Greg Abbott's Educating Texans Plan:
Higher Education

Improving Graduation Rates

Recommendation: Implement outcomes-based funding at four-year institutions**.**

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Recommendation: Adopt a statewide AP credit-by-exam policy requiring public colleges and universities in Texas to award college credit to high school students that achieve scores of 3 or higher on Advanced Placement examinations.

Leveraging Technology for Greater Access and Affordability

Recommendation: Issue college credit for edX courses and count it toward degree requirements.

Exempting Military Families from Tuition

Recommendation: Fully fund tuition and fees for military families who qualify for Hazlewood Act exemptions.

Elevating Our National Research Standing

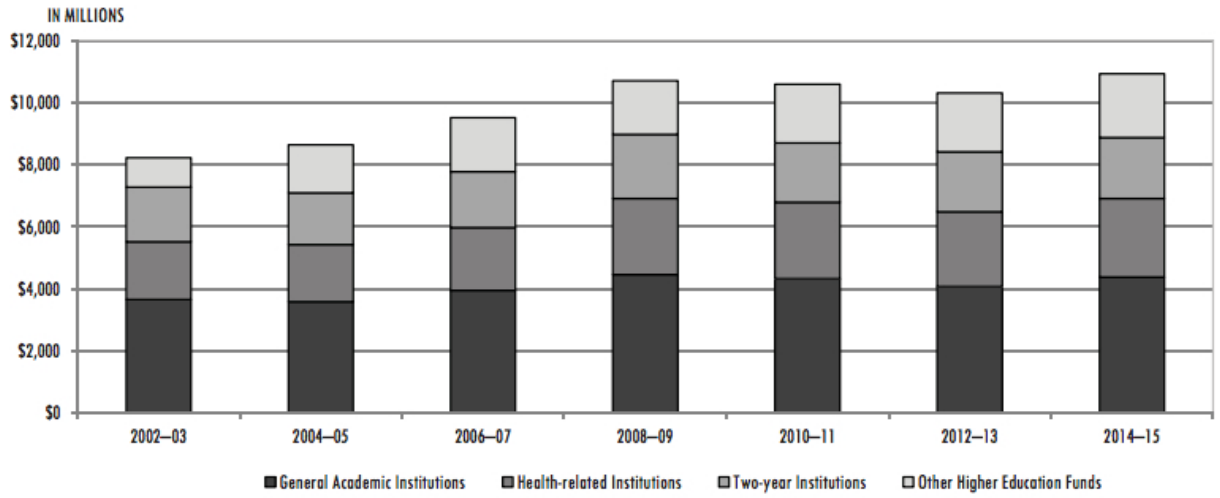
Recommendation: Increase state support for research and emerging research universities by increasing appropriations to the Texas Competitive Knowledge Fund by $40 million for the 2016-17 biennium.

Texas Higher Education

Advanced education is the means by which many Americans climb the economic ladder and improve their economic standing and standard of living. One of the major goals of higher education is to equip students with the knowledge and skills required to succeed in the workforce. Texas needs an educated workforce to fill critical positions and participate in an increasingly competitive global marketplace. Texas operates 38 public universities, 50 public community college districts, seven public technical and state colleges, nine public-health-related institutions, 41 independent colleges and universities, two independent junior colleges, and one independent health-related institution.[1] According to U.S. News' rankings of public universities, four of the nation's top ten schools are located in California.[2] The University of Texas at Austin (UT-Austin) is Texas' highest ranked public school, tying with Ohio State University and Washington University at number 16. We must ensure that Texas' four-year public universities claim five of the top ten spots in future rankings.

Public higher education institutions in Texas serve about 1.33 million students.[3] Though a large portion of funding for these institutions comes from tuition payments, the Legislature is dedicated to supporting them. According to the Legislative Budget Board, the 83rd Legislature "appropriated $17.9 billion in All Funds to support higher education institutions (including benefits) for the 2014-15 biennium."[4]

GENERAL REVENUE FUNDING FOR INSTITUTIONS OF HIGHER EDUCATION
2002–03 TO 2014–15 BIENNIA



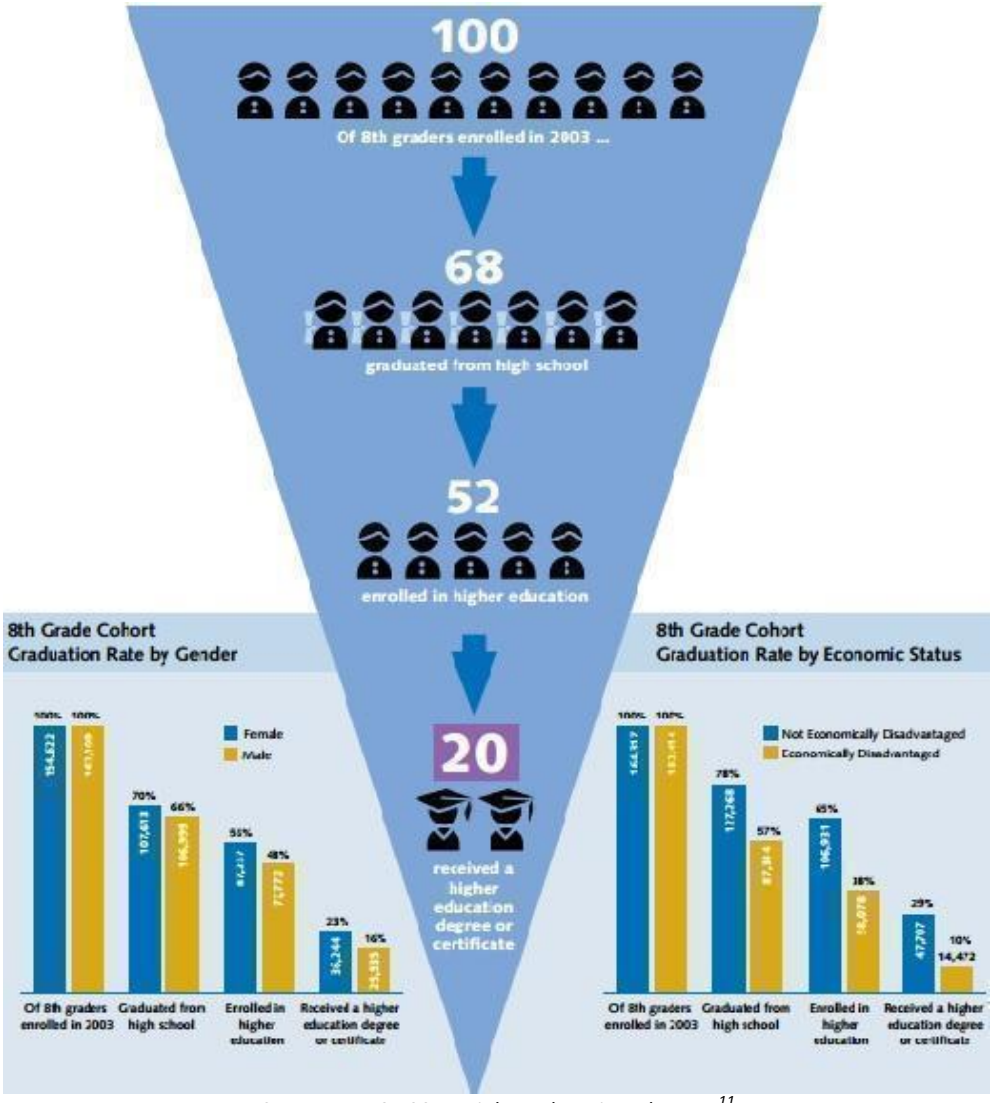
NOTE: Other Higher Education Funds includes funding for the Texas A&M System Agencies, the Higher Education Fund, the Texas Excellence Fund, the University Research Fund, and Higher Education Group Insurance. Funding for the Texas Higher Education Coordinating Board is not included in this graph.
SOURCE: Legislative Budget Board.

Source: LBB[5]

According to one study conducted by Georgetown University, Texas will have 2.2 million job vacancies that require postsecondary credentials by 2018, both from new jobs created and openings created through retirement.[6]

[1] http://www.window.state.tx.us/specialrpt/tif/higher.html
[2] http://colleges.usnews.rankingsandreviews.com/best-colleges/rankings/national-universities/top-public
[3] http://www.lbb.state.tx.us/Documents/Publications/Fiscal_SizeUp/Fiscal_SizeUp_2014-15.pdf
[4] *Id.*
[5] www.lbb.state.tx.us/Documents/Publications/Fiscal_Sizeup/Fiscal_SizeUp_2014-15.pdf#General_Academic_Institutions
[6] Anthony Carnevale et al, Help Wanted: Projections of Jobs and Education Requirements Through

Texas has worked hard to meet the needs of its future workforce. *Closing the Gaps*, which was launched by the Texas Higher Education Coordinating Board (THECB) in 2000, had four stated goals: "to close the gaps in student participation, student success, excellence and research."[7] In terms of student participation, the program has been notably successful. Revised participation goals in 2006 included adding 630,000 more students by 2015.[8] In 2010—a decade into the program—total enrollment in Texas was 20 percent above the *Closing the Gaps* target, and there is no indication that, in terms of participation, *Closing the Gaps* targets will not be met.[9] Indeed, according to THECB's 2014 Texas Public Higher Education Almanac, enrollment in all Texas higher education institutions has increased by 55 percent since 2000.[10]



Source: THECB 2014 Higher Education Almanac[11]

[6] 2018, Georgetown University Center on Education and the Workforce, June 2010.
[7] http://www.thecb.state.tx.us/index.cfm?objectid=858D2E7C-F5C8-97E9-0CDEB3037C1C2CA3
[8] http://www.thecb.state.tx.us/reports/PDF/1724.PDF?CFID=10193989&CFTOKEN=94078621
[9] http://www.thecb.state.tx.us/reports/PDF/2591.PDF?CFID=10133249&CFTOKEN=14149145
[10] http://www.thecb.state.tx.us/index.cfm?objectId=CE293EED-DD31-BCDE-51EB322FF8B856A8&flushcache=1&showDraft=1
[11] http://www.thecb.state.tx.us/index.cfm?objectId=CE293EED-DD31-BCDE-51EB322FF8B856A8&flushcache=1&showDraft=1

Despite making gains in participation, the state is seeing many students who enroll at institutions of higher education fail to graduate. According to the THECB Almanac, out of all Texas eighth grade students who were enrolled in 2003, only 52 percent enrolled in some form of higher education, and only 20 percent received a higher education degree or certificate. It is time to recognize that ensuring *access* to higher education is not enough. Financial aid programs through the state and federal government are available to assist with the cost of higher education. For instance, THECB offers the College Access Loan, Texas Armed Services Scholarship Program, and Texas B-On-Time loan program.[12] Texas also administers a number of scholarship and grant programs, including TEXAS Grant, Texas Public Educational Grant, and the Top 10% Scholarship Program.[13] Opportunities are available to help students access a broad spectrum of educational offerings, including bachelor's and graduate degrees, as well as associate degrees and certificates in specialized fields, training in specific areas of industry and business, and a broad array of vocational offerings.[14]

The state must continue to emphasize successful *completion*, making it a public policy priority. Efforts must be made to improve productivity of higher education. This can be achieved, in part, with policies that assist students who are trying to graduate in four years. Improving graduation rates cannot, however, be accomplished solely through efforts taking place on college and university campuses. Currently, the state spends time and money remediating incoming freshmen who are not prepared for college coursework.[15] Therefore, increasing timely graduation rates will necessarily involve the K-12 system ensuring more students are graduating from high school with the requisite skills they will need to succeed at the postsecondary level.[16]

The traditional brick and mortar model of delivering higher education is becoming dated as more students are supplementing their credit hours with online courses, credit-by-exam, competency-based learning, and other innovations. Texas two- and four-year institutions must continue to embrace these changes. In addition to making advanced education more accessible, when utilized properly, innovative delivery methods can improve productivity for both students and institutions of higher education.

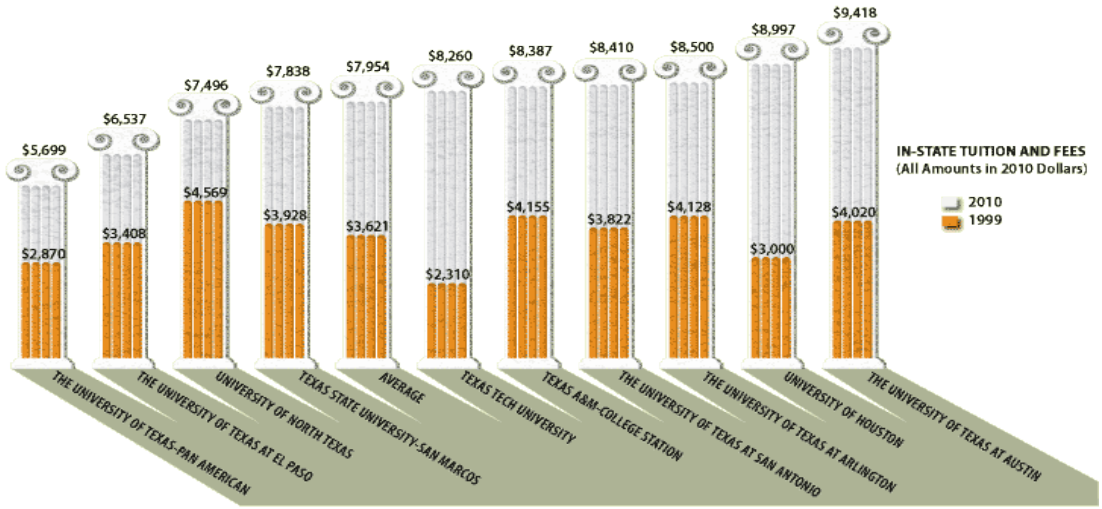
Finally, the state must continue its efforts to make Texas a top research state. Top research institutions attract more dollars, train more students, and attract new businesses to the state.[17] The state's flagship institutions have led the way, but Texas should take advantage of opportunities to support those institutions and raise others to top research status as well.

These are ambitious goals; however, Texas can provide a better system of higher education, and the time to act is now.

[12] http://www.hhloans.com/
[13] http://www.thecb.state.tx.us/index.cfm?objectid=B85D3933-C8DB-F8A6-3E2C2992B67B1058
[14] For example, a glance at the course catalogs of several community college systems in Texas indicates wide availability of a range of vocational courses.
[15] http://www.texastribune.org/2013/08/29/texas-colleges-tackle-college-readiness/
[16] As recommended by the previous Educating Texans rollouts: Pre-K—Third Grade, Governance, and Digital Learning.
[17] https://utsa.edu/tierone/vision/index.html

Improving Graduation Rates

Higher education is costly and is becoming increasingly more expensive. Along with healthcare, it is one of the fastest-growing areas in terms of cost impacted by government policies. Between 1999 and 2010, the cost of attending public and private institutions increased dramatically.

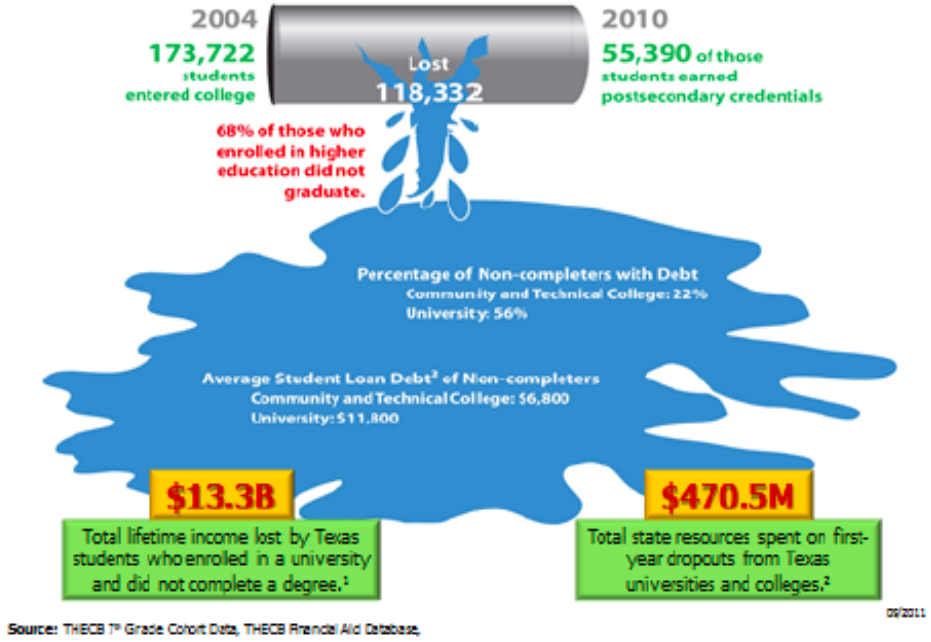


Source: Texas Higher Education Coordinating Board

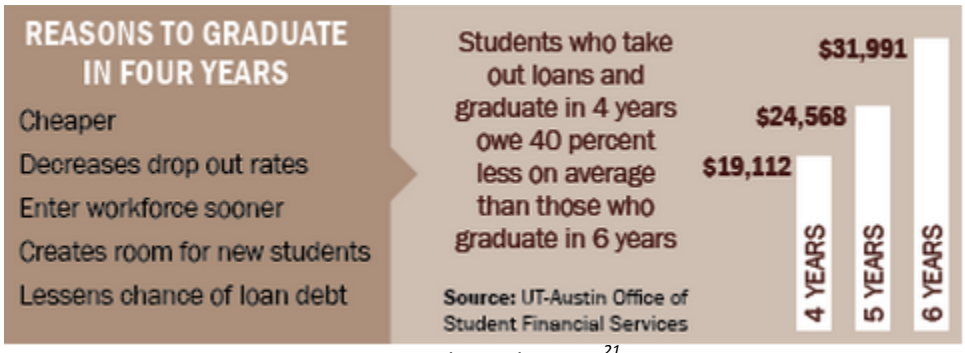
A variety of outside factors have contributed to the rising cost of higher education. Notably, fewer and fewer students are attaining four-year college degrees within four years. When students do not graduate in a timely fashion, they incur more expenses related to housing and other costs. On average, Texas students attending public universities take longer to graduate and enroll in more credit hours than is required to earn a degree, adding unnecessary costs to obtaining a degree.[18] UT-Austin graduates 52 percent of its students in four years, the highest rate in the state among four-year public institutions.[19] Statewide, roughly one-third of the students who graduate do so in four years or less.[20]

There is also a significant financial impact associated with students who enroll in higher education but do not graduate. The following graphic from THECB illustrates some of these costs, which includes more than $13 billion of lost lifetime income by these students, almost $12,000 of debt on average for a student who drops out of a four-year program, and $417 million in-state resources spent on first-year dropouts from two- and four-year programs.

[18] http://www.thecb.state.tx.us/index.cfm?objectId=CE293EED-DD31-BCDE-51EB322FF8B856A8&flushcache=1&showDraft=1
[19] http://www.utexas.edu/news/2013/01/24/college-completion-recommendationshelp-students-texas-nation/
[20] http://kutnews.org/post/odds-stacked-against-four-year-college-graduation



State policies can be implemented to help students graduate on time, thus saving considerable expense. The University of Texas has launched its own initiative to increase the four-year graduation rate and notes the following:



Source: The Daily Texan[21]

Recommendation: Implement outcomes-based funding at four-year institutions.

Funding at four-year public institutions of higher education, in part, should be based on student performance and timely graduation.[22] If the institutions do not achieve certain thresholds in the performance measures, they should not receive the portion of general appropriations tied to that measure.[23]

[21] http://www.dailytexanonline.com/news/2013/08/05/ut-strives-to-improve-four-year-graduation-rates

[22] One proposal (HB 25, 83R) recommended that at least 25 percent of state funds be tied to performance measures such as total number of bachelor's degrees awarded, degrees awarded in critical fields, and degrees awarded to at-risk students.

[23] House Bill 25 (83R, 2013).

The Texas Higher Education Coordinating Board (THECB) has developed a model for funding based on successful outcomes for public universities and community colleges that recognizes schools that meet student success goals, such as increasing the number of degrees and certificates awarded.[24] Under the existing funding model, institutions are funded based on their student enrollment counts. Under the model THECB has proposed, funding will be determined based on enrollment and on how successfully institutions help their students complete their degrees. By emphasizing student success and effective resource allocation in retaining and graduation students, performance-based funding will help the state realize the goals laid out in its higher education plan.[25]

Beginning in the 2014-15 biennium, the Legislature implemented a new outcomes-based model for instruction and administration (I&A) funding for public community and junior colleges that considers three components: core operations, student success, and contact hours. In April 2014, the Coordinating Board released a report containing its formula recommendations for the 2016-17 biennium. In its report, THECB recommends continuing the Student Success (outcome-based) funding for community colleges. The amount of Student Success funding is determined based on a student achievement points system, which awards points as students successfully complete college readiness courses and move to intermediate success measures and successful outcome metrics.[26] For two-year community and technical colleges, THECB recommends an amount equal to ten percent of instructional funds appropriated (after certain deductions) be allocated under an outcomes-based methodology. For General Academic Institutions, the Formula Advisory Committee recommends funding $235 million through outcomes-based metrics outside the formula at a level equal to ten percent of undergraduate funding.[27] A summary of the metrics and their respective point calculations is as follows:

[24] "College for All Texans: Formula Funding Recommendations 2012." Texas Higher Education Coordinating Board, April 2012.
[25] *Id.*
[26] http://www.thecb.state.tx.us/reports/PDF/3487.PDF?CFID=10711274&CFTOKEN=41810574
[27] *Id.*

University Outcomes Calculation[28]

Metric	Description	University Points Calculation
Total Undergraduate Degrees	This metric would encourage university efforts to increase all undergraduate degrees awarded, regardless of field or student circumstance.	Total annual Bachelor's degrees awarded
Time-to-Degree	This metric would encourage timely graduation to minimize additional costs to the state and the student.	Total annual Bachelor's degrees awarded **x** University's 6-year Graduation Rate
Non-Traditional Students	This metric advantages universities that have success in graduating less-that full-time students, a particularly important student population at regional universities.	Total annual Bachelor's degrees awarded **x** 100 **+** Total University FTSE
Cost-to-Degree	This metric ensures that universities are not deterred from offering more resource intensive programs of study such as engineering and science.	Total annual Bachelor's degrees awarded **x** GAA Cost Matrix Rates
Critical Workforce Needs	This metric encourages universities to graduate students in fields with high demand and of particular importance to the state economy.	Total annual Bachelor's degrees awarded in critical workforce fields **x** 2.0
At-Risk Students	This metric recognizes the importance of this growing segment of the student population, and the additional support universities must provide to help them achieve their degrees.	Total annual Bachelor's degrees awarded to students meeting federal at-risk criteria
Persistence	This metric rewards universities for keeping students on a steady path to complete their degrees.	Total students completing 30 hours **+** Total students completing 60 hours **+** Total students completing 90 hours

Lawmakers during the 84th Legislative Session should give weight to THECB's recommendations by linking a portion of general revenue appropriations for both two- and four-year institutions of higher education to performance. In addition to incentivizing higher graduation rates, the criteria for performance-based funding should also include metrics to ensure quality of instruction; for instance, universities may receive funding based on the percentage of graduates who are employed within six months of graduating.

[28] http://www.thecb.state.tx.us/download.cfm?downloadfile=46749DFB-AB2E-3342-D412B45644864590&typename=dmFile&fieldname=filename

Recommendation: Establish block scheduling for two-year associate degree programs.

Approximately half of all college-level students in Texas attend school part-time while they work jobs to help pay for their education.[29] The ratio of part-time student workers to full-time students is more pronounced in two-year institutions where associate degrees and specialty training are acquired. However, as Complete College America has pointed out, graduation rates can be improved by making a full-time schedule available to part-time students through block scheduling.

Block scheduling is a practical reform that will help more working students attend school full-time. Complete College America explains:

> The greatest help we can provide is straightforward: predictability. Block schedules—for example, going to school every day from 8:00 a.m. to noon or from 1:00 p.m. to 5:00 p.m.—provide the daily certainty that allows easier job scheduling. Gone are the every semester negotiations with employers and child care providers.[30]

The idea behind block scheduling is that predictability and a reliably manageable schedule will allow students to attend class and negotiate a workable schedule with their employers. Block scheduling has been "extraordinarily successful" in places where it has been implemented.[31] Tennessee, for instance, has implemented block scheduling for career certificate programs and produced graduation rates of 75 percent and higher.[32] Likewise, associate degree earners in New York have double their graduation rates where block scheduling has been implemented.[33] Texas State Technical College began block scheduling in the fall 2013 semester.[34]

House Bill 9 (82R) required the THECB to prepare a report highlighting "best practices on: (1) improving student outcomes, including student outcomes, including retention, graduations, and (2) higher education governance, administration, and transparency."[35] Included among the report's "promising best practices" for redesigning the delivery of instruction to better fit students' lives was a recommendation to operate programs on block schedules with consistent meeting times and informing students in advance about the required schedule for the entire program to provide predictability and stability.[36]

Texas should implement block scheduling for all associate degree programs at junior and community colleges. Each degree, major, or training program should have a built-in, full-time 15-credit-hour-per-semester curriculum. After students choose a program or major, they will choose a morning or evening schedule instead of picking individual courses. In the future, block scheduling could benefit students at four-year universities as well. For instance, the University of Texas School of Law already operates a block schedule for students in their first year.[37]

[29] http://www.completecollege.org/docs/CCT-low-res.pdf
[30] *Id.*
[31] *Id.*
[32] *Id.*
[33] *Id.*
[34] *Id.*
[35] "Preliminary report to the joint oversight committee on higher education governance, excellence, and transparency," Texas Higher Education Coordinating Board, September 2011.
[36] *Id.*
[37] http://www.utexas.edu/law/academics/curriculum/firstyr.html

Recommendation: Allow core freshman- and sophomore-level courses from community colleges and junior colleges to be more broadly transferable to other institutions of higher education by requiring public four-year institutions—other than those the Coordinating Board has designated as research or emerging research universities—to accept these courses for credit.

Courses from community colleges and junior colleges are typically considerably more affordable than their equivalents offered at traditional four-year universities, yet community college students spend, on average, an additional year of schooling by taking courses that do not transfer to four-year institutions.[38] Approximately 59 percent of all college students today attend more than one institution, making transferability all the more important.[39]

Undergraduates in Texas must complete and satisfy a core curriculum consisting of 42 semester credit hours to:

> [G]ain a foundation of knowledge of human cultures and the physical and natural world, develop principles of personal and social responsibility for living in a diverse world, and advance intellectual and practical skills that are essential for all learning.[40]

The core curriculum is comprised of the following "Foundational Component Areas":

- Communication
- Mathematics
- Life and Physical Sciences
- Language, Philosophy and Culture
- Creative Arts
- American History
- Government/Political Science
- Social and Behavioral Sciences
- Component Area Option[41]

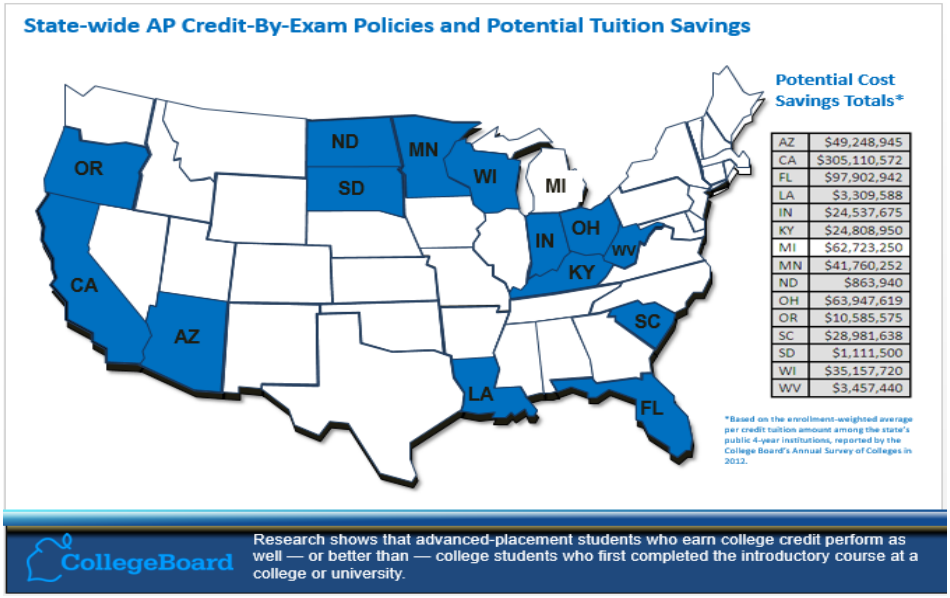
Allowing credits to transfer more freely enables aspiring students to take advantage of junior and community college cost savings. All courses that satisfy core curriculum requirements should be more transferable between junior and community colleges as well as public four-year institutions. A common course numbering system of core-component satisfying courses will help facilitate that transferability. Legislation similar to House Bill 82 (83R) would help achieve this goal.[42] Texas should require higher education institutions to adopt a core curriculum based on a single common course numbering system adopted by THECB, with certain carve-outs for institutions that the Coordinating Board has classified as a research or emerging research university.[43]

[38] http://www.texaspolicy.com/center/higher-education/opinions/helping-low-income-students-get-college-degree
[39] http://higheredwatch.newamerica.net/sites/newamerica.net/files/policydocs/Cracking_the_Credit_Hour_Sept5_0.pdf
[40] http://www.thecb.state.tx.us/index.cfm?objectid=6F049CAE-F54E-26E4-ED9F0DAC62FABF7D
[41] *Id.*
[42] Legislative Budget Board, Fiscal Note for House Bill 82 (83R, 2013).
[43] In 2014, the Coordinating Board classified the University of Texas at Austin and Texas A&M University as "research" and Texas State University, Texas Tech University, UT Arlington, UT Dallas, UT El Paso, UT San Antonio, University of Houston and University of North Texas as "emerging research" universities.

Recommendation: Adopt a statewide AP credit-by-exam policy requiring public colleges and universities in Texas to award college credit to high school students that achieve scores of 3 and higher on Advanced Placement examinations.

Established in 1955, the Advanced Placement (AP) program allows high school students to take college-level courses and earn college credit before graduating high school.[44] AP offers 34 courses and examinations within 22 subject areas, including humanities, English, science, mathematics, and world languages.[45] According to the College Board, approximately 60 percent of U.S. high schools offer AP courses and exams.

The benefits of implementing a statewide AP credit-by-exam policy are myriad. Studies have found that students who participate in AP course and exams have higher college GPAs and four-year graduation rates.[46] Awarding college credit to students in high school directly saves money for those students and their parents in the form of tuition. Research by the College Board has estimated the potential tuition savings in states that have adopted statewide AP credit-by-exam policies. Tuition savings in California, for instance, are estimated to be over $300 million per year based on the enrollment-weighted average per credit tuition amount among the state's public four-year institutions.



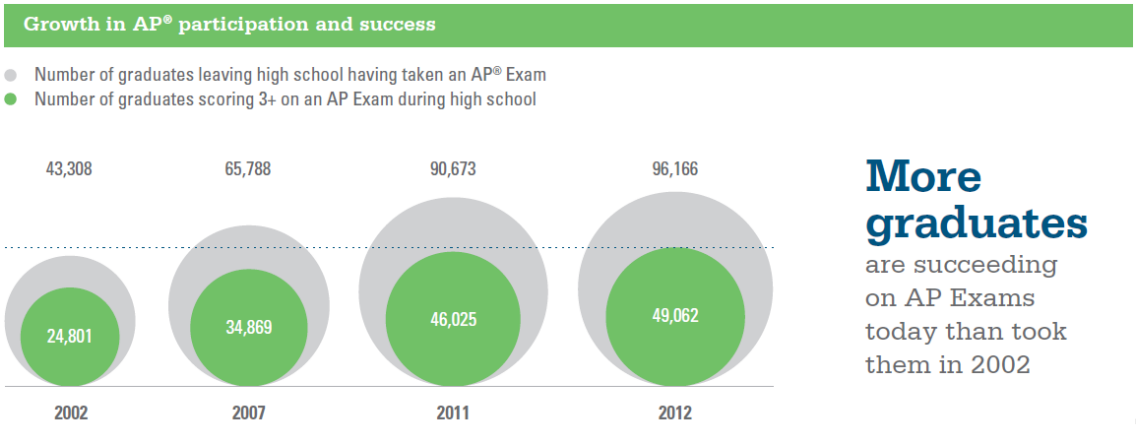
Texas is the second most populous state in the nation after California, with approximately 26 million residents.[47] With a statewide AP credit-by-exam policy, savings could begin to rival California. In 2013, Texas students received scores of 3 or higher on 190,042 AP exams, which represents 570,000 college credits. Since credits cost an average of $284 per hour, Texas families could potentially save $160 million in tuition costs.[48] An ambitious student could enter college with a full semester of college credit or more if they complete the core curriculum classes through an AP examination route.

[44] http://press.collegeboard.org/ap/fact-sheet
[45] http://apcentral.collegeboard.com/apc/public/exam/exam_information/index.html
[46] http://www.washingtonpost.com/wp-dyn/content/article/2007/01/28/AR2007012801238.html
[47] http://www.governing.com/gov-data/state-census-population-migration-births-deaths-estimates.html
[48] http://www.mysanantonio.com/opinion/commentary/article/AP-courses-save-time-and-money-5338980.php

Scores on AP examinations are ranked 1 through 5. A score of 5 is equivalent to grades of A and A+ in the corresponding college course. A score of 3 is equivalent to a C, C+, or B-. Studies conducted in states that have adopted statewide AP credit-by-exam policies have shown overwhelming college success by students who earn a 3 or higher on an AP examination. Wisconsin, for example, adopted such a policy in 1992. A study conducted by the University of Wisconsin-Madison found, "students who came with a 3, 4, or 5 on the [AP] exams were doing as well or better than those taking our classes and exams."[49]

Ohio passed a statewide AP credit-by-exam policy in 2009. A 2013 study by the Ohio Board of Regents found, "learning outcomes associated with AP test-scores of 3, 4, and 5 are equivalent to [learning outcomes associated with the] corresponding college courses." Furthermore, students scoring a 3 or higher "have an opportunity for saving resources, both time and money, but without compromising academic standards."[50]

Even without a statewide AP credit-by-exam policy, participation in AP examinations in Texas is becoming more popular. The following chart illustrates not only a dramatic increase in AP participation, but also in AP success, as measured by high school graduates scoring a 3 or higher on an AP examination.



[51]

A score of 3 or higher is an important threshold because it signifies that the student has demonstrated college-level competency of the course material. According to the data, nearly 50,000 high school students in Texas scored a 3 or higher on an AP course. Some of those students are from low-income families, making the cost of higher education all the more important; indeed, the number of low-income students taking at least one AP exam has quadrupled in past decade.[52] In 2012, approximately 43,000 low-income high school graduates in Texas took more than 141,000 AP examinations. More than 19,000 of those students scored a 3 or higher, demonstrating college-level competency in those courses. Amongst low-income and other categories, we are seeing an increase in racial and ethnic utilization of AP exams, with Hispanic/Latino and African American students taking 39,456 and 8,678 AP exams, respectively, in 2012.[53] Adopting a policy for college credit in all of those courses would provide those students with considerable economic benefits based on their hard work.[54]

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[49] http://media.collegeboard.com/digitalServices/public/pdf/ap/rtn/AP-Report-to-the-Nation.pdf

[50] https://www.ohiohighered.org/sites/ohiohighered.org/files/uploads/ATC_KB/AP%20Report_presentation%20for%20uploading%20to%20web.pdf

[51] http://media.collegeboard.com/digitalServices/pdf/ap/rtn/9th-annual/9th-annual-ap-report-state-supplement-texas.pdf

[52] http://www.tea.state.tx.us/index4.aspx?id=25769809334

[53] http://media.collegeboard.com/digitalServices/pdf/ap/rtn/9th-annual/9th-annual-ap-report-state-supplement-texas.pdf

[54] *Id.*

It is important to note that most, if not all, institutions of higher education in Texas award credit for AP courses and exams. However, there is a great deal of variance from school to school in credit awarded and what the minimum required score for credit is. For instance, UT-Austin and Texas State University both award three hours of college credit for successful completion of the AP course "English and Composition." The difference is that Texas State University requires a 3 on the AP examination for college credit while the University of Texas at Austin requires a score of 4.[55] That is one example among many, but it exemplifies the inconsistency. If a score of 3 demonstrates college-level competency, then students across the board who achieve that score should be awarded college credit.

Given the benefits of a statewide AP credit-by-examination policy, Texas should adopt and implement such a plan. The Texas Education Code should be amended to include the following provision:

> *The public colleges and universities of Texas must award, and private postsecondary institutions are encouraged to award, college credit to high school students who receive a score of three or higher on an advanced placement examination.*

Leveraging Technology for Greater Access and Affordability

The current model for higher education is still largely centered around a brick and mortar classroom where an educator teaches a limited number of students for a specified amount of time on a specific schedule. The traditional "credit hour" approach to awarding degrees is becoming an obsolete and ineffective measure of student success. Two broad outcomes can be accomplished by embracing innovative new services for education.

First, options can be greatly expanded. Many services offering online courses and full degree plans have emerged. These services can reach a greater number of students without the added cost of physical facilities and with fewer faculty members. Secondly, implementing new delivery methods of education can bring down costs from outside of the education system. A college education is generally a packaged deal—a "bundle"—that includes experiences, content, structure, and services. While the "bundled" approach to higher education continues to serve many students exceptionally well, students' needs and preferences often vary, and for some, the "bundled" model is not appropriate or ideal. Recognizing this fact, the state should pursue opportunities to "unbundle" higher education by replacing component parts with online or low-cost services. Restructuring the college "bundle" to include online courses and other innovations could control costs indirectly, as often happens when markets are allowed to work.

Online Education

One way to "unbundle" traditional practices in higher education is to utilize online education, which is rapidly becoming commonplace for college students. The percentage of students taking at least one online class has increased from ten percent in 2002 to 32 percent in 2010.[56]

[55] https://apstudent.collegeboard.org/creditandplacement/credit-policy-detail?diCode=6882&orgId=2321&name=University%20of%20Texas%20at%20Austin&address=Austin%2C%20TX

[56] http://higheredwatch.newamerica.net/sites/newamerica.net/files/policydocs/Cracking_the_Credit_Hour_Sept5_0.pdf

Currently, distance education courses are often offered at prices comparable to on-campus courses, despite the fact that they have the potential to be considerably less costly to deliver.[57] However, that fact is changing, and low-cost online courses are becoming more available each year and gaining popularity. Sebastian Thrun of Stanford University and Google offered a course on artificial intelligence online for free and attracted 160,000 students.[58] A variety of these services are emerging. One of these Massive Open Online Courses (MOOC), called Coursera, has served four million students worldwide to date.[59] It partners with a number of states to provide higher education, including New York, Tennessee, and Colorado, to name a few.[60] In Texas, Rice University is partnered with Coursera, though Rice is a private institution.

Despite the rapid increase in MOOC popularity, detractors have focused on low completion rates to argue that the programs are ineffective and wasteful. However, while it is true that completions rates rest around five percent, focusing on those rates misses the point. Data from 36 MOOCs offered by the University of Pennsylvania showed that the 1.8 million students enrolled in those courses do so because there is no cost to sampling the content in order to decide whether or not they want to proceed.[61] The data shows:

> [A]pproximately one-third of students who sign up for a course watch the first lecture. One-third of those students watch the Week Four lecture, and of those, another third watch the Week Eight lecture. Finally, one-third of the students who watch the Week Eight lecture go on to complete enough of the assignments, quizzes, and exams to pass the course and receive a certificate.
>
> But focusing on the tiny fraction of students who complete a MOOC is misguided. The more important number is the 60 percent engagement rate. Students may not finish a MOOC with a certificate of accomplishment, but the courses nonetheless meet the educational goals of millions.[62]

Thus, focusing on completion rates is an attempt to judge new methods of education through the prism of the traditional classroom model. Rather, MOOCs should be judged by how successful the courses are in providing the type of content and the amount of content that students seek.

MOOCs are one option, but online education is expanding across the educational spectrum. Georgia Tech recently announced that it is offering a three-year master's degree in computer science, completely delivered online.[63] The degree will cost $7,000, which is considerably less than the current average for such a degree online (approximately $25,000).[64] For an in-state or out-of-state student to earn a traditional computer science degree at Georgia Tech, it would cost $21,300 or $59,900, respectively. The savings of this service are considerable.[65]

[57] *Id.*
[58] *Id.*
[59] *Id.*
[60] http://www.aei.org/outlook/education/higher-education/costs/getting-more-bang-for-our-college-bucks/
[61] http://www.theatlantic.com/magazine/archive/2014/09/the-real-value-of-online-education/375561/
[62] *Id.*
[63] *Id.*
[64] *Id.*
[65] *Id.*

The Massachusetts Institute of Technology (MIT) also offers courses online but on a much broader scale. All of MIT's undergraduate and graduate course material (about 2,150 courses[66]) is available through their OpenCourseWare program, although no credit is offered.[67] An MIT engineering professor notes that the purpose of the program is "...to publish all of our course materials online and make them widely available to everyone."[68] Students use the program to enhance their personal knowledge or to supplement a class they are taking, while self-learners tend to use the material to explore areas outside of their professional field.[69]

Another service is College for America, which, according to its president:

> [M]eans to harness competency-based learning models, social networking theories and methods, self-paced learning, open educational resources, and strong assessment to offer a radically new degree program—radical in terms of price (our target is $4,000 for a two-year associate's degree), precision of learning outcomes, and assurance of quality and mastery.[70]

College for America restructures the education model. Students use open-source materials instead of textbooks and progress through their courses as they gain competency, as opposed to a set timeline. Because there is no physical campus or purchase of textbooks required, costs are significantly reduced.

While new programs like College for America and Georgia Tech's online degree are reshaping traditional education, Texas also offers a complete online college education through Western Governors University (WGU), identified by Time Magazine as "the best relative cheap university you've never heard of."[71] WGU specializes in bachelor's and master's degrees for working students, adults with some college, and adults who never attended college.[72] Governor Rick Perry signed an executive order in 2011 to officially establish the Texas branch of WGU, which became the third fully implemented statewide system.

And WGU Texas has been successful. In August 2012, WGU Texas celebrated its one-year anniversary. In its first year, WGU enrolled more than 3,000 students. The service now provides more than 50 accredited master's and bachelor's degrees in fields such as business, health care, information technology, and education.[73] Shortly after its one-year anniversary, WGU announced that it was partnering with Austin Community College (ACC) to develop online content that will supplement ACC courses.[74]

[66] http://ocw.mit.edu/about/
[67] http://archive.wired.com/culture/lifestyle/news/2001/04/42829
[68] http://ocw.mit.edu/about/
[69] http://ocw.mit.edu/about/site-statistics/
[70] http://www.aei.org/outlook/education/higher-education/costs/getting-more-bang-for-our-college-bucks/
[71] http://www.straighterline.com/colleges/partner-colleges/wgu-texas/
[72] http://www.statesman.com/blogs/content/shared-gen/blogs/austin/highereducation/entries/2011/08/03/texas_getting_branch_of_online.html/
[73] http://texas.wgu.edu/about_WGU_texas/first_anniversary_8-3-12
[74] *Id.*

New methods of education like Coursera, College for America, the online degree program at Georgia Tech, MIT's courses, and WGU are innovations in education. As out-of-the-box ideas that will affect the traditional education model, they will create a new mold for how higher education is delivered. They are market innovations that will bring new choices and lower costs to students seeking to learn and prepare for their professional careers. To put the potential of these programs in perspective, College for America just graduated its first five students in August 2013. The first graduate earned his degree at his own pace in 100 days as he quickly learned and displayed his competency.[75] His success shows that broad implementation of these programs could change higher education significantly.

Texas Partnership with edX for Online Content

The University of Texas (UT) has partnered with edX, a collaborative MOOC service between Harvard University, the Massachusetts Institute of Technology (MIT), and the University of California at Berkeley. The University of Texas System has invested $5 million in edX, adding to the $30 million each already invested by Harvard and MIT.[76] EdX is part of an initiative begun in 2011 when the UT System regents approved $50 million to create the Institute for Transformational Learning, which is intended to develop innovative approaches to education.[77] Steven Mintz, the institute's director, explained the partnership with edX:

> Any courses that we offer will be best in class . . . We will use the new learning tools we develop in hybrid and web-enhanced face-to-face formats as well as in online delivery. We are partnering with Harvard, MIT, and Berkeley precisely because we believe this partnership will ensure that everything we produce will embody excellence.[78]

Gene Powell, then-chairman of the UT System Board of Regents, also commented on the agreement:

> Our goal through our partnership with edX is to better meet the learning needs of a wide range of students, raise graduation rates and cut the cost of higher education, all while maintaining our commitment to education of the highest quality.[79]

UT's relationship with edX began in 2013 and through UTx offered a total of nine free courses by the end of the 2013-14 school year. The following courses were offered during this period:

Fall 2013

- Ideas of the Twentieth Century
- Introduction to Globalization
- Bench to Bedside: Introduction to Drug Development and the Commercialization Process
- Energy Technology & Policy

Spring 2014

- Linear Algebra: Theory and Computation
- Foundations of Data Analysis
- Mathematics and Effective Thinking
- Introduction to Embedded Systems

[75] *Id.*
[76] *Id.*
[77] *Id.*
[78] http://www.texastribune.org/2012/10/15/ut-system-announce-partnership-edx/
[79] *Id.*

The first four courses (Ideas of the 20th Century, Energy 101, Age of Globalization, and Take Your Medicine: The Impact of Drug Development) opened for registration in March 2013, and more than 14,000 registered within the first few days.[80] The courses went live in September 2013.[81]

Despite the popularity of edX, it is brand new, and credits for courses do not transfer to provide college credit in the University of Texas System. Harrison Keller, UT-Austin's vice president for higher education policy and research, explained:

> At this point, we're not planning to use the first nine [offerings] as credit-bearing courses, but as these issues get worked through, it would be terrific if we could figure out ways to use the platform for credit-bearing courses. We're part of those conversations with edX.[82]

If Texas eventually provides college credit for edX courses, the ability to supplement University of Texas System courses with free offerings from edX would go a long way in reducing the overall cost of higher education while increasing options at the same time.

Recommendation: Issue college credit for edX courses and count it toward degree requirements.

Though only a limited number of courses are currently available, there is no limit to content that may be offered through edX in the future. If students are able to learn, display competency, and perform well on exams, there is little reason why credit should not be fully awarded toward university degree plans. This will allow students to save money and enable ambitious students to graduate quickly.

Tuition Exemptions for Military Families

Recommendation: Fully fund tuition and fees for military families who qualify for Hazlewood Act exemptions.

Under the Hazlewood Act, Texas exempts veterans and their children from most higher education fees, including tuition up to 150 credit hours.[83] The children and spouses of veterans killed in action or who are disabled from active duty are also eligible.[84] Texas veterans are also able to pass on unused credit hours to their dependents.[85]

The service that members of the military provide for this nation is invaluable, and the benefits of tuition exemptions are well-deserved. Therefore, the Legislature should fully fund the tuition exemptions it has provided to our military veterans and their families, rather than push the costs on the institutions in the form of an unfunded mandate. The full cost of this unfunded mandate is currently borne by the state's higher education institutions themselves and is indirectly passed on to other students. Thus, universities may feel the pressure to increase tuition across the board in order to cover the exemptions and fund the increase in demand due to the access that the Hazlewood Act grants. The principle of truth-in-budgeting can be advanced by ensuring the Legislature fully funds these exemptions.

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[80] http://www.texastribune.org/2013/04/01/thousands-sign-up-for-ut-austins-first-edx-courses/
[81] Id.
[82] http://www.texastribune.org/2013/02/11/ut-austin-announces-nine-massive-open-online-cours/
[83] http://www.hro.house.state.tx.us/pdf/ba83r/hb0690.pdf#navpanes=0
[84] *Id.*
[85] *Id.*

According to the Legislative Budget Board (LBB), the Hazlewood Act will cost institutions of higher education $173 million in 2014, and $190 million in 2015.[86] Section 54.3411 of the Texas Education Code includes a provision requiring LBB to undertake a "study regarding tuition and fee exemptions for certain military personnel and dependents."[87] The study will include findings on the number of recipients of these exemptions and a host of other valuable data along with associated costs.[88] Due no later than December 1, 2014, this study should provide a more accurate picture of what these exemptions cost institutions of higher education in Texas.

The findings of the military tuition exemption survey should be used as a foundation to fund the overall cost of tuition exemptions. Senate Bill 1158 (83R) created a permanent fund to support military and veterans exemptions.[89] The LBB estimates, "to fully offset the cost of these particular exemptions, the corpus of the fund would need to be appropriated approximately $363 million, based upon the historical size and distribution rates of similar total return funds managed by the Texas Treasury Safekeeping Trust Fund."[90] Once the LBB study is complete, it will be possible to determine the cost of each specific military tuition exemption and the funding that will need to be appropriated to the permanent fund in order to end these unfunded mandates on higher education institutions.

Elevating Our National Research Standing

Advancing research at Texas institutions of higher education is critical. According to THECB:

> Scientific research conducted at higher education institutions is vital for identifying and developing new knowledge that leads to groundbreaking innovations that drive the state's economy and improve quality of life . . . They also provide state of the art educational opportunities for college students and attract the best faculty for our institutions of higher education.[91]

Texas currently has several research funds for the purposes of funding research at public institutions of higher education, including:

- The Norman Hackerman Advanced Research Program / Advanced Technology Program;
- The Research Development Fund;
- The National Research University Fund;
- The Texas Competitive Knowledge Fund; and
- The Texas Research Incentive Program.

[86] Fiscal Note for House Bill 690 (83R, 2013), Legislative Budget Board.
[87] http://www.statutes.legis.state.tx.us/Docs/ED/htm/ED.54.htm#54.3411
[88] *Id.*
[89] http://www.capitol.state.tx.us/Search/DocViewer.aspx?ID=83RSB011584A&QueryText=%22SB+1158%22&DocType=A
[90] Legislative Budget Board, Fiscal Note SB 1158 (83R, 2013).
[91] Texas Higher Education Coordinating Board, Overview, Research Funding in Texas.

Two of these funds—the Norman Hackerman program and the Advanced Technology program—have, respectively, not received significant funding since the 2010-11 and 2004-05 biennia. The Research Development Fund received more than $70 million in funding for the 2014-15 biennium. The Texas Competitive Knowledge Fund receives considerably greater funding, with approximately $160 million in the same biennium.[92] The Texas Research Incentive Program received approximately $35 million for 2014-15.[93] Finally, appropriations in the 2014-15 biennium total $55.9 million in estimated National Research University Fund proceeds to eligible institutions.[94]

Top research institutions are vital to the state for a number of reasons. They attract talent to the state and help drive innovation that helps the economy. The University of Texas at Austin, for instance, has conducted research leading to the award of over 800 patents.[95] The faculty and research staff at UT-Austin generate hundreds of millions of dollars in federal and corporate funding each year. This research funding and the graduate students it attracts help contribute approximately $2.8 billion and 16,000 jobs to the Texas economy each year.[96]

Research activity strengthens both graduate and undergraduate instructional programs through a variety of ways. Graduate student training is inextricably linked to research skills developed in labs. These types of research skills also play an important role in undergraduate education, as undergraduate students gain experience in labs that can make them attractive candidates for the best graduate programs in the country.

In June 2014, the National Academy of Inventors and the Intellectual Property Owners Association listed UT-Austin fifth worldwide for U.S. patents granted to universities.[97] UT-Austin research produces such a broad spectrum of useful technology and innovation that it houses the Office of Technology Commercialization (OTC), which is "charged with ensuring an efficient transfer of the university's knowledge and discoveries into the marketplace for society's use and benefit."[98] In Fiscal Year 2012-13, OTC granted 20 licenses and options for technologies developed in research at UT-Austin.[99] OTC was granted 101 patents (US and worldwide) in 2012-13. A summary of OTC's history utilizing valuable discoveries from University of Texas research is illuminating:

> Over the past ten fiscal years, the Office of Technology Commercialization at The University of Texas at Austin has processed over 1,450 invention disclosures and received over $128 million in licensing revenues. In patent activity, the past ten fiscal years have seen OTC file over 2,100 U.S. and foreign patent applications, and receive 624 issued patents in the United States and worldwide. OTC has signed 275 exclusive and non-exclusive licenses in the past ten years, and 66 startups companies have been spun off from OTC technologies in the same time period—47 of them in Texas.[100]

[92] SB 1 General Appropriations Bill, 83rd Legislative Session 2013.
[93] *Ibid.*
[94] www.lbb.state.tx.us/Documents/Publications/Fiscal_SizeUp/Fiscal_SizeUp_2014-15.pdf
[95] http://www.utexas.edu/research/about/
[96] http://www.utexas.edu/research/about/reports/2010
[97] http://www.academyofinventors.org/pdf/NAI-IPO-Top-100-Universities-2013.pdf
[98] http://www.utexas.edu/research/commercializing-technology
[99] http://www.otc.utexas.edu/Statistics.jsp
[100] *Id.*

Not all research performed at Texas' institutions of higher education produces immediate outcomes; however, the effects of such research are still far-reaching. Last year, UT-Austin was selected for a five-year $18.5 million grant from the National Science Foundation (NSF) to create and lead a nanosystems engineering research center. This is the first time since 1986 that any Texas university has been selected by NSF to lead a prestigious and highly competitive engineering research center.

Perhaps the greatest impact of university research is the investment in and accumulation of human capital by the current generation of graduate and undergraduate students. The knowledge learned in classrooms and state-of-the-art labs creates a foundation upon which future scholars will build. Undergraduate experience in research labs also increases critical thinking skills that have an important effect on retention and graduation rates.

The University of Texas, Texas A&M University, and Rice University are already top research schools. Bringing other higher education institutions up to similar research standards and onto a similar scale would be beneficial for the entire state.

Texas has taken steps to increase its number of top research universities. In 2009, the Texas Legislature passed House Bill 51 (81R), which created the National Research University Fund to provide funding to eligible institutions of higher education to enhance their research functions and emerge as nationally prominent major research universities. In Fiscal Year 2014, THECB designated the following eight institutions as "emerging research" universities under its accountability system:

- Texas State University
- Texas Tech University
- University of Houston
- University of North Texas
- University of Texas at Arlington
- University of Texas at Dallas
- University of Texas at El Paso
- University of Texas at San Antonio[101]

Last session the Research University Development Fund was combined with, and renamed, the Texas Competitive Knowledge Fund. While the Legislature recognized the importance of supporting all institutions of higher education through formula funding, it also recognized that additional support is needed to sustain its national research universities where formula funding falls short. Established in 2007, the Competitive Knowledge Fund is an effective mechanism to provide this additional support and incentivize research. The fund has been used to support research projects at UT-Austin, UT-Dallas, Texas Tech University, Texas A&M University, and the University of Houston, providing funding to support faculty to ensure excellence in research.

The Texas Competitive Knowledge Fund consists of money appropriated by the Legislature to eligible universities for the purpose of the fund. Originally, the Competitive Knowledge Fund was created to support research at UT-Austin, Texas A&M University, Texas Tech University, and the University of Houston. In 2011, UT-Dallas became eligible to participate after reaching the threshold of $50 million in total research expenditures, and in 2013, UT-Arlington, UT-El Paso, and UT-San Antonio were added to the list of eligible institutions for the 2014-15 biennium.

[101] http://www.txhighereddata.org/interactive/Accountability/PeerGroup.cfm

Amounts Appropriated from the Texas Competitive Knowledge Fund, FY 2014-2015

	2014	2015
University of Texas at Austin	$26,702,103	$26,702,103
Texas A&M University	$29,350,994	$29,350,994
University of Houston	$4,382,321	$4,382,321
Texas Tech University	$6,223,241	$6,223,241
UT Dallas	$4,126,471	$4,126,471
UT Arlington	$3,117,353	$3,117,353
UT El Paso	$3,218,880	$3,218,880
UT San Antonio	$2,500,000	$2,500,000
Total	$79,621,363	$79,621,363

Recommendation: Increase state support for research and emerging research universities by increasing appropriations to the Texas Competitive Knowledge Fund by $40 million for the 2016-17 biennium.

A key element to keeping public institutions of higher education in Texas competitive in research and high-quality instruction is a stable and adequate funding stream to support these important activities. The formula funding model, which provides funding for public general academic institutions in Texas, does not include a funding element to account for research. The Texas Competitive Knowledge Fund has helped address this gap by enhancing eligible universities' capacity to generate extramural funding for a wide variety of research projects.

The Legislature first appropriated money to the Competitive Knowledge Fund in 2007. Funding has continued in subsequent biennia but levels have not been consistent. When the 84th Legislative Session convenes, lawmakers should appropriate $200 million, a $40 million increase over current levels, to the Texas Competitive Knowledge Fund to signal the state's continued support of our research universities and accommodate the fact that a larger number of institutions are now eligible to receive financial support from the fund.