AGENDA ITEM V-A
DRAFT

College for all Texans

Texas Higher Education Coordinating Board

Closing the Gaps
Final Progress Report

June 2016

Strategic Planning and Funding

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Texas Higher Education Coordinating Board

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Agency Mission

The Texas Higher Education Coordinating Board promotes access, affordability, quality, success, and cost efficiency in the state's institutions of higher education, through *Closing the Gaps* and its successor plan, resulting in a globally competent workforce that positions Texas as an international leader in an increasingly complex world economy.

Agency Vision

The THECB will be recognized as an international leader in developing and implementing innovative higher education policy to accomplish our mission.

Agency Philosophy

The THECB will promote access to and success in quality higher education across the state with the conviction that access and success without quality is mediocrity and that quality without access and success is unacceptable.

The Coordinating Board's core values are:

Accountability: We hold ourselves responsible for our actions and welcome every opportunity to educate stakeholders about our policies, decisions, and aspirations.
Efficiency: We accomplish our work using resources in the most effective manner.
Collaboration: We develop partnerships that result in student success and a highly qualified, globally competent workforce.
Excellence: We strive for preeminence in all our endeavors.

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Introduction

Closing the Gaps: The Texas Higher Education Plan was adopted in October 2000 by the Texas Higher Education Coordinating Board (THECB) as the state's 15-year higher education plan. The plan's goals were to close the gaps that existed then in four major areas: participation, success, excellence, and research. All types of higher education are included in the plan: public, independent, and career; two-year and four-year (including health-related). This final (14th annual) progress report shows that the state did close the gaps in most areas, sometimes by wide margins. The report also shows some targets within the goals were not fully met. The THECB has already set in motion a new 15-year plan, *60x30TX*, to build on the many successes of *Closing the Gaps* (*CTG*).

Texas came within about 25,000 students of reaching the ambitious statewide *CTG* participation goal of enrolling approximately 630,000 more students in fall 2015 than in 2000. The actual increase of more than 605,000 students was 96 percent of the targeted increase.

African Americans were the only ethnic group of the three major ones to reach their targeted growth in enrollment, which they did in fall 2009. The enrollment for the group designated as "other" – not African American, Hispanic, or white – was targeted to be static by *CTG* planners when targets were updated in 2005, but enrollment in that category grew by 127 percent from fall 2000 through 2015. That increase was exceeded only by the 137 percent increase in Hispanic enrollment. However, despite the fact that Hispanic enrollment increased the most of all targeted groups, it still fell short of the final *CTG* target.

These are some of the *CTG* achievements and challenges that are documented in this report. Other topics related to participation and included in this report are the growing gender gap in participation, as well as factors that contributed to enrollment growth, such as college-going rates for high school graduates and persistence rates in higher education.

The state first attained the statewide success goal – to award 210,000 bachelor's degrees, associate degrees, and certificates (BACs) in one year – in Fiscal Year (FY) 2011, and awards increased to nearly 259,000 in FY 2015. Completions of BACs by Hispanic and African American students increased nearly fourfold and threefold, respectively, from 2000 to 2015. While most success targets were met – sometimes several years early – three targets were not met within the *CTG* time frame.

For the excellence goal, this report shows that several Texas public institutions and a number of program areas have been highly ranked (including some No. 1 rankings) by several organizations that compile rankings. The report also highlights excellent programs at four institutions, each representing a different segment of public higher education: community colleges, universities, technical and state colleges, and health-related institutions.

For the *CTG* goal of attracting research funding and increasing research expenditures, the state exceeded one target by a billion dollars.

The many achievements reached during the 15 years of the *CTG* plan could not have been realized without the hard work and dedication of the faculty, staff, and students at the state's many and varied higher education institutions. During the plan period, Texas higher education became more representative of the state's diverse population, and students from many backgrounds were afforded access to, and gained success in, higher education at

increasingly higher levels, closing educational gaps both in Texas and when compared to other states.

The report closes with the third annual assessment of progress toward meeting the goals of House Bill (HB) 2550, passed in 2013 by the 83rd Texas Legislature, Regular Session. The report also provides information on the most recent plans developed by higher education institutions to improve collaborations with Texas high schools that have low college-going rates among their graduates, and it presents measures of student success, including college-going rates and persistence, which legislation could affect.

Closing the Gaps Final Progress Summary

Statewide Goal for Participation: By 2015, close the gaps in participation rates to add 630,000 more students.

Statewide enrollment increased by 605,114 from fall 2000 to fall 2015, 96 percent of the targeted increase of about 630,000 students. In the last year of *CTG*, public four-year institutions added about 16,000 students; these institutions never had an annual decline in enrollment. Public two-year institutions enrolled nearly 6,000 more students in fall 2015 than the previous year, reversing a three-year decline. Enrollment at independent and career schools grew by about 59 percent during *CTG*, nearly as fast as at public two-year institutions (which had 64% growth) and faster than at public four-year institutions (with 52% growth). Dual credit enrollment was an important component of statewide participation; it totaled more than 133,000 students in fall 2015, approximately 8 percent of statewide enrollment, up from about a 2 percent share in fall 2000.

Hispanic enrollment increased in fall 2015 by nearly 29,000 students from the previous year; it has grown every year since *CTG* began. However, the increase since 2000 was still about 109,000 short of the increase required to reach the final target. African American enrollment dropped by more than 6,000 students in 2015, the third consecutive annual loss, but the increase of about 110,000 since fall 2000 was well above the final targeted increase of 64,237 students. White enrollment fell for the sixth straight year, and the increase since fall 2000 of 31,468 students was far below the target of 101,248.

Statewide enrollment in fall 2015 was 6.1 percent of the resident population for all ages for that year, the same as in 2014 but lower than the 6.3 percent share achieved in fall 2011 and 2012. During the early planning for *CTG*, a participation rate of 5.7 percent or more would have meant that the participation goal had been met. However, due to changing population estimates since then, that is not necessarily true anymore. The next section of the report discusses this further.

In 2015, females participated in higher education at a much greater rate (6.8% of their population) than males (5.3%), a gender gap of 1.5 percentage points that grew from a 1.0 percentage point gap in fall 2000. By ethnicity, the gender gap in 2015 was greatest for African Americans, where 8.7 percent of females participated in higher education versus 5.6 percent of males, a 3.1 percentage point difference that in fall 2000 was just 1.9 percentage points. Despite the gap between African American females and males, African American males have made substantial progress in their higher education participation rates, and in fall 2015 they participated at a higher rate than white males (at a 4.7% rate) and Hispanic males (at a 4.5% rate). African American and Hispanic participation rates for males grew by 2.0 and 1.4 percentage points, respectively, between fall 2000 and 2015, but the white male rate in fall 2015 was 0.1 percentage point lower than in 2000.

Statewide Goal for Success: By 2015, award 210,000 undergraduate degrees, certificates, and other identifiable student successes from high-quality programs.

The state met the goal of 210,000 undergraduate awards in FY 2011, with more than 221,000 BACs awarded that year. Awards by public, independent, and career institutions continued to grow thereafter, reaching 258,795 in FY 2015, almost 143,000 more than in FY

2000. Hispanic students earned nearly 30 percent of all bachelor's degrees awarded by public institutions in FY 2015, up from 18.5 percent in FY 2000. African American students also increased their share of bachelor's degrees in the same period, from 7.4 percent to 10.7 percent.

Texas institutions reached six of the nine final targets related to this goal in FY 2011, 2012, or 2013. All metrics for these successes continued to increase after reaching those targets, except for awards in allied health and nursing, which dropped by about 400 in FY 2015, the first decrease since FY 2001.

The state fell about 5,000 awards short of the 29,000 awards for the success target pertaining to science, technology, engineering, and mathematics (STEM) BACs at public institutions. Female students earned approximately 22 percent of STEM BACs in FY 2015, compared with 26 percent in FY 2003. Hispanics earned about 700 more BACs in these technical fields in FY 2015 than in 2014, the largest annual increase of the three major ethnic groups, boosting their statewide share to almost 32 percent from just 19 percent in FY 2003.

The total number of new teacher certifications from all program routes (including traditional, post-baccalaureate, and alternative) in FY 2015 was just under half the target of 44,700 certifications for that year. For the subset of certifications in math and science, the actual number was only about 42 percent of the target.

Statewide Goal for Excellence: By 2015, substantially increase the number of nationally recognized programs or services at colleges and universities.

For the second year in a row, The University of Texas at Austin (UT-Austin) tied for No. 1 among American public research universities, based on nine measures of research performance compiled by the Center for Measuring University Performance. Other top 10 rankings of UT-Austin included 7th and 10th best public university in the U.S., by the Center for World University Rankings and the *Times Higher Education* World University Rankings, respectively. However, *U.S. News & World Report (U.S. News)*, focusing primarily on undergraduate education, never has ranked UT-Austin in its top 10 public "best national universities" since *CTG* began; it was tied for No. 16 (public) in the latest rankings.

While Texas public universities have not been as highly rated by *U.S. News* as by some other organizations, individual programs at Texas institutions have been top rated. For example, the graduate petroleum engineering program and the graduate and undergraduate accounting programs at UT-Austin were ranked No. 1 in the country among public *and* independent universities in the most recent "2017" *U.S. News* rankings. The graduate petroleum engineering program at Texas A&M University (TAMU) and the graduate health care law program at University of Houston (UH) both tied for No. 2 nationally.

This progress report highlights examples of other nationally recognized programs at Texas public institutions, including the Victory Early College High School and dual credit program at Lone Star College-North Harris, Texas Tech University's undergraduate agricultural communications program, the surgical technology program at Lamar State College-Port Arthur, and Texas Tech University Health Sciences Center's accelerated program for veterans.

Statewide Goal for Research: By 2015, increase the level of federal science and engineering research and development obligations to Texas institutions to 6.5 percent of obligations to higher education institutions across the nation.

The state has made no net progress in reaching this goal. In FY 2000, Texas had 5.5 percent of national science and engineering research and development (R&D) obligations. Although the share reached 6.1 percent in FY 2003, it was 6 percent or higher just once more (6.0% in FY 2008). The share was stuck at 5.0 percent in FY 2013 and 2014, the most recent year with available data. In FY 2014, obligations needed to be about $450 million higher than the $1.36 billion obligated that year, to reach 6.5 percent of the national total.

Expenditures for R&D at Texas public universities and health-related institutions have steadily climbed, however, since the start of *CTG*, except for a slight dip in FY 2012, to reach $4.06 billion in FY 2015, a very impressive $1.06 billion above the $3 billion final target.

Closing the Gaps in Participation

Goal: By 2015, close the gaps in participation rates to add 630,000 more students.

Increased participation is the first step toward increasing student success and reaping the benefits of closing the gaps in higher education. In 2005, the THECB revised its original participation goal (to increase enrollment between fall 2000 and fall 2015 by 500,000 students), to an increase of about 630,000, with corresponding changes to targets by ethnicity. That revision was derived by: (1) setting 2015 enrollment targets for Hispanics, African Americans, and whites so that 5.7 percent of the projected population in 2015 of all ages in each group would be enrolled in higher education that year; and (2) setting the 2015 enrollment target for the group designated "Others" (not Hispanic, African American, or white) at 129,900, the average of fall 2004 and 2005 enrollment. It was assumed enrollment of these ethnicities would not change. The resulting 2015 enrollment target of 1,650,000 was 5.9 percent of 28.1 million – the Texas State Data Center's (TSDC) 2005 projection of the total Texas population in 2015.

Actually reaching a participation rate of 5.7 percent would not necessarily mean that an enrollment number target was met for an ethnic group, nor would reaching an enrollment target number mean that a participation rate of 5.7 percent was achieved, because the TSDC revises the population figures used to compute the rates every few years. These revisions have included the use of new 2010 Decennial Census data as the base for projections, replacing the 2000 Decennial Census base.

The latest statewide projection for the population in 2015 is 26.9 million, down 1.2 million from the population projection that was available in 2005. The Hispanic projection was revised the most since 2005 – also down by 1.2 million – and the projected white population was revised downward by about 200,000. Upward revisions of 60,000 African Americans and 220,000 "Others" partially offset the downward revisions of Hispanic and white population projections by the TSDC for 2015.

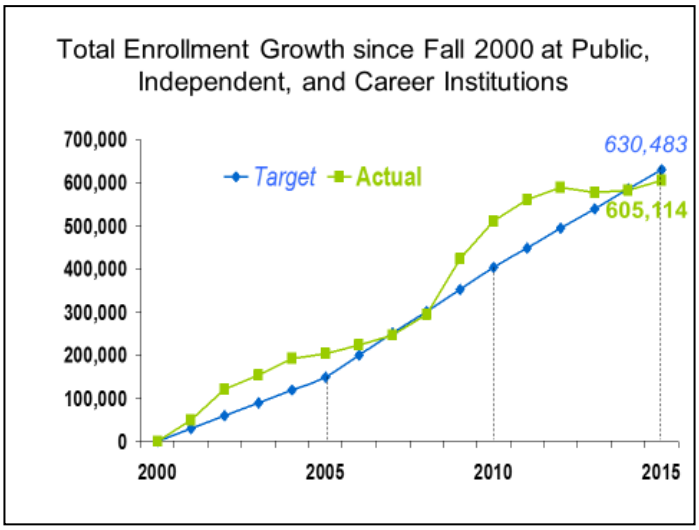
This report will show participation rates, as well as enrollment numbers, but the enrollment numbers are the key to assessing whether the state has met an enrollment goal or target. The participation rates, though, are useful for comparisons with other leading states and take into account the influence of changing population projections on rates.

Participation Goal: By 2015, close the gaps in participation rates to add 630,000 more students. Increase the overall Texas higher education participation rate from 5.0 percent in 2000 to 5.6 percent by 2010 and to 5.7 percent by 2015. (The final rate would be 5.9 percent if all ethnic participation targets were met.)

Statewide enrollment at public, independent, and career institutions totalled 1,643,879 in fall 2015 – 605,114 more than in fall 2000. That increase was 96 percent of the targeted unrounded increase of 630,483 students by fall 2015.

Participation enrollment growth figures show enrollment changes since fall 2000. Data for the figures appear in the appendices.

Figure 1.



Despite the fact that fall 2015 enrollment fell short of the target, it was actually 6.1 percent of the 2015 population, exceeding the final statewide target of 5.9 percent. As discussed in the introduction to this section of the report, the state was able to reach the participation rate target without reaching the enrollment growth target because of updates to population figures since the start of *CTG*. The latest data have shown that, overall, enrollment has been growing at a faster rate than the population. The statewide participation rate reached a peak of 6.3 percent in fall 2012 and 2013.

Participation by Ethnicity and Other Breakouts

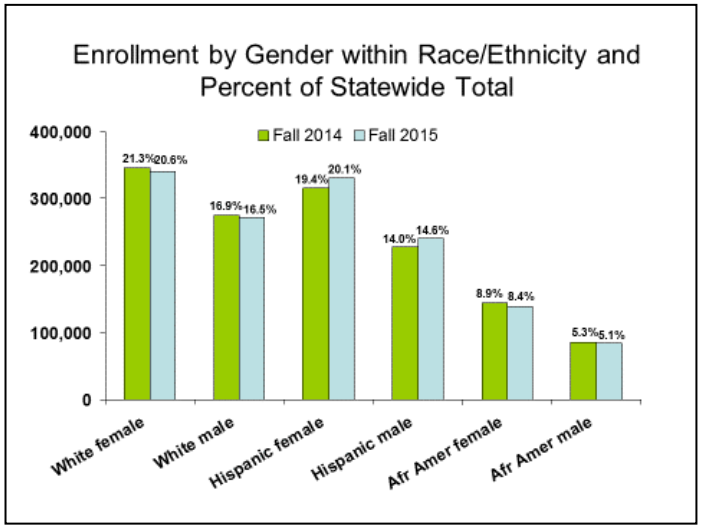
African American enrollment was 7.2 percent of the African American population in fall 2015, 1.9 and 1.8 percentage points higher than for whites and Hispanics, respectively. The rate topped out for African Americans at 7.9 percent, in fall 2012. The white participation rate dropped for the fifth straight year in 2015, to 5.3 percent, virtually the same as at the start of *CTG*. In 2009 and 2010, the rate for whites reached 5.9 percent but fell steadily thereafter. Unlike the other two major ethnic groups, Hispanics continued to increase their participation rate in 2015; it jumped by another 0.2 percentage point to reach 5.4 percent, 1.7 points higher than in 2000.

Since the beginning of *CTG*, females have participated in higher education at a greater rate than males, statewide and for the three major ethnic groups. This gender gap was 1.5 percentage points statewide in 2015. African Americans have always had the largest gap; it was 3.1 points in fall 2015, with 8.7 percent of African American females for all ages participating, compared to 5.6 percent of African American males. Hispanics have had the next largest gap; it was 1.8 points from 2012 to 2015, widening from 1.1 points in 2000. White male participation fell to 4.7 percent in 2015, 0.1 point less than in 2000; this was the only major ethnic/gender category to have a loss in its participation rate during *CTG*. White females had a 5.8 percent

rate in 2015, resulting in a gender gap of 1.1 points for white students in 2015, expanded from 0.8 point in 2000.

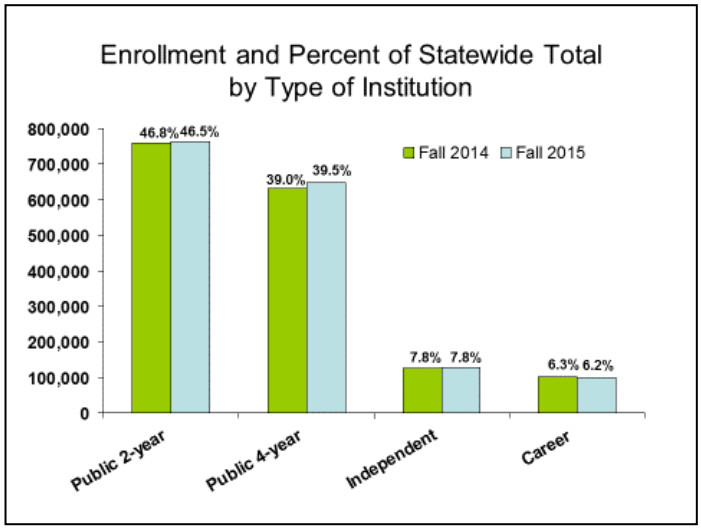
Nearly 29,000, or 5.3 percent more Hispanic students enrolled in fall 2015 than the previous year. Hispanic males' enrollment grew the fastest of the six major ethnic/gender groups, by 5.6 percent, which increased their share of statewide enrollment from 14.0 to 14.6 percent. Hispanic females increased their share from 19.4 to 20.1 percent. The four other groups (white and African American males and females) all lost shares of enrollment in 2015. For all students, but particularly for white and African American students, it might be helpful if data were available regarding enrollment rates of Texas residents who attend college out of state; Texas students may be more likely to leave the state now than in the past, due to declining high school graduate populations in other states, which may have led to increased recruitment of Texas students.

Figure 2.



Public two-year institutions added nearly 6,000 students in fall 2015, following a net loss of almost 40,000 students the previous three fall semesters. That loss was preceded by three years of substantial increases at public two-year colleges between fall 2008 and fall 2011, totalling almost 148,000 students. These two-year institutions comprised 46.5 percent of statewide enrollment in 2015, down from 46.8 percent in fall 2014, as public four-year institutions enrolled about 16,000 more students. Public four-year institutions' fall enrollment, which includes students at health-related schools, has never declined during the *CTG* plan period. Overall, these public universities increased their share of statewide enrollment to 39.5 percent in 2015, up 0.5 percentage point from fall 2014.

Figure 3.



Career schools lost about 1,300 students in fall 2015; that was many fewer than the nearly 12,000-student drop observed the previous fall, when Ashford University moved to a fully online format and was no longer required to report its enrollment to the Coordinating Board. That loss of reporting accounted for almost all of the career school enrollment decline in fall 2014. The share of statewide enrollment at career colleges fell by 0.1 percentage point in fall 2015, to 6.2 percent. Independent institutions (including health-related) gained approximately 1,500 students from fall 2014 to 2015; this was not enough to change their 7.8 percent contribution to the state's total.

Dual credit enrollment surged by nearly 21,000 in fall 2015 (the largest annual numeric increase ever for this type of higher education), and reached a total of 133,342 students. Dual credit accounted for 8.1 percent of all statewide higher education enrollment, up from a 6.9 percent share in fall 2014 and a 1.7 percent share in fall 2000.

Increasing numbers of Texas public high school graduates who enter higher education have helped fuel the increase in participation since the start of *CTG*. In fall 2002, of approximately 209,000 FY 2002 high school graduates with IDs that could be tracked accurately into higher education, about 109,000, or 52.2 percent, went directly into public and independent two- and four-year institutions in Texas. By fall 2015, almost 157,000 public high school graduates (52.7% of approximately 297,000 public high school graduates with trackable IDs) directly entered higher education. In intervening years, high school-to-college rates varied from 52.3 percent to 56.3 percent.

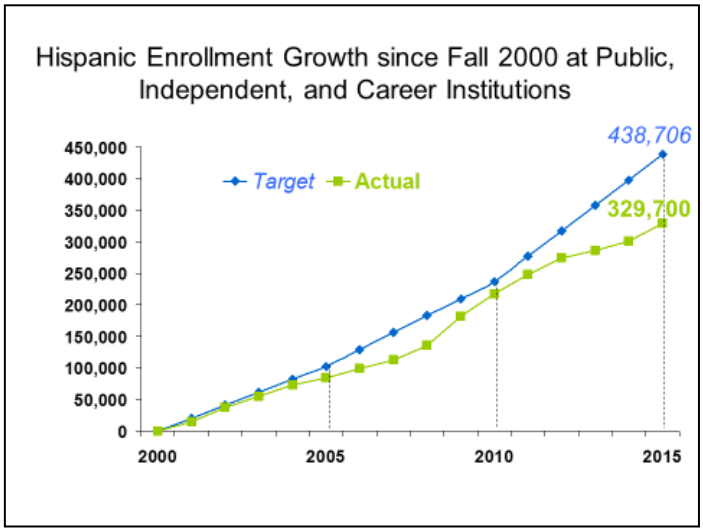
Participation numbers also have been boosted by increasing the overall number of first-time students in higher education and retaining them in subsequent semesters. For example, the one-year statewide persistence rate for the fall 2014 public university cohort of about 77,000 first-time, full-time degree-seeking undergraduates (defined as the percent who were still enrolled in fall 2015) was 86.9 percent, down slightly from the 87.1 percent rate for the fall 2013 cohort of about 72,000 students. But the number of students persisting for a year was about 4,000 larger for the fall 2014 cohort because of its larger size. Both cohorts yielded more persisting students than the fall 2012 cohort of about 70,000 students, which had a smaller (86.5%) one-year persistence rate. The two-year persistence rate for the fall 2013 cohort was 80.7 percent, 0.6 percentage point greater than for the fall 2012 cohort.

At public community colleges, the one-year persistence rate for the fall 2014 cohort of first-time, full-time credential-seeking students was 66.9 percent, 1.4 percentage points higher than the 65.5 percent rate for the fall 2013 cohort. The two-year rate of 53.0 percent for the fall 2013 cohort was 2.5 points higher than fall 2012's 50.5 percent rate.

Hispanic Participation Target: Increase the higher education participation rate for the Hispanic population of Texas from 3.7 percent in 2000 to 4.8 percent by 2010, and to 5.7 percent by 2015.

Note: the 3.7 percent figure for 2000 was based on the projected population data when *CTG* goals were set, before Decennial Census data for 2000 were available; the figure was revised to 3.6 percent when data became available.

Figure 4.



Hispanics increased their enrollment every year during *CTG*, the only one of the three major ethnic groups to do so. At the end of the 15-year *CTG* period, 329,700 more Hispanic students enrolled in higher education in the fall than in the beginning. This 136.6 percent increase, from 241,418 to 571,118 students, was the fastest and largest growth among the three groups. However, *CTG* planners expected even faster growth, and Hispanics still needed about 109,000 more students to reach the final growth target.

The Hispanic participation rate of 5.4 percent surpassed the white rate (5.3%) for the first time in fall 2015. Rates increased from fall 2014 to 2015 by 0.2 percentage point for both Hispanic males and females, to 4.5 percent and 6.3 percent, respectively – their highest ever. In 2000, those rates were only 3.1 percent and 4.2 percent.

Twice as many Hispanics – 148,964 – graduated from Texas public high schools in FY 2015 than in FY 2002. At the same time, college-going rates increased greatly. In fall 2002, 28,252, or 42.6 percent of 66,335 Hispanic FY 2002 high school graduates with trackable IDs entered Texas public and independent higher education. In fall 2015, the rate rose to 50.1 percent (68,395 of 136,571 graduates with trackable IDs). Numbers like those help to explain how Hispanic enrollment grew so rapidly during *CTG*. Efforts to increase Hispanic student enrollment were prioritized during the plan years, including ensuring continued growth during a time of slowing enrollment, as part of the state's 2011 *Accelerated Action Plan for Closing the Gaps*.

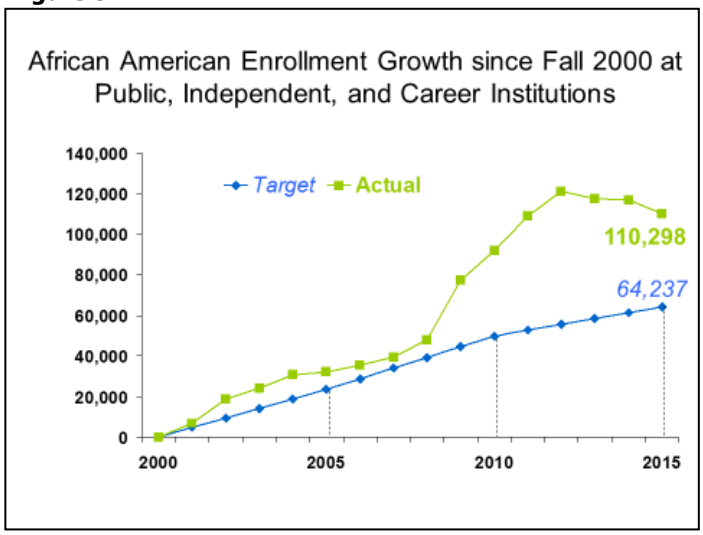
Improving persistence rates, coupled with growing cohort sizes of first-time full-time degree-seeking undergraduates, also spurred increases in Hispanic enrollment. At public universities, the fall 2014 cohort of 27,046 Hispanics had a one-year persistence rate of 85.5 percent, 0.5 percentage point higher than for the fall 2013 cohort's 25,434 students. The fall 2013 cohort's two-year persistence rate of 78.4 percent was just 0.1 point higher than the 2012 cohort's rate, but the 2013 cohort had about 2,400 more students in it, yielding more students who continued in higher education.

The fall 2014 public community college cohort of Hispanics had a 68.0 percent one-year persistence rate, which exceeded the previous year's rate by 1.6 percentage points. The two-year rate for the fall 2013 cohort was, in turn, 3.0 points higher than for the fall 2012 cohort – impressive increases for a short time frame.

African American Participation Target: Increase the higher education participation rate for the African American population of Texas from 4.6 percent in 2000 to 5.6 percent by 2010, and to 5.7 percent by 2015.

Note: the 4.6 percent figure for 2000 was based on the projected population data when *CTG* goals were set, before Decennial Census data for 2000 were available; the figure was revised to 4.7 percent when data became available.

Figure 5.



African American participation fell for the third consecutive year in fall 2015 to 223,137 students, 2.9 percent fewer than the previous year. However, this group already exceeded the final enrollment target in 2009, and the 2015 enrollment of 110,298 was 97.7 percent more than fall 2000's figure. This was the only one of the three major ethnic groups to reach the final *CTG* participation target.

Fall 2015 enrollment was 7.2 percent of the state's African American population, 2.6 percentage points higher than in fall 2000 and well above the Hispanic (5.4%) and white (5.3%) participation rates. African Americans participated in higher education at their highest rate (7.9%) in fall 2012.

The participation rate for African American females grew from 5.6 percent in fall 2000 to 9.7 percent in fall 2012 but dropped to 8.7 percent by fall 2015. This percent was still, by far, the highest rate among the six major ethnic/gender groups in 2015, with Hispanic females next at 6.3 percent. African American male participation reached 5.9 percent in fall 2012 and 2013 but dropped to 5.6 percent by fall 2015. Nonetheless, that was well above the rate of 3.7 percent when *CTG* began.

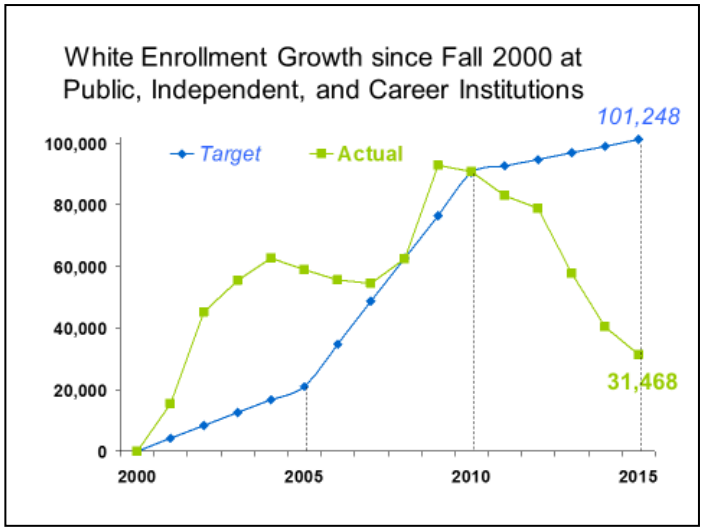
Increases in high school-to-college rates – and in numbers of high school graduates with the potential of entering higher education – have likely contributed to the success of African Americans with respect to their early attainment of the *CTG* participation goal. Only 43.1 percent of 27,983 African American FY 2002 public high school graduates with trackable IDs enrolled directly in public and independent higher education in the fall. That rate increased to 47.8 percent in fall 2015 (18,564 of 38,807 trackable high school graduates enrolled in the fall).

African Americans generally have had the lowest persistence rates in higher education among the three major ethnic groups during *CTG*. This could account for some of the recent declines in enrollment. For example, the fall 2014 cohort of first-time, full-time African American students at public universities persisted to fall 2015 at an 80.3 percent rate, well below the Hispanic (85.5%) and white (89.6%) rates, and down 0.6 percentage point from African Americans' fall 2013 cohort rate. African American cohorts at public community colleges have had even greater gaps in persistence rates. Their most recent one- and two-year rates, for the fall 2014 and fall 2013 cohorts, lagged those for Hispanic and white cohorts by about 14 to 16 percentage points. Working to reduce these differences in persistence rates will be important for Texas as it moves forward with *60x30TX*.

White Participation Target: Increase the higher education participation rate for the white population of Texas from 5.1 percent in 2000 to 5.7 percent by 2010, and to 5.7 percent by 2015.

Note: the 5.1 percent figure for 2000 was based on the projected population data when *CTG* goals were set, before Decennial Census data for 2000 were available; the figure was revised to 5.2 percent when data became available.

Figure 6.



In fall 2009, with nearly 93,000 more white students enrolled in higher education than in 2000, the final *CTG* enrollment target of 101,248 additional students looked well within reach in a year or two. However, a loss of about 2,000 students in fall 2010 was followed by five years of even greater losses. By the end of *CTG*, the gap with the *CTG* change target grew to nearly 70,000.

The overall white participation rate, previously as high as 5.9 percent (in 2009 and 2010), fell to 5.3 percent in fall 2015, essentially back to the fall 2000 level. White male participation, once 1.7 percentage points greater than for Hispanic males (in fall 2000), was just 0.2 percentage point greater in 2015 (4.7% for white males, 4.5% for Hispanic males).

Texas public high schools are a declining source of white students for higher education, due to shrinking graduating classes and falling college-going rates for whites. The peak white graduating class numbered 116,816 in FY 2003, and 58.6 percent of those graduates with trackable IDs entered Texas public and independent higher education institutions in the fall. By FY 2014, the number of white graduates had dropped to 103,764; only 56.1 percent of trackable graduates went directly to Texas higher education in the fall. The number of white high school graduates actually increased by 613 students in fall 2015, but the trackable college-going rate dropped to 54.9 percent. White college-going rates were at their highest levels during *CTG* at about 58 to 59 percent between FY 2002 and 2010.

White higher education enrollment has dropped in recent years, despite persistence rates that increased and usually were exceeded only by Asian students. The one-year persistence rate for the fall 2014 white cohort at public universities was 89.6 percent, 0.6 percentage point above the fall 2011 cohort's rate. The two-year persistence rate also increased over a three-year period, from 83.4 percent to 84.0 percent, for the fall 2010 and fall 2013 cohorts, respectively.

Persistence rates for the same cohort years as above increased more dramatically for white students at public community colleges than at universities. One-year rates went up by 5.1 percentage points (64.0% to 69.1%), and two-year rates rose a little more, from 50.3 percent to 55.8 percent. It appears that increasing persistence rates have been outweighed by declines in numbers of white high school graduates and college-going rates.

Closing the Gaps in Success

Goal: By 2015, award 210,000 undergraduate degrees, certificates, and other identifiable student successes from high-quality programs.

The success goal was established based on identifiable outcomes of higher education that result from students persisting in their programs and graduating. Success targets were set for the following categories at public, independent, and career institutions:

- Statewide combined bachelor's degrees, associate degrees, and certificates (BACs)
- Statewide bachelor's degrees
- Statewide associate degrees
- African American BACs
- Hispanic BACs
- Statewide doctoral degrees

Targets were set for the following categories at public institutions:

- Science, technology, engineering, and math (STEM) field BACs
- Allied health and nursing BACs

Targets also were set for initial teacher certifications through all routes (traditional, post-baccalaureate, alternative, and other) for the following categories:

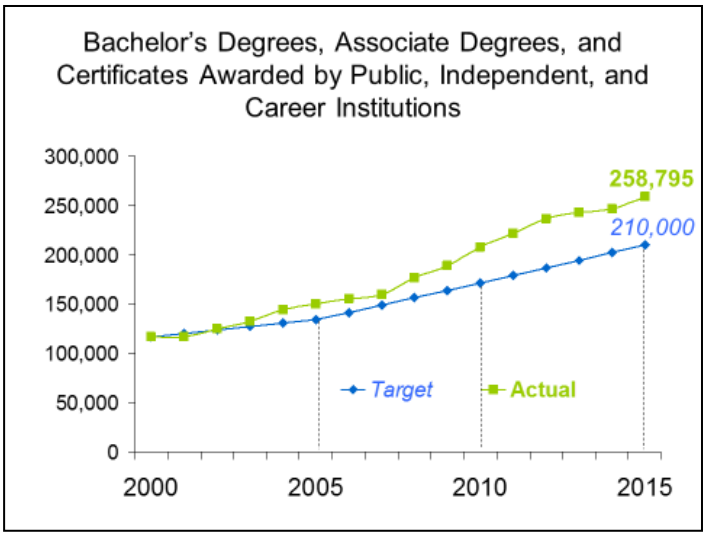
- All
- Math and science

Success Goal: By 2015, award 210,000 undergraduate degrees, certificates and other identifiable student successes from high-quality programs.

Texas surpassed the final goal in FY 2011, when public, independent, and career schools awarded 221,538 BACs. The total reached 258,795 awards in FY 2015, which was 142,560, or 122.6 percent more than in FY 2000.

Success progress charts show the *number* of awards in a fiscal year, in contrast to participation enrollment growth charts, which show *changes.*

Figure 7.



Public two-year institutions awarded more than 9,000 additional BACs in FY 2015 than the previous year, and public four-year institutions awarded about 2,700 more BACs. However, independent and career institutions each had final-year increases of only about 250 awards. The career schools' 31,463 BACs were nearly 8,600 fewer than the peak of 40,046 reached in FY 2012.

Improved graduation rates at Texas public universities and two-year institutions have likely helped in achieving the major *CTG* success goal. Through FY 2015, 59.3 percent of the fall 2009 cohort of first-time entering undergraduates at public universities had graduated with a baccalaureate or above. That was nearly 10 percentage points better than the fall 1994 cohort's six-year graduation rate (49.6%) through FY 2000, at the beginning of *CTG*.

Graduation rates at public career and technical colleges (CTCs) also have been improving: six-year graduation rates (BAC or above) for first-time, full-time students entering these institutions in fall 2006, 2007, 2008, and 2009 were 31.1 percent, 32.1 percent, 32.9 percent, and 32.5 percent, respectively.

Although overall graduation rates have been improving, African American and Hispanic rates continue to trail those of other students. Six-year graduation rates for fall 2009 cohorts at public universities were 41.0 percent for African Americans, 51.1 percent for Hispanics, 67.7 percent for whites, and 73.6 percent for Asians.

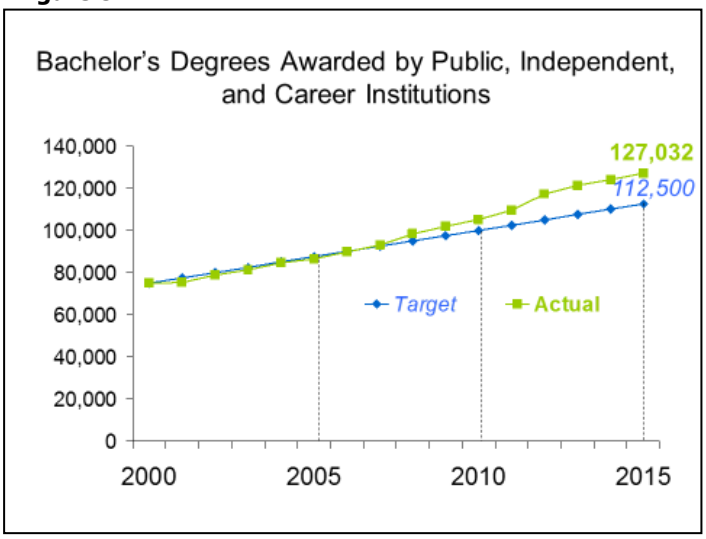
At public CTCs, six-year graduation rates for fall 2009 cohorts followed a pattern similar to that of universities: African American, 20.1 percent; Hispanic, 31.7 percent; white, 36.2 percent; and Asian, 46.1 percent.

Success Target for Bachelor's Degrees: Increase the number of students completing bachelor's degrees to 100,000 by 2010 and to 112,500 by 2015.

The state exceeded the final target in FY 2012, when public, independent, and career institutions awarded 117,114 bachelor's degrees. The total increased approximately 10,000 by the end of *CTG*, reaching 127,032 in FY 2015; that was 52,126, or 69.6 percent more than in FY 2000.

Public institutions awarded 99,258 bachelor's degrees in FY 2015, about 78 percent of the statewide total. Independent institutions awarded 19,365 bachelor's (about 15% of the total), followed by career schools with 8,409 (7%).

Figure 8.



Hispanic students earned 29,288 bachelor's degrees from public institutions in FY 2015, about 2,200, or 8.1 percent more than in FY 2014 and 29.5 percent of all public bachelor's degrees. That was 11 percentage points more than in FY 2000, when they earned just 18.5 percent of these degrees.

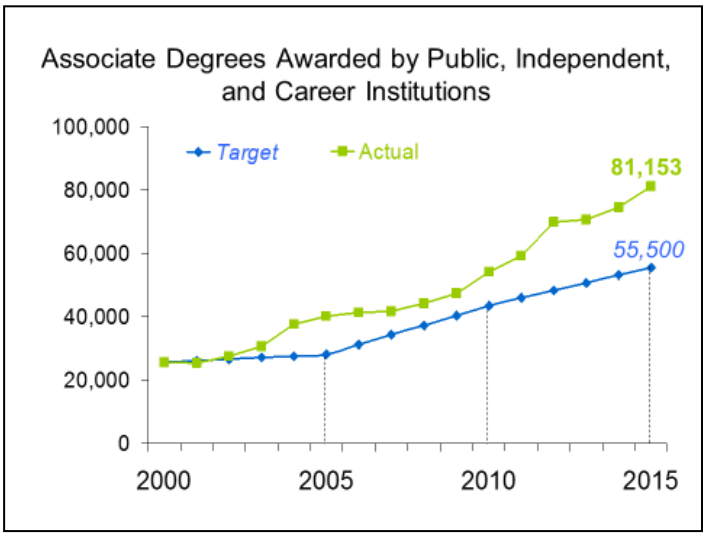
Public institutions awarded 10,589 bachelor's degrees to African Americans in FY 2015, 6.6 percent more than the previous year. African American students earned 10.7 percent of all bachelor's from public institutions in FY 2015, up from a 7.4 percent share in FY 2000.

White students earned 65.0 percent of all public bachelor's degrees in FY 2000. That share was down to 46.8 percent in FY 2015, when they received 46,406 awards, 233 fewer than the previous year.

Females earned nearly 58,000 bachelor's degrees from public institutions in FY 2015, a 58.2 percent share of the statewide total. That was about 1 percentage point higher than their share at the start of *CTG* in FY 2000. It is not surprising that female students earn more bachelor's degrees than males, because they have greater baccalaureate cohort sizes and graduation rates. For example, the fall 2009 cohort of first-time full-time undergraduates at public universities had a six-year graduation rate of 64.2 percent for females (cohort size of 33,558), compared with a 53.8 percent rate for males (cohort size of 29,506), a difference of 10.4 percentage points. The gap was even greater than for the fall 1994 cohort, where the rates were 53.6 percent for female students (cohort of 21,351) and 45.0 percent for the male cohort of 19,600 students (an 8.6-point difference in graduation rates).

Success Target for Associate Degrees: Increase the number of students completing associate degrees to 43,400 by 2010, and to 55,500 by 2015.

Figure 9.



The state reached the final target for associate degrees in FY 2011, four years before the close of *CTG*. In FY 2015, public, independent, and career institutions awarded 81,153 associate degrees, almost 6,700 more than the previous year and more than three times the total in FY 2000.

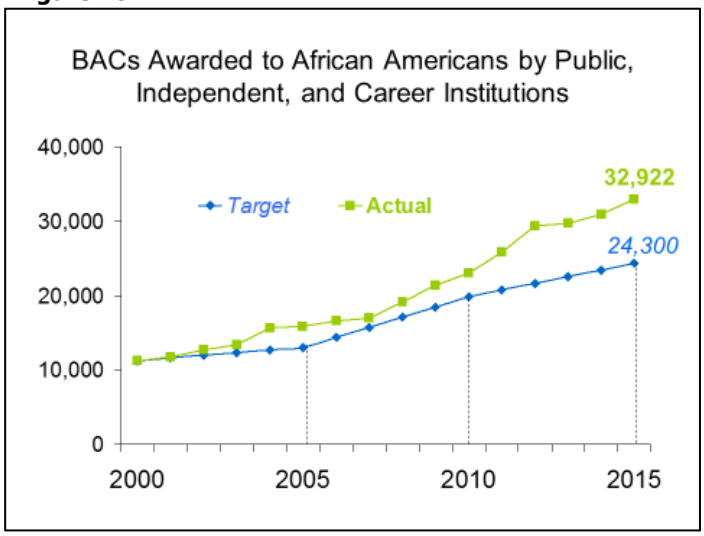
Public institutions awarded 72,368 associate degrees in FY 2015, 89.2 percent of the statewide total. Two-year colleges awarded 99.9 percent of the public total. Career schools accounted for another 8,274 associate degrees in FY 2015 (nearly 700 more than the previous year), and independent institutions conferred the remaining 511 degrees in the state.

Hispanic students earned approximately 3,600, or 14.7 percent more associate degrees from public institutions in FY 2015 than in the previous year, the largest and fastest increase of the three major ethnic groups. This brought their total to 28,216, or 39.0 percent of all public associate degrees, well above a 24.9 percent share in FY 2000. African Americans earned nearly 1,000, or 11.7 percent more associates in FY 2015 than in 2014. That boosted their percentage of the statewide public total by nearly 2 points since the start of *CTG*. Although white students were awarded nearly 1,000 more associate degrees in FY 2015 compared with the preceding year, their share of associate degrees from public institutions fell below that of Hispanics, to 37.9 percent, 21 points below the white percentage in FY 2000.

Success Target for African Americans: Increase the number of African American students completing bachelor's degrees, associate degrees, and certificates to 19,800 by 2010 and to 24,300 by 2015.

Having reached their target in FY 2011 with 25,783 undergraduate awards (four years ahead of schedule), African American students continued to graduate in increasing numbers, earning 32,922 BACs in the final year of *CTG*. That was an increase of more than 2,000 from the previous year, and the total was approximately 8,600 (35.5%) above the final target of 24,300 awards. Since the beginning of *CTG*, BACs earned by African American students increased nearly threefold.

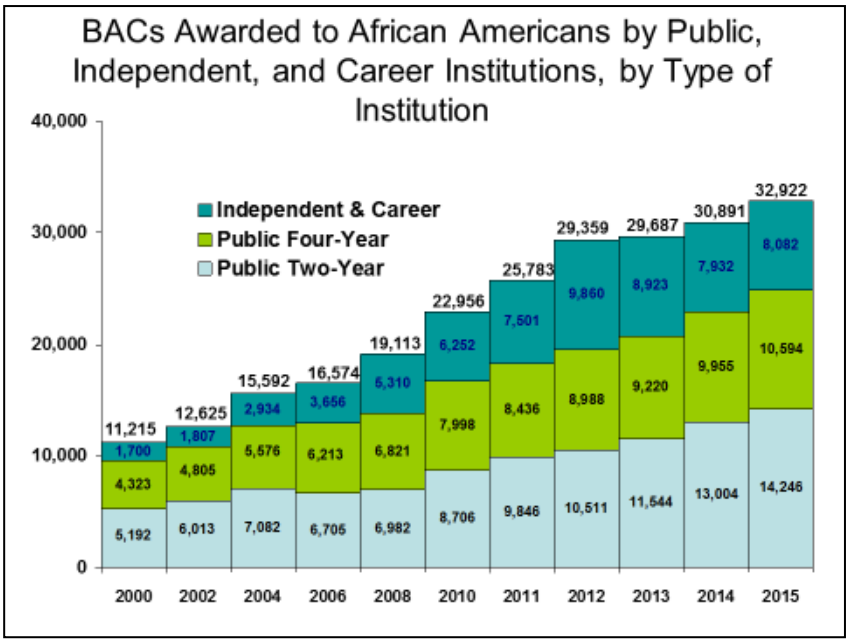
Figure 10.



Public two-year institutions conferred the most African American BACs, 14,246, or 43.3 percent of the 2015 total.

Public four-year institutions awarded 10,594 degrees and certificates to African Americans in FY 2015, followed by career schools (6,221) and independent institutions (1,861). Awards dropped by about 50 at independent institutions for the second straight year, but career schools added nearly 200 awards after a drop of about 950 in FY 2014.

Figure 11.



Success Target for Hispanics: Increase the number of Hispanic students completing bachelor's degrees, associate degrees, and certificates to 50,000 by 2010 and to 67,000 by 2015.

Hispanic students achieved their second largest annual increase in undergraduate awards in the last year of *CTG*, by earning 87,821 BACs; that was 8,103, or 10.2 percent more than in FY 2014. The largest increase (9,536, or 17.1%) occurred in FY 2011.

Students had already reached the final target in FY 2012, when they received 73,119 awards. The 2015 total was nearly four times the number of awards at the start of *CTG*.

Public two-year institutions awarded 42,390 BACs to Hispanic students in FY 2015, about 5,700 more than in FY 2014. Public four-year institutions conferred about 2,100 more undergraduate awards than in 2014, and independents increased BACs by about 300, but career school awards were virtually flat between 2014 and 2015. They had dropped by about 3,000 between FY 2012 and 2014.

Figure 12.

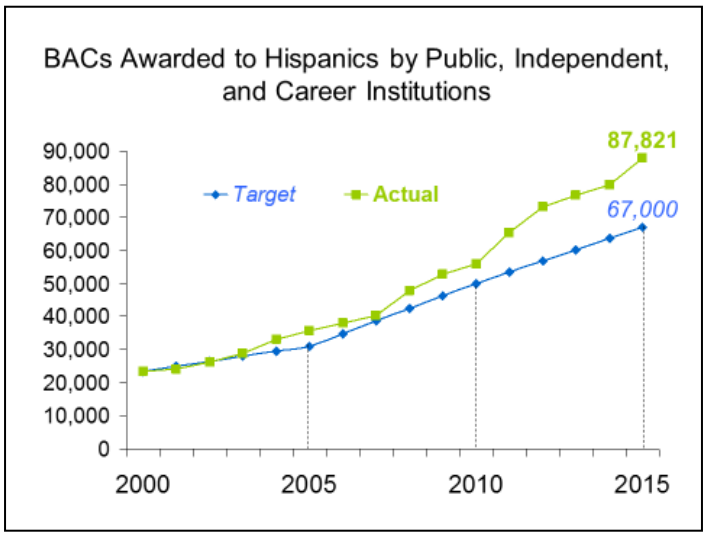
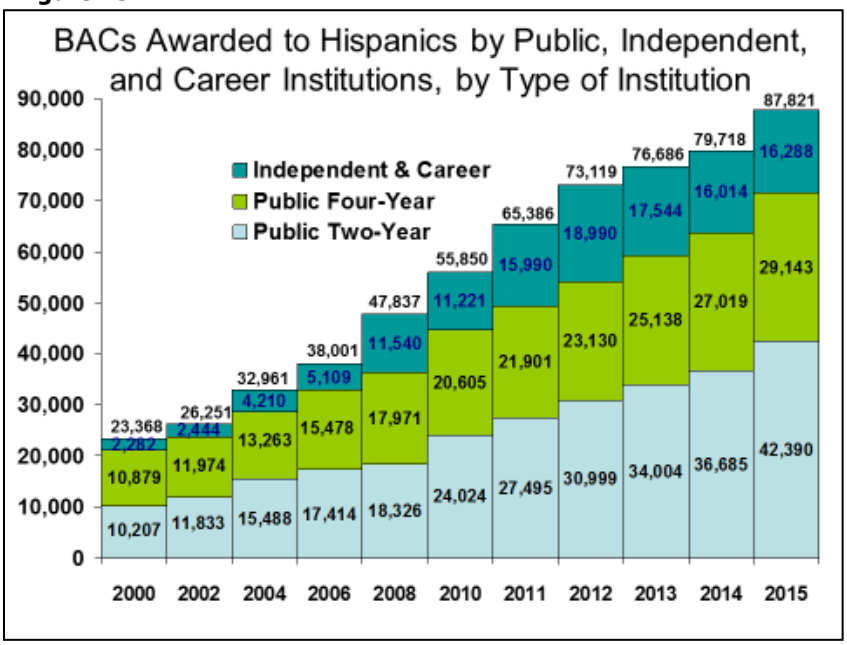


Figure 13.

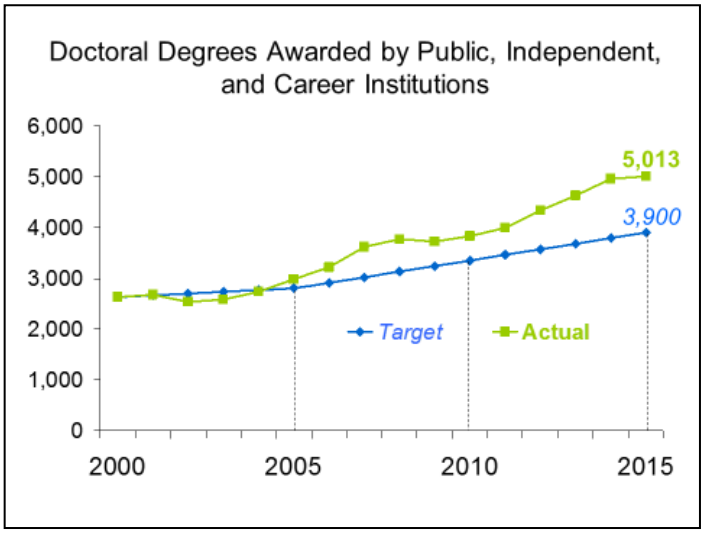


Success Target for Doctoral Degrees: Increase the number of students completing doctoral degrees to 3,350 by 2010 and to 3,900 by 2015.

Students at Texas public, independent, and career institutions earned 5,013 doctoral degrees in FY 2015, exceeding the final target by about 1,100, or 28.5 percent. This target is for research/scholarship doctorates, such as the Ph.D. and Ed.D. It excludes professional doctorates, such as the M.D. and J.D.

Students first surpassed the *CTG* target in FY 2011, earning 3,995 doctoral degrees. That was followed by three years of gains of about 300 awards per year. In 2015, the gain tapered off to about 50 doctorates.

Figure 14.



Public four-year institutions (including health-related) award most doctorates in Texas; in FY 2015, with 4,201 doctorates, they had about an 84 percent share. Independent institutions awarded 630 doctorates, 24 more than in FY 2014. Career schools' awards fell from 243 in FY 2014 (the most ever) to 182.

Hispanic students earned 418 doctorates from public institutions in FY 2015, which was 91 degrees more than in the previous year – a 27.8 percent increase; this was by far the greatest and fastest gain of the three major ethnic groups. That boosted the share of doctoral awards from public institutions to Hispanics, to 10.0 percent; the share was just 6.0 percent in FY 2000. Whites were awarded only 10 more doctoral degrees than in FY 2014, reaching 1,731 awards, 41.2 percent of the public total. Their share was 56.9 percent in FY 2000. African American students earned 267 doctorates from public institutions in 2015, just one more than the preceding year. International students, who earn the second most doctorates in Texas after white students, received 1,421 doctoral awards from public institutions in FY 2015, down 18 from 1,439 in FY 2014.

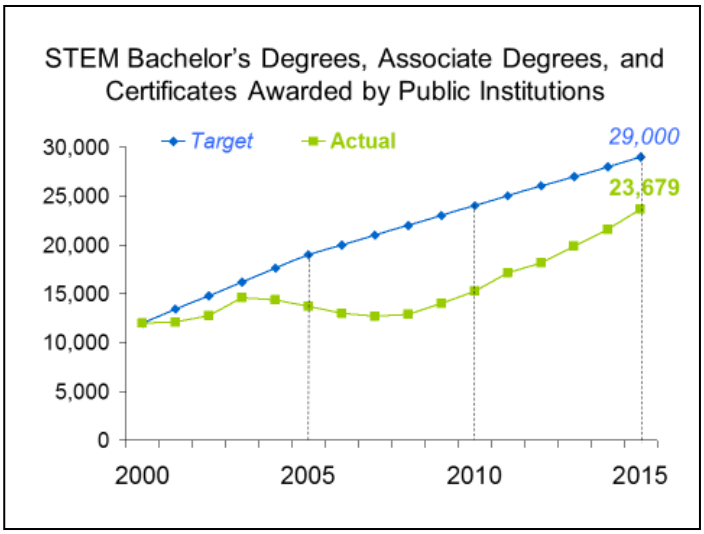
Since the start of *CTG*, males have earned more research/scholarship doctorates from public institutions than females, but that gap appears to be disappearing. In FY 2000, female students earned 42.8 percent of all public doctorates. By FY 2015, they earned 48.2 percent, although that was down slightly from 49.0 percent in FY 2014.

Success Target for Science-Technology-Engineering-Mathematics (STEM) Fields: Increase the number of students completing engineering, computer science, math, and physical science bachelor's degrees, associate degrees, and certificates from 12,000 in 2000 to 24,000 by 2010, and to 29,000 by 2015.

Public institutions (the only group included in this target) awarded 23,679 STEM bachelor's degrees, associate degrees, and certificates (BACs) in FY 2015 – 2,088, or 9.7 percent more than in FY 2014. Although this was the largest annual increase during *CTG*, the final level was more than 5,000 below the final target of 29,000 awards.

After dropping to 12,666 awards in FY 2007, only about 700 more than in FY 2000, STEM award counts increased by slightly more than 11,000 through FY 2015.

Figure 15.



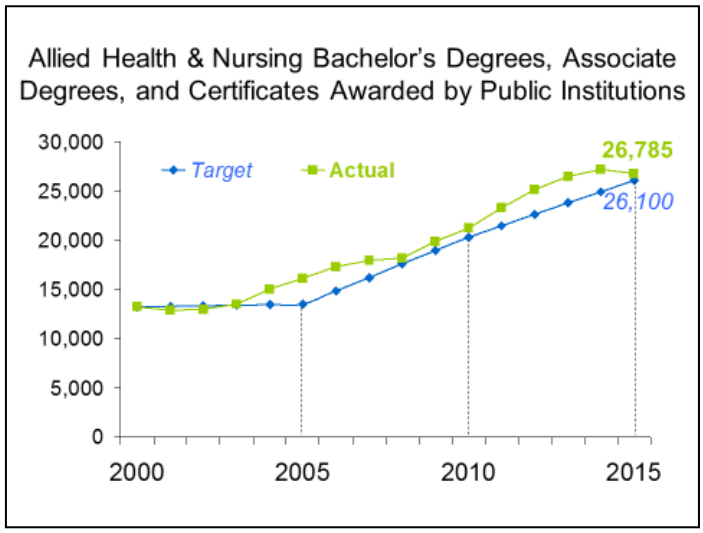
In FY 2003, about 26 percent of STEM BACs were awarded to female students. That share dropped to 20.7 percent by FY 2010, but it trended upward to 22.1 percent by FY 2015.

African Americans earned 19.9 percent more STEM BACs in FY 2015 than the previous year, the fastest growth of the three major ethnic groups. Nonetheless, their 2,063 awards were just 8.7 percent of the statewide total, less than their highest share of 9.5 percent in FY 2003. Hispanics had the largest annual increase in awards in 2015, earning 703 more than in FY 2014. Their share of all STEM awards has increased every year since FY 2003, when it was 19.0 percent; it was 31.7 percent in FY 2015. Whites still had the largest share in FY 2015 (43.3%), but that was well down from 55.1 percent in FY 2003.

Awards in FY 2015 by field of study were: engineering, 13,025, up 6.7 percent from FY 2014; computer science, 7,225, up 16.4 percent; physical science, 1,935, up 15.5 percent; and math, 1,494, down 0.7 percent. Physical science BACs increased 139.5 percent since FY 2003, the fastest growth for a STEM award. The slowest growing field was computer science, where BACs in FY 2015 totalled just 31.2 percent more than in FY 2003.

Success Target for Allied Health and Nursing: Increase the number of students completing allied health and nursing bachelor's degrees, associate degrees, and certificates to 20,300 by 2010 and to 26,100 by 2015.

Figure 16.



Public institutions (the only group included in this target) surpassed the 2015 *CTG* target (26,100 undergraduate awards) in FY 2013 with 26,505 awards. Institutions awarded 26,785 BACs in FY 2015, but that was about 400 fewer than in FY 2014, and it was the first decrease since FY 2001.

The drop in awards was primarily due to a 742-award drop in associate degrees in nursing (ADNs) that was partially offset by a 307-award increase in bachelor's degrees (BSNs). Institutions awarded more ADNs than BSNs from FY 2000 through FY 2011, but that relationship changed in FY 2012, when the number of BSNs increased by 1,146 and the number of ADNs decreased by 15. By FY 2015, BSN awards outnumbered ADNs, 7,770 to 5,336.

One reason for the increasing predominance of BSN degrees may be that the American Nurses Credentialing Center requires that a certain percentage of a medical facility's staff nurses have a BSN, in order for the facility to acquire and maintain the prestigious Magnet status. Thirty-three hospitals and medical centers in Texas had achieved Magnet recognition by 2015, including The University of Texas M.D. Anderson Cancer Center (UT-MD Anderson), first recognized in 2001.

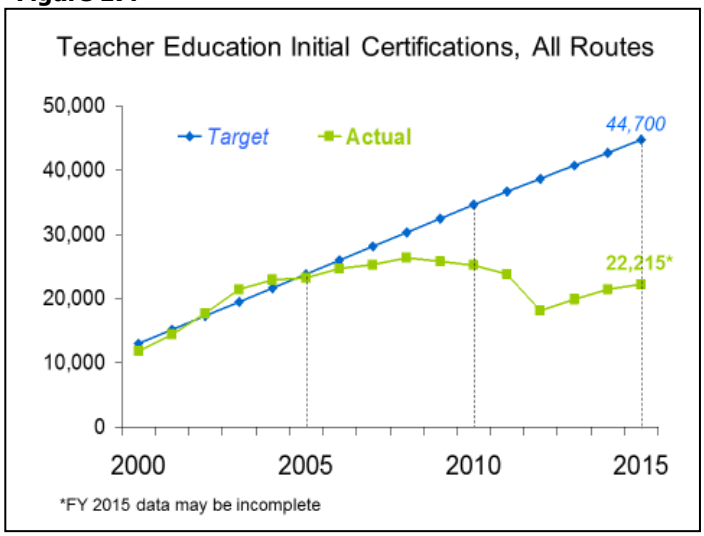
Two-year institutions still produce the majority of allied health and nursing BAC graduates among public institutions (60.6% in FY 2015), but that share has been trending downward since FY 2004, when they produced about three-quarters of these graduates.

According to the Texas Workforce Commission (TWC), the need for students earning nursing degrees will continue after the close of *CTG*. The TWC projects that there will be about 9,000 job openings (new jobs and replacements) each year for registered nurses at least through 2022. Producing a sufficient number of nurses with the credentials and interest to teach in nursing programs continues to be a priority and a challenge for Texas institutions.

Success Target for Teachers: Increase the number of teachers initially certified through all teacher certification routes to 34,600 by 2010 and to 44,700 by 2015.

Initial teacher certifications totalled 22,215 in FY 2015, about 800 more than in FY 2014. This was the third consecutive increase, but the final level was fewer than half of the *CTG* target. The data for FY 2015 may be incomplete, since some certifications may not have been reported yet to the Texas State Board for Educator Certification (SBEC), which collects and tabulates the data. However, most certifications would have been reported to SBEC by this point, based on past experience with reporting.

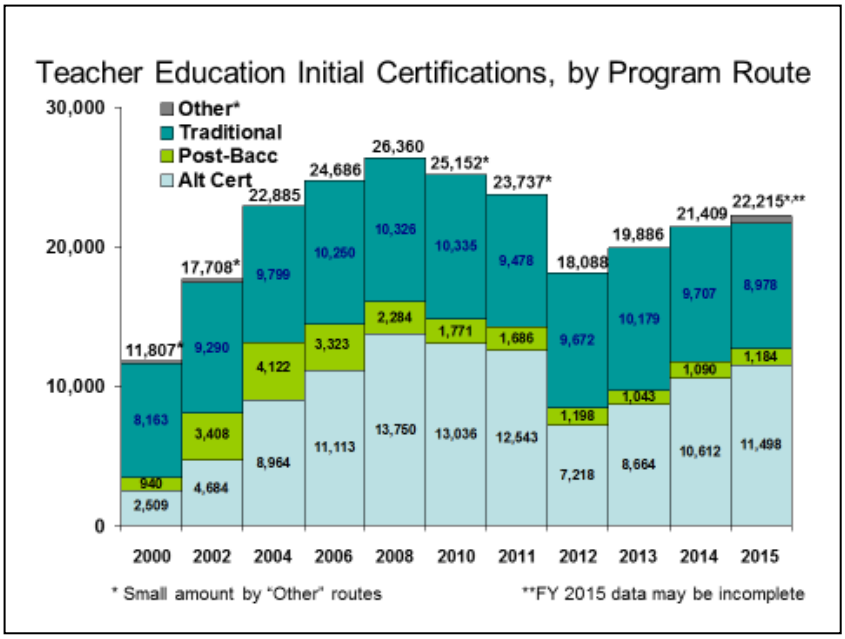
Figure 17.



Certifications stayed close to the target trend-line through 2006 but began diverging from it thereafter and began dropping in 2009. They plunged by more than 5,000 in 2012, following a time when teachers were being laid off due to poor economic conditions. Numbers then increased but did not keep up with the rate of increase of the target trend line.

Certifications need to increase, as expected by *CTG* planners, because occupational projections by the TWC indicate that, at least through 2022, K-12 teaching jobs will be among the highest and fastest growing occupations in the state. Nearly 12,000 job openings are expected each year to fill new positions and replace departing teachers in elementary and secondary education.

Figure 18.



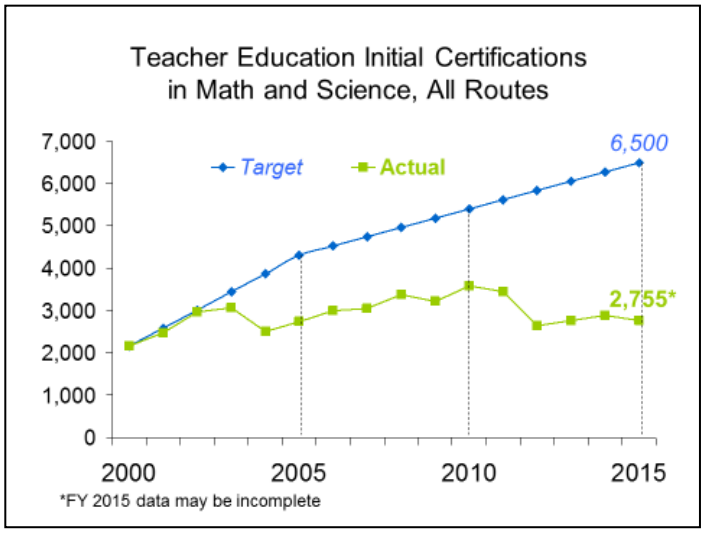
Alternative certification has been the fastest growing certification program route since FY 2012, reaching 11,498 certifications in FY 2015. Traditional certifications, once the dominant type, comprised only 40 percent of all certifications in FY 2015. Post-baccalaureate certifications increased in FY 2014 and again in FY 2015, following 10 years of decline. Nonetheless, they only had about a 5 percent share, compared with a share of approximately 20 percent in FY 2003.

Success Target for Math and Science Teachers: Increase the number of math and science teachers certified through all teacher certification routes to 6,500 by 2015.

Initial teacher certifications in math and science decreased by 131, or 4.5 percent to 2,755 in FY 2015. That preliminary final total was only about 42 percent of the final target.

Math and science certifications dropped sharply, by more than 800, in FY 2012. That was in line with the drop in total certifications, as discussed in the previous section, and was the largest decline since the start of *CTG*. The number then grew for two years but dropped again in 2015, to a level that was only approximately 600 more than in FY 2000.

Figure 19.



In FY 2000, 62.3 percent of initial math and science teacher certifications were in math. By FY 2008, that percentage dropped to 50.7 percent, but by FY 2014, 58.9 percent of the certifications were in math. The percentage fell a little in FY 2015, to 57.1 percent. A much larger number of qualified math and science majors will need to select K-12 education as a career path to prepare increasing numbers of students for STEM and other technical occupations.

Closing the Gaps in Excellence

Goal: By 2015, substantially increase the number of nationally recognized programs or services at colleges and universities.

The quality of an institution's educational units and services contributes to its reputation and fosters national recognition. Policymakers and *CTG* stakeholders have increasingly focused their excellence goal efforts on the need for both individual program excellence and overall institutional quality. Two general targets were set to measure progress in excellence:

- Improved rankings of research institutions, public liberal arts universities, and health science centers
- Identification of at least one nationally recognized program at each public community and technical college and university

Excellence Target: Increase the number of research institutions ranked in the top 10 among all research institutions from zero to one, and two additional research universities ranked in the top 30 by 2010; increase the number of public research universities ranked in the top 10 among all public research universities from zero to two, and four ranked among the top 30 by 2015.

Increase the number of public liberal arts universities ranked in the top 30 among all public liberal arts institutions from zero to two by 2010, and four by 2015.

Increase the number of health science centers ranked among the top 10 medical institutions from zero to one by 2010, and two by 2015.

For the second consecutive year, UT-Austin tied (with eight other institutions) for No. 1 among American public research universities, based on data in the latest (2014) annual report on top research universities from the Center for Measuring University Performance (CMUP). This section shows that UT-Austin recently was ranked as one of the top 10 public universities by several other organizations, and that TAMU consistently placed in their top 30. However, no other Texas public university was ranked No. 30 or better by these ranking organizations.

The CMUP does not normally rank institutions, but its data can be used to assign ranks. (It did compute ranks for the first time ever in its 2013 report, but did not repeat that exercise in 2014.) It publishes nine objective measures of research performance (mostly related to graduate education), such as total research expenditures, number of doctorates granted, and number of National Academy members, that the THECB used to assign ranks. The table below shows the THECB's ranks for UT-Austin and TAMU, based on CMUP reports from 2000 to 2014. While UT-Austin has been in the top 10 several times, the CMUP data have never indicated that TAMU is a top 10 public institution. The 2014 report data placed TAMU in a tie with the University of Virginia for No. 19, while the previous year TAMU was solely No. 17. The University of Houston approached the *CTG* top 30 threshold for excellence in 2013 by tying for No. 36, but it dropped to a tie for 54th place in the 2014 report.

Rankings among American Public Research Universities
Based on Data from the Center for Measuring University Performance**

Institution	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
UT-Austin	11*	12	10*	10*	6*	6*	12*	8*	14*	13*	14*	12*	13*	1*	1*
TAMU	11*	17	18*	21*	23	21	20	14*	14*	13*	17*	16	17*	17	19*

*Tie. **The CMUP did not compute ranking numbers for this table; the THECB assigned numbers using CMUP data. Other public institutions tied with UT-Austin for No. 1 in 2014 rankings: Ohio State University, University of California-Berkeley, University of California-Los Angeles, University of Illinois, University of Michigan, University of Minnesota, University of North Carolina, and University of Wisconsin.

Beginning with the 2010 report, the CMUP provided additional tables for top "medical research universities" (denoted "medical and specialized research universities" in subsequent reports). These institutions, such as The University of Texas Southwestern Medical Center (UT-Southwestern) and UT-MD Anderson, were formerly included with the research universities. The

best they did during that era was a tie for 18th place in 2006 by UT-Southwestern. While roughly half of the research universities in the CMUP data have medical schools, they are not necessarily comparable with medical and specialized research universities. In the tables for 2014, based on data from the CMUP, UT-Southwestern was 2nd among public medical and specialized research universities, UT-MD Anderson was in 3rd place, and The University of Texas Health Science Center at Houston (UTHSC-Houston) was ranked 7th. All those rankings were unchanged from the 2013 report. Technically, the state exceeded the *CTG* excellence goal for health science centers, but the top 10 rankings of these excellent, specialized institutions meant little because there were only eight institutions nationally in the group being ranked.

U.S. News & World Report never has ranked UT-Austin or TAMU among the top 10 national public universities during the *CTG* period. The publication's methodology focuses on undergraduate education. Objective measures, such as graduation rates, SAT/ACT scores, and student/faculty ratios, make up more than three-quarters of the rank scores. Subjective assessments by staff at peer institutions and high school counselors make up the rest of the scores. The 2016 edition of *U.S. News*' "Best Colleges" ranked UT-Austin in 16th place (tie) among national public universities, slightly up from No. 17 the previous year. Texas A&M University, which was No. 25 in 2015, tied for 26th place in 2016.

Rankings among National Public Universities by *U.S. News & World Report*

Institution	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
UT-Austin	13*	16	15*	14*	17*	14*	17	13*	13*	15*	15*	13*	13*	13*	16*	17	16*
TAMU	18*	17	15*	24*	27*	22*	21*	21*	23	24*	22*	22	19*	23*	25*	25	26*

*Tie.

Rankings by *U.S. News* in 2016 of other "first tier" public universities in Texas were as follows: The University of Texas at Dallas (UT-Dallas) (tied for No. 71 among publics; No. 76 (tie) in 2015), Texas Tech University (tied for No. 91; No. 84 (tie) in 2015), and the University of Houston (tied for No. 105; No. 106 (tie) in 2015). First-tier status meant only that *U.S. News* placed an institution in the top 203, or three-quarters, of the 268 national public and independent universities that it ranked.

Although *U.S. News* has yet to rank UT-Austin and TAMU in its top 10, it has recognized outstanding programs at these institutions. For example, among public *and* independent "Best Colleges," the 2016 *U.S. News* rankings (based solely on surveys of deans and senior faculty) placed UT-Austin's undergraduate business program in a tie for No. 7, including the following highly rated business specialties: accounting (No. 1 nationally), management information systems (No. 5), and marketing (No. 5). Highly rated undergraduate engineering specialties at UT-Austin included chemical (No. 4) and environmental/environmental health (No. 5). The undergraduate biological/agricultural engineering specialty at TAMU tied for No. 2 nationally.

U.S. News & World Report recently released "2017" rankings of graduate programs. Highly ranked programs at Texas public universities included the following (rankings among public and independent universities shown in parentheses):

- The University of Texas at Austin: petroleum engineering (No. 1), business accounting (No. 1), civil engineering (tied for No. 2), business information systems (No. 3), educational administration and supervision (No. 3), special education (No.

4), environmental/environmental health engineering (No. 4), business entrepreneurship (No. 6).
- Texas A&M University: petroleum engineering (tied for No. 2), nuclear engineering (No. 3), biological/agricultural engineering (tied for No. 3).
- University of Houston: health care law (tied for No. 2); part-time law (tied for No. 6).

In "2016" rankings, *U.S. News* ranked UT-Austin No. 30 among 750 public and independent "Best Global Universities." The institution was tied for No. 30 the previous year. It ranked No. 11 among U.S. public institutions in 2016, little changed from No. 10 the year before; TAMU was No. 27 in 2016. About two-thirds of an institution's global ranking score is based on production of scholarly publications and citations of those publications, 25 percent on global and regional reputation, and 10 percent on number of Ph.D.'s awarded. Thus, the global rankings provide a different perspective on institutional quality than the rankings mentioned previously.

In another version of world rankings, the Center for World University Rankings (CWUR) in their 2015 report ranked UT-Austin as the 7th best public university in the U.S., one place better than in 2014. The next highest ranked public university in Texas was TAMU, No. 30. The CWUR based 50 percent of its rank score on awards, prizes, and medals won by alumni and faculty, 25 percent on the number of alumni who have held CEO positions at "top" companies, 20 percent on the number, "influence," and "impact" of publications and citations by university staff, and the remaining 5 percent on the number of international patent filings.

The 2016 *Times Higher Education* World University Rankings also placed UT-Austin in the top 10 group of U.S. public universities (at No. 10), and it ranked TAMU No. 30, same as the CWUR. These rankings were based on "teaching" (institution reputation, staff-to-student ratio, doctorate-to-bachelor's ratio, and so forth) (30%); "research" (reputation, research income, publications) (30%); citations (30%); "international outlook" (7.5%); and income earned from industry (2.5%).

In another area of institutional excellence, Texas institutions continued to have highly ranked online programs among hundreds of public and independent institutions evaluated by *U.S. News* for "2016" rankings. The University of Houston tied with the University of Florida for the No. 1 online graduate education program. The University of Texas at Dallas tied with Florida State University for the 4th best online graduate business program (excluding MBA) and was No. 9 for its online MBA program. West Texas A&M University received a No. 12 ranking for its graduate business program (excluding MBA). Sam Houston State University moved up two places from the previous year to No. 3 for its online graduate criminal justice program, and it improved by one place for its online graduate computer information technology program (No. 6). The University of Texas at Tyler's online graduate nursing program placed No. 7, up from a previous tie for No. 9.

No public institution in Texas was among the *U.S. News* 235 "Best National Liberal Arts Colleges" in 2016, so technically the *CTG* target for public liberal arts universities was not met, according to this publication. However, only 24 public institutions nationwide were included in the *U.S. News* list. Also, only one public university in Texas – Midwestern State University – has been officially designated (in 2009) as a liberal arts university (it was not ranked by *U.S. News*), so success for this target has been difficult to measure.

Excellence Target: Each college and university will have identified by 2002 at least one program to achieve nationally recognized excellence.

Community and technical colleges and universities will have at least one program or service nationally recognized: 75 percent of the institutions by 2010, and 100 percent by 2015.

Past *CTG* progress reports noted that all Texas public higher education institutions had identified at least one program to develop for national recognition, and that all received national recognition of some type in one or more programs. Therefore, the state's colleges and universities are on target for meeting these excellence targets.

Public institutions identified excellent programs in the December 2015 edition of the THECB's Texas Higher Education Accountability System. Highlights include the following:

- Since its initiation in 2007, the Victory Early College High School satellite campus of the Lone Star College-North Harris (LSC-North Harris) has graduated 369 students, with 79 percent graduating with an associate degree and 80 percent transferring to a four-year institution. Ninety-two percent of the 2015 graduating class received their associate degree. The dual credit program at LSC-North Harris has had similar levels of success: 98 percent of dual credit students completed their college-level classes in FY 2015.
- Texas Tech University's undergraduate agricultural communications program was ranked No. 1 among 40 programs nationwide in 2015, according to a study by the University of Arkansas. Students complete coursework in journalism, graphic design, photography, video, event planning, strategic communications, web design, and publications and learn to communicate agricultural information effectively to various audiences. They must also complete an internship to gain real-world experience.
- The surgical technology program at Lone Star College-Port Arthur had a 100 percent pass rate on the national registry in FY 2014 and 2015. The program is approved by the Commission on Accreditation of Allied Health Education Programs, the largest programmatic accreditor in the health sciences field.
- In spring 2016, the Texas Tech University Health Science Center opened a new accelerated program for veterans with prior military medical training and experience. This accelerated 12-month program has web-based classes and is designed to build on the education and experience of veterans, using a system of assessment that will allow them advanced placement in the curriculum, based on their demonstrated knowledge and skills.

Closing the Gaps in Research

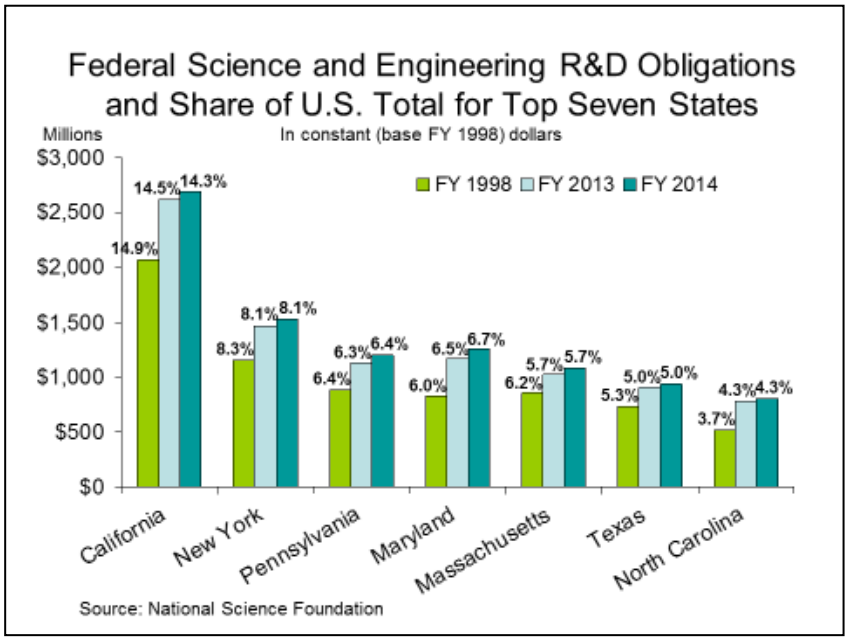
Goal: By 2015, increase the level of federal science and engineering research and development obligations to Texas institutions to 6.5 percent of obligations to higher education institutions across the nation.

Capturing a significant portion of the federal science and engineering R&D obligations, and of government, private, and institutional funds for R&D expenditures, must remain a primary focus of the Texas higher education agenda. The *CTG* research goal serves to focus attention on the need for Texas to compete with other states for national research dollars and projects. The research goal has targets in the following areas:

- Federal science and engineering R&D obligations to public and independent institutions
- Research and development expenditures at public universities and health-related institutions from federal and state government, private sources, and institutional funding

Research Goal: By 2015, increase the level of federal science and engineering research and development obligations to Texas institutions to 6.5 percent of obligations to higher education institutions across the nation. Increase to 6.2 percent by 2010.

Figure 20.



Federal obligations to Texas public and independent institutions remained at 5.0 percent of the national total in FY 2014, the most recent year of available data. The state's share reached 6.1 percent in FY 2003 and 6.0 percent in FY 2008, but since then it has trended downward.

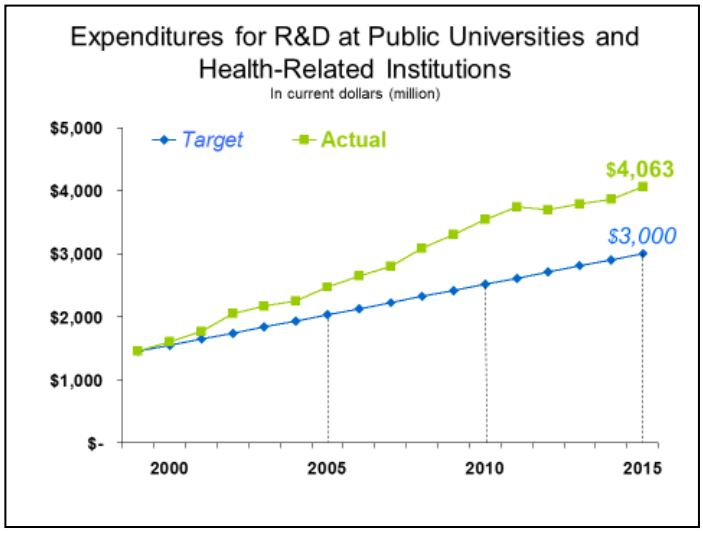
Federal science and engineering obligations for R&D received by Texas public and independent higher education institutions totaled $1.36 billion in FY 2014, up $64.4 million, or 5.0 percent from FY 2013. However, national obligations increased even faster, by 5.7 percent (from $25.9 billion to $27.3 billion), so Texas institutions were not able to increase their share of the total. They would have needed to increase their obligations by another $450 million to reach the 6.5 percent target in FY 2014.

On a constant dollar basis (FY 1998 base), Texas obligations totaled $938.0 million in FY 2014, up from $904.2 million in FY 2013 and $730.0 million in FY 1998. All of the other "top seven" states increased their obligations (in current and constant dollars) in FY 2014 as well.

Research Target: Increase research expenditures by Texas public universities and health-related institutions from $1.45 billion in FY 1999 to $3 billion by 2015 (approximately a 5 percent increase per year).

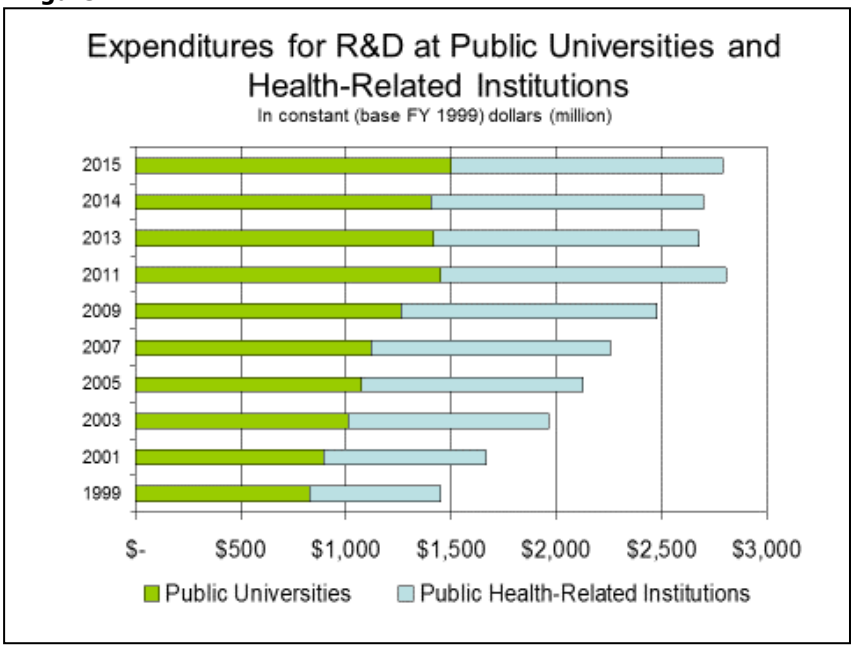
Texas public institutions (universities and health-related) spent $4.06 billion on R&D in FY 2015. That was $201.4 million, or 5.2 percent more than in FY 2014. It also exceeded the final *CTG* target by more than a billion dollars. Institutions first surpassed that target in FY 2008 and continued to increase research expenditures every year, except for a 1.3 percent drop in FY 2012. In constant dollars (FY 1999 base), expenditures increased by 3.5 percent between FY 2014 and 2015.

Figure 21.



Current dollar expenditures by public universities increased by about $167 million, or 8.3 percent from FY 2014 to 2015, reaching $2.18 billion. That compared with a $34 million, or 1.8 percent increase at public health-related institutions, raising their total to $1.88 billion.

Figure 22.



The federal government was the largest provider of funds for public R&D expenditures in FY 2015, with a 41.5 percent share. State and local government provided the next largest share (21.7%) through appropriations, grants, and contracts, followed closely by private sources (for-profit and nonprofit) (20.9%) and institutional funding (15.9%).

Research expenditures in FY 2015 were 179.8 percent more than in FY 1999 (current dollar basis). In constant dollars, that was a 92.3 percent increase.

Higher Education Assistance for Identified High Schools

Working with public high schools that have substantially lower college-going rates than average is a state priority. Often these schools enroll large numbers of economically disadvantaged or underrepresented students, many of whom have parents who did not go to college. These students and their parents may be unfamiliar with college requirements, both in terms of the academic preparation needed to support college success and the financial and administrative considerations affiliated with application and enrollment.

House Bill (HB) 2550, passed by the 83rd Texas Legislature, Regular Session, now codified as Texas Education Code (TEC), Section 58.810, consolidated two existing programs geared toward public high schools with low college-going rates: the Higher Education Enrollment Assistance Program (TEC, Section 61.088) and the Higher Education Assistance Plan (TEC, Section 61.07622). The purpose is to encourage higher education institutions to collaborate with high schools identified as having chronically low college-going rates to increase student success, with emphasis on African American males and Hispanics, two groups that have traditionally had lower college enrollment and persistence rates. House Bill 2550 also emphasizes providing access to rigorous, high-quality dual credit opportunities. The statute directs institutions to report their efforts to the THECB, which is charged with developing the list of high schools that have substantially lower than average college-going rates and with summarizing the elements and results of institutional plans in the annual progress report for the state's higher education strategic plan, *CTG*. This is the third annual progress report that presents HB 2550 activities and results.

Elements of Institutional Plans

For the third year in a row, the THECB surveyed public universities and CTCs to find out which collaborative activities were included in their higher education assistance plans. The 2016 online survey was available to institutions from March through April 2016. It directed the institutions to check off, on a list of possible activities, those activities that they engaged in during calendar year 2015 (the "survey reference period") with THECB-identified high schools. The list of activities was unchanged from the first and second years' surveys, but the number of identified high schools grew, because THECB staff determined that few traditional high schools with large numbers of graduates were being identified; small alternative and charter schools dominated the list. The 2016 survey added 160 high schools to the 138 from the 2015 survey, bringing the total number of identified high schools to 298. This new set of high schools provided more complete coverage of schools with low college-going rates and of collaborative activities to improve those rates, while retaining the set of high schools from the 2015 survey.

A total of 84 higher education institutions responded to the 2016 survey, down from 88 in the 2015 survey. However, 74 of those 84 respondents reported collaborating with high schools during the survey reference period. That was 21 more collaborating institutions than in the 2015 survey and 25 more than in the 2014 survey. The 74 institutions worked with 270 high schools, of which 260 were in the list of identified high schools, an 87 percent coverage rate (260/298) of the identified high schools. While that was down somewhat from the 93 percent coverage rate of 138 identified high schools in the 2015 survey, it was better than the 79 percent coverage rate of the 2014 survey. The 2015 percentage may have been skewed upward because one institution reported working with 141 high schools (identified and non-

identified). In the 2016 survey, one institution collaborated with 96 high schools, the most for that year.

Of the 270 high schools involved in collaborations with higher education institutions, 84 were involved with just one higher education institution; 186, or 69 percent of the high schools were involved with two or more higher education institutions. At most, nine institutions collaborated with a single high school. (This occurred at three high schools)

The table below shows the number of institutions that reported activities geared toward providing information and assistance to high school students, as directed in the HB 2550 survey checklist, for the 2014 through 2016 surveys. The most common activities in the 2016 survey were:

- Distribution of admissions and financial aid materials at high schools (reported by 92% of institutions)
- College fairs (91%)
- Outreach to bring high school students to tour campus (77%)
- Free Application for Federal Student Aid (FAFSA) assistance sessions (74%)
- Outreach to bring high school students to campus events (73%)

These activities were also the leading activities reported in the 2014 and 2015 surveys, though not in the same order of frequency. "Distribution of admissions and financial aid materials at high schools" has always been the most cited activity. The biggest 2015-to-2016 change was a 17 percentage point increase (from 49% to 66%) in the share of institutions reporting dual credit partnerships. Every activity except one ("work-study students contact freshmen during 1st semester in higher education") was reported at least as frequently in the 2016 survey as in the 2015 survey.

Number of Institutions Reporting Activities to Provide Information and Assistance to High School Students, 2014-2016 HB 2550 Surveys

	2014		2015		2016	
	No.	% of Total	No.	% of Total	No.	% of Total
Bridge programs or other academic college-readiness activities	7	14%	16	30%	30	41%
College admission/recruitment/advising staff placed on h.s. campus	23	47%	20	38%	38	51%
College fairs	40	82%	41	77%	67	91%
Content-specific professional development for high school faculty	4	8%	9	17%	18	24%
Distribution of admissions and financial aid materials at high school	44	90%	46	87%	68	92%
Dual credit partnerships	23	47%	26	49%	49	66%
FAFSA assistance sessions	34	69%	33	62%	55	74%
First-year support/success programs	12	24%	14	26%	19	26%
Grants/scholarships targeted to students in high school	26	53%	22	42%	35	47%
High school and college faculty collaborations	14	29%	15	28%	27	36%
Mentoring/tutoring	12	24%	11	21%	16	22%
Outreach to bring high school students to campus events	39	80%	36	68%	54	73%
Outreach to bring high school students to tour campus	42	86%	41	77%	57	77%
Test preparation for SAT/ACT	5	10%	1	2%	5	7%
Test preparation for TSI assessment (excluding pre-assessment activities)	11	22%	11	21%	17	23%
Training for high school counselors	29	59%	26	49%	43	58%
Work-study students contact freshmen during 1st semester in higher ed	4	8%	4	8%	4	5%
Other	7	14%	15	28%	22	30%

Note: Number of institutions reporting at least one activity: 2014 – 49; 2015 – 53; 2016 - 74.

Twenty-two institutions (30% of collaborating institutions) reported "other" activities in the 2016 survey, including mobile Go Center visits to high schools, Rising Star presentations, inviting students to annual EMBODI: Men of Color Conference, presentations at high schools on college readiness, career exploration sessions, posting marketing materials in high schools, conducting a Parent Academy, and recruiting economically disadvantaged students.

Results of Plans

This section presents several measures of student success that HB 2550 activities could influence. No additional reporting was needed from institutions to derive these measures because the institutions regularly submit relevant data as part of their required Coordinating Board Management (CBM) reporting process. These results provide information on college-going rates and activities at THECB-identified high schools with the lowest college-going rates and compares them with data from all public high schools in Texas.

The table below shows college-going rates for FY 2015 graduates of identified high schools, the rate at which they went directly into public and independent higher education in fall 2015. Of 36,030 graduates with IDs that could be tracked into higher education, only 12,797, or 35.5 percent enrolled in Texas higher education in the fall, 17.2 percentage points below the 52.7 percent college-going rate for graduates (with trackable IDs) of all public high schools. (Graduates of public high schools in FY 2014 had a somewhat higher college-going rate of 54.2%.) While 17.2 points is a large college-going gap, it was much less than the 40-point gap for FY 2014 graduates, when just 14.1 percent of graduates of identified schools went on to higher education. College-going rates improved at identified high schools in FY 2015 for every ethnic/gender category shown below. Some of that improvement could be due to institutions' activities to improve college-going rates, but much of it may have resulted from the addition of larger, more traditional high schools, with lower shares of at-risk students, to the set of identified schools. At the same time, college-going rates for all high schools decreased by a point or two for every ethnic/gender category.

College-going Rates for FY 2015 Texas Public High School Graduates

		High Schools with Lowest College-Going Rates			All High Schools		
			Enrolled Directly in TX Higher Education			Enrolled Directly in TX Higher Education	
Ethnicity	Gender	Number of Graduates	Number	Percent	Number of Graduates	Number	Percent
African American	Female	2,508	933	37.2%	19,562	10,278	52.5%
	Male	2,546	727	28.6%	19,246	8,287	43.1%
Hispanic	Female	9,889	3,846	38.9%	69,198	37,689	54.5%
	Male	9,508	2,811	30.0%	67,375	30,708	45.6%
White	Female	5,288	2,337	44.2%	50,574	30,048	59.4%
	Male	5,203	1,673	32.2%	52,088	26,293	50.5%
Other	Female	570	253	44.4%	9,782	6,963	71.2%
	Male	518	217	41.9%	9,672	6,515	67.4%
Total	Both	36,030	12,797	35.5%	297,497	156,781	52.7%

Note: Only students with trackable IDs were included.

Other students combined (Asian, American Indian or Alaska Native, Native Hawaiian/other Pacific Islander, and multiracial) had the highest college-going rates in FY 2015 among all high schools – 71.2 percent for females and 67.4 percent for males. They also had the largest college-going gaps when compared to graduates of identified schools, 26.8 (71.2% minus 44.4%) and 25.5 (67.4% minus 41.9%) percentage points, respectively. College-going rates at identified high schools improved for ethnic groups given special attention by HB 2550 legislation: Hispanic females improved from 15.6 percent in FY 2014 to 38.9 percent in FY 2015, Hispanic males from 10.9 percent to 30.0 percent, and African American males from 11.6 percent to 28.6 percent.

Fiscal year 2014 graduates of identified schools, who went directly to college in fall 2014, persisted in higher education to the following fall at a 43.2 percent rate (see table below), down from the 52.8 percent persistence rate of FY 2013 graduates (reported in the 2015 *CTG* progress report). Persistence rates decreased for every ethnic/gender group except "Other" females, whose rate increased from 41.7 percent to 48.6 percent. Much of the decrease in persistence rates might be attributed to the increased share of at-risk students in the FY 2014 cohort noted earlier. Overall, at all high schools, 77.2 percent of graduates persisted from fall 2014 to fall 2015, up from 76.1 percent for the previous year's graduates; the persistence gap with identified schools increased from about 23 percentage points to 34 points (77.2% minus 43.2%).

College-going Rates and One-year Persistence Rates (Fall 2014-to-fall 2015) in Texas Higher Education for FY 2014 Public High School Graduates

		High Schools with Lowest College-Going Rates				All High Schools			
			Enrolled Directly in TX Higher Education				Enrolled Directly in TX Higher Education		
Ethnicity	Gender	Number of Graduates	Number	Percent	Percent Persisted	Number of Graduates	Number	Percent	Percent Persisted
African American	Female	548	91	16.6%	33.0%	18,736	10,287	54.9%	74.4%
	Male	580	67	11.6%	26.9%	18,515	8,182	44.2%	65.2%
Hispanic	Female	2,342	365	15.6%	46.3%	65,258	36,956	56.6%	76.8%
	Male	2,257	247	10.9%	39.7%	64,227	30,048	46.8%	70.3%
White	Female	1,285	267	20.8%	53.9%	50,185	30,679	61.1%	83.0%
	Male	1,308	117	8.9%	31.6%	51,967	26,644	51.3%	78.5%
Other	Female	145	37	25.5%	48.6%	9,132	6,559	71.8%	88.7%
	Male	112	19	17.0%	47.4%	9,390	6,350	67.6%	86.2%
Total	Both	8,577	1,210	14.1%	43.2%	287,410	155,705	54.2%	77.2%

Note: Only students with trackable IDs were included.

About half to two-thirds of the postsecondary institutions that reported collaborations with identified schools were partnering to offer dual credit, as reported in the 2014-2016 surveys of institutions. A total of 3,613 graduates of identified high schools participated in dual credit during their senior year, 10.0 percent of all 36,030 graduates of these schools (see table below). That was well up from the 2.5 percent and 5.6 percent shares in FY 2014 and FY 2013,

respectively. Fiscal year 2015 graduates of identified schools who took dual credit during their senior year enrolled directly in higher education at a 72.3 percent rate, more than double the rate for all graduates of identified schools and only about 5 percentage points below the rate for dual credit students at all high schools. White female graduates of identified high schools who took dual credit their senior year had a slightly higher college-going rate (79.1%) than for all white female graduates of high schools (78.8%).

College-going Rates for FY 2015 Public High School Graduates Who Were Enrolled in Dual Credit Their Senior Year

		High Schools with Lowest College-Going Rates			All High Schools		
		Number of Dual Credit Graduates	Enrolled Directly in Higher Education		Number of Dual Credit Graduates	Enrolled Directly in Higher Education	
Ethnicity	Gender		Number	Percent		Number	Percent
African American	Female	144	102	70.8%	1,957	1,499	76.6%
	Male	104	69	66.3%	1,138	810	71.2%
Hispanic	Female	964	695	72.1%	10,606	8,467	79.8%
	Male	673	421	62.6%	7,736	5,743	74.2%
White	Female	988	782	79.1%	12,867	10,145	78.8%
	Male	612	451	73.7%	9,480	7,185	75.8%
Other	Female	74	49	66.2%	1,760	1,469	83.5%
	Male	54	44	81.5%	1,333	1,125	84.4%
Total	Both	3,613	2,613	72.3%	46,877	36,443	77.7%

Note: Only students with trackable IDs were included.
*Data suppressed to prevent disclosure of individual student information.

The table below shows FAFSA submission rates for identified schools, compared to statewide results. With between 62 and 74 percent of institutions reporting on the 2014-2016 surveys that they provide assistance with FAFSA preparation at identified schools, it is clearly a priority to inform students about the completion of this critical paperwork. Results for senior years 2010-11, 2011-12, and 2012-13 are based on identified high schools for the 2014 HB 2550 survey. The 2013-14 results are based on the 2015 HB 2550 survey high schools, and the 2014-15 results are based on the 2016 survey high schools. The number of seniors in 2013-14 dropped to about half because of the change in the list of high schools and a lower number of seniors within those high schools. But the number increased by about 30,000 for 2014-15 when the list of high schools was expanded to include larger, more traditional schools.

The table shows that the percent of students who were seniors at the 2014 HB 2550 survey schools and who submitted FAFSA paperwork between January and June of their senior year was about 18 to 20 percentage points lower than for the statewide population of public high school seniors for the same period. The gap increased to nearly 30 percentage points for the 2015 HB 2550 survey schools. But with the expansion of the list of high schools, the gap was reduced to approximately 7 percentage points, as 40.9 percent of seniors at HB 2550 high schools submitted FAFSA paperwork, compared with 47.7 percent of seniors at all high Texas public high schools.

FAFSA Completion by Texas Public High School Seniors

Senior Year	High Schools with Lowest College-Going Rates			All High Schools		
	Number of Seniors	Submitted FAFSA January-June of Senior Year		Number of Seniors	Submitted FAFSA January-June of Senior Year	
		Number	Percent		Number	Percent
2010-11	8,937	2,511	28.1%	298,128	144,604	48.5%
2011-12	8,300	2,486	30.0%	298,379	146,860	49.2%
2012-13	8,126	2,445	30.1%	305,237	148,653	48.7%
2013-14	4,480	871	19.4%	308,851	148,246	48.0%
2014-15	34,691	14,180	40.9%	313,810	149,626	47.7%

Appendix A: Participation Data

Appendix Table A-1: Enrollment at Public, Independent, and Career Higher Education Institutions, Fall 2000-2015, and *CTG* Change Targets

Race/Ethnicity and Type of Institution	Fall Enrollment																Change 2000 to 2015		
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Actual	Percent	Target
Total	1,038,765	1,087,878	1,159,686	1,192,841	1,230,808	1,242,656	1,261,367	1,285,908	1,333,805	1,462,579	1,549,554	1,599,587	1,628,589	1,615,918	1,621,725	1,643,879	605,114	58.3%	630,483
Public Two-Year	467,041	496,083	537,880	553,896	580,006	589,306	600,598	617,176	651,342	733,957	786,235	798,876	775,461	764,213	759,247	765,160	298,119	63.8%	
Public Four-Year	427,438	444,140	469,815	487,324	497,507	500,811	507,556	514,923	527,732	551,346	578,917	593,161	601,886	610,497	632,839	648,885	221,447	51.8%	
Independent & Career	144,286	147,655	151,991	151,621	153,295	152,539	153,213	153,809	154,731	177,276	184,402	207,550	251,242	241,208	229,639	229,834	85,548	59.3%	
African American	112,839	119,587	131,539	136,848	143,614	145,067	148,337	152,290	160,696	190,174	204,790	221,767	234,161	230,398	229,713	223,137	110,298	97.7%	64,237
Public Two-Year	53,749	57,309	62,986	64,762	68,631	69,914	71,646	74,325	80,434	98,891	108,954	119,372	115,366	114,195	113,134	106,702	52,953	98.5%	
Public Four-Year	41,412	44,251	49,038	51,862	54,595	55,483	56,891	58,125	60,436	65,125	68,705	71,279	72,632	72,288	75,782	76,291	34,879	84.2%	
Independent & Career	17,678	18,027	19,515	20,224	20,388	19,670	19,800	19,840	19,826	26,158	27,131	31,116	46,163	43,915	40,797	40,144	22,466	127.1%	
Hispanic	241,418	256,393	278,601	296,160	314,723	325,403	340,592	353,948	376,490	423,652	459,180	489,674	515,373	527,791	542,490	571,118	329,700	136.6%	438,706
Public Two-Year	133,287	142,239	156,716	167,040	180,062	186,185	196,038	204,398	219,931	249,196	272,898	288,713	289,665	293,163	299,132	317,389	184,102	138.1%	
Public Four-Year	82,860	87,971	95,070	101,655	107,052	111,227	116,016	120,304	126,573	136,476	148,303	159,316	167,913	177,520	187,862	198,041	115,181	139.0%	
Independent & Career	25,271	26,183	26,815	27,465	27,609	27,991	28,538	29,246	29,986	37,980	37,979	41,645	57,795	57,108	55,496	55,688	30,417	120.4%	
White	579,344	594,724	624,512	634,895	642,139	638,368	634,940	633,855	641,820	672,138	670,152	662,404	658,306	637,114	619,658	610,812	31,468	5.4%	101,248
Public Two-Year	245,636	256,285	274,317	278,838	286,077	284,960	282,716	284,631	292,125	319,456	319,241	309,310	292,625	280,687	268,663	260,293	14,657	6.0%	
Public Four-Year	249,901	254,023	262,938	268,377	268,477	267,238	266,181	264,812	265,742	271,148	268,804	266,817	263,502	259,478	259,358	258,747	8,846	3.5%	
Independent & Career	83,807	84,416	87,257	87,680	87,585	86,170	86,043	84,412	83,953	81,534	82,107	86,277	102,179	96,949	91,637	91,772	7,965	9.5%	
Other	105,164	117,174	125,034	124,938	130,332	133,818	137,498	145,815	154,799	176,615	215,432	225,742	220,749	220,615	229,864	238,812	133,648	127.1%	
Public Two-Year	34,369	40,250	43,861	43,256	45,236	48,247	50,198	53,822	58,852	66,414	85,142	81,481	77,805	76,168	78,318	80,776	46,407	135.0%	
Public Four-Year	53,265	57,895	62,769	65,430	67,383	66,863	68,468	71,682	74,981	78,597	93,105	95,749	97,839	101,211	109,837	115,806	62,541	117.4%	
Independent & Career	17,530	19,029	18,404	16,252	17,713	18,708	18,832	20,311	20,966	31,604	37,185	48,512	45,105	43,236	41,709	42,230	24,700	140.9%	

Note: No targets were set for "other" enrollment.

Appendix Table A-2: Trend Line Data Points for Change in Enrollment from Fall 2000 to Meet *CTG* Change Targets at Public, Independent, and Career Higher Education Institutions

Race/Ethnicity	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total	29,897	59,793	89,690	119,586	149,483	200,283	251,083	301,883	352,683	403,483	448,883	494,283	539,683	585,083	630,483
African American	4,707	9,415	14,122	18,830	23,537	28,797	34,057	39,317	44,577	49,837	52,717	55,597	58,477	61,357	64,237
Hispanic	20,521	41,042	61,564	82,085	102,606	129,406	156,206	183,006	209,806	236,606	277,026	317,446	357,866	398,286	438,706
White	4,190	8,379	12,569	16,758	20,948	34,848	48,748	62,648	76,548	90,448	92,608	94,768	96,928	99,088	101,248

Appendix Table A-3: Fall Enrollment in Public, Independent, and Career Institutions as a Percentage of the Population (All Ages) by Race/Ethnicity and Gender

Race/Ethnicity & Gender	Fall Enrollment Percentage																Point Change 2000 to 2015
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
Total	5.0%	5.1%	5.4%	5.4%	5.5%	5.4%	5.4%	5.4%	5.5%	5.9%	6.2%	6.3%	6.3%	6.2%	6.1%	6.1%	1.1%
Female	5.5%	5.7%	6.0%	6.1%	6.2%	6.1%	6.1%	6.1%	6.2%	6.7%	7.0%	7.1%	7.2%	7.0%	6.9%	6.8%	1.4%
Male	4.5%	4.6%	4.7%	4.7%	4.7%	4.7%	4.6%	4.6%	4.7%	5.1%	5.4%	5.4%	5.4%	5.3%	5.3%	5.3%	0.9%
Point Difference	1.0%	1.1%	1.2%	1.4%	1.4%	1.5%	1.5%	1.5%	1.5%	1.6%	1.6%	1.7%	1.8%	1.6%	1.6%	1.5%	0.5%
African American	4.7%	4.8%	5.2%	5.3%	5.5%	5.4%	5.5%	5.5%	5.7%	6.6%	7.1%	7.6%	7.9%	7.7%	7.5%	7.2%	2.6%
Female	5.6%	5.9%	6.4%	6.5%	6.7%	6.7%	6.7%	6.7%	7.0%	8.1%	8.6%	9.3%	9.7%	9.3%	9.2%	8.7%	3.1%
Male	3.7%	3.8%	4.0%	4.1%	4.2%	4.1%	4.1%	4.2%	4.4%	5.1%	5.5%	5.8%	5.9%	5.9%	5.8%	5.6%	2.0%
Point Difference	1.9%	2.1%	2.3%	2.5%	2.5%	2.6%	2.6%	2.5%	2.6%	3.0%	3.1%	3.5%	3.8%	3.5%	3.4%	3.1%	1.1%
Hispanic	3.6%	3.7%	3.9%	3.9%	4.0%	4.0%	4.0%	4.0%	4.1%	4.5%	4.9%	5.1%	5.2%	5.2%	5.2%	5.4%	1.7%
Female	4.2%	4.3%	4.6%	4.7%	4.8%	4.8%	4.9%	4.9%	5.0%	5.4%	5.7%	5.9%	6.1%	6.1%	6.1%	6.3%	2.1%
Male	3.1%	3.1%	3.2%	3.2%	3.2%	3.2%	3.2%	3.2%	3.3%	3.6%	4.0%	4.2%	4.3%	4.3%	4.3%	4.5%	1.4%
Point Difference	1.1%	1.2%	1.4%	1.5%	1.6%	1.6%	1.6%	1.6%	1.7%	1.8%	1.6%	1.7%	1.8%	1.8%	1.8%	1.8%	0.7%
White	5.2%	5.3%	5.6%	5.7%	5.7%	5.7%	5.6%	5.6%	5.6%	5.9%	5.9%	5.8%	5.7%	5.5%	5.4%	5.3%	0.0%
Female	5.6%	5.8%	6.1%	6.2%	6.3%	6.2%	6.2%	6.1%	6.2%	6.5%	6.5%	6.4%	6.4%	6.1%	5.9%	5.8%	0.2%
Male	4.8%	4.9%	5.1%	5.1%	5.1%	5.1%	5.0%	5.0%	5.1%	5.3%	5.3%	5.2%	5.1%	4.9%	4.8%	4.7%	-0.1%
Point Difference	0.8%	0.9%	1.0%	1.1%	1.1%	1.2%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.3%	1.2%	1.1%	1.1%	0.2%

Note: Differences and changes are expressed as percentage points; computed from unrounded numbers.

Appendix B: Success Data

Appendix Table B-1: Awards at Public, Independent, and Career Higher Education Institutions, FY 2000-2015, and *CTG* Targets

Type of Award and Institution	Degrees and Certificates Awarded																CTG Target 2015
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
Bachelor's Degrees, Associate Degrees, & Certificates (BAC)	116,235	116,754	124,626	132,478	144,142	149,983	155,527	159,288	176,449	188,927	207,422	221,538	236,682	242,823	246,499	258,795	210,000
Public Two-Year	40,553	40,444	44,697	49,988	53,851	56,858	57,020	58,202	58,940	64,475	73,963	81,169	87,377	93,402	99,009	108,083	
Public Four-Year	58,818	59,337	61,995	63,777	67,099	69,852	73,182	75,951	78,384	81,425	83,329	86,537	89,589	93,779	96,520	99,234	
Independent & Career	16,864	16,973	17,934	18,713	23,192	23,273	25,325	25,135	39,125	43,027	50,130	53,832	59,716	55,642	50,970	51,478	
Bachelor's	74,906	75,286	78,919	81,141	84,595	86,473	89,789	93,032	98,349	101,943	105,222	109,476	117,114	121,310	124,192	127,032	112,500
Public Two-Year	0	0	0	0	0	0	0	30	46	112	131	158	138	166	184	256	
Public Four-Year	58,574	58,988	61,611	63,356	66,742	69,505	72,837	75,577	77,989	81,014	82,881	86,046	89,205	93,374	96,296	99,002	
Independent & Career	16,332	16,298	17,308	17,785	17,853	16,968	16,952	17,425	20,314	20,817	22,210	23,272	27,771	27,770	27,712	27,774	
Associate	25,505	25,363	27,512	30,482	37,477	40,016	41,267	41,613	44,168	47,354	54,127	59,239	69,896	70,533	74,497	81,153	55,500
Public Two-Year	24,810	24,549	26,765	29,599	32,688	35,070	36,559	37,309	38,903	41,732	48,253	52,089	58,152	61,139	66,344	72,280	
Public Four-Year	163	139	121	144	177	166	177	168	185	242	242	282	241	274	111	88	
Independent & Career	532	675	626	739	4,612	4,780	4,531	4,136	5,080	5,380	5,632	6,868	11,503	9,120	8,042	8,785	
Doctorates	2,629	2,671	2,539	2,577	2,729	2,981	3,220	3,623	3,776	3,728	3,832	3,995	4,343	4,627	4,965	5,013	3,900
Public Two-Year	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Public Four-Year	2,297	2,318	2,238	2,203	2,356	2,560	2,780	3,123	3,216	3,083	3,249	3,432	3,637	3,914	4,116	4,201	
Independent & Career	332	353	301	374	373	421	440	500	560	645	583	563	706	713	849	812	
African American BAC	11,215	11,756	12,625	13,373	15,592	15,872	16,574	16,905	19,113	21,346	22,956	25,783	29,359	29,687	30,891	32,922	24,300
Public Two-Year	5,192	5,447	6,013	6,428	7,082	7,093	6,705	7,131	6,982	7,877	8,706	9,846	10,511	11,544	13,004	14,246	
Public Four-Year	4,323	4,559	4,805	5,136	5,576	5,723	6,213	6,616	6,821	7,579	7,998	8,436	8,988	9,220	9,955	10,594	
Independent & Career	1,700	1,750	1,807	1,809	2,934	3,056	3,656	3,158	5,310	5,890	6,252	7,501	9,860	8,923	7,932	8,082	
Hispanic BAC	23,368	24,036	26,251	28,832	32,961	35,625	38,001	40,306	47,837	52,739	55,850	65,386	73,119	76,686	79,718	87,821	67,000
Public Two-Year	10,207	10,538	11,833	13,735	15,488	16,724	17,414	17,923	18,326	20,446	24,024	27,495	30,999	34,004	36,685	42,390	
Public Four-Year	10,879	11,135	11,974	12,502	13,263	14,504	15,478	17,055	17,971	19,511	20,605	21,901	23,130	25,138	27,019	29,143	
Independent & Career	2,282	2,363	2,444	2,595	4,210	4,397	5,109	5,328	11,540	12,782	11,221	15,990	18,990	17,544	16,014	16,288	
Technology BAC	11,979	12,122	12,720	14,578	14,336	13,677	12,978	12,666	12,877	13,999	15,225	17,109	18,120	19,874	21,591	23,679	29,000
Public Two-Year	5,084	5,140	5,428	7,267	6,966	6,169	5,277	5,251	5,360	6,157	7,159	8,294	8,527	9,468	10,271	11,446	
Public Four-Year	6,895	6,982	7,292	7,311	7,370	7,508	7,701	7,415	7,517	7,842	8,066	8,815	9,593	10,406	11,320	12,233	
Computer Science	4,002	4,352	4,759	5,507	5,110	4,198	3,455	3,102	2,867	3,206	3,833	4,484	4,846	5,607	6,205	7,225	
Math	744	700	766	817	938	949	1,028	1,062	959	1,073	1,048	1,160	1,269	1,485	1,504	1,494	
Physical Science	1,153	1,094	1,192	808	829	821	957	966	1,041	1,108	1,185	1,289	1,346	1,480	1,675	1,935	
Engineering	6,080	5,976	6,003	7,446	7,459	7,709	7,538	7,536	8,010	8,612	9,159	10,176	10,659	11,302	12,207	13,025	
Allied Health & Nursing BAC	13,207	12,878	12,960	13,535	15,019	16,113	17,289	17,924	18,184	19,912	21,225	23,261	25,161	26,505	27,189	26,785	26,100
Public Two-Year	9,388	9,026	9,224	9,861	11,117	11,962	12,838	13,041	12,901	14,254	14,946	16,016	16,682	16,859	17,071	16,242	
Public Four-Year	3,819	3,852	3,736	3,674	3,902	4,151	4,451	4,883	5,283	5,658	6,279	7,245	8,479	9,646	10,118	10,543	
BSN	2,004	1,961	2,056	2,125	2,345	2,430	2,607	2,944	3,266	3,476	4,044	4,916	6,062	6,903	7,463	7,770	
ADN	2,752	2,695	2,708	3,220	3,496	3,595	3,984	4,141	4,566	4,819	5,240	5,754	5,739	5,985	6,078	5,336	
Other Nursing	2,847	2,601	2,812	2,933	3,058	3,457	3,494	3,620	3,203	3,675	3,561	3,814	3,919	3,646	3,478	3,468	
Allied Health	5,604	5,621	5,384	5,257	6,120	6,631	7,204	7,219	7,149	7,942	8,380	8,777	9,441	9,971	10,170	10,211	
Total Teacher Initial Certifications	11,807	14,383	17,708	21,453	22,885	23,160	24,686	25,229	26,360	25,777	25,152	23,737	18,088	19,886	21,409	22,215	44,700
Math & Science Teacher Initial Certifications	2,156	2,473	2,972	3,061	2,498	2,737	2,991	3,047	3,374	3,210	3,581	3,450	2,644	2,760	2,886	2,755	6,500

Appendix Table B-2: Success Trend Line Data Points, FY 2001-2015, to Meet *CTG* Targets

Type of Award	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Bachelor's Degrees, Associate Degrees, & Certificates (BAC)	119,788	123,341	126,894	130,447	134,000	141,400	148,800	156,200	163,600	171,000	178,800	186,600	194,400	202,200	210,000
Bachelor's	77,425	79,944	82,462	84,981	87,500	90,000	92,500	95,000	97,500	100,000	102,500	105,000	107,500	110,000	112,500
Associate	26,004	26,503	27,002	27,501	28,000	31,080	34,160	37,240	40,320	43,400	45,820	48,240	50,660	53,080	55,500
Doctorates	2,663	2,697	2,732	2,766	2,800	2,910	3,020	3,130	3,240	3,350	3,460	3,570	3,680	3,790	3,900
African American BAC	11,572	11,929	12,286	12,643	13,000	14,360	15,720	17,080	18,440	19,800	20,700	21,600	22,500	23,400	24,300
Hispanic BAC	24,894	26,421	27,947	29,474	31,000	34,800	38,600	42,400	46,200	50,000	53,400	56,800	60,200	63,600	67,000
Technology BAC	13,383	14,787	16,192	17,596	19,000	20,000	21,000	22,000	23,000	24,000	25,000	26,000	27,000	28,000	29,000
Allied Health & Nursing BAC	13,266	13,324	13,383	13,441	13,500	14,860	16,220	17,580	18,940	20,300	21,460	22,620	23,780	24,940	26,100
Total Teacher Initial Certifications	15,160	17,320	19,480	21,640	23,800	25,960	28,120	30,280	32,440	34,600	36,620	38,640	40,660	42,680	44,700
Math & Science Teacher Initial Certifications	2,585	3,014	3,442	3,871	4,300	4,520	4,740	4,960	5,180	5,400	5,620	5,840	6,060	6,280	6,500

Appendix C: Research Data

Appendix Table C-1: Federal Science and Engineering Obligations for Research and Development (Current $ Thousand) at Public and Independent Higher Education Institutions for U.S. (Including Outlying Areas) and Top Seven States, FY 1999-2014

State	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
U.S. Total	$15,569,103	$17,289,808	$19,390,153	$21,154,640	$22,804,253	$23,797,338	$24,591,925	$24,861,334	$24,979,600	$25,432,802	$31,775,729	$30,638,988	$27,944,116	$27,387,163	$25,853,770	$27,333,334
California	$2,247,783	$2,517,086	$2,697,229	$2,951,472	$3,193,421	$3,458,540	$3,543,306	$3,434,966	$3,458,457	$3,535,030	$4,241,302	$4,277,651	$3,930,189	$3,928,290	$3,750,353	$3,908,676
% of U.S. Total	14.4%	14.6%	13.9%	14.0%	14.0%	14.5%	14.4%	13.8%	13.8%	13.9%	13.3%	14.0%	14.1%	14.3%	14.5%	14.3%
New York	$1,269,773	$1,410,518	$1,580,912	$1,682,187	$1,857,646	$1,935,084	$2,043,527	$2,006,484	$1,986,630	$1,987,185	$2,514,271	$2,403,579	$2,174,376	$2,164,641	$2,101,850	$2,222,083
% of U.S. Total	8.2%	8.2%	8.2%	8.0%	8.1%	8.1%	8.3%	8.1%	8.0%	7.8%	7.9%	7.8%	7.8%	7.9%	8.1%	8.1%
Pennsylvania	$990,736	$1,082,830	$1,239,294	$1,378,756	$1,417,348	$1,489,570	$1,450,944	$1,522,184	$1,543,800	$1,513,727	$1,926,230	$1,885,669	$1,781,421	$1,704,400	$1,620,194	$1,740,941
% of U.S. Total	6.4%	6.3%	6.4%	6.5%	6.2%	6.3%	5.9%	6.1%	6.2%	6.0%	6.1%	6.2%	6.4%	6.2%	6.3%	6.4%
Maryland	$1,004,165	$1,051,387	$1,122,508	$1,296,852	$1,294,617	$1,382,909	$1,408,930	$1,551,313	$1,435,017	$1,457,942	$1,904,149	$1,971,040	$1,823,177	$1,824,509	$1,674,842	$1,819,864
% of U.S. Total	6.4%	6.1%	5.8%	6.1%	5.7%	5.8%	5.7%	6.2%	5.7%	5.7%	6.0%	6.4%	6.5%	6.7%	6.5%	6.7%
Massachusetts	$937,584	$998,935	$1,072,841	$1,147,934	$1,220,700	$1,342,039	$1,375,164	$1,428,535	$1,488,210	$1,503,871	$1,833,950	$1,734,561	$1,576,845	$1,622,750	$1,470,851	$1,566,038
% of U.S. Total	6.0%	5.8%	5.5%	5.4%	5.4%	5.6%	5.6%	5.7%	6.0%	5.9%	5.8%	5.7%	5.6%	5.9%	5.7%	5.7%
Texas	$834,577	$958,185	$1,147,752	$1,222,324	$1,385,229	$1,342,911	$1,365,244	$1,405,928	$1,432,698	$1,514,567	$1,819,268	$1,738,220	$1,472,393	$1,463,155	$1,298,056	$1,362,502
% of U.S. Total	5.4%	5.5%	5.9%	5.8%	6.1%	5.6%	5.6%	5.7%	5.7%	6.0%	5.7%	5.7%	5.3%	5.3%	5.0%	5.0%
North Carolina	$573,092	$636,881	$766,285	$841,951	$938,818	$948,086	$1,019,245	$1,078,566	$1,075,806	$1,064,488	$1,325,248	$1,241,859	$1,155,671	$1,153,192	$1,121,613	$1,171,335
% of U.S. Total	3.7%	3.7%	4.0%	4.0%	4.1%	4.0%	4.1%	4.3%	4.3%	4.2%	4.2%	4.1%	4.1%	4.2%	4.3%	4.3%

Source: National Science Foundation, Survey of Federal S&E Support to Universities, Colleges, and Nonprofit Institutions: Federal Obligations for Research and Development.

Appendix Table C-2: Trend Line Data Points for Percent of U.S. Total Research and Development Obligations to Meet *CTG* Targets, FY 2000-2015

Type of Data	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
% of U.S. Total	5.50%	5.57%	5.64%	5.71%	5.78%	5.85%	5.92%	5.99%	6.06%	6.13%	6.20%	6.26%	6.32%	6.38%	6.44%	6.50%

Appendix Table C-3: Expenditures for Research and Development (Current $ Thousand) by Source of Funds at Texas Public Four-Year Higher Education Institutions, FY 1999-2015

Institution Type and Source	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Public Universities																	
Federal	$429,469	$466,342	$501,649	$564,550	$581,314	$598,223	$687,231	$715,512	$762,459	$828,254	$860,044	$945,238	$959,645	$928,112	$963,608	$923,295	$950,340
State & Local Appropriated	$113,107	$146,241	$154,227	$181,170	$192,545	$164,060	$178,457	$188,607	$194,793	$224,617	$258,909	$262,752	$270,060	$254,527	$275,615	$305,272	$321,009
State & Local Grants and Contracts	$80,162	$70,326	$80,609	$96,572	$98,792	$89,478	$99,235	$98,129	$112,385	$112,838	$126,235	$125,293	$139,653	$134,405	$119,615	$102,003	$119,259
Institutional	$88,518	$80,512	$77,158	$92,735	$102,690	$109,589	$129,826	$139,173	$144,064	$176,640	$208,213	$249,548	$272,829	$294,971	$318,207	$319,527	$425,318
Private Profit	$29,205	$53,546	$63,347	$64,765	$61,670	$62,315	$71,011	$79,413	$86,185	$115,434	$128,414	$144,419	$179,018	$171,660	$173,630	$188,158	$202,166
Private Nonprofit	$88,733	$64,305	$71,233	$76,996	$81,401	$85,935	$76,930	$77,920	$84,960	$84,659	$104,711	$110,745	$112,661	$135,979	$151,244	$172,641	$160,076
Total	$829,194	$881,271	$948,223	$1,076,789	$1,118,412	$1,109,602	$1,242,691	$1,298,753	$1,384,846	$1,542,443	$1,686,527	$1,837,995	$1,933,865	$1,919,655	$2,001,919	$2,010,897	$2,178,168
Public Health-Related Institutions																	
Federal	$367,176	$421,090	$479,224	$577,718	$639,417	$709,811	$752,991	$787,661	$796,944	$836,908	$857,479	$919,226	$951,724	$843,503	$806,491	$761,210	$734,472
State & Local Appropriated	$83,801	$90,655	$94,141	$119,859	$133,768	$149,561	$164,507	$205,871	$210,984	$251,078	$261,218	$284,766	$305,890	$331,450	$299,966	$339,106	$338,820
State & Local Grants and Contracts	$4,114	$8,082	$13,790	$16,843	$10,414	$11,525	$11,621	$18,810	$24,294	$21,305	$30,767	$38,211	$70,767	$78,995	$85,109	$87,221	$103,129
Institutional	$11,367	$27,624	$38,793	$38,501	$38,962	$43,951	$51,283	$70,291	$82,275	$110,797	$134,385	$134,303	$128,353	$143,879	$208,488	$218,121	$221,292
Private Profit	$60,196	$57,762	$63,032	$78,841	$79,164	$67,522	$78,454	$82,281	$93,615	$112,523	$109,732	$110,162	$113,403	$125,173	$144,881	$133,779	$138,878
Private Nonprofit	$95,875	$116,072	$132,457	$141,687	$154,054	$160,926	$167,100	$178,450	$207,523	$212,997	$229,945	$221,801	$243,006	$253,880	$240,071	$310,907	$347,875
Total	$622,528	$721,284	$821,437	$973,451	$1,055,780	$1,143,296	$1,225,956	$1,343,363	$1,415,636	$1,545,608	$1,623,526	$1,708,469	$1,813,143	$1,776,880	$1,785,006	$1,850,344	$1,884,466
Public Universities and Health-Related Institutions																	
Federal	$796,645	$887,432	$980,873	$1,142,269	$1,220,731	$1,308,035	$1,440,222	$1,503,173	$1,559,403	$1,665,163	$1,717,523	$1,864,464	$1,911,370	$1,771,615	$1,770,099	$1,684,506	$1,684,812
State & Local Appropriated	$196,908	$236,896	$248,368	$301,029	$326,314	$313,621	$342,964	$394,478	$405,778	$490,325	$522,722	$547,518	$575,950	$585,977	$575,581	$644,378	$659,829
State & Local Grants and Contracts	$84,275	$78,408	$94,400	$113,415	$109,206	$101,004	$110,856	$116,939	$136,679	$134,143	$157,002	$163,504	$210,420	$213,400	$204,724	$189,223	$222,388
Institutional	$99,885	$108,135	$115,951	$131,237	$141,652	$153,540	$181,109	$209,463	$226,339	$289,079	$342,598	$383,846	$401,182	$438,850	$526,695	$537,648	$646,610
Private Profit	$89,400	$111,308	$126,379	$143,606	$140,835	$129,837	$149,465	$161,694	$179,800	$227,957	$238,146	$254,581	$292,421	$296,834	$318,511	$321,937	$341,044
Private Nonprofit	$184,609	$180,376	$203,690	$218,683	$235,455	$246,861	$244,030	$256,369	$292,482	$297,657	$334,656	$332,545	$355,667	$389,859	$391,314	$483,548	$507,951
Total	$1,451,722	$1,602,555	$1,769,660	$2,050,240	$2,174,192	$2,252,898	$2,468,647	$2,642,116	$2,800,482	$3,088,051	$3,310,053	$3,546,463	$3,747,009	$3,696,535	$3,786,925	$3,861,241	$4,062,634

Appendix Table C-4: Trend Line Data Points for Research and Development Expenditures (Current $ Billion) to Meet *CTG* Targets

Type of Data	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Expenditures	1.452	1.549	1.646	1.742	1.839	1.936	2.033	2.129	2.226	2.323	2.420	2.516	2.613	2.710	2.807	2.903	3.000

This document is available on the Texas Higher Education Coordinating Board website:
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