

1 HB46
2 163668-2
3 By Representative Chesteen
4 RFD: Ways and Means Education
5 First Read: 03-MAR-15
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8 SYNOPSIS: Under existing law, the Alabama Ahead Act
9 authorizes the Alabama Public School and College
10 Authority to sell and issue up to \$100,000,000 in
11 bonds to fund the purchase of digital textbooks for
12 public high school students, with implementation of
13 the act contingent upon separate legislative
14 enactment.

15 This bill would amend the Alabama Ahead Act
16 to provide that the bonds be used to purchase and
17 install, as a first priority, a high quality
18 standards-based broadband Wi-Fi infrastructure in
19 every classroom in every public school; and use
20 remaining funds to purchase mobile digital
21 computing devices to enable access to digital
22 resources in the state in lieu of digital textbooks
23 for public high school students.

24 This bill would specify priorities and
25 standards for wireless infrastructure and a cost
26 model.

1 digital computing devices to enable access to digital
2 instructional materials in all public school classrooms in the
3 state in lieu of digital textbooks for public high school
4 students; to specify priorities and standards for wireless
5 infrastructure and mobile digital computing devices; to
6 provide an infrastructure cost model; to provide an
7 implementation plan consisting of a technology plan,
8 infrastructure readiness report, and accountability reporting;
9 to revise the membership of the advisory committee to consist
10 of select members of the Alabama Educational Technology
11 Association and select members of the Educational Technology
12 Department of the State Department of Education; to require
13 that bonds issued pursuant to the act be issued upon approval
14 of the State Director of Finance; and to amend Section 14 of
15 Act 2012-560, 2012 Regular Session (Acts 2012, p. 1645), to
16 delete the requirement that implementation of the act be
17 contingent upon separate legislative enactment.

18 BE IT ENACTED BY THE LEGISLATURE OF ALABAMA:

19 Section 1. Sections 16-16B-1 and 16-16B-2 of the
20 Code of Alabama 1975, are amended to read as follows:

21 "§16-16B-1.

22 "(a) This chapter shall be known and may be cited as
23 the Alabama Ahead Act.

24 ~~"(b) Commencing with the 2012-2013 school year,~~
25 ~~students in grades 9-12 shall be provided in electronic format~~
26 ~~to the local boards of education schools which choose to~~
27 ~~participate in Alabama Ahead, to the extent practicable and~~

1 obtainable from the publisher, textbooks adopted pursuant to
2 Article 3, commencing with Section 16-36-60, of Chapter 36 of
3 Title 16, and other instructional materials through a
4 phased-in process. Digital textbooks and other instructional
5 materials provided in electronic format shall support the
6 appropriate course or courses of study.

7 "(c) Where feasible, each public ninth grade student
8 and teacher will be provided in lieu of or in addition to
9 hardbound textbooks and other instructional materials, in
10 whole or in part, a pen-enabled: tablet, mobile computer, or
11 other similar wireless electronic device for storing, reading,
12 accessing, exploring, and interacting with digital textbooks
13 and other instructional materials. Each student provided with
14 a pen-enabled: tablet, mobile computer, or other similar
15 wireless electronic device, and his or her parent or legal
16 guardian, is responsible for maintaining the assigned device
17 in good working order throughout the school year and for
18 returning the device to the providing school at the end of the
19 school year.

20 "(d) The following school year, the providing school
21 shall reassign the pen-enabled: tablet, mobile computer, or
22 other similar wireless electronic device to the students in
23 the tenth grade public school system while continuing to
24 provide incoming ninth grade public school students with a
25 pen-enabled: tablet, mobile computer, or other similar
26 wireless electronic device. This process will be repeated in

1 ~~participating school systems to ensure a planned roll-over of~~
2 ~~devices and continued support.~~

3 ~~"(e) The Department of Education shall lead,~~
4 ~~implement, provide oversight, and administer this chapter and~~
5 ~~shall adopt such rules as necessary in accordance with an~~
6 ~~implementation plan. This plan shall include, but is not~~
7 ~~limited to, the following: Minimum specifications for devices;~~
8 ~~learning management system; maintenance and support~~
9 ~~requirements of the electronic devices authorized in this~~
10 ~~chapter; current readiness of participating schools' wireless~~
11 ~~networks; professional development for teachers; application~~
12 ~~process for school systems participating.~~

13 ~~"(f) On or before October 1, 2012, and prior to~~
14 ~~implementation of this section, the State Department of~~
15 ~~Education shall provide a copy of the proposed implementation~~
16 ~~plan to the Chair of the Senate Education Policy Committee and~~
17 ~~the Chair of the House of Representatives Education Policy~~
18 ~~Committee.~~

19 ~~"(g) (b) (1) The State Department of Education shall~~
20 ~~establish an advisory committee to assist in the~~
21 ~~implementation of this chapter. The membership of the~~
22 ~~committee shall include, but not be limited to, the House of~~
23 ~~Representatives and Senate sponsors of the primary legislation~~
24 ~~establishing the Alabama Ahead Act, a member of the House of~~
25 ~~Representatives as appointed by the Speaker of the House of~~
26 ~~Representatives, and a member of the Senate as appointed by~~
27 ~~the President Pro Tempore of the Senate consist of, but not be~~

1 limited to, select board members of the Alabama Educational
2 Technology Association (AETA) who have experience and
3 knowledge in the administration and management of school
4 networks; additional members who have experience in school
5 networks and technology applications; and select members of
6 the Educational Technology Department of the State Department
7 of Education.

8 "~~(h)~~ (2) The membership of the advisory committee
9 shall be inclusive and shall reflect the racial, gender,
10 geographic, urban/rural, and economic diversity of the state.

11 "§16-16B-2.

12 "(a) Wherever used in this chapter, the following
13 terms shall have the following meanings unless the context
14 clearly indicates otherwise:

15 "(1) "1965 Act" means Act No. 243 enacted at the
16 1965 First Special Session of the Legislature, codified as
17 Title 16, Chapter 16.

18 "(2) "1971 Acts" means Act No. 94 enacted at the
19 1971 First Special Session of the Legislature, Act No. 2428
20 enacted at the 1971 Regular Session of the Legislature, and
21 Act No. 56 enacted at the 1971 Second Special Session of the
22 Legislature.

23 "(3) "1973 Act" means Act No. 1277 enacted at the
24 1973 Regular Session of the Legislature as amended by Act No.
25 73 enacted at the 1975 Third Special Session of the
26 Legislature and Act No. 1223 enacted at the 1975 Regular
27 Session of the Legislature.

1 "(4) "1978 Act" means Act No. 138 enacted at the
2 1978 Second Special Session of the Legislature, as amended by
3 Act No. 79-41 enacted at the 1979 Special Session of the
4 Legislature and Act No. 81-827 enacted at the 1981 Regular
5 Session of the Legislature.

6 "(5) "1985 Act" means Act No. 85-943 enacted at the
7 1985 Second Special Session of the Legislature.

8 "(6) "1990 Act" means Act No. 90-280 enacted at the
9 1990 Regular Session of the Legislature.

10 "(7) "1995 Act" means Act No. 95-752 enacted at the
11 1995 Regular Session of the Legislature.

12 "(8) "1998 Act" means Act No. 98-373 enacted at the
13 1998 Regular Session of the Legislature.

14 "(9) "1999 Act" means Act No. 99-348 enacted at the
15 1999 Regular Session of the Legislature.

16 "(10) "2001 Act" means Act No. 2001-668 enacted at
17 the 2001 Regular Session of the Legislature.

18 "(11) "2002 Act" means Act No. 2002-240 enacted at
19 the 2002 Regular Session of the Legislature.

20 "(12) "2003 Act" means Act No. 2003-436 enacted at
21 the 2003 Second Special Session of the Legislature.

22 "(13) "2007 Act" means Act No. 2007-414 enacted at
23 the 2007 Regular Session of the Legislature.

24 "(14) "AETA" means the Alabama Educational
25 Technology Association.

26 "~~(14)~~(15) "Authority" means Alabama Public School
27 and College Authority.

1 "~~(15)~~(16) "Bonds" (except where that word is used
2 with reference to bonds issued under another act) means those
3 bonds, other than Refunding Bonds, issued under the provisions
4 of this chapter.

5 "(17) "Digital textbooks" means ~~an~~ interactive,
6 multimedia electronic ~~book~~ books or digital resources ~~that can~~
7 ~~be used creatively by learners.~~

8 "(18) "Government securities" means any bonds or
9 other obligations which as to principal and interest
10 constitute direct obligations of, or are unconditionally
11 guaranteed by, the United States of America, including
12 obligations of any federal agency to the extent such
13 obligations are unconditionally guaranteed by the United
14 States of America and any certificates or any other evidences
15 of an ownership interest in such obligations of, or
16 unconditionally guaranteed by, the United States of America or
17 in specified portions thereof (which may consist of the
18 principal thereof or the interest thereon).

19 "(19) "Infrastructure" means the hardware and
20 software resources that enable network connectivity,
21 communication, operations, and management.

22 "~~(19)~~(20) "Legislature" means the Legislature of
23 Alabama.

24 "~~(16)~~(21) "~~Computer equipment and software~~ Mobile
25 digital computing devices" means ~~pen-enabled: tablets, mobile~~
26 ~~computers, or similar wireless electronic~~ wireless mobile
27 devices for storing, reading, accessing, exploring, and

1 interacting with digital textbooks and other instructional
2 resources ~~material as well as software necessary for such~~
3 ~~equipment, learning management system, and equipment necessary~~
4 ~~to support wireless local area networks.~~

5 ~~"(20)~~ (22) "Permitted investments" means (i)
6 Government Securities; (ii) bonds, debentures, notes or other
7 evidences of indebtedness issued by any of the following
8 agencies: Bank for Cooperatives; Federal Intermediate Credit
9 Banks; Federal Financing Bank; Federal Home Loan Banks;
10 Federal Farm Credit Bank; Export-Import Bank of the United
11 States; Federal Land Banks; or Farmers Home Administration or
12 any other agency or corporation which has been or may
13 hereafter be created by or pursuant to an act of the Congress
14 of the United States as an agency or instrumentality thereof;
15 (iii) bonds, notes, pass through securities or other evidences
16 of indebtedness of Government National Mortgage Association
17 and participation certificates of Federal Home Loan Mortgage
18 Corporation; (iv) full faith and credit obligations of any
19 state, provided that at the time of purchase such obligations
20 are rated at least "AA" by Standard & Poor's Ratings Group and
21 at least "Aa" by Moody's Investors Service; (v) public housing
22 bonds issued by public agencies or municipalities and fully
23 secured as to the payment of both principal and interest by
24 contracts with the United States of America, or temporary
25 notes, preliminary notes or project notes issued by public
26 agencies or municipalities, in each case fully secured as to
27 the payment to both principal and interest by a requisition or

1 payment agreement with the United States of America; (vi) time
2 deposits evidenced by certificates of deposit issued by banks
3 or savings and loan associations which are members of the
4 Federal Deposit Insurance Corporation, provided that, to the
5 extent such time deposits are not covered by federal deposit
6 insurance, such time deposits (including interest thereon) are
7 fully secured by a pledge of obligations described in clauses
8 (i), (ii), (iii), and (v) above, which at all times have a
9 market value not less than the amount of such bank time
10 deposits required to be so secured and which meet the greater
11 of 100 percent collateralization or the "AA" collateral levels
12 established by Standard & Poor's Ratings Group for structured
13 financings; (vii) repurchase agreements for obligations of the
14 type specified in clauses (i), (ii), (iii), and (v) above,
15 provided such repurchase agreements are fully collateralized
16 and secured by such obligations which have a market value at
17 least equal to the purchase price of such repurchase
18 agreements which are held by a depository satisfactory to the
19 State Treasurer in such manner as may be required to provide a
20 perfected security interest in such obligations, and which
21 meet the greater of 100 percent collateralization or the "AA"
22 collateral levels established by Standard & Poor's Ratings
23 Group for structured financings; and (viii) uncollateralized
24 investment agreements with, or certificates of deposit issued
25 by, banks or bank holding companies, the senior long-term
26 securities of which are rated at least "AA" by Standard &

1 Poor's Ratings Group and at least "Aa" by Moody's Investors
2 Service.

3 ~~"(21)~~ (23) "Refunding bonds" means those refunding
4 bonds issued under the provisions of this chapter.

5 "(24) "SEND" means the Smart Education Networks by
6 Design recommendations set out by the Consortium of School
7 Networking (CoSN) in 2014.

8 ~~"(22)~~ (25) "State" means the State of Alabama.

9 ~~"(23)~~ (26) "Trust fund" means the Education Trust
10 Fund, formerly designated as the Alabama Special Educational
11 Trust Fund, the name of which was changed to the Education
12 Trust Fund, effective October 1, 1996, pursuant to Act No.
13 95-264 enacted at the 1995 Regular Session of the Legislature.

14 "(27) "Wi-Fi" means a wireless networking technology
15 that allows computers and other devices to communicate over a
16 wireless signal.

17 "(28) "WIRED" means the Wireless Infrastructure
18 Renovation for Education plan, the approved standards-based
19 funding model developed by AETA.

20 "(29) "WLAN" means a wireless local area network.

21 "(b) Nouns and pronouns when used in this chapter
22 shall be deemed to include both singular and plural and all
23 applicable genders."

24 Section 2. Section 16-16B-2.1 is added to the Code
25 of Alabama 1975, to read as follows:

26 (a) (1) Contingent on funding, during the 2015-2016
27 school year, local school systems shall begin installing

1 sufficient, high quality, standards-based, broadband Wi-Fi
2 infrastructure and, where possible, mobile digital computing
3 devices to enable access to digital instructional resources.

4 (2) In order to accomplish subdivision (1), the
5 following priorities are established:

6 a. Wireless infrastructure: The first priority for
7 the expenditure of Alabama Ahead Act bond funds is the
8 establishment of a high quality, standards-based wireless
9 local area network (WLAN) infrastructure capable of providing
10 all teachers and students with sufficient Wi-Fi broadband
11 access in all classrooms and common areas of schools.

12 b. Standards: Local school systems shall use bond
13 funds to install a wireless network or upgrade an existing
14 wireless network to satisfy Alabama Educational Technology
15 Association (AETA) and Smart Education Networks by Design
16 (SEND) standards that include high quality, enterprise level
17 networking equipment.

18 1. The standards for the infrastructure are:

19 (i) Each regular classroom and gymnasium shall be
20 equipped with high quality wireless access for 30 to 40
21 devices simultaneously. Each specialty classroom, that
22 routinely serves groups of less than 20 people, may satisfy a
23 lesser standard.

24 (ii) Each cafeteria shall have sufficient wireless
25 access for one-third of the then current enrollment of the
26 school.

1 (iii) Each administrative and noninstructional area
2 of a school shall have coverage, however, high density
3 coverage is not required in these areas.

4 2. Upgrades: Existing WLANs shall be augmented in
5 accordance with SEND recommendations, as follows:

6 (i) Coverage design with 802.11g: Replace and design
7 for capacity with 802.11n and 802.11ac in both 2.4GHz and
8 5GHz.ii.

9 (ii) Coverage design with 802.11n: Augment with
10 802.11n and 802.11ac capable access points (AP) in 2.4GHz and
11 5GHz.iii.

12 (iii) Capacity design with 802.11n: Plan to augment
13 or upgrade to 802.11ac with priority to moving classroom
14 spaces to 802.11ac, as needed.

15 3. Other network technology: If the wireless
16 networks of a local school system satisfy the standards, funds
17 shall be spent to further enhance digital learning
18 environments within the schools of that school system and may
19 include technologies such as:

20 (i) Support and warranty services.

21 (ii) Optional hardware and software to manage or
22 enhance the digital learning environment.

23 4. Network debt. Funds may be used for retiring debt
24 for a network brought into compliance with the standards; or,
25 for networks previously installed that satisfy the standards
26 in this legislation.

1 (b) (1) An amount of up to fifty million dollars
2 (\$50,000,000) shall be prioritized for completion of those
3 items listed in subdivision (2). The goal of this project
4 shall be a statewide completion date of 24 months from the
5 start of the application process. Funds shall be distributed
6 to each school system based on WIRED, the AETA approved
7 funding model, and shall be used to meet the first priority of
8 a high speed, standards-based WLAN. The funds provided for
9 each system shall be based on a distribution formula
10 developed, validated, and approved by AETA that does not
11 dictate the architecture of any WLAN, allows funds to be used
12 for any of the components of the WLAN, and includes, but is
13 not limited to, all of the following variables:

- 14 a. Enrollment.
- 15 b. Number of buildings.
- 16 c. Estimated number of classrooms.
- 17 d. Projected number of access points.
- 18 e. Increasing the AP number by 20 percent for
19 administrative areas and the cafeteria.
- 20 f. Allowing for Power over Ethernet (PoE) switches
21 for every 12 classrooms.
- 22 g. Allowing thirty-six dollars (\$36) per AP for
23 copper cable and termination materials.
- 24 h. Allowing one hundred dollars (\$100) for
25 installation of each AP.
- 26 i. Allowing four hundred sixty-five dollars (\$465)
27 for one 1,000 foot long fiber cable per each 12 classrooms.

1 j. Allowing for one centralized fiber switch per
2 school with sufficient optical ports for each 12 classrooms.

3 k. Allowing one hundred dollars (\$100) per AP for
4 controller/management software.

5 l. A five thousand dollar (\$5,000) allotment for
6 support costs.

7 m. A fifteen thousand dollar (\$15,000) allotment for
8 each local school system with a nonreporting campus, such as a
9 career technical center.

10 (2) Upon completion and verification of the
11 standards-based, wireless infrastructure, a local school
12 system may use remaining funds to provide students with mobile
13 digital computing devices for accessing, exploring, and
14 interacting with digital resources. To expend these funds, an
15 application shall be submitted to the Educational Technology
16 Department of the State Department of Education that includes
17 the following:

18 a. Allowable non-WLAN purchases that include a
19 description of each type of item, quantities, and intended
20 location.

21 b. References to the local school system's
22 Transform2020 Technology plan for Goal 1: Engage and Empower
23 the Learner Through Technology; and Goal 2: Prepare and
24 Support Teachers and Leaders to Graduate College and
25 Career-Ready Students.

26 (3) Any bond funds in excess of the fifty million
27 dollar (\$50,000,000) priority funds shall be distributed to

1 local school systems based upon enrollment and shall be used
2 for further implementation of the system technology plan.

3 (c) (1) The Department of Education shall lead,
4 implement, provide oversight, and administer this section.
5 This shall include, but is not limited to, all of the
6 following:

7 a. Minimum specifications for WLANs and per system
8 funding allocations based on the recommended standards in
9 WIRED.

10 b. Current readiness of participating schools'
11 WLANs.

12 c. An appropriate application process for school
13 systems participating, including a component for the
14 professional development of teachers.

15 (2) Any application for funds shall be submitted and
16 signed by the technology coordinator, the superintendent, and
17 the chief school financial officer of the local school system.

18 (3) Implementation plan: School systems shall apply
19 for their portion of the Alabama Ahead Act bond funding
20 through the State Department of Education. Applications for
21 funding shall include all of the following:

22 a. Technology plan: An approved technology plan as
23 required of all school systems as part of the Foundation
24 Program, which identifies all of the following:

25 1. How Wi-Fi broadband networks and digital learning
26 environments will improve educational opportunities for
27 students.

1 2. How teachers will receive professional
2 development in the use of WLAN and mobile digital computing
3 technologies in the classroom.

4 3. The infrastructure improvements that will be made
5 and how these improvements will improve student access to
6 digital devices and resources.

7 b. Infrastructure readiness report: School systems
8 shall provide an infrastructure readiness report describing
9 each school's WLAN as well as the systems used to manage these
10 networks. The infrastructure readiness report shall identify
11 how each school's WLAN compares to the WLAN standards
12 established by AETA and SEND. The infrastructure readiness
13 report, on a school-by-school basis, shall include all of the
14 following:

15 1. Enrollment and number of classrooms.

16 2. If existing WLAN components will continue to be
17 used, then the following shall also be provided:

18 (i) A school map showing locations of current access
19 points.

20 (ii) A description of existing access points,
21 including age, manufacture, model, specifications, and
22 supporting documentation such as purchase orders if requested.

23 (iii) A description of existing management or
24 controller technologies.

25 (iv) Specifications of existing network switches and
26 cabling connected to the access points.

1 3. A signed assurance form from the school principal
2 as to the quality of the WLAN functionality.

3 4. An application for WLAN purchases in order to
4 ensure all schools satisfy the WLAN standards established by
5 AETA and SEND which are incorporated into this section. The
6 application shall be itemized by school and shall include the
7 manufacture, model, specifications, quantity of each
8 component, and the total cost.

9 5. Each application shall include a projected
10 timeline for the upgrade of WLANs and for the purchasing of
11 other digital devices or systems.

12 6. Each application shall be reviewed and approved
13 by the State Department of Education, which shall utilize a
14 peer review by technical experts to evaluate WLAN readiness
15 and purchasing applications.

16 c. 1. Accountability in the use of funds: Every six
17 months until the project is complete, the State Department of
18 Education shall provide a report to the Chair of the Senate
19 Finance and Taxation Education Committee and the Chair of the
20 House Ways and Means Education Committee detailing the
21 progress of local school systems in meeting the 24-month goal
22 of a statewide implementation.

23 2. The State Department of Education shall include
24 WLAN infrastructure functionality in its monitoring standards
25 as part of the ongoing accountability of this investment.

26 Section 3. Section 16-16B-3 of the Code of Alabama
27 1975, is amended to read as follows:

1 "§16-16B-3.

2 "(a) The Authority is hereby authorized to sell and
3 issue its Bonds in the aggregate principal amount of up to
4 \$100,000,000 and to apply the proceeds as provided in this
5 chapter, to include the following purposes: Paying the costs
6 of acquisition and maintaining ~~computer equipment, software,~~
7 ~~and digital textbooks for public education purposes in the~~
8 State high quality broadband Wi-Fi infrastructure, mobile
9 digital computing devices, digital instructional resources,
10 and any debt incurred for a network brought into compliance
11 with the standards; or, for networks previously installed that
12 satisfy the standards of the Alabama Ahead Act as amended by
13 the act adding this amendatory language.

14 "(b) The Bonds authorized by this chapter to be
15 issued by the Authority shall be in addition to all other
16 bonds previously authorized to be issued by it, and the powers
17 conferred on the Authority by this chapter are in addition to
18 all other powers heretofore conferred on the Authority by acts
19 heretofore enacted by the Legislature."

20 Section 4. Section 14 of Act 2012-560, 2012 Regular
21 Session (Acts 2012, p. 1645), is amended to read as follows:

22 "Section 14. This act shall become effective on the
23 first day of the third month following its passage and
24 approval by the Governor, or its otherwise becoming law.
25 ~~Sections 2 to 12, inclusive, shall be implemented only upon~~
26 ~~separate legislative enactment providing a specific date for~~
27 ~~implementation."~~

1 Section 5. This act shall become effective on the
2 first day of the third month following its passage and
3 approval by the Governor, or its otherwise becoming law.