

REPORT TO THE HOUSE AND SENATE COMMITTEES ON  
EDUCATION  
OF THE LOUISIANA LEGISLATURE



STATEWIDE EDUCATIONAL TECHNOLOGY PLAN

January 2018

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## I. Introduction

This report is submitted to the Senate Committee on Education and the House Committee on Education per Louisiana Revised Statute 17:3921.2. It provides an overview of Louisiana’s progress relative to education technology and provides the status of technology readiness of each public school and school system. Moreover, this report will identify standards, goals, and support strategies to facilitate advancement towards a technology-rich environment.

Technology has the power to:

- support and strengthen educational practices;
- expand the depth and breadth of learning opportunities; and
- transform the classroom in a way that sets the stage for increased student achievement across the state.

The foundation for the standards and goals established in this document are rooted in the belief that in Louisiana, students must have access to what their peers have nationwide in order to compete. Technology must be embedded into classroom practice resulting in equitable access to high-quality instruction.

## II. Current State

Louisiana schools have made great strides in student access to technology; eighty-eight percent of school districts meet the Federal Communications Commission’s (FCC) minimum bandwidth target of 100 Kbps per student. This is up from seventy-nine percent in 2016 and sixty-seven percent in 2015. When including all school systems, not just traditional local school districts, eighty-six percent meet the minimum target. Louisiana is now ready to tackle the 2018 FCC Internet access goal of one Mbps per student.

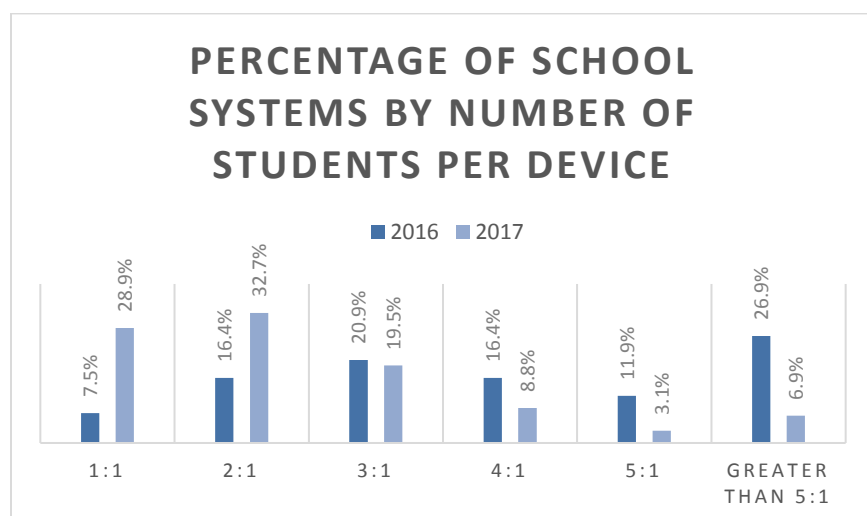
Device access has also increased. The [December 2017 Technology Readiness Survey](#) indicates ninety-three percent of school systems have exceeded the minimum device goal of five students to one device and twenty-nine percent of school systems have met the ideal standard of one device for each student.

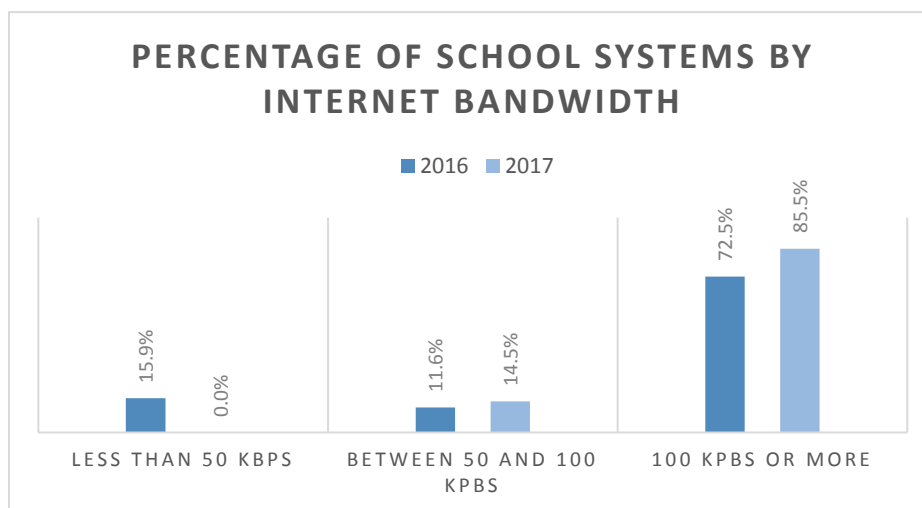
### HOW FAST IS 1 MBPS AND 100 KBPS?

At **1 Mbps**, it takes approximately 3 minutes to download a 5 minute video (30 mb).

At **100 Kbps** it takes 40 minutes.

Smart phones download at **50 Mbps**.





### III. Standards and Goals

The effective use of technology continues to be a pillar of a successful career and personal life for members of modern society. In support of the belief that Louisiana students deserve a technology-rich environment to ensure they are prepared for the future, continued increases in technology access are needed. Therefore, the Department has established minimum access goals, device specifications, and recommended digital tools for school systems.

These goals are based on recommendations from the FCC, the State Educational Technology Directors Association (SETDA), and the International Society for Technology in Education (ISTE). These goals will enable schools to transition from small groups of students intermittently rotating through a computer lab to full integration of technology devices in classroom lessons, ultimately expanding student's learning experiences, options for creating content, and fostering collaboration.

	<b>2018- 2019 GOALS</b>	<b>2020-2021 GOALS</b>
<b>Devices</b>	Student to device ratio of 2:1	Student to device ratio of 1:1
<b>Internet Access</b>		
Small School System	At least 1.5 Mbps per user (Min. 100 Mbps/ system)	At least 4.3 Mbps per user (Min. 300 Mbps/ System)
Medium School System	At least 1.0 Gbps per 1,000 users	At least 3.0 Gbps per 1,000 users
Large School System	At least 0.7 Gbps per 1,000 users	At least 2.0 Gbps per 1,000 users
<b>Network Connectivity</b>	At least 10 Gbps per 1,000 users	At least 10 Gbps per 1,000 users

*Note: Internet access goals now take into account the size of the school system in addition to the total number of users accessing the school system's network. This allows for variations and infrastructure requirement of very small school systems as compared to large school systems.*

#### Minimum Technical Standards for Devices

In addition to the above access goals, the following are minimum standards for devices to ensure necessary computing power for students in both digital learning and online testing. Minimum specifications for online testing can be found [here](#) and attached.

#### Requirements for Laptops, Desktops and Thin Clients

- Laptop and Desktop OS: Windows 7, Windows 8, Windows 8.1, Windows 10 or higher, Mac OSX 10.10 or higher, or Google Chrome 59 or higher operating systems
- Thin Client OS: Windows Server 2008 R2, Windows 2012 R2, or Windows 2016 R2, Window 10 or higher operating systems

- At least 2 gigabytes (GB) of RAM
- At 125 GB or larger hard drive
- At least a 1.1 gigahertz or faster processor

### Requirements for Tablets

- iOS 9.3 or higher, or Windows 8.1 Pro operating systems
- At least 1 GB of RAM
- At least a 9.75 inch diagonal screen
- A wireless network adapter

## Digital Applications, Electronic Resources, and Materials Standards

Concurrent to the increased use of technology, there has also been a dramatic increase in the availability of educational technology tools. Traditional learning materials and opportunities are being transformed. Technology provides a path, such as online courses and distance learning, for all students to have the opportunity to access rigorous coursework like honors, Advanced Placement, and dual enrollment courses. Learning materials have moved beyond textbooks to digital textbooks, multimedia, online resources, and other similar digital resources. Furthermore, educational technology is becoming more sophisticated and engaging. As a result, students are able to access more information than ever before. All students should have access to these resources, as well as the following basic digital tools:

- Word processing software
- Spreadsheets
- Presentation and multimedia software
- Communication and collaboration tools
- Authoring tools
- Online materials
- Digital textbooks
- Learning management systems.

## IV. Strategies for Support

The Department is committed to providing support to school systems as they continue to advance in providing a technology-rich environment for students. Support focus areas include instructional technology resources, devices, Internet bandwidth, networks and network security, Internet safety and data privacy as well as targeted assistance for high poverty and rural areas. Additionally, the Department is partnering with the Governor's Office in its efforts to support school systems who have not yet attained the 2014 FCC E-Rate bandwidth and fiber goals.

### Device and Network Support

Since financial barriers are the biggest challenges in reaching technology goals. Device and network support is focused on acquiring the best devices, network equipment, and broadband services at the lowest possible cost to the school system.

The cost of reaching a two to one student to device ratio in every school statewide is approximately \$60 million, although pricing could be reduced through cooperative endeavors and other purchasing options. The cost to expand Internet bandwidth and network connectivity for all schools depends on a wide variety of factors including the existing infrastructure, density of services, wireline options, and bundled services and supports in the school system, as well as replacement/upgrade cycles, and security

and filtering requirements. To meet the minimum 100 Kbps statewide target in all parish school systems across the state, the cost would range between \$167,000 and \$180,000 per year. To meet the longer term goal of one Mbps of Internet bandwidth per student, the cost could range between \$18.2 and \$24.3 million. This amount is before factoring in federal E-Rate discounts for school Internet services, which cover, on average, eighty-four percent of the cost.

The Department understands the great need in this area and is committed to supporting schools systems in finding financial solutions.

- The Department will continue to provide guidance and support to school systems, through its network teams, relative to proper budgeting and planning processes for meeting technology goals.
- The Department will continue to identify state, federal, and corporate funding opportunities to defray the cost of technology purchases for school systems. This support includes monthly webinars providing guidance with E-Rate filing; school systems leveraged \$55,771,214.84 in federal funds through the E-Rate program last year.
- The Department will continue to work with the Division of Administration to assist school systems in developing and leveraging state, regional, and local contracts for student devices, software, network hardware, Internet, broadband and network services to provide the best pricing available for all school systems building on the eighty-seven existing technology contracts that are signed and used statewide.
- The Department will continue to work with other state agencies and Internet service providers to address existing challenges that would prevent an expansion of Internet connectivity availability.
- The Department will continue to work with school systems to develop new programs for expanding device access to students (e.g., low cost student device purchase programs, leasing programs, hardware as a service, refurbished computer programs and BYOD plans).

### Support for High Poverty and Rural Areas

High poverty and rural areas present a unique set of challenges when it comes to technology. Small numbers of students in rural areas often result in less “buying power” and ultimately higher costs for school systems. Likewise, adequate access to the Internet can be especially challenging due to the high costs of laying fiber in rural areas and Internet service providers’ reluctance to take on the expense. Despite these obstacles, Louisiana school systems in high poverty and rural areas have made advances over the years. Ninety-five percent of rural area school systems and eighty-eight percent of high poverty school systems have met the minimum five to one student to device ratio. Furthermore, eighty-seven percent of rural and high poverty school systems have met the minimum broadband requirement of 100 Kbps. To continue technology advancement in these school systems, the Department will provide the following supports:

- The Department will continue working with technology vendors to develop and expand state contracts that offer lower pricing and additional options for procurement of student devices, as well as software and network hardware, thus increasing high poverty and rural area school systems’ “buying power.”

- The Department will continue to provide guidance and support to local school systems relative to unused or underused federal and state grant and funding programs that are applicable to high poverty or rural school systems.
- The Department will work with other public and private entities to develop long-term connectivity and support strategies that will improve access for rural and high poverty schools and students.

## Training and Professional Development

Technology without training and implementation aligned to high-quality curricular materials is ineffective. The Department is committed to ensuring that technology is seamlessly integrated in a way that supports learning. Therefore, instructional practices and the use of technology is woven into broader professional development supports provided by the Department to school systems throughout the school year.

- The Department will continue to host and/or provide training at regional and statewide events for educators in using and embedding technology.
- The Department will continue to support school systems and educational leaders in selecting ongoing professional development based on the needs of local educators, including implementation of technology in the classroom in coordination with high-quality curricular materials.
- The Department will continue to support the Louisiana Computer Using Educators Association (LaCUE) by appointing a member to its board and providing assistance and promotion opportunities for LaCUE's annual and regional conference events.
- The Department will continue to work with state contracted vendors and private and public partners to provide ongoing technical training on software and hardware that supports local school system adoption and expansion of technology and infrastructure.
- The Department will continue to provide guidance on potential strategies for upgrading and purchasing current technology.
- The Department will provide school systems support through State and Federal partner agencies who are responsible for training, management, guidance, support, investigative services, and remediation of cyber incidents.

## Internet Safety, Data Privacy, and Network Security

Increasing Internet connectivity and device access necessitates policies that guarantee responsible use, student privacy, and compliance with both state and federal laws. The [Consortium of School Networking \(CoSN\)](#) and the [U.S. Department of Education](#) provide guidance on protection techniques and adherence to applicable federal laws. Additionally, [Louisiana's Data Governance and Student Privacy Guidebook](#) provides a roadmap for school systems in developing and executing their plans to ensure student privacy is a priority. It breaks down the process of building a data governance plan into six steps: know the laws, build a team, provide training, build strong protocols, make security a priority, and involve parents. The guide provides tools, templates, and exemplars for each step, enabling school systems to customize their plans. Additionally, the guidebook features an overview of federal and state laws along with annotations as to where Louisiana law is more restrictive and requires school systems to take added caution.

Additionally, the Department will continue to provide the following supports:

- The Department will continue to provide school systems with guidance and information relative to federal and state laws governing Internet safety, data privacy and network security, cybersecurity vulnerability testing and mitigation steps and/or services.
- The Department will continue to support school systems with needs assessments, data agreements, and grant applications to ensure compliance with federal and state laws governing Internet safety, data privacy, and network security.
- The Department and school systems will continue take steps to ensure student data and other information is secure per state and federal statutes.

## **V. Conclusion**

Great progress has been made and with each passing year, students have more opportunities to interact with and use technology. Twenty-nine percent of students are in an environment where there is one device per student and six school systems are already meeting the 2018 FCC goal of one Mbps per student. However, there is more work to be done to reach the goal of providing all students with a learning environment that effectively utilizes technology to its fullest extent and provides students with the skills they need in today's global economy. As demonstrated through the strategies and supports in this report, the Department is committed to working with school systems, technology partners, and policymakers to make this vision a reality for every student in Louisiana.