TEC §39.02341 requires TEA to develop a transition plan to administer all assessments electronically by 2022–23

TEA, in consultation with the SBOE, must develop a transition plan to administer all assessment instruments electronically beginning no later than the 2022–23 school year.

Report must include (excerpt from Sec. 39.02341):

1) Information from school districts **assessing the needs of those districts** in transitioning to electronic administration;

2) Any recommended **changes to state law** to assist in the transition; and

3) A **recommended timeline** for statewide implementation of electronic administration.

Transition plan is subject to legislative authorization prior to implementation.

TEA

What does it mean for testing to be 100% online?

This includes all STAAR assessments...

- ✅ **grades 3–8 assessments**
- ✅ **EOC assessments**
- ✅ **Spanish assessments**
- ✅ **accommodated assessments**

🚫 ...But does not include STAAR Alternate 2 assessments

Given the unique needs of students, the STAAR Alternate 2 assessment should be permitted to be administered in the format that is most appropriate for participating students.

Most students who need accommodations already test online because of online accommodations such as content and language supports, text-to-speech, speech-to-text, spelling assistance, American sign language videos, and refreshable braille.

However, the **very small number of students (<1%) with circumstances that prevent them from testing online** (e.g., visual impairments) **will continue to test on paper**.

TEA

Among other benefits, online assessments enable faster results and new, innovative item types

Faster test scores and results

Reduced operational complexity and waste

Matches realities of today's online learning classrooms

Better test security and improved administration

Potential for customizable assessments and new item types

More equitable access to accommodations

TEA

Moving to 100% online administrations enables the introduction of new item types

HB 3906 establishes a cap so that **no more than 75 percent** of any STAAR test can be multiple choice. Thus, TEA is developing new item types.

Research says that innovative item types can:

- Present more authentic contexts for the demonstration of knowledge and skills
- Improve test-taker motivation through greater engagement
- Reduce the effects of random guessing

Source: Bryant, William (2017) "Developing a Strategy for Using Technology-Enhanced Items in Large-Scale Standardized Tests," Practical Assessment, Research, and Evaluation: Vol. 22, Article 1.

Connection to 100% electronic assessments:

- To limit the amount of change management required for both initiatives, the new item types must be implemented only when 100% electronic testing is implemented (2022–23).
- If the implementation of new item types occurs without online testing, it would be extremely costly (~$30M/year) to score these items.

TEA

Example new item type: Graphing/Hot Spot

What is the solution set for $2x - 3y \geq 6$?

Graph the solution set of the linear inequality in the coordinate plane by

- first selecting the Graph button to graph the line and choose the line style
- then selecting the Solution Set button to select the desired region
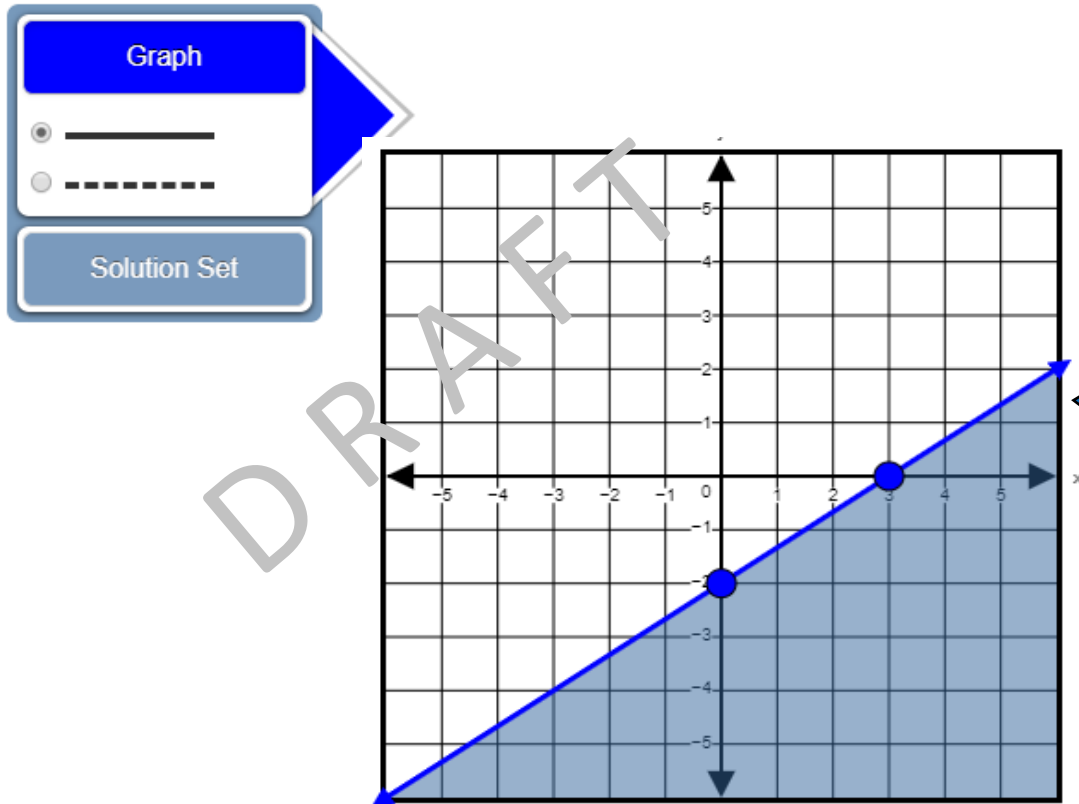
Graph

Solution Set

Allows a test taker to respond to a question or prompt by plotting a function on a coordinate grid using a dynamic tool.

Assessed TEKS:
Algebra I:
A.3.D, graph the solution set of linear inequalities in two variables on the coordinate plane

Uses and Benefits

- This item uses the hot spot in two different ways: plotting points on a graph and selecting a region on the graph that represents the solution set.

- This item type requires the student to determine at least two points on the line, determine the type of line, and select the region of the solution set.

- **This item prompts more student engagement than a multiple-choice item and requires a higher level of thinking.**

TEA

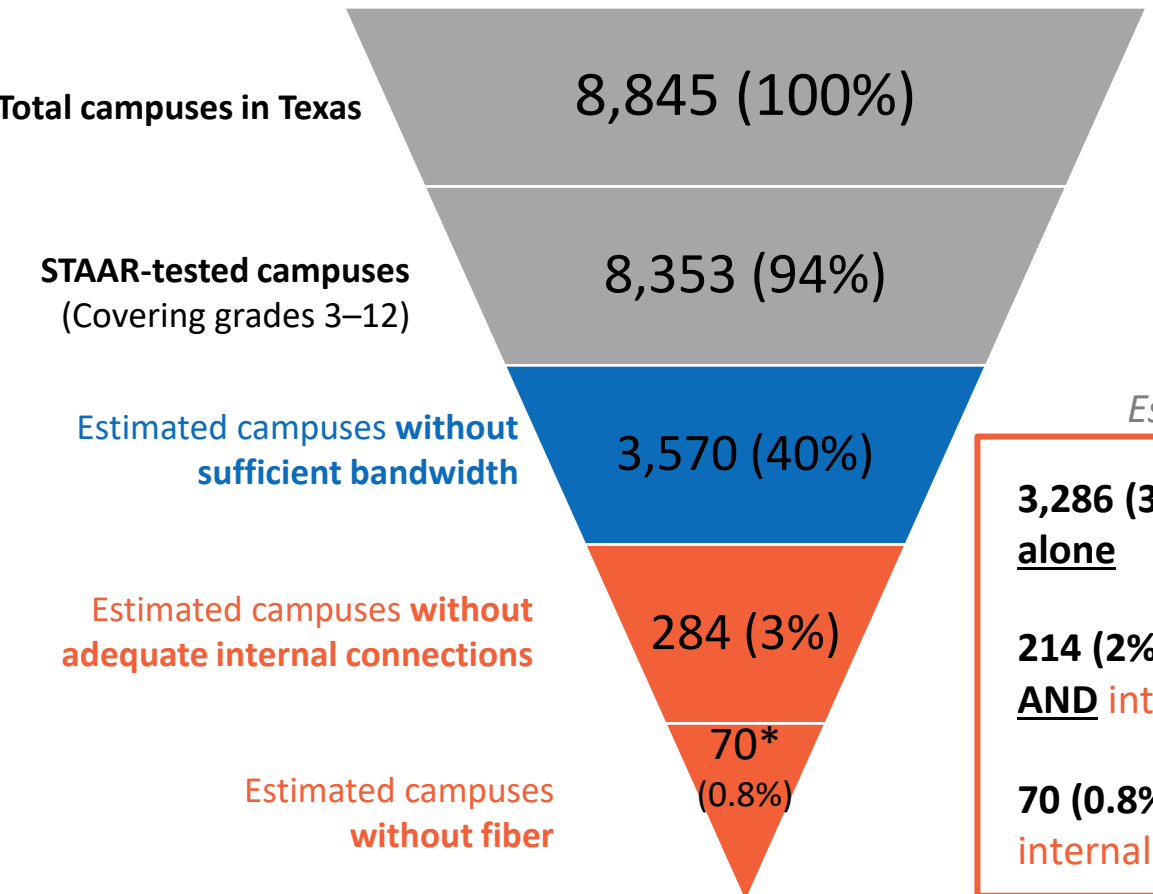# Executive Summary: In Texas, 21ˢᵗ century learning is a priority.

- State benchmarking revealed that 70% of states currently have 100% electronic testing for their primary state assessments.

- The state of Texas is close to having the infrastructure necessary to administer all assessments electronically, with a small investment in internet connectivity needed for a subset of mostly small and rural districts.

- A two-year transition will allow educators and students time to increase familiarity and comfort with online testing.

It is feasible for Texas to reach 100% online testing by 2022–23, provided that the legislature takes action –

- **Required:** Amend TEC §39.02341 to clarify scope and confirm 2022–23 deadline for moving to 100% electronic assessments.

- *For consideration:* Expand authorized use of TIMA to cover internet connectivity and training for online testing.

- *For consideration:* Set up matching grant fund toward one-time network infrastructure investment.

TEA

The state of Texas is close to having the infrastructure to administer all STAAR assessments electronically

Texas has 5.4 million students and 1,201 districts

Total campuses in Texas
8,845 (100%)

STAAR-tested campuses
(Covering grades 3–12)
8,353 (94%)

Estimated campuses without sufficient bandwidth
3,570 (40%)

Estimated campuses without adequate internal connections
284 (3%)

Estimated campuses without fiber
70*
(0.8%)

Fiber numbers pending verification with additional sources

Definitions

Sufficient Bandwidth: Internet "speed" needed for smooth digital learning and online testing [Cat 1, ongoing cost]

Internal Connections: connections within, between, and among district buildings, including routers, cabling, and wireless access points (LAN/WAN) [Cat 2, one-time cost]

Fiber: connection from main line from the street (ISP) to inside the building [Cat 1, one-time cost]

Estimated out-of-pocket costs per campus….	*Ongoing*	*One-time*
3,286 (37%) campuses lack sufficient bandwidth <u>alone</u>	~$3.7k	---
214 (2%) campuses lack sufficient bandwidth <u>AND</u> internal connections only	~$4.7k	~$9.6k
70 (0.8%) campuses lack sufficient bandwidth, internal connections, <u>AND</u> fiber	~$4.7k	~$28.0k

■ Non-ready (ongoing costs) ■ Non-ready (one-time costs)

TEA

To meet readiness targets for 100% online testing, a subset of districts need further investment in internet connectivity and personnel

One-time costs

	Total Need	Estimated E-rate coverage	Outstanding costs
Fiber*	$3.2M–$5.4M	$2.4M–$4.1M	**$0.8M–$1.3M**
Internal Connections	$9.7M	$7.0M	**$2.7M**

Annual ongoing costs

	Total Need	Estimated E-rate coverage	Outstanding costs
Bandwidth	$25.4M	$19.3M	**$6.1M**
Technology Personnel and Training	$7.3M	*N/A*	**$7.3M**

Fiber numbers pending verification with additional sources

Beyond E-rate, districts need to increase spending by the following:

~$4M one-time
on network infrastructure

+

~$13M annually
for additional bandwidth and personnel-related costs

TEA

A two-year transition will allow educators and students time to increase familiarity and comfort with online testing

"I feel the challenge we face moving toward online testing will not be due to lack of technological resources, but rather from a lack of comfort with the online testing modality. Our students, parents, and faculty are more comfortable with paper testing."

- District administrator, May 2020 survey

TEA:
- Continue to provide training for districts and educators
- Continue to provide practice tests, tutorials, and other tools (e.g., STAAR Interim Assessments) for students to practice interacting with the online testing platform

ESCs:
- Provide PD opportunities for educators to learn more about online testing and gain familiarity with the online testing platform

Districts:
- Continue to move towards digital literacy goals and connect the transition to online assessments to other technology initiatives
- Provide PD and other opportunities to increase digital literacy and fluency among educators and students and to increase familiarity with the online testing platform

Remote learning during COVID-19 has already increased educator and student familiarity with online platforms

TEA

70% of states already require online administrations of their primary state assessments

Note that TX has a 16% student rural population, and several states that have a greater rural student population are already primarily online (e.g., GA 27%, NC 37%, MS 47%, WY 29%).

Legend

- Paper Only
- Hybrid (some grades paper and some grades online)
- Transitioning to Primarily Online
- Primarily Online (~100%)
- Both (either paper or online)

TEA

Overview of state benchmarking process

1. Conducted general research across all states

Looked at basic criteria across all states (e.g., mode of summative tests, length of testing window, assessment vendors).

2. Selected deep dive states based on similarities to Texas and experience with online

Chose CA, WV, GA, FL, PA for deep dives due to their history moving online and demographics (e.g., size, urban/rural, economically disadvantaged).

3. Conducted deep dive interviews

Interviewed chosen states to understand what leads to a successful transition.

Prioritized criteria based on trends across successful states

- Goal of 21st century learning as impetus for move
- Breadth of support
- Prior experience with online testing
- Use of online interim or formative assessments
- Transition length
- Funding to ensure connectivity prior to transition
- Funding for devices and technology personnel

TEA

States who transitioned successfully supported partnerships and buy-in, had familiarity with online testing, and provided funding for transition

Key Criteria	CA	WV	GA	FL	PA
Overall Fidelity of Implementation	Succeeded: exceeded goals with 95% district adoption by year 1	Succeeded: 1-year transition; 12-week testing window possible due to computer adaptive testing	Succeeded: needed longer timeline due to no device funding until year 3	Failed: legislature withdrew online testing at elementary grades	Failed: did not transition; remained optional; currently at ~30% online
Goal of 21st century learning as impetus for move	●	●	●	●	*N/A* ○
Breadth of support	●	●	●	○	○
Prior experience with online testing	*Optional with summative* ◔	*Online writing in grades 3–11* ◔	*Optional with summative* ◔	*Optional with summative* ◔	*Optional with summative* ◔
Use of online interim or formative assessments	●	●	●	*Summative online practice tests only* ◑	●
Transition length	*2 years* ◔	*1 year* ●	*5 years* ◑	*Originally 4 years before cancelling* ○	*N/A* ○
Funding to ensure connectivity prior to transition	●	◑	●	○	○
Funding for devices and tech personnel	*Devices and others, starting year 2* ◔	*Devices only (very limited), starting year 1* ◑	*Devices and others, starting year 3* ◔	*Devices and others, starting year 3* ◔	○

What was learned:

Partnerships and buy-in for digital literacy and online testing needs to be widespread.

Familiarity with online testing can shorten length of time needed for 100% transition.

Two categories of funding should exist—internet connectivity first, then devices/personnel.

TEA

Texas has the potential for a strong 100% online testing transition, provided that the state focuses on two steps

Key Criteria	TX — Current Status	
Goal of 21st century learning as impetus for move	*Long Range Plan for Technology 2018–2023 has set strategic goals for 21st century learning for the state*	●
Breadth of support	*68% of districts believe advantages of online testing outweigh disadvantages; top concerns around resources*	◐
Prior experience with online testing	*Summative assessments available online since 2005; TELPAS is fully online (18% TX students, 92% campuses)*	◐
Use of online interim or formative assessments	*STAAR Interim Assessments and new Texas Formative Assessment Resource are online*	●
Transition length	*Per HB 3906, exploring two-year transition (100% implementation by 2022–23)*	◕
Funding to ensure connectivity prior to transition	*Almost all campuses have or will have fiber and internal connections, but 40% report needing more bandwidth*	◐
Funding for devices and tech personnel	*Substantial funds currently provided for digital literacy and technology needs (e.g., Operation Connectivity, TIMA)*	◔

1 **Partnerships across all stakeholders (TEA, ESCs, districts, vendors) work to ensure that educators, students, and parents are familiar and comfortable with online testing.**

- Provide consultative support in implementing online testing, such as scheduling, tech support, trainings [TEA/ESCs]

- Ensure connection between technology and testing personnel and conduct load tests prior to summative tests [districts/vendors]

2 **A subset of districts will need to invest in internet connectivity and technology devices and personnel.**

- Districts need to apply for E-rate

- TEA will continue to explore connectivity solutions through Operation Connectivity

- Legislature could consider expanding the authorized use of TIMA and setting up a matching grant fund towards one-time network infrastructure investments

TEA

Fortunately, 21ˢᵗ century learning is a priority for the state and is currently being supported by several funding opportunities

Recent one-time funding:
Created to address readiness needs across Texas; progress continues to be made

Classroom Connectivity $25M
Funds still to be drawn down by districts for <u>fiber</u> projects is $6M.

Operation Connectivity $913M
State and districts invested toward <u>devices</u> and hotspots.

Ongoing funding sources:

E-Rate ~$227M/year
Awarded annually for schools to use towards <u>internet connectivity</u> and <u>fiber projects.</u> The 2019 amount awarded for schools is ~$227M, but not all schools apply.

Technology and Instructional Materials Allotment (TIMA) ~$1B/biennium
Funds disbursed each biennium can go toward technology needs, such as <u>IT</u> personnel, training, or learning devices.

Combined, there has been a **$938M one-time investment** and **$727M+ accessible annually** (though E-rate funds can be increased through additional applications)

Districts that prioritize and invest in digital literacy will be able to meet online testing technology and resource needs

Long-Range Plan for Technology 2018–2023

Part of SBOE Long-Range Plan for Public Education Nov. 2018; Submitted to legislature in 2018; Widely used by field

Strategic goal: All students have the technology skills to fully participate in learning and thrive in the world.

Baseline requirements:
- **1:1** student-to-device ratio
- 1 mbps per student of fiber or wireless connection
- 350:1 device-to-tech personnel ratio

100% Electronic Assessments

Requirements for online testing are at or lower than what is needed for digital literacy

Research and stakeholder feedback generated readiness targets for transition to 100% electronic assessments.

Readiness targets:
- **3:1** student-to-device ratio
- 1 mbps per student of fiber connection or scalable internet
- 350:1 student-to-tech personnel ratio

The feasibility study indicates that Texas can achieve 100% electronic assessments by 2022–23, providing that the legislature takes action

Requirements to transition to 100% online testing

- **Amend TEC §39.02341 to clarify scope and confirm 2022–23 deadline for moving to 100% electronic assessments.**

Other **considerations** to support transition to 100% online testing

- Expand authorized use of TIMA to cover internet connectivity and training for online testing.

- Set up matching grant fund toward one-time network infrastructure investment, particularly to support small and rural districts.

TEA

Appendix

States who transitioned successfully supported partnerships and buy-in, had familiarity with online testing, and provided funding for transition

Key Criteria	CA	WV	GA	FL	PA
Overall Fidelity of Implementation	**Succeeded: exceeded goals with 95% district adoption by year 1**	**Succeeded: 1- year transition; 12-week testing window possible due to computer adaptive testing**	**Succeeded: needed longer timeline due to no device funding until year 3**	**Failed: legislature withdrew online testing at elementary grades**	**Failed: did not transition; remained optional; currently at ~30% online**
Goal of 21st century learning as impetus for move	Yes	Yes: state has technology learning standards and wanted students to practice keyboarding skills	Yes: written in their standards and messaged to field importance of acquiring learning devices	Yes	N/A: did not transition online but have technology learning standards
Breadth of support	Positive feedback on computer adaptive testing (which is inherently online)	Wanted to do computer adaptive testing; past online experience helped avoid reluctance among educators; lots of training and load testing	Multi-year marketing campaigns to support LEAs with device purchasing; vendor-built partnerships between district assessment and tech people to build up internal connections	Lack of devices led to extended windows, causing pushback from parents around reduced instructional time	Lack of buy-in from schools and politicians due to need for internet connectivity and devices
Prior experience with online testing	Previous assessment system had optional online testing	Writing assessments were administered primarily online for grades 3–11 prior to transition to online for all other assessments	Previous assessment system (GMAS) had optional online testing for EOC tests	Used optional online testing for upper grades for a number of years prior to transition attempt	Previous assessment system had optional online testing prior to transition attempt
Use of online interim or formative assessments	Yes	Yes	Yes	Electronic practice tests for EOC assessments	Yes
Transition length	2 year (2013–14 to 2014–15); by % of districts (Y1 50% / Y2 100%)	1 year (2018–19)	5 years (from 2014–15 to 2018–19); by % within-district (Y1 30% / Y3 80% / Y5 100%)	Originally 4 years (starting 2014); MS/HS first, then all ES grades in 2016	None
Funding to ensure connectivity prior to transition	Yes: starting 2014–15 state invested $76M beyond E-rate, creating two rounds for statewide network infrastructure projects to be built; districts pay for own bandwidth	Yes: existence of statewide program for improving internet; publicly published internet rates to keep costs comparative	Yes: 2014–16 CFC awarded districts $77M state funds on network infrastructure, enabling $127M in E-rate Cat 2 funds; provide free bandwidth for districts to distribute to schools	No	No
Funding for devices and tech personnel	Yes: starting 2015 $10M put toward tech personnel training for online testing; in same year districts were allocated $1B to implement Common Core (allowed for devices, etc.)	Yes: limited funding toward tech (devices); annual appropriation of tech funds to schools through Tools for Schools Program	Yes: 2016–17 CFC digital learning grant program awarded districts $13.5M state funds for districts to apply to devices and other network needs (starting year 3 of online testing transition)	Yes: 2016–17 Digital Classroom Allocation provided each district $500K+ to be applied towards devices first, then internet or training	None

Legend: Low / Medium / High

To meet readiness targets for 100% online testing, a subset of districts need further investment in internet connectivity and personnel

	Volume needed	One-time costs			Annual ongoing costs		
		Additional cost to meet readiness targets	Estimated E-rate coverage	Outstanding costs	Additional cost to meet readiness targets	Estimated E-rate coverage	Outstanding costs
Internet Connectivity will require additional funding beyond E-rate							
Fiber*	70 campuses	$3.2M–$5.4M	$2.4M–$4.1M	**$0.8M–$1.3M**	<0.1M	*Negligible*	*Negligible*
Internal Connections	284 campuses	$9.7M	$7.0M	**$2.7M**	—	—	—
Internet Bandwidth	3570 campuses	—	—	—	$25.4M	$19.3M	**$6.1M**
Personnel costs can be covered by TIMA funds							
Technology Personnel	2,452 tech personnel	—	—	—	$6.1M	—	**$6.1M**
Technology Personnel Training	2 hours per personnel	—	—	—	$1.2M	—	**$1.2M**
Devices have been effectively covered since onset of COVID-19							
Devices	160,980 Devices	**$37.0M–$72.9M**	**Fully Covered** by Operation Connectivity ($913M)				

Since March, over 2.5M devices have been purchased through Operation Connectivity

*Fiber numbers pending verification with additional sources