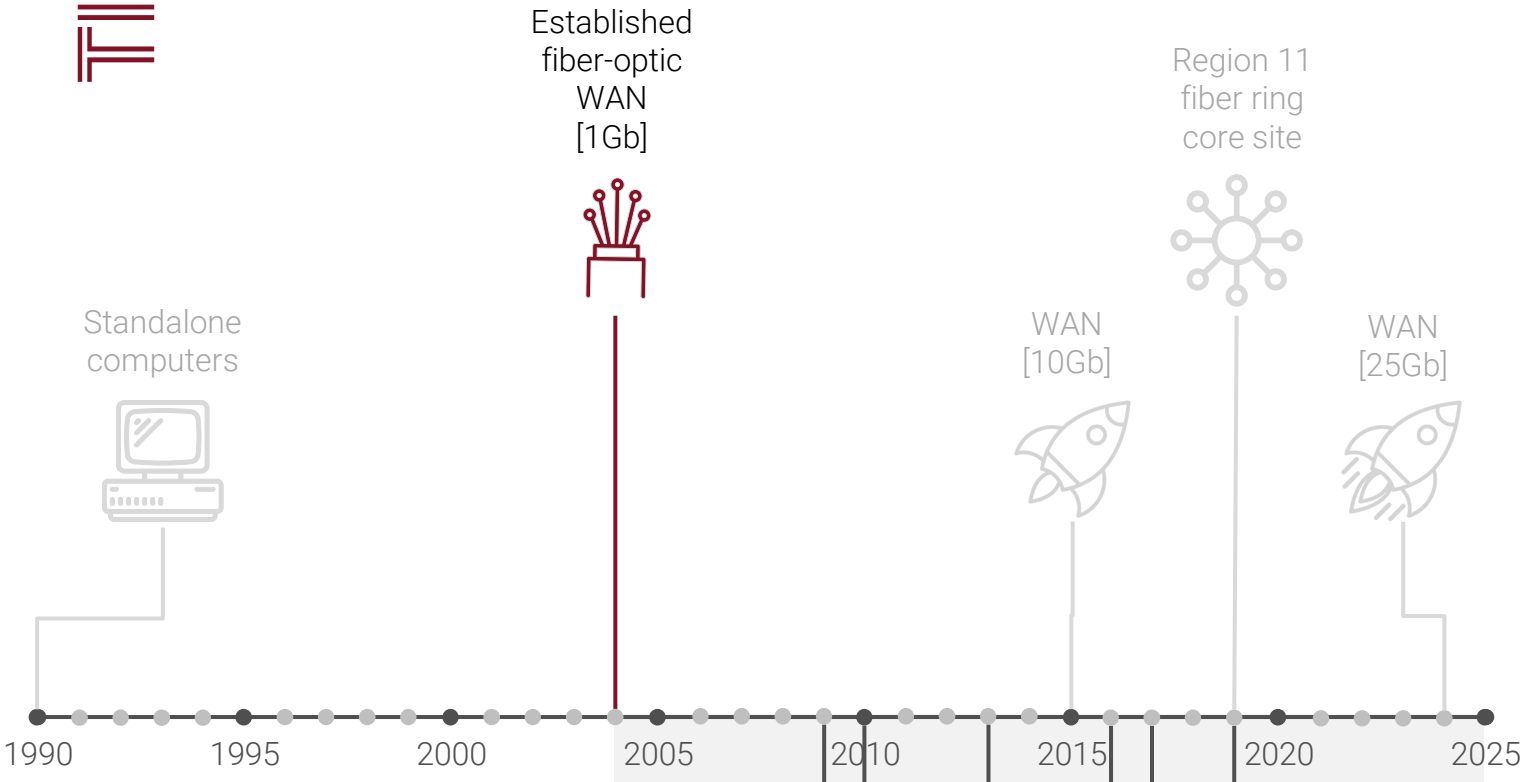
Northwest ISD has consistently been at the forefront of integrating modern technology into education, driven by the belief that access to devices unlocks a world of possibilities, resources, and creative potential. This approach, known as the 1:World philosophy, underscores the district's commitment to integrating technology into the learning process.

The journey began in 2009 when Northwest ISD pioneered a 1:1 device program for all high school students, funded by the 2008 bond. This initiative expanded to middle school students the following academic year. In 2016, the district transitioned to Chromebooks as the primary 1:1 device for students, offering a sustainable and accessible platform. By 2017, all students in grades 3-12 had a 1:1 device ratio, while students in grades K-2 had a 2:1 device ratio. Today, Northwest ISD supports over 35,000 student devices, including predominantly Dell Chromebooks, specialized Dell computers for labs, Windows laptops for Career and Technical Education (CTE) students, and other career-ready devices.

Northwest ISD educators and leaders recognize that leveraging technology in both classroom and home environments empowers students to become active learners, problem solvers, and creative thinkers. Through the 1:World philosophy, Northwest ISD seeks to unite all stakeholders in a collaborative effort to enhance student achievement.

TIMELINE

Empowering Every Learner: The Journey Towards 1:1 Device Integration



The addition of fiber connectivity in 2004 significantly accelerated the progress of individual student device integration, enabling a **more robust and responsive digital learning environment** across the district.

TECHNOLOGY TEAMS

Integrated Technology Departments: A Collaborative Framework

The Technology Division is composed of three distinct departments which work cohesively to achieve district goals and the strategies outlined in this strategic plan.

Technology Infrastructure

Serving as the backbone for the district's entire technological framework, the Technology Infrastructure team ensures robust connectivity and stringent cybersecurity across all facilities by managing network operations connecting every campus, overseeing crucial security protocols to protect district data, and providing technical support for a stable learning environment.

Data Services

The Data Services team, a critical part of the technology division, is responsible for the accurate collection, processing, and reporting of district data while ensuring compliance with regulatory standards. They uphold privacy and provide a foundation for informed decision-making across the district, handling student and financial information with integrity and security.

Instructional Technology

In collaboration with technology teams and stakeholders, Instructional Technology enhances classroom learning by maximizing the value of technology. They act as a compass for the technology division, helping to clarify students' needs and prioritize technology resources. This team also promotes digital literacy and ensures that technology adoption aligns with educational goals and standards.

AWARDS & RECOGNITION

DIR Cyberstar Certification
2024

IMS Learning Impact Award
Gold Medal – Blended Learning Optimization
2021

National School Public Relations Association
Award of Excellence
2021

TCEA Technology Administrator of the Year
2019, 2021

Common Sense Education District Certification
2018–2020, 2020–2022, 2022–2024

Google Reference District Award
2018

Common Sense Media National Certification
2016–2017, 2017–2018

NSBA & Center for Digital Learning Top 10 – Large District Category
2014, 2015, 2016, 2017

CoSN Team Award – Honorable Mention
2014, 2015

What does the future hold?

CURRENT SNAPSHOT

Student Devices

35,000
1:1 CHROMEBOOKS

1,700
CTE DESKTOP COMPUTERS

700
CTE LAPTOPS

Staff Devices

2,800
LAPTOPS

2,100
TEACHER iPADS

1,800
CLASSROOM DISPLAYS

Information Storage

325
VIRTUAL SERVERS

1.15
PETABYTES ON-SITE STORAGE

20,000
INPUT/OUTPUT OPERATIONS PER SECOND

Building Technology

3,500
PHONES

3,400
SECURITY CAMERAS

3,400
WIFI ACCESS POINTS

Technology Support Staff

24
CAMPUS TECHNICIANS

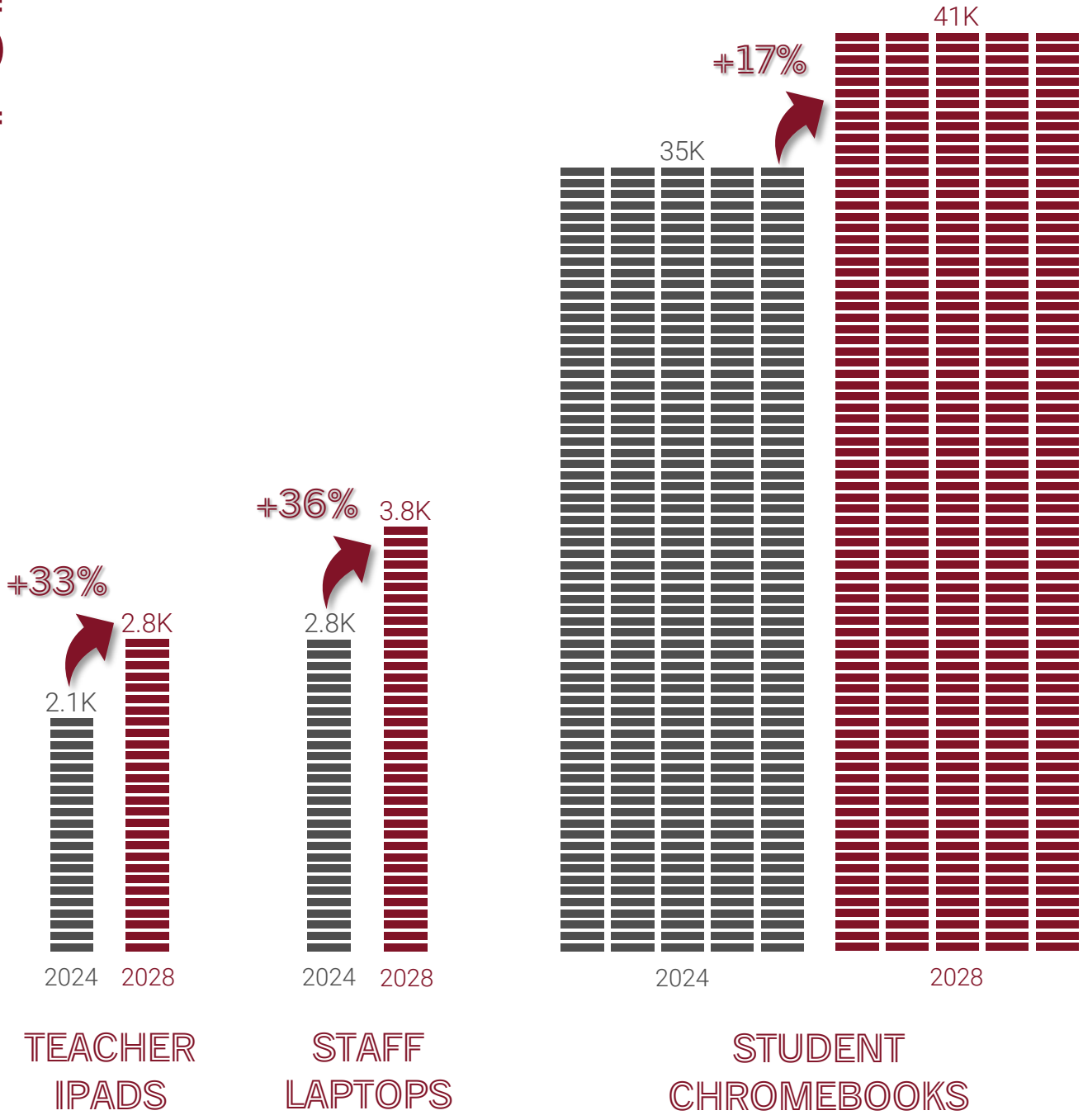
2
HELP DESK TECHNICIANS

8
INSTRUCTIONAL TECHNOLOGISTS

FORECAST

User Devices

= 100 Devices



CHALLENGES

Technology in a Rapid-Growth District

Forecasting Connectivity

Northwest ISD focuses on innovative learning through technology, requiring strategic, long-term planning for equitable experiences and a sustainable technology plan. Key aspects include accurate growth forecasting and collaboration with facility leaders for cost-effective fiber optic network development.

Data Services and Security

With increasing student numbers and data volume, secure and accurate data services provide methods to store, recall, and use information. To accommodate shifting boundaries, geocoding of addresses and efficient data management systems are essential. This allows for proper enrollment and accurate 911 routing across multiple municipalities and services areas.

Constant Onboarding of Users

Constantly onboarding students and staff in a fast-growing district means we must prioritize the regular procuring of devices, training new hires in the most efficient way, communicating available resources and proper allocation of staff that trains on technology. This requires well-coordinated efforts.

Technology in Modern Spaces

As new schools and facilities are built to accommodate growth, integrating technology seamlessly into these new modern environments can be complex. Coordinating with architects and construction teams ensures technology integration in new schools and facilities, considering technological needs from the outset.

This proactive approach ensures the district's technology infrastructure supports ongoing growth and maintains high learning standards for all students.

How will we ensure success?

STRATEGIC PLAN

GOAL 1

Personalized, Flexible, Empowered Learning

GOAL 2

Equitable Access

GOAL 3

Digital Citizenship

GOAL 4

Safety & Security

GOAL 5

Collaborative Leadership

GOAL 6

Reliable Infrastructure

GOAL 01

PERSONALIZED, FLEXIBLE, EMPOWERED LEARNING

Adaptive & individualized learning based on student needs & abilities.

DESCRIPTION

We acknowledge the significant role that digital learning environments play in our students' lives. Just as they spend time in their physical classrooms, they spend an equal amount of time in digital spaces. Thus, it is imperative that both realms cater to the individual and diverse needs of our students. Central to our strategy is the cultivation of personalized and flexible digital learning environments, achieved through student-centered and adaptive platforms (Focus 1.1). By seamlessly blending online and physical environments, we aim to create dynamic learning spaces (Focus .2) that foster collaboration, creativity, and innovation among students and educators alike. Recognizing the important role of data in the decision-making process, we prioritize the ethical and responsible use of data to inform decisions and continuously elevate learning outcomes (Focus 1.3).

FOCUSES

1.1 – Student-Centered & Adaptive

1.2 – Reimagined Learning Spaces

1.3 – Data-Driven Decisions

Flexible learning environments adjust for learner variability, provide multiple pathways for learning, and are adaptable to changes in how, when, and where students learn.

– Driving K-12 Innovation, Consortium for School Networking (cosn.org)

STRATEGIES

PL1. Personalized Content in LMS: Provide and maintain a comprehensive, standardized environment within our Learning Management System (LMS) by empowering educators to create, modify, and develop individualized content, with support provided by district Instructional Technologists.

PL2. Responsive Data Dashboards: Curate and manage data dashboards that are responsive to the evolving needs of our district, including but not limited to Disciplinary Alternative Education Program (DAEP), enrollment, and College, Career, and Military Readiness (CCMR).

PL3. Real-Time Data Accuracy: Ensure stakeholders have access to relevant, trustworthy data by performing routine database maintenance confirming security, accuracy, and availability, verified via internal annual data audits.

PL4. Standardized Learning Environments: Provide standardized collaborative and adaptive learning environments by equipping learning spaces with technology aligned to the Profile of a Classroom (see Appendix A).

PL5. Performance Space Technology: Provide standardized environments to promote student learning in performance spaces such as lecture halls, gymnasiums, cafetoriums, and performing arts centers by creating a Profile of a Performance Space.

PL6. Industry-Relevant Tools: Facilitate hands-on learning, project-based exploration, and skill development to prepare students for success in diverse career pathways by integrating industry-relevant tools and platforms.

PL7. Grants and Donations Utilization: Provide an engaging and innovative experience in learning spaces by actively researching and encouraging the use of approved grants, technology partnerships, training grants, and donations which support district-aligned goals.

PL8. Professional Learning and Emerging Technologies: Enhance learning outcomes, tools, and practices through emerging technologies and pedagogy by engaging in professional development opportunities, conferences, and vendor showcases.

PL9. Artificial Intelligence Aptitude: Provide hands-on opportunities for students to engage with and create products using AI tools, fostering critical thinking, creativity, and problem-solving skills that prepare them to be future leaders and visionaries in an AI-driven world.

PL10. Experiential Learning Opportunities: Seek out partnerships with industry leaders to incorporate innovative business tools and modern practices into our classrooms, offering students authentic real-world learning experiences. This approach will give students practical insights and skills with technology, empowering them to excel in their future careers.

GOAL 2

EQUITABLE ACCESS

Fair & equal opportunities for all students to take full advantage of their education.

DESCRIPTION

Equitable access to technology in education is crucial for ensuring that all students can achieve their full potential in today's digital age. Each student must have access to a device that meets their individual learning needs, enabling personalized learning experiences and fostering engagement (Focus 2.1). Reliable internet connectivity with adequate bandwidth is essential for seamless access to online resources, virtual classrooms, and collaborative tools, ensuring that no student is left behind due to technical limitations (Focus 2.2). Additionally, technology must be user-friendly and accessible, designed to facilitate intuitive interaction, so that students of all backgrounds and abilities can effectively utilize digital tools for learning (Focus 2.3). This comprehensive approach to technology access helps bridge the digital divide, promoting inclusivity and equal opportunities for academic success.

FOCUSES

2.1 – One-to-One (1:1) Initiative

2.2 – Connectivity

2.3 – Usability

Equity of access includes ensuring access to devices and sufficient high-speed broadband in school, at home, and everywhere else in the community to utilize digital instructional materials, complete homework assignments, and to connect with students, educators, and experts throughout the world anytime/anywhere.

– Broadband Imperative II, State Educational Technology Directors Association (setda.org)

STRATEGIES

EA1. Dual Fiber Optic Connections: Facilitate uninterrupted internet connection for all students by installing dual fiber optic connections at each district facility.

EA2. 25Gb Network Links: Enhance high-speed data transfer and robust communication by deploying 25Gb closet-to-closet bandwidth using Single Mode Fiber across all district facilities.

EA3. Internet Bandwidth Monitoring: Ensure sufficient internet connection by continuously monitoring internet bandwidth to address immediate bandwidth issues and forecasting future bandwidth needs.

EA4. Internet Capacity: Provide reliable access to digital tools for all students by implementing and exceeding the State Educational Technology Directors' Association recommendation of 10Gb access to wide area network (WAN) internet capacity per 1000 students (see Appendix F).

EA5. Closet to Classroom Cabling: Support reliable and fast connections for all devices (IoT) by implementing robust wired and wireless cabling within campuses using Cat 6/Cat 6a cabling standards.

EA6. Student Device Replacement: Align student devices with learning needs and district goals by maintaining a 4-5 year device refresh rate, adhering to approved refresh procedures, and recommending devices based on Student Device Standards (see Appendix E).

EA7. Staff Device Provision: Enhance student learning and professional duties by creating Staff Device Standards for consistent alignment of staff devices.

EA8. Single Sign-On (SSO): Streamline user access, enhance security, and simplify authentication by maintaining a single sign-on (SSO) portal for district-provided tools and resources.

EA9. Digital Apps Portal: Increase efficiency and user satisfaction by designating the SSO portal as the preferred login method for all primary and secondary educational and business platforms.

EA10. Technology Resources: Provide a seamless guardian experience navigating district resources by establishing a portal with one single sign on for all of their district needs from curriculum to operational actions such as district-provided tools, curriculum, student attendance, assignments, grades, transportation, testing, enrollment, and transcript data.

EA11. E-Rate Funding Utilization: Improve affordability and scalability of district connectivity by leveraging E-Rate federal funding to reduce connectivity and equipment costs while enhancing technology infrastructure.

GOAL 3

DIGITAL CITIZENSHIP

Responsible, safe, respectful, & legal use of technology.

DESCRIPTION

In the context of digital citizenship, this involves creating, enhancing, and expanding a continuous educational plan for digital citizenship (Focus 3.1). At Northwest ISD, our goal is to cultivate individuals who can effectively, safely, ethically, and respectfully harness the learning potential of digital media in a constantly connected world. By developing and practicing these skills, students will become leaders in the digital society and be Future-Ready. This requires us to write and develop robust digital citizenship curriculum and parent resources (Focus 3.2). Furthermore, we will define standards for appropriate and responsible technology use, establish expectations through policies and agreements, and provide clear guidelines on what responsible use entails (Focus 3.3).

FOCUSES

3.1 – Program Development

3.2 – Content Development

3.3 – Rights & Responsibility

Digital citizenship is about more than online safety. It's about creating thoughtful, empathetic digital citizens who can wrestle with the important ethical questions at the intersection of technology and humanity.

– Digital Citizenship in Action, International Society for Technology in Education (iste.org)

STRATEGIES

DC1. Responsible Technology Use: Increase responsible and accountable use of technology by developing and adjusting the Responsible Use Policies (See Appendices B & C) annually to reflect current best practices and evolving needs.

DC2. Digital Citizenship Curriculum: Improve digital literacy and responsible online behavior by writing a robust digital citizenship curriculum tailored to different age groups, updated annually to stay relevant to emerging technology and digital trends.

DC3. Family Resources: Extend learning opportunities by creating family resources that accompany digital citizenship lessons, helping to reinforce responsible technology use in the household.

DC4. Community Partnership: Foster a community-wide understanding of digital citizenship and current technology trends by offering partnerships with stakeholder organizations for events, such as PTA meetings and local business functions, to discuss digital citizenship and other relevant topics.

DC5. Restorative Technology Practices: Support responsible technology use and address misuse by developing and maintaining a structured system that facilitates restorative practices on technology devices.

DC6. Artificial Intelligence Literacy: Integrate comprehensive AI literacy into the curriculum, ensuring students understand the ethics, potential uses, and limitations of generative AI technologies.

GOAL 4

SAFETY & SECURITY

Environment free of physical, emotional, & digital harm or risk.

DESCRIPTION

The urgency and sophistication of cybersecurity and physical security in our schools cannot be overstated. The growing complexity of threats, the severe consequences of cyber attacks, and the intricacies of social engineering underscore the critical importance of robust cybersecurity measures in K-12 education (Focus 4.2). Northwest ISD must strategically navigate these challenges to address technological and professional deficiencies in our cybersecurity efforts. Additionally, technology is vital for ensuring the physical security of our campuses, and it is critical that school districts appropriately allocate resources toward this effort (Focus 4.1). Furthermore, data governance is critical because the information we handle is both confidential and valuable. As custodians of this data, we are committed to ensuring its protection at all times (Focus 4.3). By prioritizing these areas, we can safeguard our students, staff, and the broader school community.

FOCUSES

- 4.1 – Campus & Cyber Safety
- 4.2 – Cyber Security
- 4.3 – Data Management & Governance

There is nothing more important than ensuring the safety and security of our schools from physical and cybersecurity threats alike.

– Cybersecurity for K-12 Education, Cybersecurity and Infrastructure Security Agency (cisa.gov)

STRATEGIES

SS1. Trusted Digital Environment: Build a culture of trust and transparency so our stakeholders feel secure in knowing how district information is being used by leveraging tools such as the Trusted Learning Environment (TLE) framework to protect the privacy of student data.

SS2. Active Cybersecurity Engagement: Identify and respond to current and evolving cybersecurity threats to protect students, staff, and district systems from digital harm by actively engaging in federal, state, and local cybersecurity initiatives such as the Multi-State Information Sharing and Analysis Center (MS-ISAC), Texas Information Sharing and Analysis Organization (TX-ISAO), K12 Security Information eXchange (K12 SIX), and Cybersecurity and Infrastructure Security Agency (CISA).

SS3. Infrastructure Protection: Improve cybersecurity posture for a secure and stable digital environment by adhering to the National Institute of Standards and Technology (NIST) Cybersecurity Framework.

SS4. Legislative Compliance: Safeguard students' online activities by staying current with legislative requirements for filtering and security in K-12 education, such as the Children's Internet Protection Act (CIPA) and Securing Children Online through Parental Empowerment (SCOPE) Act.

SS5. Bandwidth-Based Cybersecurity Solutions: Balance usability with security by maintaining and actively monitoring cybersecurity solutions based on required bandwidth.

SS6. Identity Protection: Promoting a secure network and data access by using current identity protection measures such as Multi-Factor Authorization (MFA) for all staff and vendors, Geofencing & other identity authorization technologies.

SS7. Cybersecurity Training: Improve cybersecurity awareness by providing ongoing and regular training to 100% of staff through annual required sessions.

SS8. Phishing Campaigns: Increase staff cybersecurity response to threats and provide vulnerability data by conducting quarterly phishing campaigns.

SS9. Data Flow Mapping: Enhance visibility into data usage and interdependencies, leading to a more secure and efficient data environment by creating an enterprise data map showing how data moves within the organization.

SS10. Data Dictionary: Improve data quality and integrity by creating standardized definitions and formats for all stakeholders to have uniform understanding of the data landscape.

SS11. Records Digitization: Enhance efficiency, security, and continuity of physical records by converting into a digital format within the NISD repository.

SS12. Technology for School Safety: Enhance physical security posture by proactively planning and collaborating with local safety and security personnel to leverage technology into the district security plan. (Currently includes Sounders, Cell Boosters, Access Control, Surveillance Cameras, and Radios)

SS13. Data Governance Committee: Coordinate data priorities by creating a Data Governance Committee tasked with establishing data standards and practices.

SS14. Least Privileged Access: Enhance data and network security by utilizing zero trust policies built around role-based security, network segmentation, and workflow architecture development.

GOAL 5

COLLABORATIVE LEADERSHIP

Consensus-oriented decision making by multiple stakeholders to achieve shared goals.

DESCRIPTION

Collaborative leadership in technology planning is crucial for aligning our district's technological progress with strategic goals (Focus 5.1). By building strong relationships with all stakeholders, including parents, students, and staff, we can fully understand needs, expectations, and preferences, ensuring a shared vision for integrating technology into the learning experience. Moreover, it is important to highlight the value of investing in technology and promote industry best practices to deliver services that support our educational mission and goals (Focus 5.2). Additionally, engaging in state-level initiatives and collaboration will enhance technology integration and share best practices (Focus 5.3).

FOCUSES

5.1 – Strategic Planning

5.2 – Shared Services

5.3 – State Collaboration

Texas faces a significant challenge in providing visionary school leadership with the necessary background requisite skills to lead and nurture the changes technology brings.

– School Technology and Readiness, Texas Education Agency (tea.texas.gov)

STRATEGIES

CL1. Technology Long Range Plan: Provide guiding direction for all stakeholders by publishing a Long Range Technology Plan with periodic review.

CL2. Business Continuity: Maintain the district's resilience and preparedness in the event of cyber event or physical disaster by creating an effective plan for quickly resuming critical operations and reviewing the plan with key stakeholders at least annually for maximum effectiveness in rapidly changing environments.

CL3. Regional Connectivity: Enhance district connectivity and fiscal benefits by participating in Region 11 fiber ring and serving as a resource for connectivity in other districts.

CL4. Data Privacy: Strengthen data privacy practices across the state by actively participating in the Texas Student Privacy Alliance (TXSPA) such as participating in meetups to enhance the Data Privacy Agreement (DPA) process (see Appendix D) at both state and federal levels, requiring third-party service providers to sign DPA, and sharing agreements online as a resource for TXSPA partner districts.

CL5. Emerging Technologies: Provide superior learning experiences by actively contributing to industry standards and emerging technologies through engagement with vendors and support organizations such as Consortium for School Networking (CoSN), Texas Education Technology Leaders (TETL), Texas Computer Education Association (TCEA), and International Society for Technology in Education (ISTE).

GOAL 6

RELIABLE INFRASTRUCTURE

Available, trusted technology components to support organizational goals.

DESCRIPTION

A strong focus on modernizing legacy equipment and strategies and staying aware of modern technology practices is essential for Northwest ISD's success (Focus 6.2). Outdated equipment and methods can hinder student learning and limit teachers' ability to deliver engaging, effective instruction. Additionally, providing robust technology support ensures that our district remains competitive (Focus 6.1). This commitment to modernization demonstrates our dedication to providing the best possible learning environment for our students, including ensuring continuity of operations through disaster recovery planning and partnerships with other school districts (Focus 6.3). Make sure this addresses how device numbers have increased drastically over the last five years.

FOCUSES

6.1 – Technology Support

6.2 – Legacy Modernization

6.3 – Continuity of Operations

As more and more learning opportunities rely on technology to enhance educational experiences, a reliable infrastructure is critical for school districts to obtain their educational goals.

– Building a Stronger Texas: Long-Range Plan for Education, Texas Education Agency (tea.texas.gov)

STRATEGIES

INF1. Software Defined Networking (SDN): Modernize district network agility and visibility by adopting Software Defined Networking (SDN) to provide resilient, secure, and optimized access to resources across multiple data centers through the ability to control the network through software.

INF2. Certificate Authority Management: Improve management of secure communications over district networks by establishing the identity of individual devices using certificate authority management protocols.

INF3. Cloud-Hosted External DNS: Ensure resilient and uninterrupted connectivity to district resources by adopting cloud-hosted external DNS services.

INF4. Integrated Security Infrastructure: Bolster physical safety and security of students, staff, and campuses across the district by deploying an integrated security infrastructure with access control and surveillance cameras.

INF5. Student Technology Advisory Council: Foster student engagement and feedback on technology use by creating a Student Technology Advisory Council.

INF6. Campus Technician Support: Maximize instructional time by increasing technician support staff in proportion to campus growth according to NISD's standard technology support ratios.

INF7. Instructional Technology Support: Deliver overall more efficient and effective educational environment by providing advanced technical resources to instructional technology support staff.

INF8. Advanced Network Monitoring: Optimize network performance by introducing granular network monitoring and analysis tools that enable proactive issue detection, capacity planning, and optimization for a seamless user experience.

INF9. Cloud-Hosted Phone Systems: Streamline phone system support, access, and engineering flexibility by migrating to cloud-hosted phone systems.

INF10. Storage Needs Assessment: Optimize performance for systems by provisioning sufficient enterprise storage to meet evolving instructional and operational demands.

INF11. New Construction Support: Enable seamless technology integration in newly constructed learning spaces by providing planning and implementation assistance and technology expertise.

FUNDING & SUSTAINABILITY

Robust and Sustainable Financial Foundation

Budget Allocations

Each phase of the technology plan will be systematically organized and thoroughly maintained, detailing specific costs for infrastructure upgrades, hardware acquisitions, software licensing, and staff resources. This meticulous approach ensures transparent and precise financial planning, funded through both the Maintenance & Operations and Interest & Sinking budgets.

Grant and Bond Funding

We will proactively identify and pursue grant opportunities, bond measures, and other funding sources to enhance our financial capacity for large-scale technology projects. This includes preparing comprehensive proposals for state and federal grants and working with the community and district leadership to secure bond approvals to finance critical technology upgrades.

Optimizing E-Rate Benefits

To secure the financial future of our technology initiatives, we will actively identify and apply for relevant E-Rate funding. By strategically leveraging E-Rate funding, the district can enhance its internet infrastructure, ensuring robust and reliable connectivity to support digital learning, online assessments, and other technology-driven educational programs.

By implementing these actions, we will establish a robust and sustainable financial foundation to support the continuous advancement of our technology infrastructure and educational capabilities.

How will we measure success?

EVALUATION

Assessing Progress

Monitoring and Insights

- Establish a simple system to track the progress of various initiatives within the plan, focusing on major milestones and significant changes.
- Collect general feedback and observations from participants and stakeholders to gain an understanding of the plan's impact and reception.

Evaluation and Adjustment

- Periodically assess the outcomes of the strategic initiatives to determine if they are contributing effectively towards the organizational goals.
- Make necessary adjustments to the strategies based on overarching trends and feedback without delving into specific operational details.

Communication and Reporting

- Regularly communicate the status and outcomes of the strategic plan to stakeholders in a concise manner.
- Highlight key points of progress and areas requiring attention in broad terms to keep stakeholders informed and engaged.

Continuous Review

- Maintain an ongoing process of review to ensure the strategic plan remains relevant and effective over time.
- Adapt to significant changes in the organizational or external environment by revisiting and revising the strategic goals as necessary.

This broad approach emphasizes flexibility and adaptability, focusing on the alignment with organizational goals and stakeholder engagement.

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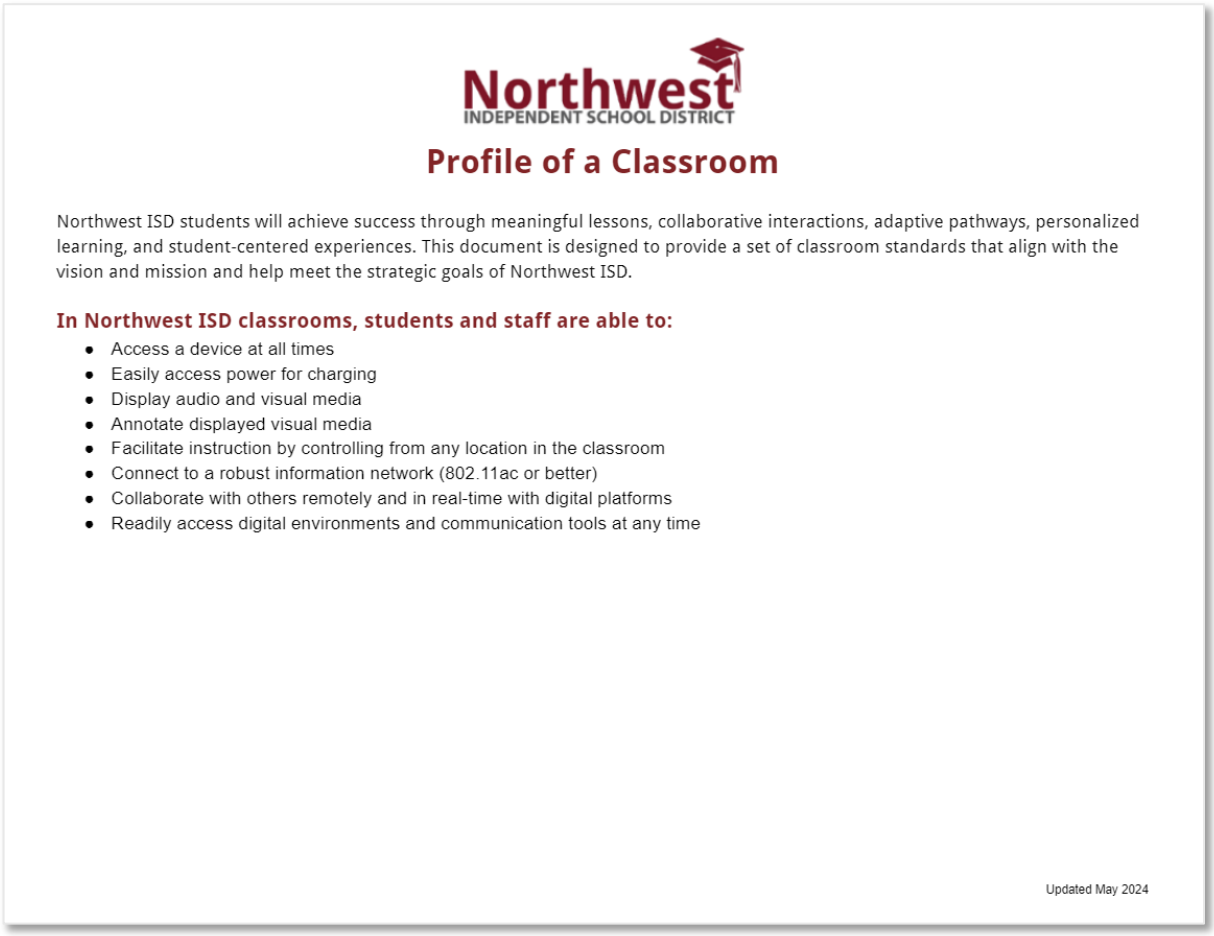
APPENDIX A

NISD Profile of a Classroom



Northwest
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Profile of a Classroom

Northwest ISD students will achieve success through meaningful lessons, collaborative interactions, adaptive pathways, personalized learning, and student-centered experiences. This document is designed to provide a set of classroom standards that align with the vision and mission and help meet the strategic goals of Northwest ISD.

In Northwest ISD classrooms, students and staff are able to:

- Access a device at all times
- Easily access power for charging
- Display audio and visual media
- Annotate displayed visual media
- Facilitate instruction by controlling from any location in the classroom
- Connect to a robust information network (802.11ac or better)
- Collaborate with others remotely and in real-time with digital platforms
- Readily access digital environments and communication tools at any time

Updated May 2024

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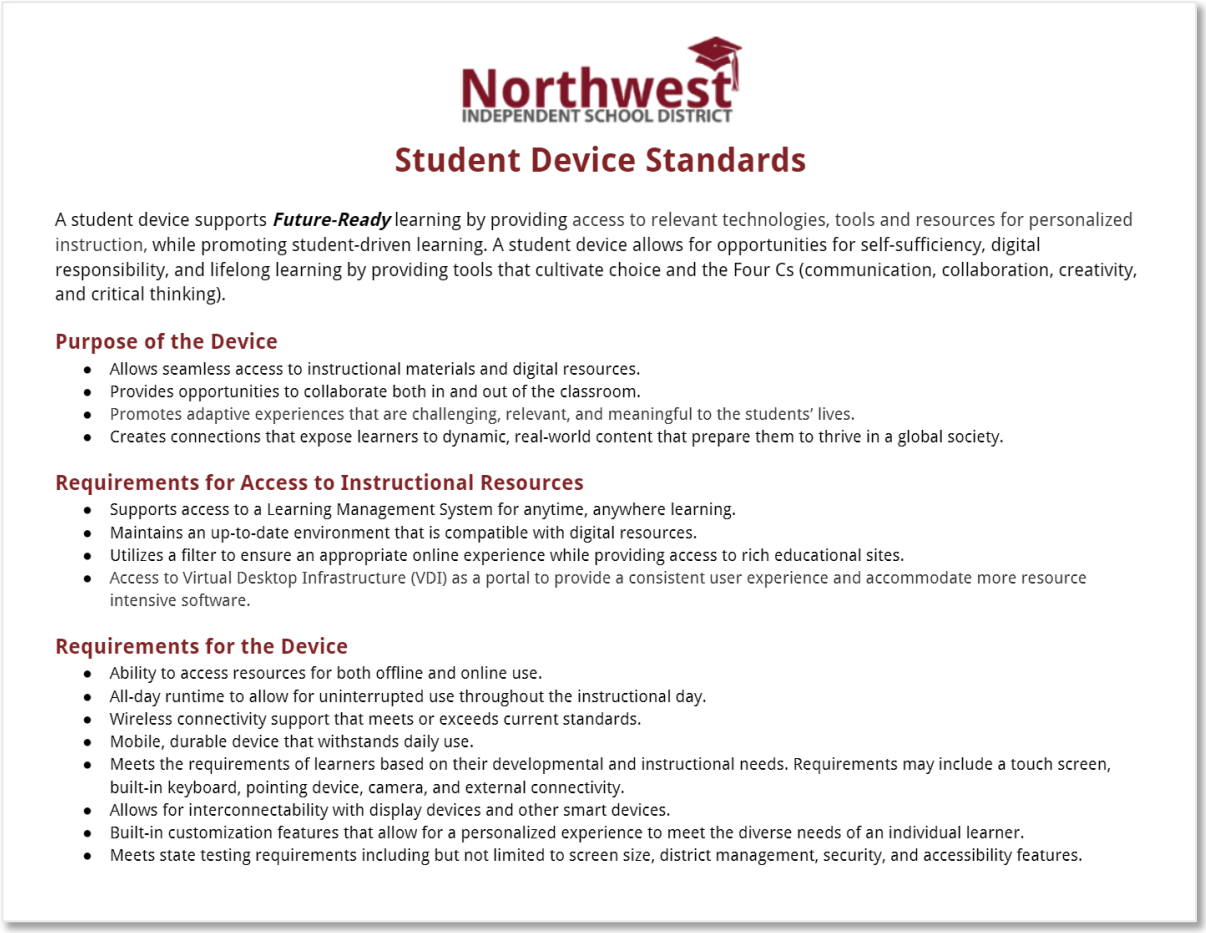
APPENDIX B

NISD Student Device Standards



Northwest INDEPENDENT SCHOOL DISTRICT

Student Device Standards

A student device supports ***Future-Ready*** learning by providing access to relevant technologies, tools and resources for personalized instruction, while promoting student-driven learning. A student device allows for opportunities for self-sufficiency, digital responsibility, and lifelong learning by providing tools that cultivate choice and the Four Cs (communication, collaboration, creativity, and critical thinking).

Purpose of the Device

- Allows seamless access to instructional materials and digital resources.
- Provides opportunities to collaborate both in and out of the classroom.
- Promotes adaptive experiences that are challenging, relevant, and meaningful to the students' lives.
- Creates connections that expose learners to dynamic, real-world content that prepare them to thrive in a global society.

Requirements for Access to Instructional Resources

- Supports access to a Learning Management System for anytime, anywhere learning.
- Maintains an up-to-date environment that is compatible with digital resources.
- Utilizes a filter to ensure an appropriate online experience while providing access to rich educational sites.
- Access to Virtual Desktop Infrastructure (VDI) as a portal to provide a consistent user experience and accommodate more resource intensive software.

Requirements for the Device

- Ability to access resources for both offline and online use.
- All-day runtime to allow for uninterrupted use throughout the instructional day.
- Wireless connectivity support that meets or exceeds current standards.
- Mobile, durable device that withstands daily use.
- Meets the requirements of learners based on their developmental and instructional needs. Requirements may include a touch screen, built-in keyboard, pointing device, camera, and external connectivity.
- Allows for interconnectability with display devices and other smart devices.
- Built-in customization features that allow for a personalized experience to meet the diverse needs of an individual learner.
- Meets state testing requirements including but not limited to screen size, district management, security, and accessibility features.

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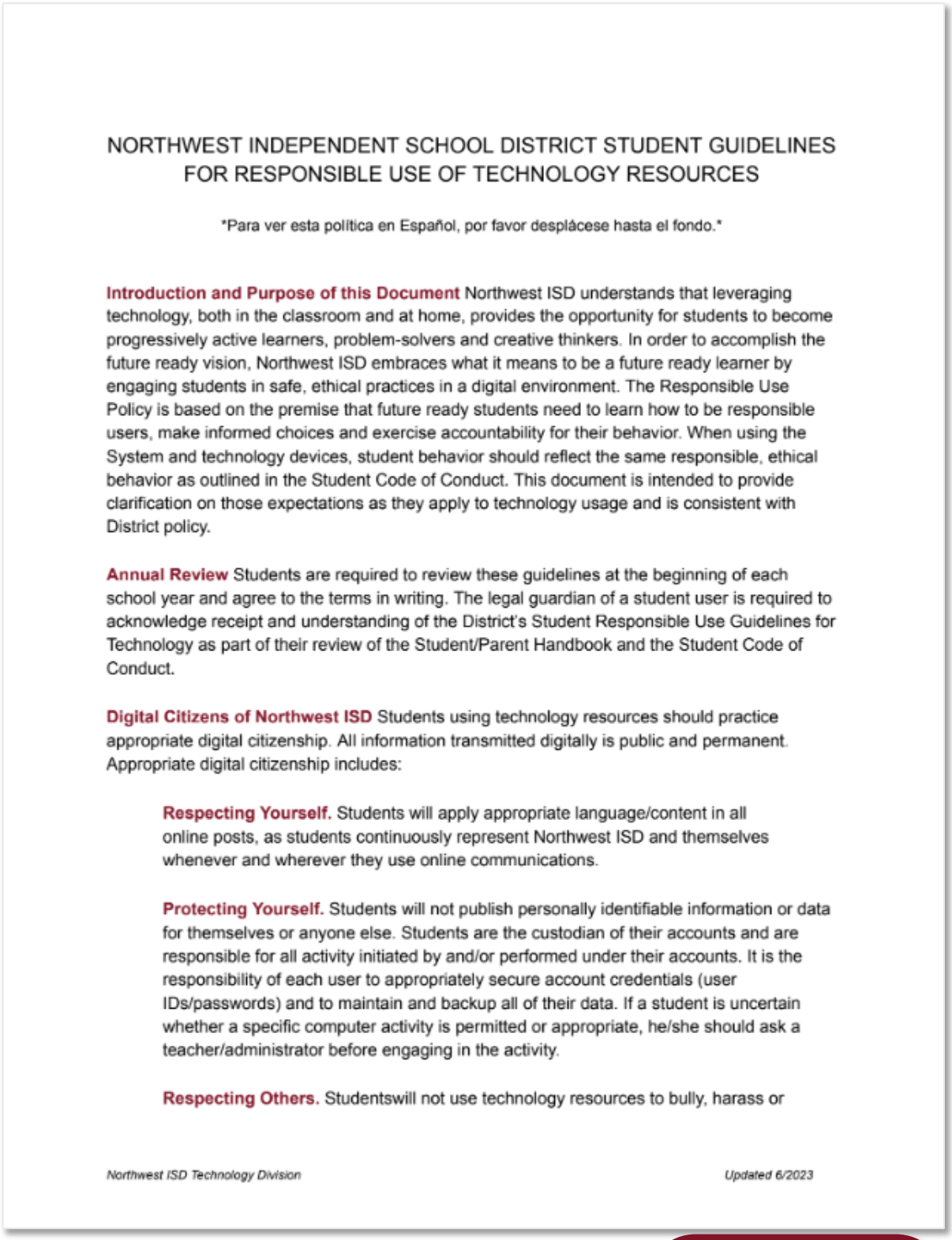
APPENDIX C

NISD Student Responsible Use Policies



NORTHWEST INDEPENDENT SCHOOL DISTRICT STUDENT GUIDELINES FOR RESPONSIBLE USE OF TECHNOLOGY RESOURCES

Para ver esta política en Español, por favor desplácese hasta el fondo.

Introduction and Purpose of this Document Northwest ISD understands that leveraging technology, both in the classroom and at home, provides the opportunity for students to become progressively active learners, problem-solvers and creative thinkers. In order to accomplish the future ready vision, Northwest ISD embraces what it means to be a future ready learner by engaging students in safe, ethical practices in a digital environment. The Responsible Use Policy is based on the premise that future ready students need to learn how to be responsible users, make informed choices and exercise accountability for their behavior. When using the System and technology devices, student behavior should reflect the same responsible, ethical behavior as outlined in the Student Code of Conduct. This document is intended to provide clarification on those expectations as they apply to technology usage and is consistent with District policy.

Annual Review Students are required to review these guidelines at the beginning of each school year and agree to the terms in writing. The legal guardian of a student user is required to acknowledge receipt and understanding of the District's Student Responsible Use Guidelines for Technology as part of their review of the Student/Parent Handbook and the Student Code of Conduct.

Digital Citizens of Northwest ISD Students using technology resources should practice appropriate digital citizenship. All information transmitted digitally is public and permanent. Appropriate digital citizenship includes:

Respecting Yourself. Students will apply appropriate language/content in all online posts, as students continuously represent Northwest ISD and themselves whenever and wherever they use online communications.

Protecting Yourself. Students will not publish personally identifiable information or data for themselves or anyone else. Students are the custodian of their accounts and are responsible for all activity initiated by and/or performed under their accounts. It is the responsibility of each user to appropriately secure account credentials (user IDs/passwords) and to maintain and backup all of their data. If a student is uncertain whether a specific computer activity is permitted or appropriate, he/she should ask a teacher/administrator before engaging in the activity.

Respecting Others. Studentswill not use technology resources to bully, harass or

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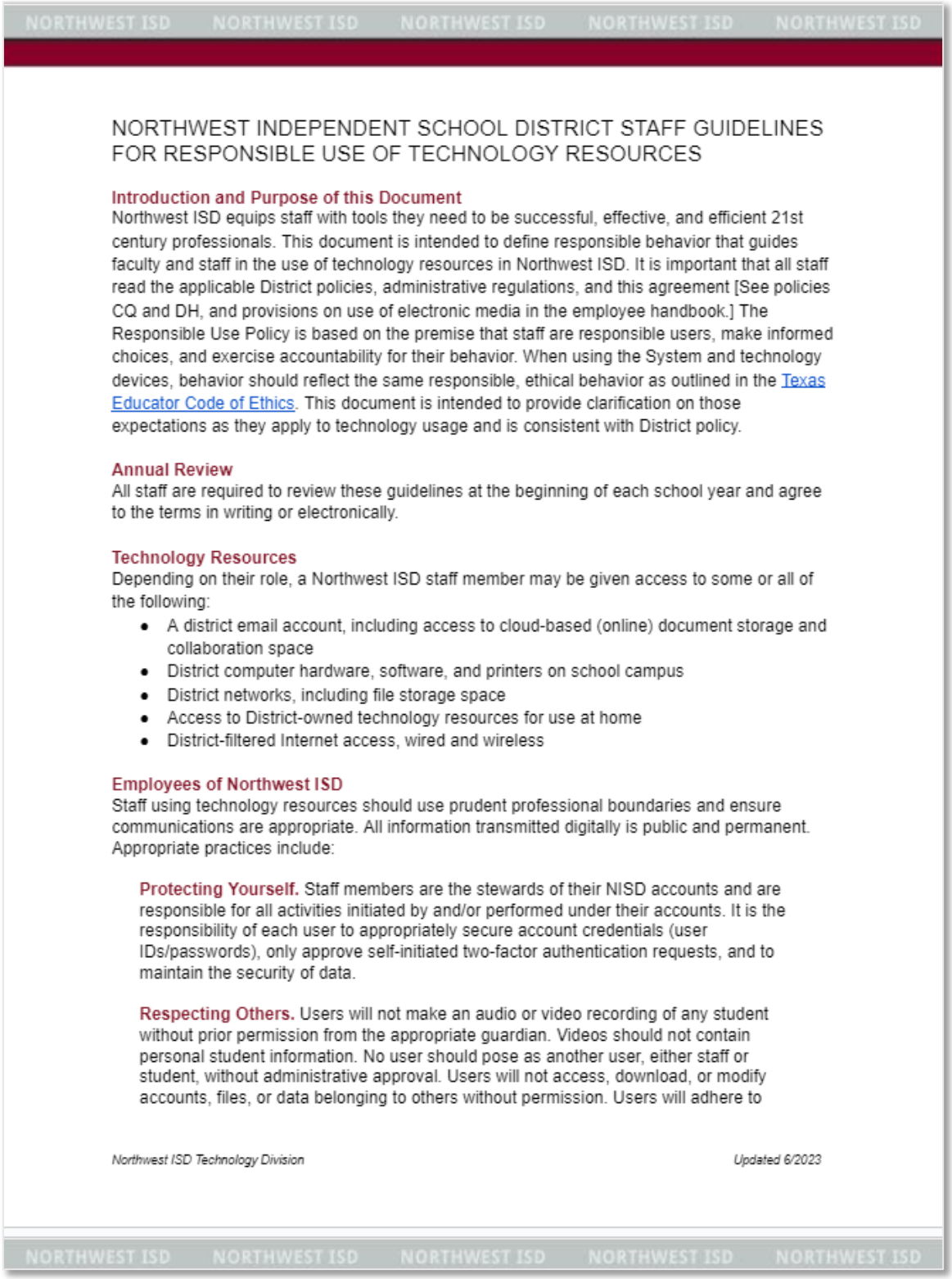
APPENDIX D

NISD Staff Responsible Use Policies



NORTHWEST INDEPENDENT SCHOOL DISTRICT STAFF GUIDELINES FOR RESPONSIBLE USE OF TECHNOLOGY RESOURCES

Introduction and Purpose of this Document

Northwest ISD equips staff with tools they need to be successful, effective, and efficient 21st century professionals. This document is intended to define responsible behavior that guides faculty and staff in the use of technology resources in Northwest ISD. It is important that all staff read the applicable District policies, administrative regulations, and this agreement [See policies CQ and DH, and provisions on use of electronic media in the employee handbook.] The Responsible Use Policy is based on the premise that staff are responsible users, make informed choices, and exercise accountability for their behavior. When using the System and technology devices, behavior should reflect the same responsible, ethical behavior as outlined in the Texas Educator Code of Ethics. This document is intended to provide clarification on those expectations as they apply to technology usage and is consistent with District policy.

Annual Review

All staff are required to review these guidelines at the beginning of each school year and agree to the terms in writing or electronically.

Technology Resources

Depending on their role, a Northwest ISD staff member may be given access to some or all of the following:

- A district email account, including access to cloud-based (online) document storage and collaboration space
- District computer hardware, software, and printers on school campus
- District networks, including file storage space
- Access to District-owned technology resources for use at home
- District-filtered Internet access, wired and wireless

Employees of Northwest ISD

Staff using technology resources should use prudent professional boundaries and ensure communications are appropriate. All information transmitted digitally is public and permanent. Appropriate practices include:

Protecting Yourself. Staff members are the stewards of their NISD accounts and are responsible for all activities initiated by and/or performed under their accounts. It is the responsibility of each user to appropriately secure account credentials (user IDs/passwords), only approve self-initiated two-factor authentication requests, and to maintain the security of data.

Respecting Others. Users will not make an audio or video recording of any student without prior permission from the appropriate guardian. Videos should not contain personal student information. No user should pose as another user, either staff or student, without administrative approval. Users will not access, download, or modify accounts, files, or data belonging to others without permission. Users will adhere to

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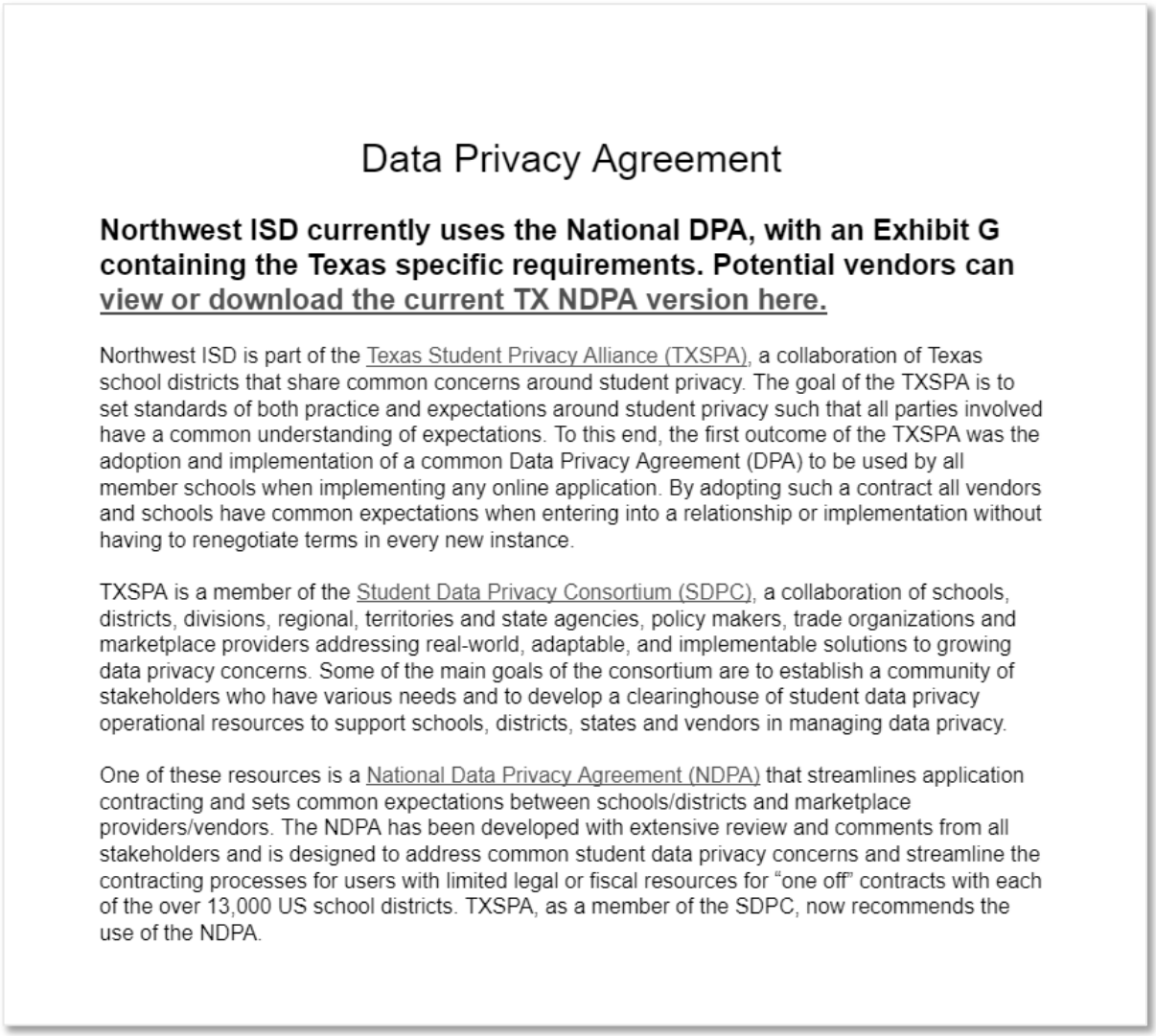
APPENDIX E

NISD Data Privacy Agreement (DPA) Policy



Data Privacy Agreement

Northwest ISD currently uses the National DPA, with an Exhibit G containing the Texas specific requirements. Potential vendors can view or download the current TX NDPA version here.

Northwest ISD is part of the Texas Student Privacy Alliance (TXSPA), a collaboration of Texas school districts that share common concerns around student privacy. The goal of the TXSPA is to set standards of both practice and expectations around student privacy such that all parties involved have a common understanding of expectations. To this end, the first outcome of the TXSPA was the adoption and implementation of a common Data Privacy Agreement (DPA) to be used by all member schools when implementing any online application. By adopting such a contract all vendors and schools have common expectations when entering into a relationship or implementation without having to renegotiate terms in every new instance.

TXSPA is a member of the Student Data Privacy Consortium (SDPC), a collaboration of schools, districts, divisions, regional, territories and state agencies, policy makers, trade organizations and marketplace providers addressing real-world, adaptable, and implementable solutions to growing data privacy concerns. Some of the main goals of the consortium are to establish a community of stakeholders who have various needs and to develop a clearinghouse of student data privacy operational resources to support schools, districts, states and vendors in managing data privacy.

One of these resources is a National Data Privacy Agreement (NDPA) that streamlines application contracting and sets common expectations between schools/districts and marketplace providers/vendors. The NDPA has been developed with extensive review and comments from all stakeholders and is designed to address common student data privacy concerns and streamline the contracting processes for users with limited legal or fiscal resources for "one off" contracts with each of the over 13,000 US school districts. TXSPA, as a member of the SDPC, now recommends the use of the NDPA.

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APPENDIX F

SETDA Wide Area Network Recommendation

WAN RECOMMENDATIONS		
School Year	**2017-18 Targets**	**2020-21 Targets**
Connections to each school to link to the internet via a district aggregation point and for in-house administrative functions	At least 10 Gbps per 1,000 users	At least 10 Gbps per 1,000 users
*User: students, teachers, administrators, staff, and guests		

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