ZACHARY COMMUNITY SCHOOLS
MOVING FORWARD

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DEPARTMENT of EDUCATION
louisiana Believes
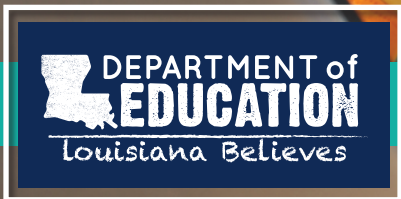
LOUISIANA BELIEVES: LOUISIANA'S TECHNOLOGY FOOTPRINT

IMPROVING EDUCATION
AND TECHNOLOGY ACCESS

Improving educational outcomes and technology access for Louisiana students is a priority and a right for students in the 21st century. While assessments of student learning will soon be digital and computer-based, it is more life in the 21st century that makes technology-rich schools an imperative for students and educators alike.

Every child deserves a digitally-ready school. Across the state, districts have signaled their commitment to making this necessity a reality by improving technology and broadband access within elementary and secondary schools. This commitment involves investments in computers, software, school-based infrastructure, and digital resources in addition to providing the professional development necessary to ready education systems for Louisiana students' technology needs.

This third edition of *Louisiana Believes: Louisiana's Technology Footprint* serves as both a support tool for districts and schools to analyze their current technology readiness status. It provides up-to-date information for every school district and facility in the state on the status of technology devices and broadband capacity.

The third edition of these district technology footprints offers great news for Louisiana, as more districts than ever before are ready to provide educators and students with the technology necessary to succeed in the 21st century. Since the last report, nearly twice the number of districts has met the minimum standard of 7 students to one device or 7:1. Importantly, 19 public school districts have gone above and beyond this minimum to reach the excellent standard of 5:1, providing more of their students than even before with access to technology. One district, St. James Parish, has exceeded all others by meeting the national 1:1 ratio. To meet these new ratios, public school districts have upgraded or purchased 62,512 devices over the past year.

Districts have not only transformed student-to-device ratios, but they have also invested in major infrastructure upgrades to their Internet access and network backbones in order to provide applications and content solutions required for enhanced personalized learning opportunities for students. Over the past year, 19 districts have upgraded their managed network infrastructure to 1 Gbps, and 13 districts expanded their shared Internet broadband capacity to 1 Gbps and allows their schools and students the capacity to meet both testing requirements and learning requirements for 2014-15.

Even with this impressive increase in Internet bandwidth and network upgrades, only 12 districts meet 2014-15 Internet bandwidth targets for daily learning, and only 27 districts meet 2014-15 network bandwidth requirements. Additionally, none of Louisiana's districts meet 2017-18 Internet bandwidth targets. The Department of Education and districts alike will need to make Internet access a priority in the years to come if schools are to be equipped for the 21st century.

MAKING PROGRESS:
STATEWIDE EXECUTIVE SUMMARY

Louisiana's school districts are working to transform their classrooms with innovative technologies, expanded Internet access, robust networks, and technology-enriched learning opportunities to engage students and improve academic achievement. Over the past year, school districts across the state have upgraded or purchased an additional 62,512 devices. Because of these efforts, Louisiana now has 1,208 schools and 38 districts meeting minimum technology device standards; up from 812 schools and 17 districts in January 2013. In addition, a vast number of schools and districts have already upgraded their devices to exceed the minimum device specification, and many are going above and beyond, growing in each category of readiness. Louisiana now has 24 districts that have exceeded minimum device standards and have met 7:1, 5:1, 3:1 or 1:1 ratios; up from 6 districts in January 2013. Over 86% of Louisiana public school students now attend a school that meets 7:1 minimum technology standards and 41% of schools have the minimum bandwidth needed to support online testing.

Louisiana has seen vast improvements from its initial baseline readiness report in June 2012 to the Footprint's second release in January 2013 and the current third release in August 2013. The following charts depict the state's levels of success.

REDUCED RATIO OF STUDENT-TO-COMPUTERS IN SCHOOLS

In one year, schools have vastly reduced their student to computer ratios.

Report Date	Total Schools Reporting	Recommended Device Specifications			
		7:1 Ratio	5:1 Ratio	3:1 Ratio	1:1 Ratio
July 2012	1025	337	133	72	10
July 2013	1208	798	662	435	131

INCREASED NUMBER OF DISTRICTS GOING BEYOND THE MINIMUM 7:1 RATIO OF STUDENT-TO-COMPUTERS

Louisiana's school districts are dedicated to ensuring their students have the proper tools required for today's 21st Century classroom

Report Date	Total Districts Reporting	Minimum Device Specs 7:1 Ratio	Recommended Device Specifications			
			7:1 Ratio	5:1 Ratio	3:1 Ratio	1:1 Ratio
July 2012	61	2	2	0	0	0
January 2013	69	17	9	5	5	0
July 2013	69	38	24	19	8	1
September 2013*		9	11	6	0	0
* Additional districts that have committed to reach new device ratios once they have completed their summer device upgrades.						

INCREASED STUDENT ACCESS TO DEVICES WITH MODERN SOFTWARE

Districts have been working diligently to update old computers and purchase new laptops and tablets that meet Louisiana's recommended device specifications.

YEAR	Total Schools Reporting	Minimum Device Specifications	Recommended Device Specifications
July 2012	61	231,269	66,326
July 2013	69	42,813	128,838

EXPANDED INTERNET CAPACITY

Number of districts that have met 7:1 minimum and 7.1, 5:1, 3.1 and 1.1 target student to device ratios.

Report Date	Total Schools Reporting	Testing Targets				2014-15 Learning Target	2017-18 Learning Target
		7:1 Ratio	5:1 Ratio	3:1 Ratio	1:1 Ratio		
July 2012	61	17	12	2	2	2	0
July 2013	69	37	32	22	12	12	0

DISTRICT NETWORK CAPACITY

Louisiana's districts have been strategically upgrading their network infrastructure to support testing and are now working to support expanded learning opportunities and 1:1 environments.

Report Date	Total Schools Reporting	Testing Targets				2014-15 Learning Target	2017-18 Learning Target
		7:1 Ratio	5:1 Ratio	3:1 Ratio	1:1 Ratio		
July 2012	61	36	28	17	13	12	0
July 2013	69	55	47	32	27	27	1

The following is a list of major advancements and successes of Louisiana's public school districts based on data collected in June 2013. It should be noted that many of Louisiana's school districts were planning major upgrades enhancements to be implemented in the summer and early fall of 2013. Some of those changes are captured here within this volume of the footprint, while others will be included in the release *Fall 2013/Winter 2014 footprint* release.

- A total of 69 public school districts submitted data relative to their technology readiness. All districts and charter operators will be required to submit data for the fall 2013 data collection which is set to end on December 13, 2013. Districts and schools must be prepared for both expanded and enhanced state online testing starting in August 2014.

- A total of 37 public school districts now have enough devices to meet the minimum readiness standard compared to 5 in 2012.

- A total of 26 districts, up from 8 districts in July 2012, now meet 2014-15 network bandwidth requirements and a total of 12 districts, up from 2 districts in July 2012, now meet 2014-15 Internet bandwidth targets.

STUDENT ACCESS **TO DEVICES IN YOUR DISTRICT**

Over the past year the Louisiana Department of Education has worked with schools and districts across the state to communicate the essential need for all schools to have adequate technology resources to support online assessment and 21st century learning environments. These communications and observations have heightened awareness of technology's influence to support school transformation. As a result, the state has continued to support districts in transitioning to the minimum device requirements and beyond, such as the recommended standard of 5-students-per-instructional computer. Many districts have set the bar even higher with plans to progress to the excellent standard of 3-students-per-instructional computer or to the nationally-recommended model of 1:1 student-per-instructional computer.

Since the initial *District Technology Footprint* release in July 2012, Zachary Community School District schools have made some movement in obtaining new devices and upgrading old devices to meet the newly recommended standards for testing and student learning. Zachary Community School District schools

are to be commended for their diligent and conscientious work that resulted in 5 out of 8 schools meeting the recommended 7:1 technology specifications for testing; 4 out of 8 schools meeting the recommended 5:1 technology specifications for testing; 4 out of 8 schools meeting the 3:1 recommended digital learning specifications; and 3 out of 8 schools meeting the 1:1 target goal for digital learning. Additionally, 6 schools only meet the 7:1 minimum online testing standards and 2 schools are below the minimum 7:1 device standards. Since the initial District Technology Footprint release in July 2012, Zachary Community School District schools have made some movement in obtaining new devices and upgrading old devices to meet the newly recommended standards for testing and student learning. Based on this data and assuming the district maintains its current device levels and student population, Zachary Community School District has 5 schools that are adequately prepared for state online testing through the 2015-16 and 3 schools that need immediate plans of actions taken to prepare for state online testing taking place in 2014, 2015 and 2016.

The district should work toward upgrading and procuring devices that meet the recommended device specifications and that meet the 5:1 ratio for testing at all of its schools sites.

The Zachary Community School District School Board is strongly recommended to design and execute plans for expanding their digital footprint efforts in support of higher academic achievement. In support of Zachary Community School District schools, the state will continue to support and provide biannual footprint updates to assist districts and schools in their device and technology readiness efforts.

On the following page, a detailed chart provides a breakdown of devices that meet recommended technology standards and devices that meet the state's minimum device specifications compared to the student-to-computer ratios needed for online testing and digital learning. This information is meant to inform and guide districts and schools in their device readiness efforts.

DEVICE NEEDS BY SCHOOL

School Name	Total Student Testers	Total Devices	Total devices meeting minimum specs	Total devices meeting recommended specs	Total Devices needed for testing (7:1)	Total Devices needed for testing (5:1)	Min Tech Specs 7:1 Ratio	Recommended Technology Specifications			
								7:1 Ratio	5:1 Ratio	3:1 Ratio	1:1 Ratio
Northwestern Elementary School	0	124	100	0	0	0	0	0	0	0	0
Northwestern Middle School	1243	401	133	124	178	249	118	118	189	354	1183
Zachary Elementary School	350	174	96	30	50	70	0	20	40	87	320
Zachary High School	1419	825	180	453	203	284	0	0	44	233	1179
Copper Mill Elementary School	802	391	231	112	115	160	55	55	100	207	742
Zachary Early Learning Center	0	77	25	52	0	0	0	0	0	0	0
Port Hudson Career Academy	76	56	0	56	11	15	0	0	0	0	36
Rollins Place Elementary	0	320	215	105	0	0	0	0	0	0	0

DEVICE SPECIFICATIONS

Recommended Device Specifications

Desktop, Laptop, Netbook & Thin Client/VDI
Operating Systems:
   Windows 7 or newer
   Mac OS 10.7 or newer
   Linux (Ubuntu 11:10, Fedora 16 or newer)
   Chrome OS 19 or newer
Memory:
   1 GB of RAM (preferably 2 GB of RAM)

Tablets:
Operating Systems:
   Android 4.0
   Apple iPad 2 running iOS 6,
   Windows 8 Pro or newer
Memory:
   1 GB of RAM or greater

Minimum Device Specifications

Desktop, Laptop, Netbook & Thin Client/VDI
Operating Systems:
   Windows XP – Service Pack 3 or newer
   Mac OS Mac OS 10.5 or newer
   Linux (Ubuntu 9-10, Fedora 6)
   Chrome OS 19
Memory:
   512 MB of RAM

Tablets:
Operating Systems:
   Android 4.0
   Apple iPad 2 running iOS 6,
   Windows 8 Pro or newer
Memory:
   1 GB of RAM or greater

All Devices (Minimum & Recommended)

Connectivity:
   Wired or wireless access to the Internet
Screen Size:
   9.5 inch screen size or larger
Screen Resolution:
   1024 x 768 resolution or better
Input Device Requirements*:
   Keyboard & Mouse/Touchpad
Headphone and Microphone Requirements:
• Headphones/earphones and microphones are required for all students taking the English Language Arts/Literacy Speaking and Listening Assessment
• Headphones/earphones are required for students using text to speech or other auditory accommodations.
• Microphones are required for students using speech to text accommodations.

*The input device must allow students to control an on-screen cursor to point, click, drag, and select an area. The input device must allow students to enter letters, numbers, and symbols and shift, tab, return, and backspace.

21ST CENTURY NETWORKS
FOR 21ST CENTURY SCHOOLS IN YOUR DISTRICT

As Louisiana's school districts continue to implement more rigorous standards and assessments, districts also need to develop, operate and expand their managed information technology networks to provide a wide array of educational content and services to ensure that all students can benefit from the opportunities provided by digital technologies. Managed networks connect schools together via a secure data network, offering high levels of service quality and support. Managed networks can also enable schools to access cheaper and faster Internet over more reliable connections than many Louisiana schools are using today.

Understanding access to high-speed broadband and a reliable network backbone is vital a component of Pre-Kindergarten to 12 school infrastructure, the state in partnership with districts and schools must begin long-term plans for implementing sustainable and expandable technology infrastructures to support the state's students and classroom. These plans will assist schools in meeting the new recommended broadband targets advanced by the State Educational Technology Directors Association (SETDA) in its May 2012 publication, The Broadband Imperative: Recommendations to Address K-12 Education Infrastructure Needs; as well as the new ConnectED Initiative announced in June 2013.

Broadband Access

The Zachary Community Schools School Board is working toward providing application delivery and content solutions to accommodate a curriculum for which many components are offered through the local network and on the Internet. In the past, Zachary Community Schools schools' Internet bandwidth has been one of the root causes for limiting the expansion and distribution of online productivity resources, media rich educational materials, expanded learning opportunities, and tools for data-driven classroom decisions to the district's 1912 computers. To remedy these limitations, Zachary Community Schools has already embarked on a strategic plan to expand their Internet access and to work toward meeting the recommended Internet access targets required to deliver innovative technologies that support and extend many different teaching and learning styles.

Zachary Community Schools schools, like most other schools in Louisiana, have been faced with the financial challenges associated with budgeting and paying for the growing costs of providing sufficient bandwidth to its schools. In order to meet future educational demands, the district will need new or other viable cost effective options for acquiring expanded Internet and telecommunications access. Expanded access for schools is not only a challenge for the district, but is also a challenge facing both the state and the nation. New delivery options and funding are currently under discussion in Washington but these changes could take years to enact. In the short term, Zachary Community Schools will need to work with the state to develop a viable state-wide plan for broadband expansion and adoption that can benefit both its schools and its students both at home and in class.

Zachary Community Schools currently has 100 Mbps of Internet access for its 8 schools. To meet initial Internet testing bandwidth targets, Zachary Community Schools will need to provide a minimum overall Internet bandwidth of 76 Mbps to test at a 7:1 ratio assuming 100 kbps per student test taker within each of its schools. Zachary Community Schools will need to provide an overall Internet

SCHOOL INTERNET & NETWORK RECOMMENDATIONS

Broadband Access for Teaching, Learning, and School Operations	2014-15 School Year Target	2017-18 School Year Target*
An external Internet connection to the Internet service provider (ISP)	At least 100 Mbps per 1,000 students/ staff	At least 1 Gbps per 1,000 students/staff
Internal wide area network (WAN) connections from the district to each school and among schools within the district	At least 1 Gbps per 1,000 students/staff	At least 10 Gbps per 1,000 students/staff

bandwidth of 5304 Mbps based on the SETDA recommended 100 Mbps per 1,000 students' digital classroom learning target. For more details on the bandwidth needs at the various ratios, see the Estimated School Bandwidth Needs chart included in this footprint.

Network Access

Zachary Community Schools is dedicated to improving student achievement through technology-enriched learning opportunities that engage students to ask questions and utilize tools to facilitate real-world problem solving. The district uses technology not just to do the same things more efficiently, but also to develop engaging learning activities in the classroom. It is Zachary Community Schools' objective to transform classrooms with innovative technologies that support and extend many different teaching and learning styles. Each school's network provides access to a wealth of productivity resources, media and educational materials, expanded learning opportunities, and tools for data-driven classroom decisions. Similarly, teachers using web-based streaming audio and real-time video applications have been very successful in keeping students more engaged. Teachers participate in on-going professional development to experiment, initiate, and create new models of teaching and learning for today's dynamic and changing curricula.

All classroom computers are part of the school network, and all schools are connected to the district's managed network infrastructure. Teachers throughout the district can share resources, activities, and assessments through an online repository of learning tools. Teachers are designing

higher quality work for students and achieving greater student engagement and improved scholastic performance. Zachary Community Schools believes that blending online education with the traditional classroom is not an alternative way to design school but the very future of education itself.

Zachary Community Schools is continually upgrading and enhancing its managed network to provide students with quality stable wired and wireless connectivity options. The district now offers a 100 Mbps Internet connection for all its school sites, as well as a 1 Gbps local area network (LAN) connection within each of its schools. In order for the district to continue to meet future networks demands, the district needs additional funding and cost effective options for acquiring and expanding network access and connectivity not only within its schools and district, but also to other educational institutions and resources both in-state and out-of-state.

Zachary Community Schools will need to provide an average 1 Gbps WAN connection per school site to meet recommended 2014-15 student digital classroom-learning targets and an average 10 Gbps WAN connections to meet 2017-18 targets. Final network requirements for Louisiana's End-of-Course tests and PARCC's tests will be released in September and October 2013, respectively. The district will need to ensure it has adequate bandwidth to meet these new testing requirements when released. For more details on the network needs per school, see the Estimated School Bandwidth Needs chart included in this footprint.

A Note on Facility and Testing Environments

Currently data is not being collected on facility readiness or capacity to provide or sustain the increased infrastructure requirements of digital learning. Districts should begin to assess their schools and document needed upgrades, expansions and concerns including, but not limited to space planning, furniture, wiring and power to accommodate testing as well as future digital learning needs. Facility needs should be included in the district's overall strategic plan for improving schools as well as in their technology improvement plans.

The Department will be providing guidance on secure testing environments in future footprints and does not recommend that districts create new, permanent labs that will be used solely for testing. Testing is just a small part of the school year; therefore, schools and the technology within schools should be designed and used for optimal learning.

Bandwidth Usage in Schools	
Online Activity	Bandwidth required (per student)
Email and Web Browsing	500 kbps
VoIP (Voice over IP)	500 kbps
Online Learning	250 kbps
Audio Streaming	100 kbps
Online Assessment for each Student	250 kbps
School Portal	250 kbps
TV-Quality Video Streaming to a Desktop	700 kbps
Basic Video Conferencing	1 mbps
HD Video Conferencing and Tele-learning	4 mbps
HD-quality Video Streaming	4 mbps
Interactive Online Learning Games	1 mbps
Two-way Online Gaming in HD	4 mbps

With a robust network backbone teachers throughout the district and throughout the state can share resources, activities and assessments through online learning tools.

ESTIMATED SCHOOL BANDWITH NEEDS

School Name	Total Students	Internet Bandwidth Needed for Testing			SETDA Recommended Internet Targets	
		7:1 Ratio (mbps)	5:1 Ratio (mbps)	1:1 Ratio (mbps)	2014-15 (mbps)	2017-18 (mbps)
Parish Totals	**5304**	**74**	**104**	**518**	**530.4**	**5304**
Northwestern Elementary School	375	5	7	37	37.5	375
Northwestern Middle School	1243	17	24	121	124.3	1243
Zachary Elementary School	350	5	7	34	35	350
Zachary High School	1419	20	28	139	141.9	1419
Copper Mill Elementary School	802	11	16	78	80.2	802
Zachary Early Learning Center	263	4	5	26	26.3	263
Port Hudson Career Academy	76	1	1	7	7.6	76
Rollins Place Elementary	776	11	15	76	77.6	776

IT AND ADMINISTRATIVE STAFF
## IN YOUR DISTRICT

Districts that properly plan, train and staff their testing support team will be better prepared to ensure test security and success.

Districts and schools should plan on having adequate staff who can serve in the following roles: test monitor/proctor, school test coordinator, school technology coordinator, district test coordinator, and district technology coordinator. In addition to these staff, key technical resources should be identified and prepared to provide schools support during all testing windows. Technical resources could include: the network administrator, Internet service provider and desktop support administrators. All staff assigned to support testing should be properly trained (and appropriately staffed).

Through the state's survey, public schools across Zachary Community School District were asked about their concern relative to school/district staffing levels for information technology and testing administration technical assistance staffing levels; as well as their concern levels relative to training and technical knowledge of test administration and information technology staff. The charts, on the right, details the responses provided by the schools.

As staffing and training plans are developed, districts should not forget to create internal reporting protocols for escalating technical problems during the testing windows. Until further guidance is provided, it is recommended that districts use the same protocols set forth for End-of-Course testing. This will provide both the district and schools with a familiar, proven process for handling, reporting and managing testing issues and technical problems that could potentially arise.

EOC REPORTING PROTOCOL
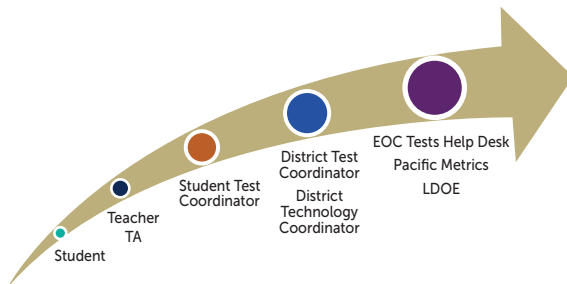
Concern Reported by Parish Schools Relative to Staffing Levels of Information Technology and Test Administration Staff

- Negligible Concern (1-3)
- Slight Concern (4-5)
- Moderate Concern (6-7)
- High Concern (8-10)
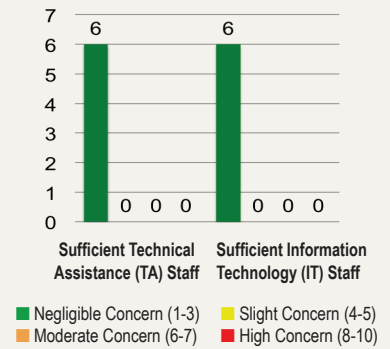
Concern Reported by Parish Schools Relative to Knowledge and Training Levels of Information Technology and Test Administration Staff

- Negligible Concern (1-3)
- Slight Concern (4-5)
- Moderate Concern (6-7)
- High Concern (8-10)
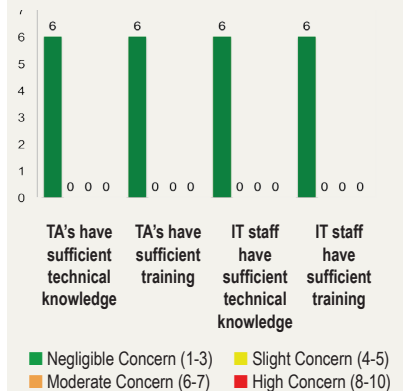
SUPPORT **OPTIONS**

The Louisiana Department of Education (LDOE) is committed to supporting districts in achieving all of the technology readiness goals in all schools across the state. The Department will continue to provide new and expanded technology support and services based on district needs and requests.

Below is a list of the initial services that the state would like to implement.

Technology Assistance Teams (TAT)

Technology Assistance Teams will be comprised of LEA staff members who are willing to serve in both an advisory and support capacity for developing and implementing technology policies and plans in both their district and across the state. This team will meet at a regular intervals to assist the state in determining its needs, direction and solutions for meeting technology procurement, training, planning and funding requirements in the classroom.

Technology Planning

LDOE will be working with LEAs to develop a new technology plan template as well as benchmark measurements, assessment tools and guides, budgeting and training plans, sample policies, and tips/best practice information from fellow districts. Districts and schools will be able to use these resources to develop a long-term strategic roadmap for meeting technology readiness goals, ConnectED goals, E-Rate requirements and most importantly educational goals.

State Contracts

With information and guidance from TAT groups, the state will work to create statewide technology contracts and private partnerships which provide significant discounts and expanded services for LEAs and schools. The first contracts to be created have been laptop, desktop, and tablet computers. As new products or services (e.g. computer software;

computer peripherals, devices, and support; network hardware and support; technology services; and telecommunication products and services) are created, LDOE will publish purchasing information and costs in the *Connections Catalog*.

Infrastructure Design & Guidance

Through LDOE's newly created TAT groups, the state will work to assist LEAs with additional resources for designing new or upgraded infrastructure designs to support technology goals. This will include, but is not limited to, bringing in private partners and other agencies to work collaboratively on creating the best design to meet the specific needs of a school and/or district based on its particular educational direction and services. This team will also provide training and support options that are tailored to the district needs.

LOUISIANA BELIEVES: LOUISIANA'S TECHNOLOGY FOOTPRINT

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