



# Building a Stronger Texas

Transforming Education through Technology



*Revised and Extended Long-Range Plan  
for Technology 2018-2025*

*June 2022*

## Letter from the Deputy Commissioner of Technology – Melody Parrish

Dear Members of the Legislature and Citizens of Texas:

There is no period in the history of education in the State of Texas when technology was more important than it is today. Over the last three years, since the Texas Education Agency (TEA) issued its 2018-2023 Long Range Plan for Technology, how we think about the role of technology in education has been transformed: the definition and scope of educational technology itself has fundamentally changed forever.

For this reason, and to honor our commitment to reevaluate and revise this plan on a regular cadence during its 5-year duration, the TEA reconvened the original 2018-2023 Long-Range Plan for Technology (LRPT) Advisory Committee plus several additional subject matter experts (SMEs), to evaluate, revise and extend the 2018 Plan to accurately reflect the needs of Local Education Agencies (LEAs) today.

To begin this LRPT reevaluation process, the TEA surveyed the eight original working group members and seven additional SMEs. These surveys were then followed by 1-on-1 interviews with each of the survey respondents and a virtual working group session for all the expanded Advisory Committee participants.

What we heard first and foremost was that the LRPT needs to be as much a process of engagement as it is a document. It must serve not just as a guide to best practices for LEAs, but as a process of engagement that supports LEAs as they determine how to best use the LRPT within their own regions.

We also heard from the expanded Advisory Committee that the content covered by the LRPT needed to be both expanded and reprioritized. This is particularly true for ensuring that personalized learning includes virtual learning, that equitable access reflects both virtual learning and supports the specific needs of all LEAs including small and rural districts, that discussion of district technology systems include increased frequency of the refresh of devices and the expanded universe of tools now required, especially those for cybersecurity, and lastly, ensuring that the format for the revised LRPT is dynamic, interactive and supportive of districts' unique efforts and needs. All these recommendations are covered in detail in this revised Long-Range Plan for Technology.

Finally, in response to the call for the LRPT to not only guide with best practices, but also support the unique needs of individual districts, the launch of this revised plan will be followed by a statewide webinar, not only to answer LEAs questions but also to support districts' individual needs. This LRPT webinar will be led by the Director of Strategic Projects/Chief of Staff of the Office of Information Technology, Julia Schacherl and Melody Parrish, Deputy Commissioner of Technology/Chief Information Officer.

On behalf of the TEA and our dedicated Advisory Committee, I am proud to present the revised and extended 2018-2025 Long Range Plan for Technology.

Sincerely,



Melody Parrish  
Deputy Commissioner, Technology  
Office of Information Technology  
Texas Education Agency

# Contents

- Overview .....4
- Mission of the Texas Education Agency..... 7
- Strategic Goals .....8
- Strategic Goal 1: Personalized, Flexible, Empowered Learning Environment..... 10
- Strategic Goal 2: Equitable Access ..... 14
- Strategic Goal 3: Digital Citizenship..... 18
- Strategic Goal 4: Safety and Security.....22
- Strategic Goal 5: Collaborative Leadership.....26
- Strategic Goal 6: Reliable Infrastructure .....30
- Looking to the Future.....34
- Long Range Plan for Technology: The Resource Center .....35
- State and Federal Supports.....36
- Acknowledgements .....38

## ABOUT THIS PLAN

Texas Education Code Sec. 32.001 states the State Board of Education is required to develop a long-range plan for technology. This plan identifies technological goals for education over the next five years and guides local education agencies (LEAs) as they develop their individual technology plans. Note: For the purposes of this report, the term “local education agency” is used to indicate school districts and charter schools. The 2018–2025 (revised and extended) Long-Range Plan for Technology is available on TEA’s website at <https://tea.texas.gov/academics/learning-support-and-programs/technology-planning>

## Overview

Information technology has allowed business, government, and schools to perform more efficiently, and it is no surprise that the next generation of Texans has come to expect technology to not only be present in every aspect of life, but to enhance and significantly improve everyday experiences. In the last three years since the original crafting of this Long-Range Plan for Technology, with the onset of COVID 19, the rapid expansion of Virtual Education tools, and ubiquitous importance of connectivity in our daily lives traditional ways of delivering education are being upgraded and improved with innovative and flexible learning opportunities. Congruently, with increased use of technology comes an increased risk of threats to that technology, making cybersecurity tools equally important to the safety and maintenance of these technological systems.

Real-time information and communications are not just available at your fingertips but have become at times a primary means of connecting with those around us. Over those three years we have learned that if such information and communications are properly and safely implemented, they can enhance, and improve education in Texas. Educators and technology leaders must collaborate to ensure technology initiatives align with overall organizational priorities to create a quality, safe, flexible learning environment for all students.

To update and extend the 2018 Long- Range Plan for Technology (LRPT), The Texas Education Agency surveyed an expanded working group, the eight original working group members and seven additional subject matter experts. This group was tasked with identifying the technology strategies and goals to positively enhance and improve education in Texas and actively reflect the needs of Local Education Agencies (LEAs) today. The committee was asked to:

- Review and provide feedback on the existing long-range strategic plans, best practices and uncover strategies on how to best support implementation that meets districts' individual needs
- Ensure that Personalized Learning is inclusive of Individualized Learning.
- Explore current and anticipated technology trends, drivers, and the expanded universe of tools now required in education in Texas
- Review the rolling 5-year vision for the information technology environment for education in Texas and provide feedback on how the role of technology has transformed
- Identify and prioritize technical issues to be addressed to achieve the vision.

As identified in the Long-Range Plan for Public Education 2018, Texans want a system of public education that is equitable, accessible, and staffed by skilled educators and that offers opportunities for students that will carry them through school and into college, careers, or the military. Today's students will be tomorrow's citizens and workforce, so ensuring that our young people are well educated is critical for the state to have a stronger future. An effective education system is key to equipping students with the knowledge, skills, and integrity to contribute to our state in positive ways. Technology is a driving force for transforming education as we know it, creating stronger, better-educated students, and ultimately building a stronger Texas.

## Purpose and Use of the LRPT

The Long-Range Plan for Technology (LRPT), and its accompanying web-based Resource Center, are intended to support a wide range of campus-based and district-wide professionals.



**Administrators**



**Teachers**



**Technology Leaders**



**Curriculum &  
Instructional  
Technology Leaders**

### *LRPT For Administrators*

The LRPT and web-based Resource Center is intended to be used by LEA Administrators as a toolkit to help ensure that each district has the guidance and informational resources it needs to develop long range technology plans that meet their unique needs. By leveraging the LRPT and supporting Resource Center to create or revise their own strategic implementation plan for technology, LEA Administrators will be better equipped to meet the unique technological goals of their district and ensure that their use of technology aligns with district objectives for measurable progress.

### *LRPT For Teachers*

The LRPT provides teachers and educators with guidance and training tools on how to support the ever-changing role that technology can play in the classroom and in learning. By incorporating technology and using digital tools for teaching within traditional and virtual curriculum, teachers can elevate personalized learning experiences and provide students with a deeper, more meaningful understanding of the materials being taught, while collecting real-time data to improve instruction.

### *LRPT for LEA Technology Leaders*

With the advancement of technology changing daily, it is up to our LEA Technology Leaders to be at the forefront, often leading the district's work on managing data, reliable and safe infrastructure, and cybersecurity. The LRPT, with Technology Leaders in mind, provides guidance for and emphasizes the importance of creating a security team at each LEA, to ensure that school campuses have the collaborative tools necessary to mitigate cyber-risk and promote safe and appropriate data governance.

### *LRPT for Instructional Technology Leaders*

Curriculum and Instructional Technology Leaders are the guides within the LEA that teachers, students, and staff look to for daily implementation support, interpretation of program data, and leadership in digital citizenship. The revised and extended LRPT and its accompanying Resource Center provides models, templates, and recommendations to support the work of our Instructional Technology Leaders.

***Throughout this document, readers will find "Call-out Boxes" that include "Guiding Questions." These "Guiding Questions" are intended to support readers as they begin to develop unique use cases for this Long Range Plan for Technology in their district.***

## Mission of the Texas Education Agency

The Texas Education Agency will improve outcomes for all public school students in the state by providing leadership, guidance, and support to school systems. We are working towards a vision in which every child in Texas is an independent thinker and graduates prepared for success in college, a career, or the military, and as an engaged, productive citizen. To achieve this vision for public education in Texas, the Agency has outlined specific strategic priorities to guide and focus our work on behalf of the more than five million school children in our state.



TEA Agency Strategic Plan 2019-2023, adopted June 8, 2018

Technology can be used inside and outside the classroom to improve education and help meet the strategic goals of education statewide. It provides the tools and devices that may be used to solve real-world problems and is a driving force and enabler that can transform the learning experience. Technology can be used to support teachers and educators as well as open many new learning opportunities for all students.

## Strategic Goals

The revised and extended 2018-2025 Long-Range Plan for Technology presents technology trends identified by education technology leaders to positively enhance and improve education in Texas. This revised and extended LRPT plan is intended to be a guide to inform and support LEAs in developing their own strategic technology plan. The LRPT Advisory Committee has developed six strategic goals and 18 focus areas that they believe represent the technology trends and priorities in education. Each LEA should carefully consider how the six strategic goals outlined in this plan align with their own objectives and should strive to achieve positive progress in each focus area.

Local education agencies are diverse and unique, and while they may share a great deal of common challenges like budget constraints, competing priorities, and security threats, each technology plan should be tailored to the individual needs, opportunities, and constraints of that LEA. While competing priorities and budget constraints may be a factor in how each LEA chooses to address these goals, it is important for each LEA to prioritize these goals and focus areas in their technology plans based on their needs and their budget.

This plan follows the format of the DIR 2022-26 State Strategic Plan for Information Resource Management and incorporates statewide trends in technology that can be utilized to enhance education in Texas. In a constantly changing technology environment, LEAs must be cost efficient, yet innovative; measured, yet responsive; operational, yet strategic.

The revised and extended 2018-2025 Long-Range Plan for Technology will include two new components designed to support LEAs in developing or revising their own plans:

1

A web-based Resource Center that will house templates, case studies, an evergreening guide to technology resources available to LEAs and prerecorded “how-to” videos that bring the LRPT to life to help LEAs through the planning process.

2

A launch webinar with ESC regions and LEAs, designed to introduce them to the LRPT and web-based Resource Center.



## Building a Stronger Texas

### Strategic Goals in Technology



<b>Personalized, Flexible, Empowered Learning</b>	<b>Equitable Access</b>	<b>Digital Citizenship</b>	<b>Safety and Security</b>	<b>Collaborative Leadership</b>	<b>Reliable Infrastructure</b>
Adaptive and individualized learning, including Virtual Learning based on student needs, abilities and access.	Fair and equal opportunities for all students to take full advantage of their education.	Responsible, safe, respectful and legal use of technology both in school and for virtual learning.	Environment free of physical, emotional and digital harm or risk in school or in the virtual learning environment.	Consensus-oriented decision making by multiple stakeholders to achieve shared goals.	Available, trusted technology components to support organizational goals and evolving needs.



## Strategic Goal 1: Personalized, Flexible, Empowered Learning Environment

Implementing a successful personalized learning practice, inclusive of virtual learning, requires a whole new way of thinking about education.

Imagine an education system where students move at their own pace, have the freedom to make decisions about their own learning, and adapt lessons to their own interests, abilities, and style. A system where students are engaged and motivated, and progress is inherently assessed along the way.

Students no longer need to be bound by the traditional classroom space or by traditional learning methods. Data can be used to present the right lessons at the time most needed.

### Focus Areas:

1. [Student-Centered & Adaptive](#)
2. [Reimagined Learning Spaces](#)
3. [Data-Driven Decisions](#)

## Student-Centered & Adaptive

Focusing on the needs and interests of the student



Adaptive technology may be one of the largest innovations of digital learning in the 21<sup>st</sup> century. LEAs should consider implementing a student-centered and adaptable learning practice that supports and aligns to the needs of all learners.

### Challenge

Technology is an enabler of personalized learning and can allow it to be more relevant and expand the impact of learning. While many educators strive for a successful personalized learning environment, some are unsure how to implement it in a scalable and repeatable manner across all classrooms and campuses.

### Actions

- » **Create** a strategic implementation plan that addresses the shift in teaching methods, including changes to structures, policies, technology, and supports to facilitate innovation in schools.
- » **Collaborate** and involve all stakeholders including school boards, educators, administrators, teachers, students, and parents. Include functions like technology, professional development, and curriculum and instruction.
- » **Utilize** existing proven models. Learn from existing projects and studies. Be iterative, allow for corrections, and adapt as necessary to fit each environment.
- » **Model** the behavior. Use personalized, adaptive training techniques to instruct teachers, students and parents. Provide training and coaching on digital literacy, designing engaging lessons, and support for caregivers continuing virtual instruction and homework outside of school.

### Outcomes

**Short-term:** Personalized content tailored for students, allowing individual preferences and choices to enhance more creative and innovative work.

**Long-term:** Fully prepared, independent-thinking, tech-savvy student population ready for the future.

### Guiding Questions

- How would you define the impact of learning in your district?
- What does a successful learning environment look like in your district?

## Reimagined Learning Spaces

Flexible physical and virtual environments for students and educators enhanced by technology



The design of a classroom fundamentally impacts and sets the tone of the learning experience. Spaces can be designed for student collaboration and higher engagement, giving students a choice in what kind of learning space works best for them. With technology rich lessons and virtual courses, curriculum can be taken anywhere, enabling flexibility around the need for set physical classroom alone.

### Challenge

As technology advances and teaching methods expand, the traditional classroom setting does not always allow for the collaboration, movement, and autonomy needed for the curriculum. In a virtual setting, educators have an opportunity to expand on learning and provide students with a deeper, more meaningful understanding inside and out of the physical classroom.

### Actions

- » **Redesign** the idea of what a classroom looks like. Instead of four walls and desks, students may be learning at home, at the kitchen table or even outdoors. Create active learning spaces, remote and in person, suited to different styles of learning. Add collaboration areas or breakout “rooms”, project spaces, and virtual opportunities for how students are encouraged to interact with lessons and with each other. Ensure appropriate power, connectivity, and technology resources are always available.
- » **Use** online curriculum like the Texas Virtual School Network (TXVSN) and open educational resources (OER) to enhance everyday classroom instruction and the LRPT Resource Center to search specific resources such as videos or planning templates from other LEA’s. Collaborate with your technology curriculum team and attend professional development for virtual learning.
- » **Enable** student agency by allowing students to take an active role as the lead agent in making learning decisions about the physical and online environment that works best for them.

### Outcomes

**Short-term:** Positive, flexible learning spaces that are intentionally designed with seamlessly integrated technology both within the traditional classroom or virtual setting.

**Long-term:** Flexible, open learning environments that foster creativity and encourage learning in a way that works best for each individual student.

### Guiding Questions

- What type of collaboration, movement, and autonomy do educators have in your classrooms?
- How does the virtual setting provide opportunity to educators to expand on learning?

## Data Driven Decisions

Choices based on comprehensive information



Vast amounts of structured and unstructured data have transformed the way organizations make decisions. From designing lesson options to determining which students need additional assistance for accelerated learning, data-driven decision making can help schools fulfill their missions.

### Challenge

While analytics can benefit an organization, the tools and strategies are rendered useless without proper data management and governance. The amount of data can be overwhelming and vulnerable if not properly stored, managed, and used.

### Actions

- » **Collect** important and useful data through a student information system (SIS) and other secure data warehouse systems (like the Texas Student Data System (TSDS)). Use technology to make the data more available in various formats such as dashboards and reports.
- » **Provide** robust, real-time data with relevant actionable information. Online testing and student data warehouses can safely make information available more efficiently and effectively, allowing teachers more time with students and enabling them to make immediate course corrections.
- » **Create** a strategic plan for data use. Identify the high-quality and relevant information and document how/when it will be used and by whom. Provide professional development for teachers and staff to be able to obtain and utilize the data to drive educational decisions appropriately and effectively.

### Outcomes

**Short-term:** Greater insight for data-driven decisions and identifying areas for improvement.

**Long-term:** Efficient use of time, and resources, and improved instruction to students through informed decisions and increased data quality throughout the organization.

### Guiding Questions

- What current analytics is your district collecting?
- What does data management and governance look like for your district?



## Strategic Goal 2: Equitable Access

Preparing all students for success in the 21<sup>st</sup> century and ensuring that all students have the technology skills to fully participate and thrive in the world is a top concern of all educators.

Technology provides opportunities to transform education, but only if all students can fully participate. When implementing technology, it is important to consider not only the number and type of technology devices you need but also how to connect them, how to learn the skills to use them, and how to leverage available digital resources to meet learning and teaching goals.

### Focus Areas:

1. [One-to-One \(1:1\) Initiative](#)
2. [Connectivity](#)
3. [Usability](#)

## One-to-One (1:1) Initiative

Providing each student and staff with a connected device



Educators are constantly seeking to find new opportunities and methods to improve the student learning experience and to better prepare students for the future. Now more than ever it is a necessity for all students to have access to internet-connected devices. Learning does not stop at the end of the school day and accessing resources shouldn't either. By LEA's striving to provide a one-to-one ratio, districts are ensuring that all students have equal opportunity and accessibility in their education and that parents have the tools they require to support their children's success.

### Challenge

Funding may be a significant hurdle in implementing a 1:1 initiative; moreover, providing the devices is not sufficient to ensure a successful outcome. Without a comprehensive paradigm-shifting implementation strategy, personal devices just become overrated notetaking and testing devices.

### Actions

- » **Identify** funding to implement a 1:1 initiative. Look for innovative and creative funding sources if the traditional budget is not available. Ensure that the funding is sufficient to refresh the devices with new ones every three years for the safety and efficacy of their use.
- » **Set** student device standards for learning, for access, and for the device itself.
- » **Create** a strategic implementation plan to address the shift in teaching methods. Train teachers and staff appropriately. Monitor and assess frequently and adjust.
- » **Involve** stakeholders early and often: school board members, education leaders, teachers, parents, students, and the community.

### Outcomes

**Short-term:** Personalized content tailored for students to enhance technology skills and foster more creative and innovative work.

**Long-term:** Fully prepared, independent-thinking, tech-savvy student population ready to tackle any challenge in the future.

### Guiding Questions

- What is a successful outcome of a 1:1 initiative?
- What is your current implementation strategy and results of this strategy?

## Connectivity

Ability to connect and communicate with another computer or the internet.



Preparing students for success requires an environment capable of supporting new ways of teaching/learning including virtual learning opportunities at home and providing universal access to the technology. High-speed broadband access outside of school and at home is an essential requirement in transforming digital learning experiences.

### Challenge

Students are learning the skills of tomorrow using slow connections, unreliable networks, or no connectivity at all. Some students have minimal or no access at home and are unable to take advantage of distance learning, digital homework, digital accelerated learning tools, at home student-to-teacher communications, flipped classrooms, and other learning opportunities.

### Actions

- » **Work** with local Educational Service Centers and Internet Service Providers to bring down connectivity costs through competitive bids, group negotiations, and the E-rate program to ensure that all campuses meet or exceed the State Education Technology Directors Association's (SETDA) recommendation of 1Gb internet capacity per 1000 students.
- » **Assess** student connectivity needs outside of school (i.e. at home) to develop a deeper understanding of the areas of connectivity need within the student community. Conduct surveys to learn what is needed.
- » **Leverage** public and private sector programs to help provide high-speed connectivity outside of school for all students, including those that cannot afford high-speed access.

### Outcomes

**Short-term:** A robust, resilient community-wide infrastructure, resulting in increased digital access for students both on and off campus and increased productivity.

**Long-term:** Seamless 24/7 access to instructional resources that are affordable and scalable for all students.

### Guiding Questions

- What are students without connectivity currently doing to participate in schooling in your district?
- How has your district already lessened the technology gap?



## Usability

Making technology easier to use



Many diverse devices and technologies are available to enhance learning opportunities. Each device and technology may come with unique requirements and skills for understanding how to utilize and get the most from the experience.

### Challenge

While having available devices and connectivity are part of the goal, these resources are useless if students and educators are not able or do not know how to use the technology tools. While some individuals may be tech savvy from their own personal use and interests, not all students and staff have had those same opportunities creating a gap between those with and those without the necessary digital skills.

### Actions

- » **Assess** the skills needed to fully utilize the digital platforms and tools chosen by your District. Design instructional materials and training for those skills to ensure that students, teachers, staff, and parents know how to use the technology tools and devices. Include these instructions and training when devices are issued, including when they are used outside the classroom and used for virtual interactions.
- » **Identify** how users can get help when needed. Make sure help desk staff, phone numbers, and links to help are readily available and universally accessible.
- » **Accommodate** diverse learners and those with special instructional needs by providing accessible technology, such as voice to text, as well as accessible instructional materials and training.

### Outcomes

**Short-term:** Improved user experience when interacting with a device or technology platform.

**Long-term:** All technical barriers removed, allowing staff and students to focus on learning experiences and new ways to design, create, and grow.

### Guiding Questions

- How does your district define “tech savvy”?
- What opportunities are currently being provided in your district to increase tech-savviness?



## Strategic Goal 3: Digital Citizenship

As digital resources become more prevalent so does the need for greater digital responsibility.

Each student must become aware of their own ability to make effective choices and the impact that has on the world around them and for themselves in reaching their full potential.

Educators and parents have a joint responsibility in teaching the components of respect, education, and safety in a digital world.

### Focus Areas:

1. [Program Development](#)
2. [Content Development](#)
3. [Rights and Responsibilities](#)

## Program Development

Formulating, improving, and expanding an ongoing educational plan



Technology is prevalent throughout students' lives, and with those digital resources comes the responsibility to be a good digital citizen in and out of school.

### Challenge

Students face challenges when online for educational and recreational use, both in school and when using devices in a virtual setting. Students see and hear mixed messages from parents, teachers, and other students about what are acceptable uses of technology. Technology is constantly changing, and educators struggle to know if digital citizenship campaigns are effective.

### Actions

- » **Establish** Responsible Digital Citizen standards and expectations. Programmatically share and discuss these standards with all students, staff, and parents.
- » **Periodically** and regularly measure the outcomes of the program using surveys and other outreach methodologies. Evaluate the student's understanding of the standards and the effectiveness of the program.
- » **Update** as technology changes. Provide support and ongoing training and awareness campaigns that are up-to-date and relevant.
- » **Find** a balance between responsibility and protection (encourage responsible use as opposed to restricting use).

### Outcomes

**Short-term:** Well-defined awareness program that prepares students, staff, and parents for responsible digital citizenship.

**Long-term:** A knowledgeable society that takes responsibility for digital actions, behaviors, and consequences.

### Guiding Questions

- How does your district define 'acceptable use of tech'?
- Is your district able to measure the effectiveness of digital citizenship campaigns?

## Content Development

Determining how to teach digital citizenship



As students master the educational curriculum in the quest to become successful and productive adults, they must also learn the norms of appropriate, responsible behavior online.

### Challenge

Most students are eager to dive into technology and social media, and sometimes find out later that mistakes can be very damaging, with a digital footprint that follows them forever. Responsible digital citizenship should be taught hand in hand with the increasing use of technology both inside and outside the classroom.

### Actions

- » **Utilize** existing training and awareness resources. Use online training modules, quizzes, and assessments to engage students.
- » **Incorporate** into curriculum. Allow students to practice responsible digital citizenship in assignments, lessons, and homework.
- » **Start** early and be consistent with age and stage appropriate digital citizenship programming. Start as early as kindergarten and continue through graduation.
- » **Model** the behavior. Encourage staff, teachers, and parents to lead by example in showcasing responsible digital practices.

### Outcomes

**Short-term:** Positive school culture that supports safe and responsible technology use.

**Long-term:** Fully prepared, responsible, tech savvy student population ready to tackle any challenge in the future.

### Guiding Questions

- What is your district's digital footprint?
- How are you encouraging the understanding of a digital footprint in your district?

## Rights and Responsibilities

Accountability for digital privileges



Students use computers or devices every day in their personal lives or in school. It is essential that students are prepared to communicate and collaborate online in a safe and responsible manner. Students, parents, and staff should be aware of their rights and responsibilities and understand the consequences when rights are abused.

### Challenge

Students get mixed messages about what is acceptable, and some students may get limited guidance from parents. LEAs are not the sole responsible party for teaching digital rights and responsibilities, but they should be leading the way in establishing a solid foundation.

### Actions

- » **Respect** students, staff, and devices. Include age-appropriate guidelines in your digital citizenship program that address respect:
  - digital etiquette (standards of conduct)
  - digital access (equal participation)
  - digital law (responsibility for actions)
- » **Educate** and connect with others. Include guidelines in your digital citizenship program that address education:
  - digital literacy (use of technology)
  - digital communication (exchange of info)
  - digital commerce (buying/selling goods)
- » **Protect** students and staff. Include guidelines in your digital citizenship program that address protection:
  - digital rights (universal freedoms)
  - digital security (electronic precautions)
  - digital health and wellness (physical and emotional welfare)

### Outcomes

**Short-term:** Engaged users operating safely, responsibly, and respectfully online.

**Long-term:** Digitally responsible society fully participating in the online world in which we live.

### Guiding Questions

- What guidelines do you have in your program that address digital literacy, digital communication, and digital commerce?
- How are you leading the conversation on digital rights and responsibilities?



## Strategic Goal 4: Safety and Security

The safety of every student both on campus and online is a top priority for everyone in Texas. School safety continues to be in the forefront of the discussion and encompasses many issues and strategies to better prepare and protect students and staff.

LEAs are obligated to provide secure and reliable information and services to both the students they serve and the workforce they support, and the quantity and importance of data being created and stored continues to grow exponentially. This rapid growth dramatically increases the potential for cybersecurity attacks and the need for LEAs to become increasingly sophisticated in the ways in which they fulfill their commitment to safety on their campuses and the security of their networks, devices, and cloud-based data.

### Focus Areas:

1. [Campus and Cyber Safety](#)
2. [Cybersecurity](#)
3. [Data Management & Governance](#)

## Campus and Cyber Safety

Securing the physical and digital environments



School safety, both physical and cyber, is a more important concern for educators than ever before. Each LEA has a school safety plan, which must now include provisions for both student and staff safety while they are physically on campus and while they are online using district devices and district connectivity. Technology has a significant role to play in keeping our school facilities safe for students and teachers and in keeping our students safe online.

### Challenge

Individuals cannot function efficiently when their basic needs like safety and security are not met. Physical safety challenges on campuses exist and cyber predatory attacks online continue to grow, and unforeseen threats can surface at any time.

### Actions

- » **Align** your school safety plan with [Texas School Safety Center guidelines](#) as well as the [REMS TA Center's "Cyber Safety Considerations for K-12 Schools and School Districts"](#).
- » **Take** advantage of resources available at the [Texas School Safety Center](#).
- » **Use** technology to enhance scalability, reliability, training and innovation within safety solutions. Such innovations as advanced video and sound surveillance devices, handheld perimeter vulnerability monitoring and virtual reality teacher and administrator training tools can provide meaningful security support to districts of all sizes and geographies. Update plans to include availability, maintenance, and guidelines for media storage (like video files, etc.).
- » **Leverage** State and Federal funding programs for safety and security related technology to enhance your campus' use of these innovative tools as such programs are available. For example, the TEA is offering such a program through July 2022 <https://tea.texas.gov/about-tea/news-and-multimedia/correspondence/taa-letters/2019-2021-school-safety-and-security-grant>
- » **Develop & Promote** policies on responsible use for all LEA devices, networks and systems to be followed by staff and students alike. This should include adherence to Children's Internet Protection Act (CIPA) compliance where applicable.

### Outcomes

**Short-term:** A robust set of tools that enhances the everyday physical and cyber environments and improves safety. **Long-term:** School campuses and learning environments are free of risk or harm that are safe for students and staff.

### Guiding Questions

- How do you actively meet the basic needs of your students' safety and security?
- How are you also meeting these needs in the virtual space?

## Cybersecurity

Securing and protecting infrastructure, devices and data and organization information



LEAs are trusted with the most sensitive and confidential student and staff data and are responsible for ensuring information is not compromised. Additionally, LEAs are responsible for the secure and reliable administration of complex campus and district-wide digital infrastructure now viewed as a target for anyone seeking to disrupt or harm those systems. This includes digitally controlled facilities systems that are increasingly vulnerable to external attack and student and teacher devices that often travel between the more secure on campus network and less secure networks outside of school. LEAs must protect both data and infrastructure and ensure it is used appropriately and without external interference.

### Challenge

Increasing sophistication of threats, increasing quantity and complexity of digital systems, limited availability of security professionals, the potential catastrophic impact of breaches, and the addition of virtual learning have kept cybersecurity in the spotlight across the nation. Competition for skilled professionals and limited resources have placed a burden on the public sector's ability to address these issues and smaller districts may not have the staffing to adequately manage these threats. LEAs should be strategic and proactive in their approach to cybersecurity to compensate for any technological or professional shortfalls.

### Actions

- » **Develop** a collaborative security team lead by a Cybersecurity Coordinator that can assess risks based on industry standards and create a cybersecurity plan that prioritizes cybersecurity resources to address the greatest risks, including risks to infrastructure, data privacy and devices.
- » **Ensure** that the cybersecurity plan includes basic standard practices such as ransomware, a next generation firewall and keeping devices and network equipment up to date, are included and adhere to a software currency policy that reduces the use of unsupported software and decreases security vulnerabilities. Include standards, policies, and restrictions for open-source or free software on all school-issued devices.
- » **Train** staff members on an ongoing basis to ensure they are up to date on policies and are aware of the signs of suspicious activity and how to report incidents to the security team.
- » **Leverage** the LEAs information security plan and security assessments to obtain executive sponsorship for cybersecurity initiatives, seek state and federal cybersecurity funding and to advocate for a focus on cybersecurity.

### Outcomes

**Short-term:** Adequate resources to effectively manage the security program and reduced risk and vulnerability of the organization's information systems. **Long-term:** Continued protection of private and confidential information, minimized exposure to cyberattacks, and a mature risk-based security program.

#### Guiding Questions

- What resources does your district have to promote cybersecurity?
- Would you describe your district's cybersecurity practices as 'strategic' and 'proactive'?



## Data Management & Governance

Strategies that put organizations in control of their business data



Data can be one of an organization's most valuable assets, or a major hindrance if not managed appropriately. The exponential increase in data has created both challenges and opportunities for organizations. To benefit from this vast amount of data, organizations need to implement fundamental data management, governance, policies, and best practices.

### Challenge

As volumes of data increase, so do the challenges that LEAs face when managing and securing that data. Data may exist within departments, programs, or even under the ownership of individual people, and without clear data retention and storage practices, the loss or misuse of that data can be costly. Often organizations do not have a complete picture of their existing data, making it difficult to develop and adhere to a master data management plan. Organizations will be unable to fully realize the potential of their data, or protect that data, without implementing proper data management practices.

### Actions

- » **Develop** data governance groups to collaborate and ensure the appropriate individuals are engaged in data-related decisions.
- » **Leverage** existing data management frameworks as a resource for developing a mature data management program, where all data is classified based on risk. Include protections for ensuring student data privacy.
- » **Appoint** a data management officer that is dedicated to managing and maintaining the organization's data and the ongoing data governance decision-making process.

### Outcomes

**Short-term:** Better understanding of the type, location, volume, and ownership of data retained by the LEA.

**Long-term:** Improved business decisions, reduced costs, and the ability to automate processes.

### Guiding Questions

- Does your district have a complete picture of your existing data?
- What are your current data management and governance practices?



## Strategic Goal 5: Collaborative Leadership

With so many challenges facing organizations and so many priorities competing for resources, educators need to find ways to do more with less and to work smarter, not harder.

Given the existing budget and resource constraints, LEAs must prioritize their goals, have a clear, unified vision for achieving those goals, and look for collaborative, cost-effective solutions that fully leverage external funding sources. Having all stakeholders on board is critical to accomplishing the most with resources available.

### Focus Areas:

1. [Strategic Planning](#)
2. [Shared Services](#)
3. [State Collaboration](#)

## Strategic Planning

Setting priorities and ensuring stakeholders are working towards common goals



Effective use of technology requires collaboration between teams to ensure that the technology is solving critical issues. Technology cannot be effective if implemented in a vacuum. Groups must come together to plan how technology will be implemented to enhance the curriculum and improve the learning experience.

### Challenge

LEAs have many priorities that compete for resources. Organizations may have multiple plans i.e., strategic plans, curriculum plans, campus improvement plans, and technology plans. This can lead to silos and lack of ownership (i.e. curriculum staff may not take ownership of technology plan). Leadership groups should work together to ensure that all departments have ownership in a clear and unified vision.

### Actions

- » **Involve** key stakeholders, including school boards, education leaders, administrators, teachers, students, and parents. Consider all aspects in one plan including technology, curriculum, instruction, and professional development and ensure consistent messaging.
- » **Plan** effectively by having a clear vision and incorporating technology in appropriate areas. Develop measurable check points or target LEA specific goals with clear models of how to achieve success. Ensure stakeholders have ownership. Incorporate compliance requirements in the plan with budget and staffing needs.
- » **Evaluate** effectiveness and make improvements as needed. Measure against the Plan's goals often to assess plan implementation.

### Outcomes

**Short-term:** A clear set of priorities and actions to direct resources and ensure that all stakeholders are working towards common goals.

**Long-term:** Proactive, efficient organization working together to achieve vision and optimize costs.

### Guiding Questions

- How are all key stakeholders involved in strategic planning? (school boards, education leaders, administrators, teachers, students, and parents).
- How are leadership groups working together to ensure clear and unified vision ownership?

## Shared Services

Expanding IT services within and among organizations according to similar needs while fully leveraging external funding



Shared services allow for LEAs to focus limited resources on IT applications and supported business functions. This allows for improved operational efficiency, optimized delivery services, cost savings, and harmonized operations.

### Challenge

Implementing a shared services model can be a difficult task. LEAs continue to face challenges around operational governance and staffing for system maintenance. However, with appropriate governance and engagement, organizations can maintain a high level of visibility and control over their service delivery.

### Actions

- » **Reach** out to education service centers and other organizations, in both the public and private sectors, to leverage existing shared services as well as no-cost programs and explore ideas for new models to create additional cost savings.
- » **Develop** shared service models based on business values to create a more consistent IT landscape.
- » **Obtain** executive support for IT governance needed to continually develop and deploy shared services solutions.

### Outcomes

**Short-term:** Cost savings and a focus on improved customer relations.

**Long-term:** Better usage of IT as a service, enabling IT leaders to focus on the mission rather than directly managing administrative services.

### Guiding Questions

- Does your district currently use a shared service model? What does it look like?
- What are the challenges around operational governance and staffing for system maintenance?

## State Collaboration

Working together with State Leadership to achieve success



State education leadership have the same goal for education in Texas – that every child in Texas will be an independent thinker and graduate prepared for success in college, a career, or the military, and will become an engaged, productive citizen. Communication and collaboration between LEAs and state leadership is crucial to establishing a technology direction and vision and supporting one another in reaching these goals.

### Challenge

LEAs may not have a clear understanding of the vision or goals of their oversight agencies and cannot plan appropriately if the vision is unclear. LEAs may not be aware of resources that are available to tackle technology challenges that all LEAs face.

### Actions

- » **Strengthen** relationships with state leadership. Keep conversations flowing in both directions. Take opportunities to better understand and develop technology direction and vision.
- » **Participate** in advisory committees for technology, security, etc. These groups present an opportunity to provide input, share concerns and take ownership in the outcomes.
- » **Learn** from others' successes. Leverage the TEA LRPT's web-based Resource Center and stay abreast of the resources available from the state and federal government that may enhance or benefit LEA projects.

### Outcomes

**Short-term:** Work more effectively with others towards a common goal.

**Long-term:** Better results, greater innovation, and higher productivity.

### Guiding Questions

- Does your district have a clear understanding of the vision/goals of oversight agencies?
- Do you have strong awareness of resources that are available to help you meet tech challenges?



## Strategic Goal 6: Reliable Infrastructure

LEAs are facing the challenge of modernizing legacy hardware and software, replacing aging systems to move toward a more collaborative, agile, and interoperable education system.

As LEAs transition from traditional practices to innovative solutions, they need to evaluate current and ongoing investments in legacy systems and hardware while considering both shortening replacement cycles and the replacement with more efficient and scalable options.

As more and more learning opportunities rely on technology to enhance educational experiences, a reliable infrastructure, including devices, is critical for LEAs to obtain their educational goals. Determining what equipment and support is needed, by whom, and how to get there may not be easy, but it is essential to the future success of educational IT.

### Focus Areas:

1. [Technology Support](#)
2. [Legacy Modernization](#)
3. [Continuity of Operations](#)

## Technology Support

Assistance and services for technology users



Technology can be one of a LEA's most valuable assets, but it presents many challenges as well. Technology continues to expand and become embedded in the curriculum, communications, delivery methods, and learning environments. Being able to support the technology and keep it current and functioning is critical to success. To benefit from this vast amount of pervasive technology, LEAs need a well-organized and well-supported technology support structure.

### Challenge

LEAs can underestimate their tech support needs and end up wasting valuable education time. Technology devices require constant updates and maintenance, and outdated devices and software can become a serious risk.

### Actions

- » **Develop** proportional tech support teams to address the inevitable issues that arise with networks, laptops, and devices. Implement a help desk to standardize intake, track workload, and automate functions where appropriate.
- » **Evaluate** “device-as-a-service” programs being offered by manufacturers and 3<sup>rd</sup> party distributors for appropriateness for your district. These programs can effectively augment technology support for student and staff laptops and tablets and maximize the efforts of limited LEA staff.
- » **Redesign** learning spaces to keep power and connectivity readily available and minimize downtime.
- » **Invest** in professional development for technology support staff to stay current with expertise, trends, and risks. Use online resources in addition to traditional training. Target a minimum of at least 80 hours a year per staff member on technical training.
- » **Address** technology staff salaries to be competitive with industry standards to be able to hire and retain qualified staff

### Outcomes

**Short-term:** Better student and teacher interaction and experience with technology, with more time focused on learning. **Long-term:** A qualified, competent workforce to manage the technical complexities for increased organizational effectiveness.

### Guiding Questions

- What do tech support teams in your district currently look like?
- How often is the tech support need underestimated and learning time lost?

## Legacy Modernization

Addressing & refreshing outdated technology, computer systems,  
or applications in a timely way



A legacy system operates with old, obsolete, insecure, or inefficient hardware or software. The world is moving towards the adoption of new technologies at a fast pace, driven by promises of agility and operational efficiency. As LEAs manage an increased number of devices that regularly move off and on campus and as they transition from old IT infrastructure, legacy modernization remains a challenge that requires prioritizing operational and security risks.

### Challenge

Over the last several years, an unprecedented number of devices have been acquired by LEAs for student and staff connectivity both on and off campus. These devices, as they migrate back and forth between home and school represent a significant security risk if not kept up to date. Additionally, legacy systems are more difficult and expensive to maintain and carry more security risks. Many core functions and classrooms rely on them, but migrating functions to updated, secure systems can be costly. It will continue to take prioritization, planning, time, and sufficient resources to resolve these issues.

### Actions

- » **Evaluate** software-as-a-service (SaaS) and commercial-off-the-shelf (COTS) solutions before building custom applications.
- » **Utilize** an application portfolio management solution to accurately inventory applications and the resources required to provide operational support of those applications over their lifetimes.
- » **Develop** accelerated standards for refresh and replacement of student and staff devices that reflects the critical need for current licensing and hardware. Consider shortening refresh cycles from 5 years to 3 years, as a result of devices traveling from school to home. Create guidelines to determine the appropriate course of action to take regarding outdated applications and devices to prevent the risk of inadvertent use that could pose a security risk.

### Outcomes

**Short-term:** Repeatable, adaptable methodologies to standardize and prioritize legacy modernization and reduced risk of system and data breaches.

**Long-term:** A proactive approach for managing IT, shifting focus to emerging technologies, reduced future costs, improved security, and better application efficiency.

### Guiding Questions

- How many devices have been acquired by your district over the past several years?
- What are your district's current standards for refresh and replacement of student/staff devices?



## Continuity of Operations

Preparing for continued operations during and after an emergency



LEAs should prepare to restore critical instructional and administrative resources in the face of a disaster or the disruption of services. Business continuity planning is crucial to the recovery of technology assets and resuming mission-critical functions.

### Challenge

While there is no regulation or mandate requiring a LEA to have a business continuity plan, best practice and common sense indicate that a plan is critical to recovery. Existing plans are not periodically tested and sometimes neglect to incorporate interdependent relationships regarding IT infrastructure (i.e. with external vendors, cloud, or SaaS). With the threat of natural disasters always looming, business operations in Texas schools remain vulnerable to disruption.

### Actions

- » **Test** and improve business continuity plans routinely to optimize effectiveness, including an annual exercise of continuity plans.
- » **Consider** cloud infrastructure as a mechanism for business continuity and disaster recovery from diverse locations.
- » **Formalize** alternate worksite policies to improve the continuity of operations, ensuring organizations enable appropriate controls for telework options.

### Outcomes

**Short-term:** The identification and prioritization of the critical personnel, facilities, and resources required to continue delivery of necessary functions after an emergency.

**Long-term:** A holistic approach to incident management that includes collaboration and standard command and control management structures.

### Guiding Questions

- Does your district have a business continuity plan?
- How is your district's business continuity plan routinely reviewed?

## Looking to the Future

### Cost Effective & Collaborative Solutions

As we look towards the future, it is imperative to look for creative solutions and take advantage of opportunities for greater efficiency and effectiveness. The following are a few trends that should be considered for optimizing resources and increasing the value of digital assets.

**Cost Optimization** – Seek out and negotiate education discounts on hardware and software. Leverage the LRPT resources that could reduce the LEAs costs for devices and/or services. Many hardware and software vendors offer special discounts for qualifying education institutions. Use bulk discount programs and state cooperative contracts to leverage statewide purchasing power. Ensure that parents and guardians have sufficient information to take advantage of federal technology programs such as the Affordable Connectivity Program, shifting some of the burdens for home connectivity for virtual learning connectivity and devices away from LEAs.

**Collaborative Solutions** - Take advantage of software-as-a-service (SaaS), device-as-a-service and cloud services to minimize implementation, maintenance, and support costs. SaaS is a software model where a third-party provider hosts applications for a license subscription fee and makes them available over the Internet. Cloud services offer alternatives to traditional IT delivery models. Cloud-computing— a model that enables on-demand network access to resources—has changed how business is done. If cloud services are implemented carefully and appropriately, they can ease the burden of aging infrastructure and provide flexible, lower-cost IT service delivery.

**Interoperability** - Choose software products and learning systems that are flexible when it comes to standards. They should support the prevalent standards of the day and the platform itself should not be rigid or restrictive in only supporting one standard. New standards emerge often, and it can be costly to be stuck with a single standard that may not remain the prevalent standard. Choose software that has the flexibility and agility to effortlessly incorporate new standards that emerge.

Interoperability is the ability of computer systems to connect and communicate with one another seamlessly despite the platform or way it was implemented, allowing easy integration, and sharing of data in a format that is understandable to all.

The IMS Global Learning Consortium is a well-known non-profit collaborative organization tasked with advancing edtech interoperability, innovation, and learning impact. Several education technology interoperability standards can be found on their website: <https://www.imsglobal.org/>.

## Long Range Plan for Technology: The Resource Center

- LRPT's Web-based Resource Center is a one-stop-shop, which includes templates, case studies, a guide to technology resources available to LEAs
- LRPT's Web-based Resource Center will be searchable based upon an LEAs needs with the ability to identify specific features such as videos or planning workbooks
- LRPT's Web-based Resource Center information and resources will be searchable by role, so that individual stakeholders, such as teachers, parents, students, administrators, community members, or board members can receive lists of resources tailored to their specific needs

## State and Federal Supports

This section highlights state and federal programs and services available to assist LEAs in striving to implement the technology strategic goals listed in this plan.

**Affordable Connectivity Program** is a federally funded FCC benefit program that helps ensure that households can afford the broadband they need for work, school, healthcare and more. The ACP benefit provides a discount of up to \$30 per month toward internet service for eligible households and up to \$75 per month for households on qualifying Tribal lands. Eligible households can also receive a one-time discount of up to \$100 to purchase a laptop, desktop computer, or tablet from participating providers if they contribute more than \$10 and less than \$50 toward the purchase price. <https://www.fcc.gov/acp>

**E-Rate program**, federally funded program to provide schools and libraries affordable access to advanced telecommunications services. This program provides discounts ranging from 20 to 90 percent on telecommunications services, internet access, internal connections, and basic maintenance of internal connections to eligible schools and libraries.

[https://tea.texas.gov/Academics/Learning\\_Support\\_and\\_Programs/Technology\\_Planning/E-rate/](https://tea.texas.gov/Academics/Learning_Support_and_Programs/Technology_Planning/E-rate/)

**Department of Information Resources (DIR) Services** <https://www.dir.texas.gov/>

- **DIR Shared Technology Services**, which includes data center services, telecom services, purchasing services, and online payment services.
- **Modernization and Development Framework**. DIR provides a modernization strategy with supporting guide (LM Guide), checklist, and application development decision framework (ADDF).
- **Statewide Cybersecurity and Data Coordination**. DIR provides collaboration across state government entities supporting advancement of cybersecurity and data services. Cybersecurity services include the sharing of threat intelligence and managed security services including security device management, incident response services, and assessment services.
- **Bulk Purchase Program** for desktops, laptops, tablets, software, and other IT equipment. DIR coordinates computer bulk purchases to leverage statewide purchasing power.

**Texas Gateway and the Texas CTE Resource** provide engaging, TEKS-aligned resources for teachers to use with students as part of classroom instruction, intervention, acceleration, or additional practice. <https://www.texasgateway.org> <https://www.txcte.org/>

**Texas Virtual School Network (TXVSN)** provides Texas students and schools with equitable access to quality online courses and instructors. It is a valuable resource for interactive, collaborative, instructor-led online courses taught by state-certified and appropriately credentialed teachers trained in effective online instruction. <http://www.txvsn.org/>

**Technology and Instruction Materials Allotment (IMA)** is an allocation of state funds for the purchase of instructional materials, technological equipment, and technology-related services. Each district and open-enrollment charter school receives an allotment each biennium. <https://tea.texas.gov/academics/instructional-materials/state-adopted-instructional-materials/instructional-materials-and-technology-allotment>

**TEA Grants** like the Technology Lending grant. The purpose of the Technology Lending grant is to provide LEAs the funds to purchase technology devices that are loaned to students for access to digital instructional materials off campus. The grant provides personal student learning devices and internet access for students who would not otherwise have access to digital instructional materials off campus.

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