College for all Texans

CLOSING THE GAPS PROGRESS REPORT 2010

June 2010

Texas Higher Education Coordinating Board

Mission of the Coordinating Board

The Texas Higher Education Coordinating Board's mission is to work with the Legislature, Governor, governing boards, higher education institutions and other entities to help Texas meet the goals of the state's higher education plan, Closing the Gaps by 2015, and thereby provide the people of Texas the widest access to higher education of the highest quality in the most efficient manner.

Philosophy of the Coordinating Board

The Texas Higher Education Coordinating Board will promote access to quality higher education across the state with the conviction that access without quality is mediocrity and that quality without access is unacceptable. The Board will be open, ethical, responsive, and committed to public service. The Board will approach its work with a sense of purpose and responsibility to the people of Texas and is committed to the best use of public monies. The Coordinating Board will engage in actions that add value to Texas and to higher education. The agency will avoid efforts that do not add value or that are duplicated by other entities.

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Introduction

In October 2000, the Texas Higher Education Coordinating Board adopted *Closing the Gaps by 2015: the Texas Higher Education Plan* (*CTG*). The goal of the plan is to close educational gaps within Texas and between Texas and other leading states by focusing on the critical areas of participation, success, excellence, and research. When introduced, *CTG* was greeted by strong support from educational, business, and political communities. The plan has maintained a high level of visibility and support from these and other entities because of its potential to strengthen Texas' economic base, attract businesses and faculty, generate research funding, improve quality of life, and enhance the overall stature of the state.

At the plan's inception, a primary goal and a number of supporting objectives were adopted for each *CTG* goal. Goals for 2015 were set relative to 2000 benchmarks. To assess progress toward meeting the goals, intermediate targets for 2005 and 2010 were identified. Some targets were modified in 2005 in response to new population projections and accelerated progress toward some of the goals. Adjustments were also made to incorporate the contributions of independent higher education institutions toward *CTG*.

Every summer, the Coordinating Board issues an update on the progress made toward achieving the goals of *CTG*. This 2010 Progress Report presents a summary of findings and data on meeting the major goals and supporting targets.

The 15-year time frame for *CTG* (2000 to 2015) was 60 percent completed through FY 2009. While there was improved progress toward reaching some of the 2015 targets in FY 2009, other targets seemed even farther out of reach than the year before. In response, the Coordinating Board, in consultation with FSG Social Impact Advisors, developed an accelerated action plan to focus resources toward achieving the targets in four lagging areas. The accelerated plan is discussed in more detail following the Summary of Findings.

Executive Summary

Texas higher education has come a long way since *Closing the Gaps by 2015: the Texas Higher Education Plan* (*CTG*) was adopted in October 2000. From fall 2008 to fall 2009, enrollment in Texas public and independent (including updated data for career colleges) higher education institutions increased by almost 122,000 students. That increase included nearly 20,000 students at career colleges that began reporting enrollments to the Coordinating Board effective fall 2009, in addition to the career colleges that were already reporting. The increase of 122,000 put the state well above the level needed to reach 2010 and 2015 participation targets. African Americans became the best-represented of the three major ethnicities in Texas higher education, with a 6.5 percent participation rate and enrollment that already exceeded 2010 *and* 2015 targets. Hispanic enrollment grew by nearly 74 percent from 2000 to 2009. Overall, 5.8 percent of the Texas population participated in higher education in fall 2009, almost a full percentage point higher than nine years earlier when participation was just 4.9 percent.

Undergraduate degrees and certificates increased by nearly 42 percent between FY 2000 and FY 2009, on pace to reach 2010 and 2015 targets. Undergraduate awards in allied health and nursing fields grew by a little over 50 percent through FY 2009. Doctoral degrees increased by 40 percent, placing them well above the trend line for reaching 2010 and 2015 *CTG* targets. Texas public institutions more than doubled their research and development expenditures between FY 1999 and FY 2009 to $3.31 billion and reached the 2015 target seven years early.

For all these positive results, Texas higher education still has a long way to go to meet other targets by 2015. Only 4.4 percent of Hispanic Texans participated in higher education in fall 2009 (the 2015 target is 5.7 percent statewide and for the major ethnicities). African American male participation, at 5.1 percent, was nearly three percentage points lower than for African American females (7.8 percent). Undergraduate awards earned by African American and Hispanic students remained somewhat below trend lines for reaching *CTG* targets. New teacher certifications slid even further below the level of progress needed to meet the *CTG* target. Undergraduate awards in STEM (science-technology-engineering-math) fields and math and science teacher certifications have had such dismal growth rates that the state must more than double both of them in six years to reach 2015 targets. The state's share of total U.S. obligations for research and development in science and engineering dropped from 6.1 percent in FY 2003 to 5.6 percent in FY 2004 and has essentially stayed there through FY 2007 (the most recent year with available data), well below 6.5 percent, the 2015 target.

Texans have a "can do" attitude, and they know that Texas *can do CTG*. In this spirit, the Coordinating Board, in consultation with FSG Social Impact Advisors, developed an accelerated action plan in early 2010 with strategies to reach *CTG* goals in four key areas: African American male and Hispanic participation; Hispanic and African American degrees and awards; STEM degrees and awards; and teacher initial certifications. A host of partners will see this plan through to success, including: the Coordinating Board; the State Legislature; the Texas Education Agency; institutions of higher education; P-16 Councils; the P-12 system; the Texas business, economic development, and employer community; and various associations, foundations, and philanthropic donors.

This report gives higher education leaders the information needed to assess progress in *CTG* and to guide action toward meeting the higher education goals that are so vital to the future success of Texas.

Closing the Gaps 2010 Progress Summary

There are currently 18 targets in this report associated with the Texas higher education plan, *Closing the Gaps by 2015*. Progress toward most of the targets is measured relative to a target trend line that is linear for the periods 2000-2005, 2005-2010, and 2010-2015, as follows:

Progress	Definition of Progress Relative to Target Trend Line
Well Above Target	10 or more percent above
Somewhat Above Target	2 to 9 percent above
On Target	Within $\pm$1 percent
Somewhat Below Target	2 to 9 percent below
Well Below Target	10 or more percent below

CTG Measure	Progress Relative to Target Trend Line	
	July 2009 Report	July 2010 Report
Participation[1]		
Statewide participation	Somewhat Below Target	Well Above Target
African American participation	Well Above Target	Well Above Target
Hispanic participation	Well Below Target	Well Below Target
White participation	Somewhat Below Target	Well Above Target
Success[1] BACs: bachelor's and associate's degrees, and certificates		
Statewide BACs	On Target	On Target
Bachelor's degrees	On Target	Somewhat Above Target
Associate's degrees	Somewhat Above Target	Somewhat Above Target
Doctoral degrees	Well Above Target	Well Above Target
African American BACs	Somewhat Below Target	Somewhat Below Target
Hispanic BACs	Somewhat Below Target	Somewhat Below Target
Technology BACs	Well Below Target	Well Below Target
Allied health and nursing BACs	Somewhat Above Target	Somewhat Above Target
Teachers initially certified	Well Below Target	Well Below Target
Math and science teachers initially certified	Well Below Target	Well Below Target
Excellence[2]		
National rankings	Well Below Target	Well Below Target
Program recognition	On Target	On Target
Research		
Federal science & engineering R&D obligations[3]	Somewhat Below Target	Somewhat Below Target
Public institutions' research expenditures[4]	Well Above Target	Well Above Target

[1]For participation and success, progress was compared to the 2009 value on a target trend line, which assumed linear growth from 2000-2005, 2005-2010, and 2010-2015 to reach 2010 and 2015 goals.
[2]Progress in excellence was assessed by methods other than a target trend line. Program recognition, as defined for the target, cannot be better than "on target."
[3]For research and development obligations, assessment was done relative to the 2007 value (the most recently available data) on the target trend line.
[4]For research expenditures, progress was assessed relative to the 2009 value on a linear target trend line from 1999 to 2015.

Summary of Findings

Statewide Goal for Participation: By 2015, increase enrollment at public and independent institutions by 630,000 students. The 630,000 more students would bring Texas public and independent higher education enrollment to 1,650,000 students. The target enrollment for 2010 is 1,423,000 students.

- Statewide enrollment has increased every year since fall 2000, but growth slowed from 2003 to 2005. Enrollment growth slowly began accelerating in 2006, and fall 2009 saw the largest annual increase in number (121,935) and percentage (9.4 percent) since *CTG* began in fall 2000. Enrollment figures have always included career colleges since *CTG* began, and in fall 2009 additional career colleges reported a total of 19,785 students. Thus, part of the annual increase was due to an increase in expanded reporting.

- In the first nine years of *CTG*, statewide participation increased by 401,476 students. That leaves the state with six years to close 36 percent (or 229,007) of the 630,000-student gap in enrollment by 2015. That is much better than the year before, when there were seven years to close 56 percent of the gap.

- Hispanics had the largest numeric and percentage increases in enrollment from 2000 to 2009 among the three major ethnic groups. But with a participation rate of just 4.4 percent of Texas' total Hispanic population in 2009, their enrollment lags the most in meeting the *CTG* participation target.

- In 2000, the African American participation rate was 4.5 percent of the state's total African American population, compared to 5.1 percent for whites. By 2009, the African American participation rate grew by two percentage points to 6.5 percent, while the participation rate for whites increased by less than a percentage point to 5.8 percent.

- Females in Texas surpassed males, 6.5 percent to 5.0 percent, in their fall 2009 participation rate. The female-male gap has steadily grown since 2000 when it was just 1 percentage point (5.4 percent versus 4.4 percent). African American females had a 7.8 percent participation rate in 2009, nearly 3 percentage points above African American males and 1.4 percentage points above white females.

Statewide Goal for Success: By 2015, increase the number of bachelor's and associate's degrees and certificates (BACs) to 210,000 at public and independent institutions. By 2010, increase the number of BACs to 171,000. The 2015 target requires awarding 93,765 more BACs than in 2000.

- The numbers of BAC awards to African Americans and Hispanics were still not on track in FY 2009 to meet targets, even though both groups had their greatest annual percentage growth that year since *CTG* began.

- Total undergraduate awards in computer science, engineering, math, and physical science had their greatest percentage increase in FY 2009 since FY 2003, yet they were only about 17 percent above the FY 2000 level. They will have to more than double in six years to reach the 2015 target.

- Certifications of new math and science teachers dropped 5 percent in FY 2009, following four years of growth. Total initial teacher certifications also dropped, the first decline since FY 2000. Both measures were well below targeted levels.

- The statewide numbers of bachelor's and associate's degrees were somewhat above target trend line values in FY 2009. The number of doctoral degrees was still well above the target line even after a small drop in FY 2009.

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

- In the 2010 *U.S. News & World Report* (*U.S. News*) rankings, The University of Texas at Austin (UT-Austin) and Texas A&M University (TAMU) tied for 15th and 22nd place, respectively, among the top 68 national public universities. UT-Austin's ranking was virtually unchanged since 2000, while TAMU dropped from 15th to 24th between 2002 and 2003. No other public institutions in Texas made this list for 2010.

- UT-Austin ranked lower than six campuses of the University of California in *U.S. News*. One reason is that UT-Austin did worse than all six of those campuses in three indicators that made up nearly one-third of the ranking score: six-year graduation rate, educational spending per student, and percent of freshmen in the top 10 percent of their high school class.

- UT-Austin and TAMU both tied for 13th place among public research universities, based on the 2009 report from The Center for Measuring University Performance. Both were tied for 14th place in the 2008 report. The University of Texas Southwestern Medical Center and the University of Texas M.D. Anderson Cancer Center also made the list of top public research universities, but they were at numbers 24 and 32, respectively, not much different from their 2008 places.

Statewide Goal for Research: By 2015, increase the Texas share of federal obligations for science and engineering research and development (R&D) to 6.5 percent of the national total at public and independent institutions. By 2010, increase the share to 6.2 percent.

- Texas' federal obligations for science and engineering R&D have been 5.5 or 5.6 percent of the U.S. total for the last four years, following a 6.1 percent share in FY 2003. The 5.6 percent share in FY 2007 (the most recent year with available data) was somewhat below the target trend line value.

- Texas met the 2015 *CTG* target for research and development expenditures in FY 2008, and added nearly 7 percent to its expenditures in FY 2009.

Accelerated Action Plan

The 2009 *CTG* Progress Report concluded that, although there had been good progress toward meeting some of the targets for higher education by 2015, Texas needed to take "more bold steps" to meet other targets. For example, Hispanic participation had to increase by 310,000 (84.3 percent) in just seven more years – a "daunting task" for a rapidly growing population with high dropout rates and economic disadvantages. Undergraduate degrees and awards in technology needed to increase by *125 percent* by 2015, following eight years of near-zero growth.

Coordinating Board staff began to take those bold steps in late 2009 by formulating an accelerated action plan focused on *CTG* areas where progress was lagging. Recognizing that several of these areas had already been addressed by the Coordinating Board, State Legislature, and others, the Coordinating Board narrowed the list to four *CTG* areas:

- African American male and Hispanic participation.
- Hispanic and African American success (degrees and awards).
- Technology (STEM field) degrees and awards.
- Teacher initial certifications.

Staff completed their work in early 2010. Consultants from FSG Social Impact Advisors refined the Coordinating Board's plan and gathered input from over 70 Texas stakeholders and national experts, to produce a strategic planning document. It was released on April 29, 2010 and contains a comprehensive list of strategies and action items to accelerate progress in the four focus areas through 2015. It closes with a vision for collaboration between the Coordinating Board and a "broad base of stakeholders across the state" beyond 2015 to "develop and implement a post-*Closing the Gaps* vision for Texas that aspires to national and global leadership."

Under the accelerated action plan, many partners will work together to meet targets for 2015, including: the Coordinating Board; the State Legislature; the Texas Education Agency; institutions of higher education; P-16 Councils; the P-12 system; the Texas business, economic development, and employer community; and various associations, foundations, and philanthropic donors.

The strategic planning document states that the Coordinating Board will implement the accelerated plan by providing recommendations to the State Legislature, strengthening partnerships with key stakeholders, and using data strategically to "mobilize stakeholders and steer action towards the goals of *Closing the Gaps*."

For a detailed list of strategies and action items for the Coordinating Board and key stakeholders, see the full strategic planning document. It is available from the Coordinating Board and can be downloaded at http://www.thecb.state.tx.us/AcceleratedPlanCTG2015 .

Closing the Gaps in Participation

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

The student population grew by just over 401,000 students from the year 2000 launch of *CTG* to nearly 1,421,000 in fall 2009. Because of a record increase from fall 2008 to fall 2009, Texas in 2009 was only about 2,000 students shy of the 2010 target and 229,000 below the 2015 mark – on pace to reach both milestones.

Texas was also on pace to hit 2015 participation targets for African American and white students, but not for Hispanic students. While Hispanic enrollment has increased at a faster rate than for African Americans and whites since 2000, the enrollment of almost 413,000 in fall 2009 was 263,000 students short of the 2015 target, putting Hispanic enrollment well below the target trend line. The Hispanic shortfall accounts for more than the total enrollment increase needed to reach the *CTG* participation goal because African American and "other" participation already exceeded 2015 targets in 2009. (Targets were not explicitly set for "other" enrollment, but they can be derived from total and ethnic group targets.)

A breakout of African American participation shows that while African American females have made extraordinary progress – they had by far the highest participation rate in higher education among African American, Hispanic, and white males and females in fall 2009 – African American males have fallen farther and farther behind them. Appropriately, then, the accelerated action plan's key target areas include African American male as well as Hispanic (male and female) participation.

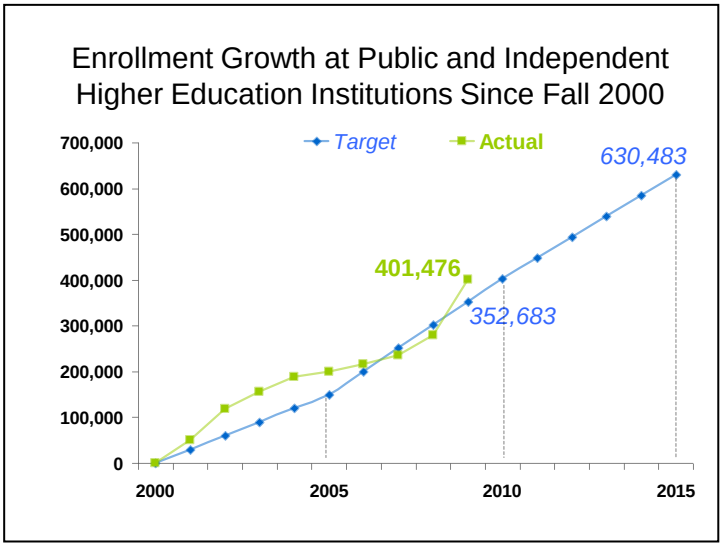
CLOSING THE GAPS IN PARTICIPATION GOAL: Increase the overall Texas higher education participation rate from 5 percent* in 2000 to 5.6 percent by 2010 and to 5.7 percent by 2015.

*Based on projected population when *CTG* goals were set; revised to 4.9 percent based on the 2000 Census.

Participation enrollment growth charts show enrollment *changes* since fall 2000. Data for charts may be found in the Appendices.

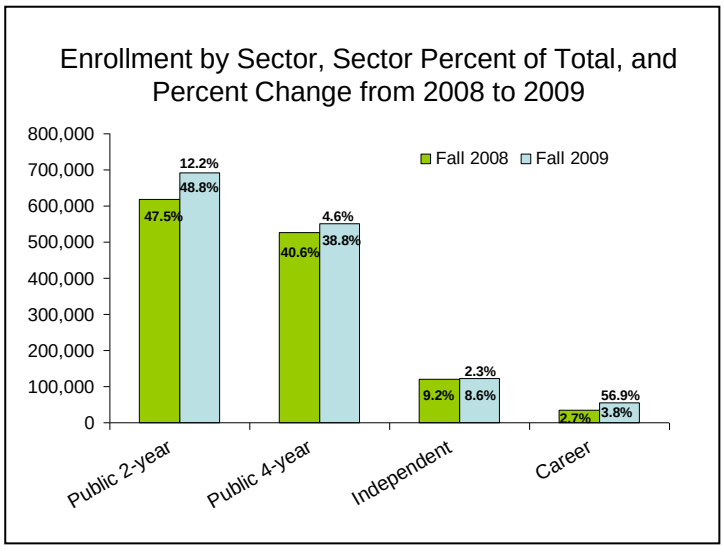
Status: Well Above Target

In fall 2009, 5.8 percent of the state's population was participating in higher education, already exceeding the 2015 participation rate target. However, with projected population growth, especially for Hispanics, public and independent institutions must enroll about 229,000 more students in 2015 to meet the 5.7 percent target.



Background

- Between 2008 and 2009, fall enrollment increased 121,935, the largest gain since *CTG* began in 2000, partly because of expanded career college reporting. On average, about 38,000 more students need to be added each year through 2015 to meet the state goal.
- Public two-year institutions contributed the most, 244,847 or 61.0 percent, to the 2000-2009 increase in enrollment.
- State-level participation and goals are sums of data for African American, Hispanic, white, and "other" groups. While African American and white enrollment increases were well above their 2009 target trend lines, Hispanic enrollment increase was well below.
- Male participation rates in higher education lag behind female participation rates, statewide and for African American, Hispanic, and white students. The gap grew between 2000 and 2009, especially for African Americans.

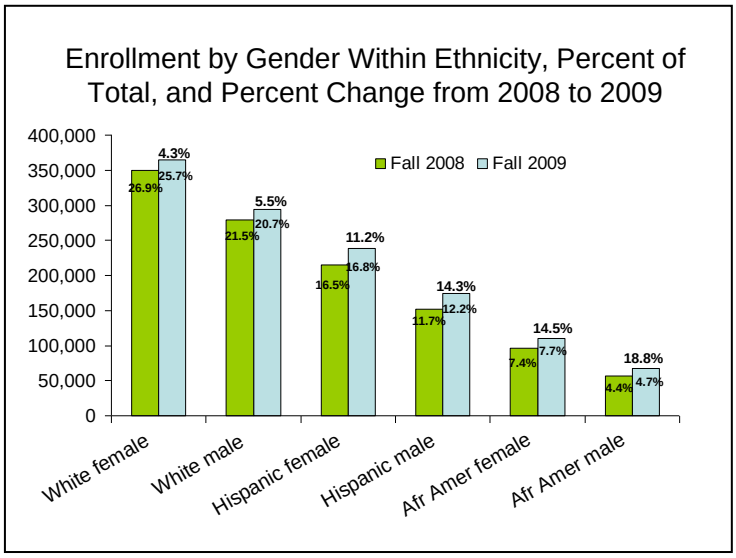


Analysis and Observations

- Public two-year institutions accounted for 75,338 (61.8 percent) of the 2008 to 2009 enrollment increase.
- Public four-year institutions contributed 24,052 students to the 2008-2009 increase, a 19.7 percent share.
- The career school category gained 19,785 students in fall 2009 because

more of these institutions began reporting data to the Coordinating Board, yielding more accurate data for this higher education sector.

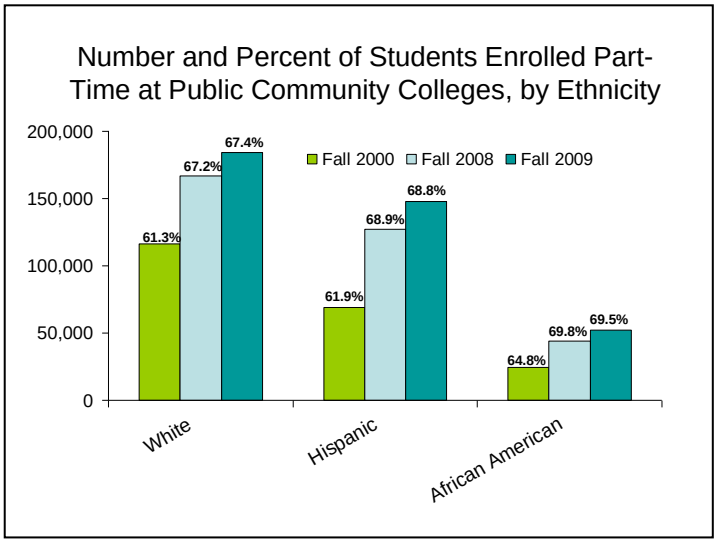
- Public two-year institutions gained more than a percentage point, to 48.8 percent, in their share of statewide enrollment in fall 2009.
- The 45,764 increase in Hispanic enrollment from 2008 to 2009 (increasing share of total enrollment from 28.2 percent to 29.0 percent) was the largest contribution among the three major ethnicities to the record statewide increase. African American male enrollment increased at the highest rate (18.8 percent) among the six major ethnic/gender groups. Accelerated action is needed more than ever to keep these additional students, who are often at-risk, in school and graduate them.
- Some 10 percent of the annual increase in enrollment in fall 2009 came from over 12,000 additional dual credit students. (Dual credit students are included in figures for higher education enrollment.) Dual credit students accounted for 18 percent of the growth in enrollment from 2000 to 2009.
    - Texas public high school graduates who participated in dual credit enroll in higher education at a slightly higher rate than the full population of high school graduates.
    - Of students enrolled in dual credit in FY 2009, 76.6 percent enrolled in Texas public or independent higher education, compared with 56.3 percent of all high school graduates. Universities attracted 40 percent of former dual credit students; 28.4 percent enrolled at two-year institutions; and 8 percent enrolled at independent institutions.



- Increasing enrollments to meet participation targets can be achieved in part with an increase in persistence rates, particularly after the first and second years of enrollment.
    - At public universities, the one-year persistence rate for cohorts of first-time, full-time students improved from 86.5 percent to 88.3 percent between fall 2000 and fall 2008. The rate at public community colleges went up from 66.1 percent to 67.1 percent in the same time period.
    - The two-year persistence rate increased from 80.7 percent to 81.6 percent between fall 2000 and fall 2007 for cohorts at public universities. The two-year rate declined almost a full percentage point at community colleges over the same time span, from 54.5 percent to 53.6 percent.
- Attracting adults to or back to higher education can help meet the participation goal. While first-time students in public higher education coming directly from high school grew by 40,000 from fall 2000 to fall 2009, to 133,252, enrollment for other new students in public higher education decreased during that time from 81,000 in fall 2000 and 90,000 in fall 2003, to 73,000 in fall 2009.
- P-16 programs focused on improvement in college readiness, coupled with effective developmental education programs, have the potential to significantly improve the persistence rates of less-prepared students.

- Public institutions are currently required to have a developmental education plan for underprepared students who do not meet Texas Success Initiative (TSI) standards in math, reading, or writing. For the fall 2005 cohort of first-time public university students, 73.1 percent were prepared in all three areas, while only 34.2 percent of first-time students at public community colleges were prepared in all areas.
- Students who meet the TSI standards in all areas are more likely to return the following fall than those who meet the standard in no areas. For example, for public community colleges, which most students needing developmental education attend, 67.2 percent of fall 2007 entering students who met TSI standards in all areas returned the following fall, versus 48.6 percent of those who did not meet any of the three TSI areas.
- Improvements to the provision of development education are essential to helping students' progress in their high education careers. Grant funds appropriated by the 81st Texas Legislature will support the provision of developmental education pilot programs.

- Focusing on the unique needs of part-time students may encourage more participation of both adult and traditional-aged segments. Although only a small percentage of university students enroll part-time, around two-thirds of public community college students do. In fall 2009, 68.3 percent of credential-seeking community college students were enrolled part-time (taking less than 12 semester credit hours), up from 68.0 percent in fall 2008 and 61.6 percent in fall 2000. Some 69.5 percent of African American students at public community colleges enrolled part-time in fall 2009, a little higher than Hispanics (68.8 percent) and whites (67.4 percent).



- Two-thirds of first-time undergraduate students start their post-secondary education at two-year institutions. To improve persistence and success of transfer students, the transfer process between two-year and four-year institutions needs to function smoothly and result in a minimal number of semester credit hours that do not apply directly to a degree program.

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.

*Based on projected population when *CTG* goals were set; revised to 3.6 percent based on the 2000 Census.

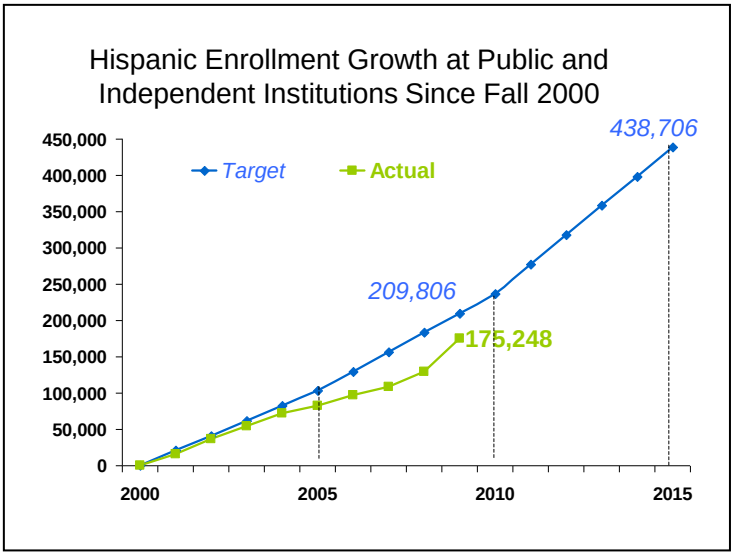
Hispanic participation is a key target area in the accelerated action plan.

Status: Well Below Target

Hispanic enrollment increased by 175,248 or 73.8 percent between fall 2000 and fall 2009, the fastest growth of the three major ethnic groups, but the increase was still 16.5 percent below the target trend line for meeting 2010 and 2015 targets. About 263,000 more Hispanic students must enroll in 2015 to meet that year's target, a 63.8 percent increase over fall 2009's enrollment of 412,642 Hispanics.

Background

- The Hispanic population is projected to grow by 24.3 percent between 2009 and 2015 (from 9.5 million to 11.8 million).
- Hispanics are projected to become the largest ethnic group in Texas in 2015.



Analysis and Observations

- The accelerated action plan's broad strategies for improving participation of Hispanics and African American males include:
  - Intensify efforts to provide all high school students with rigorous curriculum, and implement bridge and similar programs at institutions with high numbers of under-prepared Hispanic and African American students.
  - Promote a college-going culture through a public information campaign, including messages targeted to Hispanic and African American students and focusing on regions with high Hispanic and African American populations.
- Hispanic males had the lowest higher education participation rate of the major ethnic/gender groups in fall 2009: 3.6 percent of the Hispanic male population. That was 1.6 percentage points below the Hispanic female participation rate, a worsening of the 1.1 percentage point female-male gap (4.1 percent versus 3.0 percent) that existed in fall 2000.
- Improving Hispanic high school graduation rates will increase the pool of potential Hispanic college students. Too few Hispanic students graduate from high school. Only 61.8 percent of Hispanics who were seventh graders in FY 1998 graduated from a Texas public high school, compared with 72.5 percent of white students and 67.6 percent of all students. For this seventh grade cohort, Hispanic males lagged females in high school success, with a 58.0 percent graduation rate compared with 65.9 percent for females.
- The number of Hispanic public high school graduates increased from 68,314 to 104,854 between FY 2000 and FY 2009. At the same time, college-going rates improved for this group: 49.8 percent of the FY 2009 graduates went directly to public higher education in Texas in the fall, up from 38.4 percent for FY 2000 graduates, based on figures for

trackable (with valid ID) students. However, Hispanic graduates trailed white high school graduates, who had a 53.3 percent public college-going rate in 2009.

- Hispanic female high school graduates went directly to Texas public higher education in fall 2009 at a higher rate than Hispanic males, 53.0 percent to 46.6 percent.
- Strategies to offset the impact of economic disadvantage on enrollment rates for Hispanic students are being explored.
    - A larger percentage of Hispanic high school graduates are economically disadvantaged (eligible to receive free or reduced lunch based on household income) than graduates of other races/ethnicities. Among the high school graduates in FY 2009, 61.3 percent of Hispanics were economically disadvantaged, compared with 50.2 percent of African Americans and 13.7 percent of whites.
    - Students who are economically disadvantaged are less likely to enroll in higher education – 41.1 percent of FY 2008 high school graduates who received free or reduced lunches enrolled in post-secondary education, compared with 53.0 percent of those who did not receive free or reduced lunches.
    - Economically disadvantaged students are less prepared in math, reading and writing as measured by Texas Success Initiative (TSI) standards - 51.2 percent of FY 2007 high school graduates who received free lunches met the TSI standards in all three areas, compared with 71.9 percent of those who did not receive free or reduced lunches. The rapid increase in the economically disadvantaged Hispanic population makes the performance results for this group of greater significance to the state.
- Increasing the persistence rates of Hispanic students is a critical component of meeting Hispanic participation targets.
    - Based on a study of fall 2000 first-time undergraduates, if a cohort of Hispanic students who start at two-year public institutions persisted at the same rates as white students, 7 percent more students would be in higher education after six years. For Hispanics starting at four-year institutions and persisting at the same rates as whites, a cohort would have 8 percent more students after six years.
    - At public universities, the one-year persistence rate for first-time, full-time cohorts of Hispanic students increased from 83.4 percent to 86.5 percent between fall 2000 and fall 2008, but the rate was still 4 percentage points below that of white students. The one-year persistence rate also increased at public community colleges, from 65.2 to 67.9 percent; the latter rate was virtually the same as the white rate of 68.0 percent.
    - The two-year persistence rate for Hispanics at public universities increased 1.6 percentage points, to 79.0 percent, for cohorts starting in fall 2007 compared with fall 2000. At public community colleges the increase was from 53.2 percent to 53.7 percent, leaving Hispanic students about 2 percentage points below white students but nearly 11 percentage points above African American students.

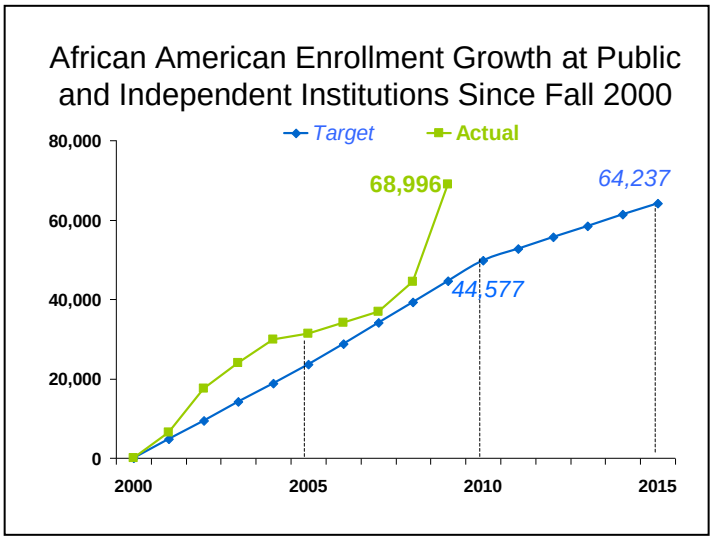
African American Participation Target: Increase the higher education participation rate for the African American population of Texas from 4.6 percent* in 2000 to 5.6 percent by 2010 and to 5.7 percent by 2015.

*Based on projected population when *CTG* goals were set; revised to 4.5 percent based on the 2000 Census.

Status: Well Above Target

African American enrollment increased by 68,996, or 63.6 percent, from fall 2000 to fall 2009. African Americans are the first of the three major ethnic groups to pass the 2015 participation target. Enrollment was 177,459 in fall 2009.

African American male participation is a key target area in the accelerated action plan.



Background

- Some 6.5 percent of the African American population participated in higher education in fall 2009, almost one percentage point higher than in fall 2008 and well above the white and statewide rate of 5.8 percent.
- African American females led all major ethnic/gender categories with 7.8 percent participation in fall 2009, 2.4 percentage points higher than in fall 2000.
- African American male participation in fall 2009, 5.1 percent, was 0.8 percentage points higher than in fall 2008 and 1.6 percentage points higher than in fall 2000, a gain that was second only to African American females among the major ethnic/gender groups.
- The African American population in Texas is expected to grow by 7.6 percent from 2009 to 2015, when it is projected to be 3.0 million.
- The number of African American public high school graduates increased from 27,507 in FY 2000 to 35,982 in FY 2009. The percentage going directly into public higher education increased during that time from 38.7 percent to 46.4 percent, based on data for trackable students. However, the rate was below the college-going rates of Hispanic and white public high school graduates, 49.8 percent and 53.3 percent, respectively.

Analysis and Observations

- African American persistence rates must be improved so that increased participation rates translate into more graduates.
  - At public universities, the one-year persistence rate for first-time, full-time African American students improved to 82.8 percent for the fall 2008 cohort, compared with 80.3 percent for the fall 2000 cohort. But the 2008 cohort's performance was well below the 90.5 percent rate for the comparable cohort of white students. The one-year persistence rate for African American students at public community colleges dropped 1.1 percentage points during the same time span to 58.2 percent, nearly 10 percentage points below white students' rate.
  - The two-year persistence rate rose 1.6 percentage points to 72.5 percent for the fall 2007 cohort of African Americans at public universities, versus the fall 2000 cohort's

results, but that was far below the 2007 cohorts' rates for Hispanics (79.0 percent) and whites (84.6 percent). Two-year persistence rates dropped 2 percentage points for African American cohorts at public community colleges during the comparable time, to just 43.1 percent, which was more than 10 percentage points below Hispanic and white rates.

- Based on a study of fall 2000 first-time undergraduates, if a cohort of African American students who start at two-year public institutions persisted at the same rates as white students, 15 percent more students would be in higher education after six years. For African Americans starting at four-year public institutions and persisting at the same rates as whites, a cohort would have 17 percent more students after six years.

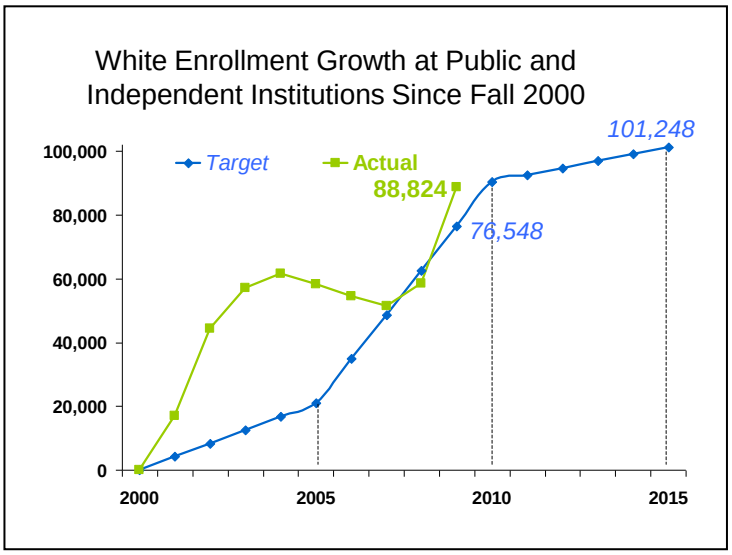
White Participation Target: Increase the higher education participation rate for the white population of Texas from 5.1 percent in 2000 to 5.7 percent by 2010 and remain at 5.7 percent through 2015.

Status: Well Above Target

White enrollment growth moved back above the *CTG* trend line in fall 2009, posting a 4.8 percent gain from the previous fall. Enrollment had dropped for three years before that. About 12,000 (1.9 percent) more students are needed to hit the 2015 target. Participation was 5.8 percent of the total white population in fall 2009.

Background

- Some 658,876 white students enrolled in fall 2009, 15.6 percent more than in fall 2000.
- The white population is expected to grow less than one percent from 2009 to 2015, reaching 11.4 million, nearly 323,000 below the Hispanic population.
- Some 112,016 white students graduated from Texas public high schools in FY 2009, the lowest since FY 2001. White students accounted for 42.4 percent of all public high school graduates in FY 2009, down from 51.5 percent in FY 2000.



Analysis and Observations

- The white population in Texas ages 18 to 24 peaked in 2005 at 1.0 million, and it is projected to decline by about 79,000 (7.6 percent) by 2015. Therefore, to maintain or increase total white enrollment, more white Texans must enroll from outside of the traditional college-age population or in greater proportion from the 18 to 24 year-old pool.
- Strategies for increasing male participation in higher education should include both minority and white males. Just 5.2 percent of the white male population in Texas participated in higher education in fall 2009, compared with 6.4 percent of the white female population.

Closing the Gaps in Success

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

Overall the state is on track to reach the *CTG* success goal of increasing undergraduate awards: bachelor's and associate's degrees and certificates. The strongest area of student success seems to be doctoral degrees, where in FY 2009 progress was well above the target.

The state is making good progress increasing the number of allied health and nursing undergraduate awards. These increases resulted from the efforts of the institutions and the Legislature's commitment to additional funding for incentives. However, an analysis completed in 2006 by the Texas Center for Nursing Workforce Studies suggests that more nurses will be needed by 2015 than specified in the *CTG* target.

Probably the weakest areas of student success are: STEM (science-technology-engineering-math) undergraduate awards, which, despite a respectable increase in FY 2009, must more than double in the next six years to meet the *CTG* target; and math and science teacher certifications, which fell for the first time in five years and also need to more than double by 2015. It is appropriate, therefore, that two key target areas in the accelerated action plan are STEM awards and teacher certifications (which include math and science certifications). The action plan's other two key target areas of success are Hispanic and African American degrees and awards. While undergraduate awards to these students increased by 85 and 54 percent, respectively, since 2000, progress was still somewhat below the target in FY 2009.

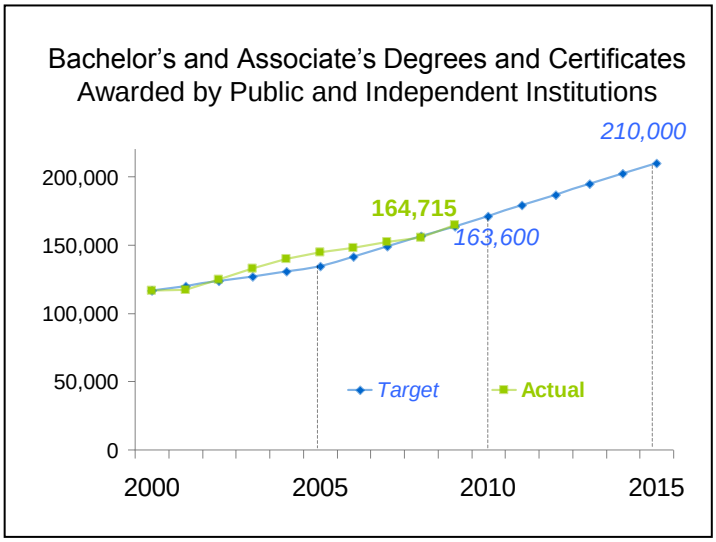
Increasing the number of well-prepared teachers is essential to not only the success goal for teacher certifications, but also to the participation goal of having well-prepared students complete high school and continue into higher education. Unfortunately, initial teacher certifications fell farther below the target trend line in FY 2009. The number of certifications produced through "traditional" university programs has been nearly flat over the last four years, while the number of teachers certified through alternative programs has increased more than five times since 2000. Public two-year institutions contributed to that increase as 23 of them offered alternative certification programs in FY 2009.

***CLOSING THE GAPS* IN SUCCESS GOAL: Increase the overall number of students completing bachelor's degrees and associate's degrees and certificates (BACs) to 171,000 by 2010 and to 210,000 by 2015.**

Status: On Target

The number of bachelor's and associate's degrees and certificates (BACs) awarded increased 5.9 percent from FY 2008 to FY 2009, to 164,715, bringing this measure back above the target trend line value (163,600). Around 45,000 additional BACs must be awarded in FY 2015 to reach the goal.

Success progress charts show fiscal year *numbers* of awards, in contrast to participation enrollment growth charts that show *changes* since fall 2000.



Background

- BACs increased by 48,480 or 41.7 percent at public and independent institutions between FY 2000 and FY 2009.

Analysis and Observations

- The six-year graduation rate of first-time, full-time cohorts at public universities increased from 49.2 percent for those graduating by FY 1999 to 56.8 percent for FY 2008 graduates. However, the rate for FY 2008 graduates was slightly down from the 57.2 percent rate for students graduating by FY 2006.
- At public community colleges, 25.7 percent of first-time, full-time students earned a BAC within six years for the cohort completing six years in FY 2000, compared with 29.4 percent for the FY 2008 cohort. However, the FY 2008 success rate was lower than for the cohort completing six years in FY 2007 (30.8 percent). The rise in graduation rates of full-time students since 2000 is encouraging, but part-time enrollment has grown more quickly than full-time enrollment during that period. Attention must be focused on part-time students as well as full-time students.
- Efforts to help students persist and succeed in higher education must be increased. Hispanic and African American students persist and graduate at lower rates than whites and Asians. The flattening of graduation rates may reflect the increasing number of these students in the entering cohorts. Understanding the needs and challenges of our state's diverse student participants will be critical for meeting success goals.
- Strategies for improving success must address the critical role of students' preparation for college-level coursework. Efforts should focus on both improving the skills of incoming students and supporting effective and scalable developmental education programs for students who arrive in higher education underprepared.
    - For the fall 2005 cohort of first-time students at public universities, 14.3 percent did not meet the TSI standard in math. Of these students, only 32.5 percent successfully completed a college-level math course within three years. First-time students who were underprepared in reading or writing did better in successfully completing a college-level

course in a related area within three years: 54.2 percent for reading and 53.1 percent for writing.

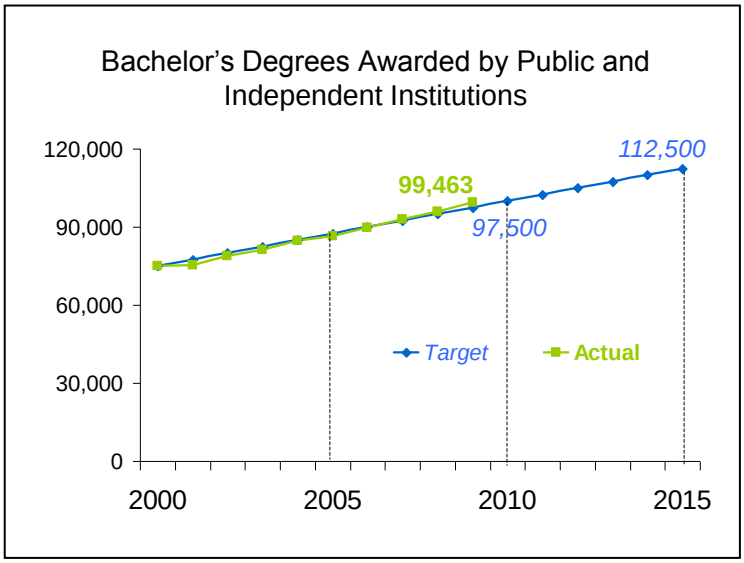
- Underprepared students are more likely to attend community colleges. Of first-time students entering public community colleges in fall 2005, 45.1 percent did not meet the TSI standard in math, 30.7 percent were underprepared in reading, and 19.4 percent were underprepared in writing. As with universities, the students who were underprepared in math were least successful in completing a college-level course in that area within three years: just 13.3 percent, compared with success rates for underprepared students in reading of 36.3 percent and in writing of 28.9 percent.

Success targets for Bachelor's and Associate's degrees:

- **Increase the number of students completing bachelor's degrees to 100,000 by 2010 and to 112,500 by 2015.**
- **Increase the number of students completing associate's degrees to 43,400 by 2010 and to 55,500 by 2015.**

Bachelor's Degrees Status: Somewhat Above Target

Public and independent institutions awarded 99,463 bachelor's degrees in FY 2009, 3,685 or 3.8 percent more than in FY 2008 and 2.0 percent above the target trend value of 97,500.



Background

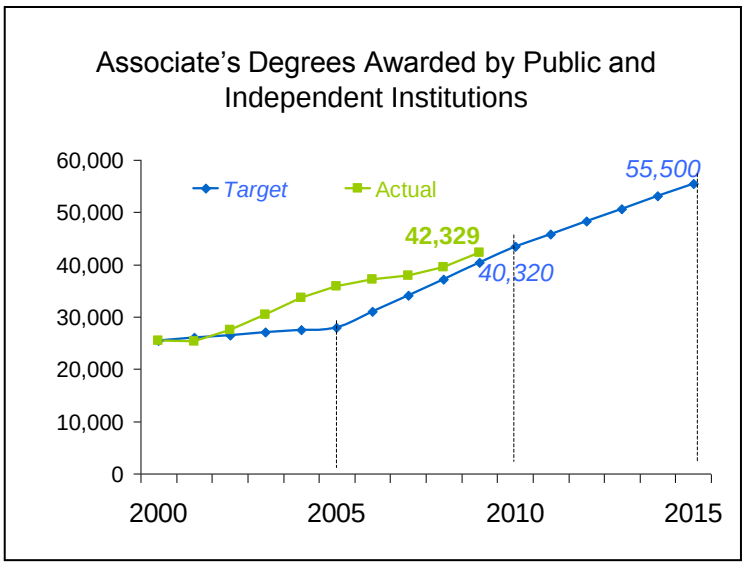
- Bachelor's awards increased 24,557 (32.8 percent) from FY 2000 to FY 2009.
- Institutions must award about 13,000 (13.1 percent) more bachelor's degrees in 2015 to reach the target.

Analysis and Observations

- While institutions must continue to focus on increasing baccalaureate attainment rates, the consistent improvement in degree attainment is encouraging.

Associate's Degrees Status: Somewhat Above Target

Associate's degree awards totaled 42,329 in FY 2009, a 2,843 or 7.2 percent increase over FY 2008's 39,486 awards. Awards have exceeded the target trend values since FY 2002, but the excess began narrowing in FY 2006. FY 2009 awards were 5.0 percent above the target trend value of 40,320.



Background

- Associate's awarded increased 16,824 (66.0 percent) from FY 2000 to FY 2009.
- About 13,000 more associate's degrees are needed in 2015 to meet that year's target, a 31.1 percent increase from FY 2009.

Analysis and Observations

- The slowing growth in the award of associate's degrees should be monitored to ensure that *CTG* targets are reached. The initial increase in associate's degrees is

due, in part, to some institutions performing degree audits and determining that many of their students had sufficient credits for a degree, but had not been awarded one. Many institutions are now conducting degree audits for this purpose on a regular basis.

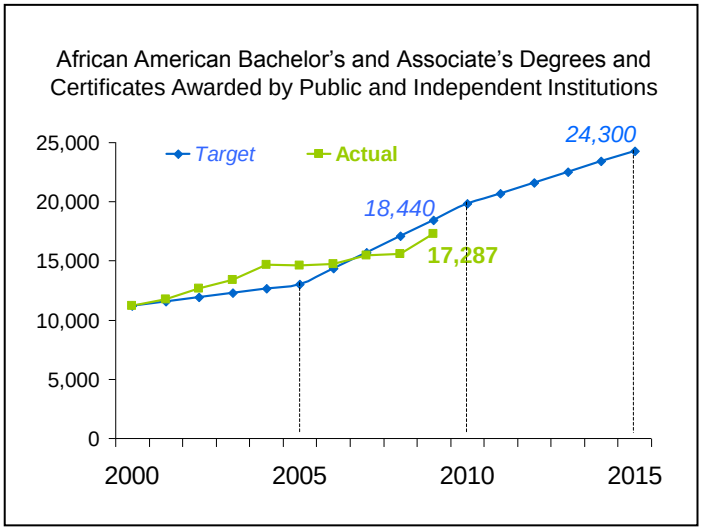
- Reverse transfers, where credits earned at a university are transferred to a two-year institution previously attended in order to award a student an associate's degree, have been successfully accomplished in Texas to the benefit of both students and institutions.

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

African American success is a key target area in the accelerated action plan.

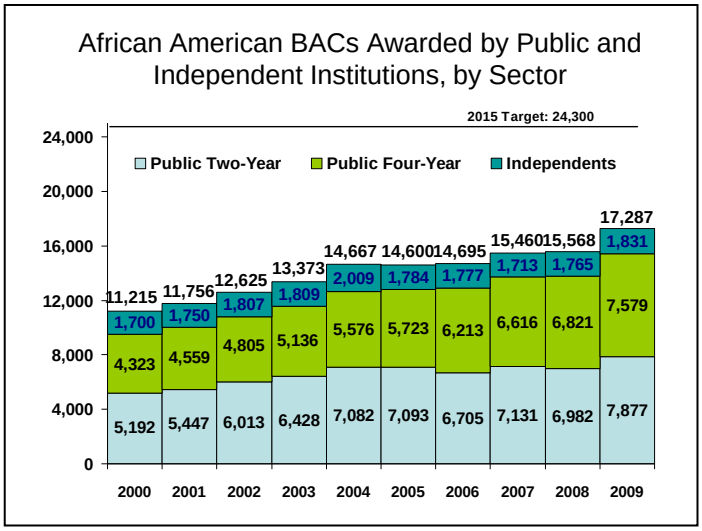
Status: Somewhat Below Target

African American students earned 17,287 BACs in FY 2009, up 1,719 or 11.0 percent from FY 2008. Although this was the greatest percentage growth since *CTG* began, awards were 6.3 percent below the target trend value of 18,440.



Background

- Institutions awarded 6,072 (54.1 percent) more BACs to African American students in FY 2009 than in FY 2000.
- Another 7,013 or 40.6 percent BACs are needed to meet the 2015 target.
- Four-year public institutions conferred 7,579 awards (43.8 percent of the total) and public two-year institutions awarded 7,877 (45.6 percent of the total). The remaining awards were conferred by independent four-year and two-year institutions.



Analysis and Observations

- The accelerated action plan includes the following broad strategies that will be focused on improving the success of African American and Hispanic students:
  - Improve the effectiveness of developmental education.
  - Advocate for funding that is aligned with success goals.
  - Accelerate the implementation of comprehensive student support systems in institutions with high African American and Hispanic enrollment.
  - Increase the use and accessibility of accountability data, with emphasis on "drivers and challenges" to student success.
  - Accelerate the development of comprehensive transfer agreements and learning outcomes.
  - Place a strong emphasis on strengthening results at community colleges.

- More needs to be done to retain and graduate African American students. While African American enrollment was well above the target trend line for participation in fall 2009, and the participation rate (6.5 percent) exceeded white and Hispanic rates, the number of BACs awarded to African Americans has grown much too slowly since FY 2004.
- African Americans have very low graduation and persistence rates. A first-time full-time cohort of African American students who enrolled in fall 2002 at public universities had a six-year graduation and persistence rate of just 51.5 percent, down from 53.8 percent for a fall 2001 cohort and well below the rate for Hispanic students (63.9 percent) and white students (75.5 percent). A fall 2002 cohort of African American students at public community colleges graduated and persisted over six years at a 30.4 percent rate, compared with Hispanic students' 39.5 percent and white students' 45.2 percent.
- Based on a study of fall 2000 first-time undergraduates, if a cohort of African American students who start at two-year institutions graduated at the same rates as white students, 12 percent more would earn a bachelor's degree or higher. An African American cohort starting at universities would graduate 26 percent more students if graduation rates were consistent with those of white students.

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

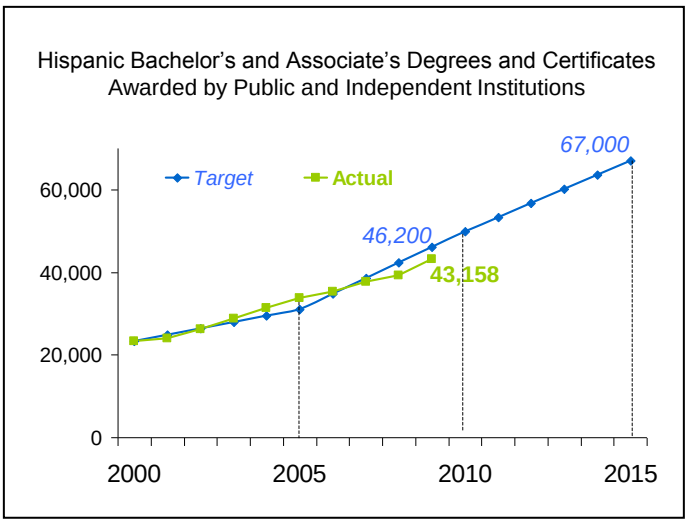
Status: Somewhat Below Target

BAC awards to Hispanic students increased by 3,891 or 9.9 percent from FY 2008 to FY 2009, but they remained below the target trend line.

Hispanic success is a key target area in the accelerated action plan.

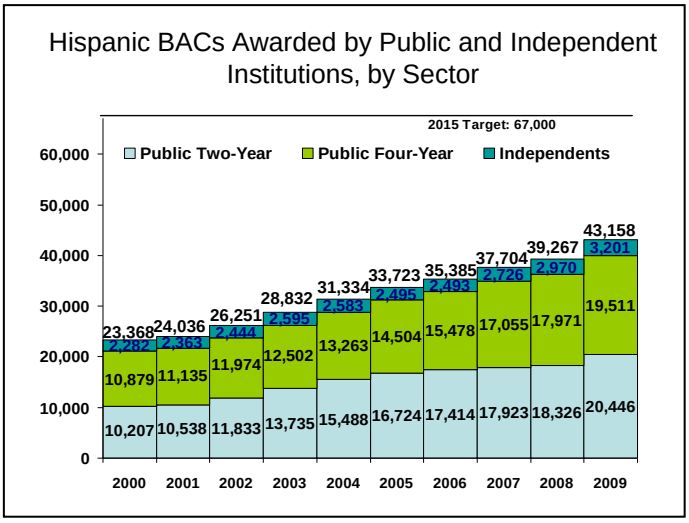
Background

- Hispanic BAC awards totaled 43,158 in FY 2009, compared with 39,267 in FY 2008 and 23,368 in FY 2000.
- To reach the 2015 target of 67,000 awards, Hispanic students must earn 23,842 (55.2 percent) more BACs.



Analysis and Observations

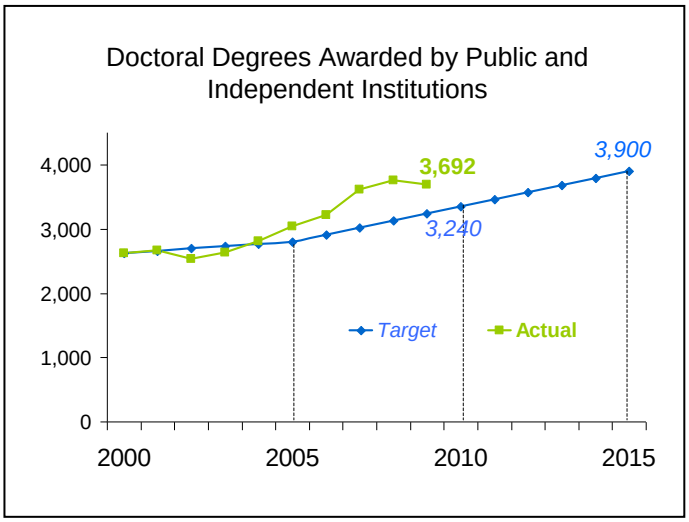
- The 84.7 percent increase in BACs earned by Hispanics from FY 2000 to FY 2009 is substantial and important, but even faster growth is needed.
- Historically, Hispanic students have had lower graduation and persistence rates than white and Asian groups. A first-time full-time cohort of Hispanic students who enrolled in fall 2002 at public universities had a six-year graduation and persistence rate of 63.9 percent, compared with 82.3 percent for Asians and 75.5 percent for whites. At public community colleges, the fall 2002 cohort's rates were 39.5 percent for Hispanics, 52.8 percent for Asians, and 45.2 percent for whites.
- Efforts to increase Hispanic student persistence, including action items of the accelerated action plan such as early alert systems, learning communities, and course completion-based funding, should pay off with improved success outcomes.
- Based on a study of fall 2000 first-time undergraduates, if a cohort of Hispanic students who start at two-year institutions graduated at the same rates as white students, 10 percent more would earn a bachelor's degree or higher in six years. For Hispanics starting at four-year institutions and graduating at the same rate as whites, each cohort would earn 20 percent more bachelor's degrees or higher in six years. If public four-year institutions had awarded 20 percent more bachelor's degrees to Hispanics in FY 2009, total Hispanic BACs would have gone up to 47,060, above the target trend line.



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

Status: Well Above Target

Doctoral awards decreased slightly from 3,763 to 3,692 between FY 2008 and FY 2009, a 1.9 percent loss. However, they still exceeded the 2009 target trend line value of 3,240, by 14.0 percent. Doctorates have increased by 40.4 percent since FY 2000.



Background

- From FY 2008 to FY 2009, doctoral awards from independent institutions increased by 62 or 11.3 percent. But this was offset by a decrease of 133 (4.1 percent) from public institutions.
- Doctoral awards were about 200 short of the 2015 target in FY 2009; a 5.6 percent increase is needed by 2015.

Analysis and Observations

- Increasing the number of doctoral degrees awarded while maintaining high-quality programs is critical to meeting *CTG* targets. Doctoral graduates who remain to work and teach in Texas add to the research output, knowledge base, and level of workforce skills in a variety of fields. Those who accept positions outside the state and nation contribute to the status of Texas and its postsecondary institutions.
- The emphasis of the institutions on graduate education is exhibited by the 40.4 percent growth in doctoral degrees since FY 2000, compared with 32.8 percent for bachelor's degrees.
- As the emerging research universities strive toward Tier 1 status, additional emphasis will be placed on expanding doctoral programs.
- The 18 characteristics of doctoral programs prepared by the Graduate Education Advisory Committee and approved by the Coordinating Board will serve as an information source for prospective students. Institutions will use the characteristics as input to facilitate self-study.
- The Coordinating Board will continue to promote the doctoral guidelines and the strategic plan for doctoral education to help ensure the quality of and need for doctoral programs.
- The Coordinating Board also will review the doctoral target to verify that it is sufficient.
- The National Research University Fund act, established in HB 51, 81st Texas Legislature, will assist emerging research universities in achieving national prominence as major research universities. One criterion for determining whether an emerging research institution is eligible for these funds is whether it has awarded at least 200 Ph.D. degrees in the prior two academic years. This provision may spur competing institutions to expand Ph.D. programs and push degree completion, which would increase the number of doctoral degrees at a more rapid rate. HB 51 will be mentioned often in discussion of *CTG* targets related to excellence and research.

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

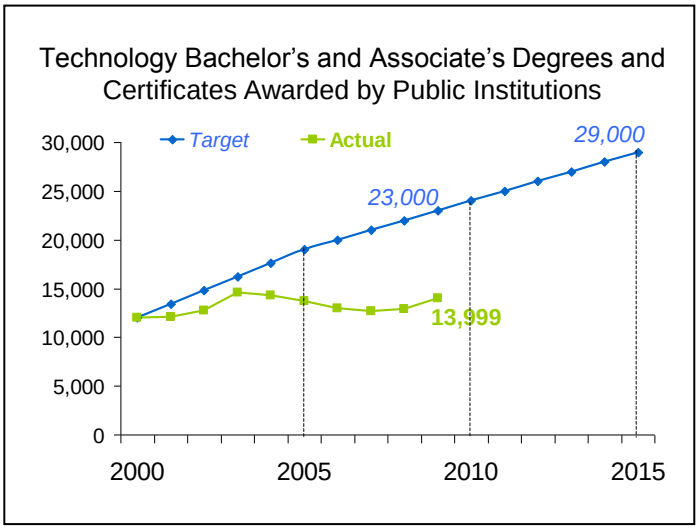
Status: Well Below Target

STEM field success is a key target area in the accelerated action plan.

Public institutions awarded 13,999 technology (STEM fields) BACs in FY 2009, 1,122 (8.7 percent) more than in FY 2008. That was the greatest percentage increase since FY 2003, when 14,578 technology BACs were awarded. After that, awards dropped for four years before recovering slightly in FY 2008.

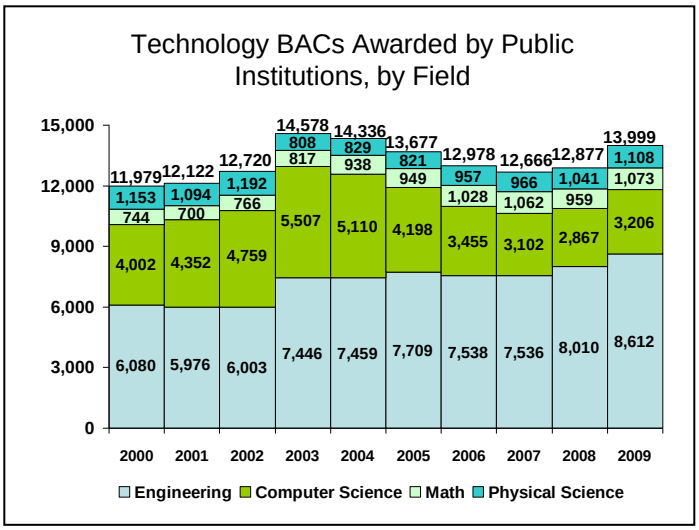
Background

- The FY 2009 figure is 39.1 percent below the target trend line's 23,000 awards and only 16.9 percent above the FY 2000 level.
- Technology BACs need to more than double over the next six years to reach the 2015 target of 29,000.
- Computer science awards fell during the last nine years from 4,002 to 3,206 and engineering BACs increased from 6,080 to 8,612. Math awards increased from 744 to 1,073 but physical science BACs dropped from 1,153 to 1,108.



Analysis and Observations

- The accelerated action plan includes the following strategies to graduate more STEM students:
  - Advocate for and fund opportunities for undergraduates to engage in applied learning experiences, such as internships.
  - Fund faculty professional development.
  - Provide financial incentives to students and institutions to increase STEM enrollment and completion.



- Working to better understand the sensitivity of technology fields to workforce fluctuations and rapid innovation will be an important aspect of planning for STEM field growth. Current data reflect the loss of interest in some technology fields after the late 1990s technology bust.

- Texas must keep pace with national growth rates in STEM fields. Nationally, STEM baccalaureates increased from FY 2000 to FY 2007 in each of the four fields, but in Texas, computer science bachelor's were down 33.5 percent and physical science degrees decreased by 15.4 percent.
- With grant support from the Lumina Foundation for Education, the Coordinating Board is seeking to improve articulation in STEM fields for students who start at two-year institutions and want to transfer to four-year institutions.
- HB 51, 81st Texas Legislature, which provides incentive funding to universities that increase awards, gives extra weight for awards in critical fields identified in *CTG*, including STEM fields. This may help increase the number of STEM degrees awarded.

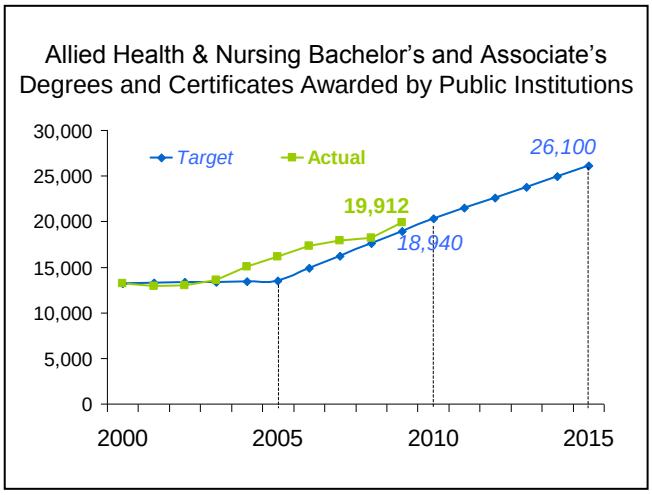
Allied Health and Nursing Success Target: Increase the number of students completing allied health and nursing bachelor's and associate's degrees, and certificates to 20,300 by 2010 and to 26,100 by 2015.

Status: Somewhat Above Target

Public institutions awarded 19,912 allied health and nursing BACs in FY 2009, 1,728 (9.5 percent) more than in FY 2008 and 6,705 (50.8 percent) more than in FY 2000. Awards seemed to be leveling off from FY 2006 through FY 2008, but FY 2009's performance more than matched the increase in the target trend line.

Background

- Students earned 11,970 nursing BACs from public institutions in FY 2009, 4,367 or 57.4 percent more than in FY 2000. Allied health BACs totaled 7,942 in FY 2009, 2,338 or 41.7 percent above FY 2000's level.
- Some 71.6 percent of the allied health and nursing BACs were earned at two-year institutions in FY 2009.
- Allied health and nursing awards must increase by a little more than 6,000 (31.1 percent) in FY 2015 to achieve the *CTG* target.



Analysis and Observations

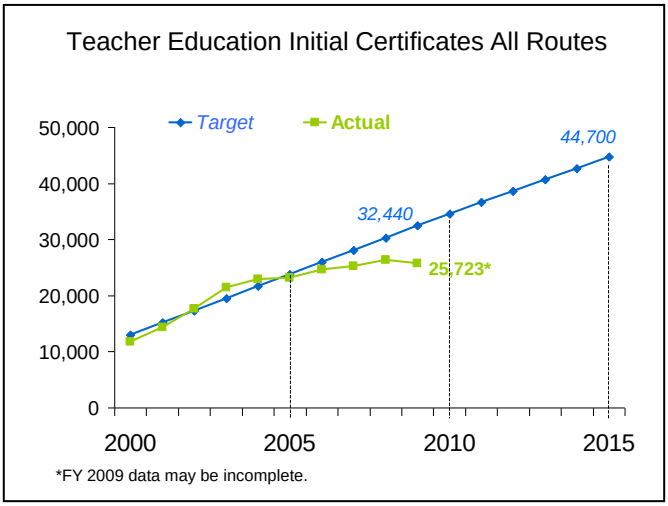
- Allied health and nursing BACs were lower in FY 2002 than in FY 2000, but they rebounded in FY 2003. In 2005, the original targets were revised upward to reflect the need for more practitioners: the 2010 target was increased from 16,700 to 20,300 and the 2015 target was increased from 20,000 to 26,100. Results since 2005 have verified the need for raising the targets.
- In 2007, the 80th Texas Legislature enacted the Professional Nursing Shortage Reduction Program. This program, funded again by the 81st Texas Legislature, provides incentive funding for increased numbers of nursing graduates.
- The 81st Texas Legislature also funded the $4.05 million Nursing Innovation Grants for increasing enrollment capacity, improving retention rates, and attracting additional nursing faculty. Universities were also provided with incentive funding weighted for graduates in critical-need fields identified in *CTG*.
- The nursing component of the *CTG* target should be reviewed for possible alignment with targets derived by the Texas Center for Nursing Workforce Studies. The Center produced a report in 2006 for the Texas Legislature which projected the annual number of new nurses needed to meet expected workforce demand through 2020. The "Texas Team," a consortium of nursing interest groups including the Coordinating Board, used those targets to develop a strategic plan to meet the targets from the 2006 report.

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

Initial teacher certifications is a key target area in the accelerated action plan.

Status: Well Below Target

Initial teacher certifications through all routes totaled 25,723 in FY 2009, down 2.4 percent from FY 2008 and 20.7 percent below the target trend line. Certifications dropped below the line in FY 2005 and the gap has steadily increased since then.

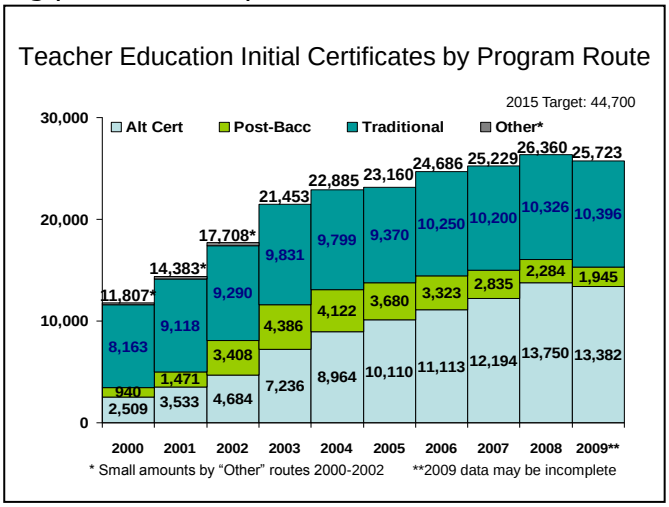


Background

- In FY 2000, alternative certification programs produced about 1 in 5 newly certified teachers. By FY 2009, they accounted for over half: 52.0 percent.
- In 2015, 18,977 more new certifications will be needed to hit the *CTG* target, 73.8 percent above the FY 2009 level.

Analysis and Observations

- With new certifications tapering off and now declining, new focus is needed. Accelerated action plan strategies to increase teacher certifications include:
  - Use finance policy, such as financial need limits, merit awards, and financial aid, to recruit and retain effective teachers and school leaders.
  - Disseminate and promote best/promising practices to improve teacher education.
  - Expand partnerships between schools of education and STEM faculty to increase the number and quality of STEM teachers.
  - Attract transitioning professionals and develop flexible models to bring STEM professionals into the classroom as teachers.
- Preparing more teachers is a priority for all regions of the state. The Texas Workforce Commission projects public school teachers as one of the fastest growing workforce segments in both number and percentage.
- Recent legislative efforts should contribute to an increase in certifications. The $2.25 million dollar appropriation of the 81st Texas Legislature to fund alternative certification programs at public community colleges will allow colleges to offer the programs at a reduced cost to students. Incentive funding through HB 51 for universities that increases awards gives extra weight for awards in critical fields identified in *CTG,* including teacher certification.

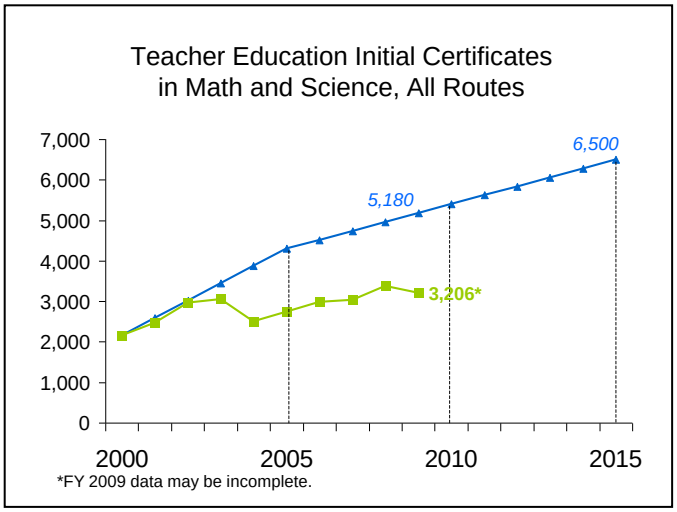


Math and Science Teacher Success Targets: Increase the number of math and science teachers certified through all teacher certification routes to 6,500 by 2015.

Status: Well Below Target

Math and science certifications through all routes dropped by 167 or 5.0 percent from FY 2008 to FY 2009, leaving this measure of teacher success 38.1 percent below the target trend line. Certificates plunged 18.4 percent in FY 2004 but had increased every year until FY 2009.

The number of subject area certifications can exceed the number of certified individuals. A person who is qualified and tests in more than one subject area can receive multiple certificates and is counted more than once in these figures.



Background

- Preliminary FY 2009 data show the number of math and science teacher certifications has increased by 1,050 (48.7 percent) since FY 2000.
- Math and science certifications must increase by nearly 103 percent in 2015 to reach the *CTG* target.

Analysis and Observations

- Adding qualified math and science teachers is a more significant priority for the state now that additional math and science requirements are included in the recommended high school curriculum. Certified teachers for instruction in math and science programs are critical for enhancing student learning and increasing student interest in and readiness for STEM fields.
- TSI results suggest that better math instruction is needed in high school. For example, in a cohort of first-time students at public community colleges in fall 2005, 45.1 percent were underprepared in math.

Closing the Gaps in Excellence

Goal: to substantially increase the number of nationally recognized programs/services.

The quality of an institution's educational units and services contributes to its reputation and fosters national recognition. When *CTG* was first implemented, institutions were asked to demonstrate efforts toward achieving excellence by providing a program or service that they wanted to develop to garner national recognition. Many institutions have identified not one, but several, programs for this assignment, and most institutions report that at least one program has received some type of national recognition. Consideration of the excellence goal has been increasingly geared toward the need for both individual program excellence and overall institutional quality.

While little progress toward reaching the excellence goals tied to national rankings has been made, discussions about the nature of excellence and how to best achieve it have refocused attention on this goal. Funding allotments in HB 51, 81st Texas Legislature, will provide opportunities to reward universities that achieve program excellence and, as a consequence, to make progress towards the excellence goals in *CTG*.

In recent years, excellence issues have arisen during national conversations about the value of higher education. These conversations have led to renewed attention on the topic of general education and those educational outcomes that should be expected for any student who completes a college degree. Research with employers and educators suggests the need for additional emphasis in higher education on broad-based skills such as critical thinking, effective communication, and teamwork, in addition to content knowledge.

In FY 2010, Coordinating Board staff and peer accountability groups from Texas public institutions have discussed excellence-related topics spawned by the national conversations including: assessing general education/core curriculum learning outcomes, especially in the areas of writing and critical thinking, and determining the meaning of value-added in higher education.

A value-added measure will be incorporated into the excellence measures in the Texas Higher Education Accountability System's December 2010 edition. The short-term measure of value-added will be a temporary surrogate that responds to requests for some way of determining institutions' value-added while accurate and meaningful measures are developed.

Excellence Targets: 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.

Status: Well Below Target: Regarding top-ranked research institutions, public liberal arts universities, and health science centers, Texas has made no appreciable progress since the start of *CTG*.

Background

- The *U.S. News & World Report* (*U.S. News)* 2010 edition of "America's Best Colleges" ranked The University of Texas at Austin (UT-Austin) in a tie for 15th place among national public universities, the same as in 2009. UT-Austin has been in a tie for number 15, plus or minus two positions, since 2000. Texas A&M University (TAMU) tied for 22nd place in the 2010 rankings. TAMU was ranked the same as UT-Austin in 2002 (tied for 15th), but dropped to a tie for 24th in 2003 and has been ranked no higher than 21st since then. No other public university in Texas has made the list of the top public national universities since 2000.
- No public institution in Texas was ranked among the 126 "Best Liberal Arts Colleges" by *U.S. News'* 2010 edition. One reason is that few public institutions in Texas, or anywhere else in the U.S., meet *U.S. News*' definition of a liberal arts college: emphasis on undergraduate education and awarding of at least half of all degrees in the arts and sciences. Midwestern State University became the only officially designated public liberal arts university in Texas when Governor Perry signed HB 602 in May 2009.
- UT-Austin and TAMU were tied for 13th place among public U.S. research universities, based on data from the Center for Measuring University Performance's (CMUP) 2009 report of "Top American Research Universities." Both institutions were tied for number 14 in 2008. The University of Texas Southwestern Medical Center (UT Southwestern) and The University of Texas M.D. Anderson Cancer Center (UT M.D. Anderson) were the only public health-related institutions in Texas that were cited by the CMUP in the top listing. They ranked 24th and 32nd, respectively, based on the CMUP's data, little changed from the previous year. Note that the Center does not actually provide rank numbers, but ranks can be derived using their listing.
- No emerging research universities vying for national research status have broken into the listings of top public universities from *U.S. News* and the CMUP.

- Despite the caliber of UT Southwestern and UT M.D. Anderson, their rankings leave them far short of the *CTG* target of two institutions in the top 10 of health-related institutions.

Rankings among National Public Universities by *U.S. News*

Institution	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
UT-Austin	13*	16	15*	14*	17*	14*	17	13*	13*	15*	15*
TAMU	18*	17	15*	24*	27*	22*	21*	21*	23	24*	22*

*Tie.

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

	Rank Among Public and Independent Universities**				Rank Among Public Universities**			
Texas Public Institution	2006	2007	2008	2009	2006	2007	2008	2009
UT-Austin	28*	25*	19*	18	12*	8*	14*	13*
TAMU	32	31*	30*	28*	20	14*	14*	13*
UT Southwestern	43	-	-	-	18*	23	25	24
UT M.D. Anderson	51	52	47*	49*	32*	32*	28	32

*Tie.
**The Center does not actually assign rank numbers to institutions as *U.S. News* does, but rank numbers can be assigned using the Center's listing.

Analysis and Observations

- Although the validity and relevance of rankings are often questioned, they do influence perceived stature. But a ranking by itself does not provide any information to assess and improve an institution; for that it is necessary to examine the components of the ranking. For example, six campuses of the University of California (UC) were ranked higher than UT-Austin by *U.S. News*. One reason is that UT-Austin did worse than all six UC campuses in three of the 15 "indicators of academic excellence" that go into *U.S. News'* rankings: six-year graduation rate, educational spending per student, and percent of freshmen in the top 10 percent of their high school class. This poor showing was magnified because those three indicators made up nearly one-third of the ranking score for national universities. Improvement in those areas would improve UT-Austin's national stature, as measured by *U.S. News*.
- UT-Austin's standing in *U.S. News* was helped by having a better than expected graduation rate and a relatively high alumni giving rate; only UC-Santa Barbara did better than UT-Austin for those two indicators among UC campuses.
- Examination of CMUP data shows that TAMU's ranking among public research universities was helped by its large endowment assets (exceeded only by the University of Michigan and UT-Austin) but hurt by its relatively low number of postdoctoral appointees and low undergraduate SAT scores.

Excellence Targets: 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.

Status: On Target

Past progress reports on *CTG* 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 these excellence goals.

Background

- In spring 2008, institutions informed the Coordinating Board of their progress towards achieving excellence in their programs identified for excellence.
- The process of identifying programs for excellence and then reporting on achievements focuses attention on the quality of specific programs and services and on the totality of institutional performance.

Analysis and Observations

- While the peer accountability groups that focused on excellence in their FY 2009 discussions addressed the difficulties of measuring excellence, their discussions served to highlight many of the processes critical to the development of quality programs.
- Development of national-quality programs at universities will be aided by HB 51, 81st Texas Legislature. The bill includes funding to develop and maintain specific programs of the highest national rank at non-research or emerging research universities. Incentive grants are authorized for eligible universities that are the most committed to specific program quality. The Coordinating Board, in collaboration with experts from outside the state, will identify three benchmarks to serve as quality standards for each program. Funding is associated with each benchmark met. Once a program has met all three benchmarks, the institution can nominate another program for development.
- The standards developed for distribution of the HB 51 excellence fund may be applied to evaluation of the excellent programs that institutions submit as part of their annual *CTG* institutional target update process. For example, most institutions identify many programs and services for recognition. Asking institutions to narrow their lists to only one or two items, agreeing to the standard for measuring achievement, and then requiring that the recognition be achieved before adding another program/service to the excellence list may help institutions refocus efforts related to this goal.

Closing the Gaps in Research

Goal: 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.

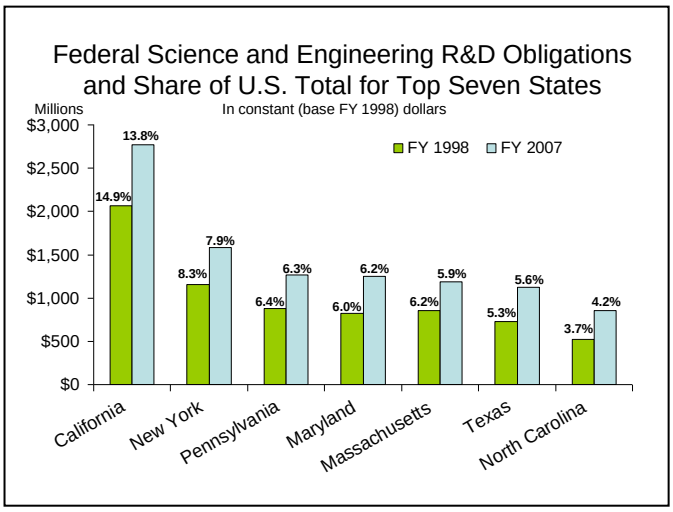
Capturing a significant portion of the federal science and engineering research and development obligations is, and must remain, a primary focus of the Texas higher education agenda. The *CTG* research goal serves to keep attention on the need for Texas to compete with other states for national research dollars and projects. The state seemed to be competing well between FY 2001 and FY 2003, when its share of national obligations ranged from 5.8 to 6.1 percent. Since then, however, its share has held at around 5.6 percent.

Texas public universities have done much better with respect to their expenditures for research and development. Steady growth since 2000 enabled them to reach the $3 billion level (the 2015 target) seven years early, in FY 2008.

***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, from 5.5 percent in FY 2000. Increase to 6.2 percent by 2010.**

Status: Somewhat Below Target

Texas public and independent institutions had a 5.6 percent share of federal obligations for science and engineering research and development (R&D) in FY 2007 (the most recent data available), up 0.1 percentage points from FY 2006 and FY 2000. The state's share reached 6.1 percent in FY 2003, but dropped the next year and has been at 5.6 percent three out of the last four years.



Background

- Federal science and engineering obligations for R&D received by Texas' public and independent higher education institutions totaled $1.42 billion in FY 2007, up 1.2 percent from FY 2006. On a constant dollar basis (FY 1998 base), Texas obligations were $1.13 billion in FY 2007, compared with $0.73 billion in FY 1998.

Analysis and Observations

- In 2003, when Texas had 6.1 percent of national obligations, the state seemed to be on course to meet or exceed the *CTG* target. However, since 2003, obligations to Texas institutions grew by only 2.4 percent ($32.9 million), while total national obligations grew by 11.1 percent ($2.53 billion).
- HB 51 from the 81st Texas legislative session responds to the call for more nationally prominent research universities in Texas. Among its provisions are:
  - Creation of the Texas Research Incentive Program, which awards matching funds for leveraging private gifts to enhance research activities at the state's emerging research universities.
  - Creation of the National Research University Fund, which provides funds to emerging research universities that meet benchmarks in areas such as research expenditures and quality of entering students, faculty, and graduate programs.
  - Creation of the Research University Development Fund, intended to help research and emerging research universities attract high quality faculty and enhance research productivity. Appropriated funds would be distributed based on an institution's total research expenditures for the most recent three years.
  - The Governing Board of each research and emerging research university is to submit to the Coordinating Board a detailed, long-term strategic plan addressing how it will achieve or enhance its recognition as a national research university. Collaboration with the Coordinating Board on these plans should focus attention on the state's *CTG* research goal and target.

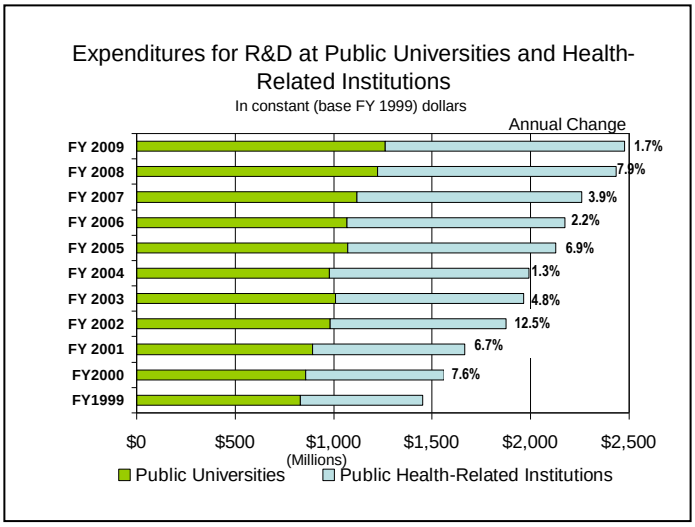
Research Target: Increase research expenditures by Texas public universities and health-related institutions from $1.45 billion in FY 1999 to $3 billion by 2015 (approximate 5 percent increase per year). Increase expenditures to $2.2 billion in constant (FY 1999 base) dollars by 2007.

Status: Well Above Target

Public universities and health-related institutions reported $3.31 billion in R&D expenditures from federal, state, institutional, and private sources in FY 2009, 6.7 percent above expenditures in FY 2008 and 36.9 percent above the target trend line for the 2015 target. In constant (FY 1999 base) dollars, expenditures increased from $2.44 billion to $2.48 billion between FY 2008 and FY 2009, a 1.7 percent increase. Expenditures totaled $2.26 billion (constant dollars) in FY 2007, meeting that year's target.

Background

- Expenditures grew at a faster rate at public universities (8.4 percent) than at public health-related institutions (5.0 percent) from 2008 to 2009.
- In constant dollars, the annual increase in FY 2009 (1.7 percent) was the second smallest since FY 2000 (the smallest was 1.3 percent in FY 2004).
- The federal government was the largest provider of funds for public R&D expenditures in FY 2009, with a 51.8 percent share, down from 53.6 percent in FY 2008. State government provided the next largest share (20.5 percent) in appropriations, contracts, and grants.



Analysis and Observations

- HB 51, 81st Texas Legislature, calls for a searchable database on technology research projects. Improved access to the existence of ongoing research projects will increase their exposure and possibly create new linkages with other research efforts.

Appendix A: Participation Data

Appendix Table A-1: Actual Public and Independent Higher Education Enrollment Fall 2000-2009 and *CTG* Targets

	Actual Fall Enrollment										CTG Goal/Target		Actual Change 2000-2009		Change to Reach 2015 Target
Sector	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2015**	**Number**	**Percent**	**2009-2015**
Total	1,019,517	1,069,838	1,137,276	1,174,687	1,207,881	1,219,145	1,236,168	1,254,983	1,299,058	1,420,993	1,423,000	1,650,000	401,476	39.4%	16.1%
Public Two-Year	447,998	478,313	515,771	536,005	557,373	566,071	575,712	587,244	617,507	692,845	694,920	853,820	244,847	54.7%	23.2%
Public Four-Year	427,233	443,870	469,514	487,061	497,213	500,535	507,243	513,930	526,820	550,872	552,995	617,690	123,639	28.9%	12.1%
Independent*	144,286	147,655	151,991	151,621	153,295	152,539	153,213	153,809	154,731	177,276	175,085	178,490	32,990	22.9%	0.7%
African American	108,463	114,950	125,985	132,334	138,400	139,773	142,622	145,387	152,877	177,459	158,300	172,700	68,996	63.6%	-2.7%
Public Two-Year	49,414	52,730	57,465	60,277	63,446	64,665	65,971	67,554	72,720	86,241	74,070	84,150	36,827	74.5%	-2.4%
Public Four-Year	41,371	44,193	49,005	51,833	54,566	55,438	56,851	57,993	60,331	65,060	59,267	63,371	23,689	57.3%	-2.6%
Independent*	17,678	18,027	19,515	20,224	20,388	19,670	19,800	19,840	19,826	26,158	24,963	25,179	8,480	48.0%	-3.7%
Hispanic	237,394	252,824	273,945	292,071	309,457	319,495	333,964	345,284	366,878	412,642	474,000	676,100	175,248	73.8%	63.8%
Public Two-Year	129,308	138,718	152,149	162,994	174,844	180,323	189,474	195,890	210,476	238,281	283,776	425,246	108,973	84.3%	78.5%
Public Four-Year	82,815	87,923	94,981	101,612	107,004	111,181	115,952	120,148	126,416	136,381	153,301	210,900	53,566	64.7%	54.6%
Independent*	25,271	26,183	26,815	27,465	27,609	27,991	28,538	29,246	29,986	37,980	36,923	39,954	12,709	50.3%	5.2%
White	570,052	586,942	614,412	627,086	631,767	628,429	624,671	621,603	628,605	658,876	660,500	671,300	88,824	15.6%	1.9%
Public Two-Year	236,429	248,620	264,350	271,190	275,863	275,146	272,612	272,977	279,396	306,376	298,875	306,435	69,947	29.6%	0.0%
Public Four-Year	249,816	253,906	262,805	268,216	268,319	267,113	266,016	264,214	265,256	270,966	276,774	279,852	21,150	8.5%	3.3%
Independent*	83,807	84,416	87,257	87,680	87,585	86,170	86,043	84,412	83,953	81,534	84,850	85,012	-2,273	-2.7%	4.3%

*Includes career colleges.

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

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 and Independent Institutions as a Percentage of the Population

Ethnicity & Gender	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Change 2000-2009
Total	4.9%	5.0%	5.3%	5.3%	5.4%	5.3%	5.3%	5.3%	5.4%	5.8%	0.9%
Female	5.4%	5.6%	5.9%	6.0%	6.1%	6.1%	6.0%	6.0%	6.1%	6.5%	1.1%
Male	4.4%	4.5%	4.6%	4.6%	4.7%	4.6%	4.6%	4.6%	4.6%	5.0%	0.6%
Difference	1.0%	1.1%	1.2%	1.4%	1.4%	1.5%	1.5%	1.5%	1.5%	1.5%	0.5%
African American	4.5%	4.7%	5.1%	5.2%	5.4%	5.4%	5.4%	5.4%	5.6%	6.5%	2.0%
Female	5.4%	5.7%	6.2%	6.4%	6.6%	6.6%	6.7%	6.7%	6.9%	7.8%	2.4%
Male	3.5%	3.6%	3.8%	4.0%	4.1%	4.1%	4.1%	4.1%	4.3%	5.1%	1.6%
Difference	2.0%	2.1%	2.4%	2.4%	2.5%	2.6%	2.6%	2.5%	2.6%	2.8%	0.8%
Hispanic	3.6%	3.6%	3.8%	3.9%	4.0%	3.9%	4.0%	3.9%	4.0%	4.4%	0.8%
Female	4.1%	4.3%	4.5%	4.7%	4.8%	4.7%	4.8%	4.7%	4.9%	5.2%	1.1%
Male	3.0%	3.0%	3.1%	3.1%	3.2%	3.2%	3.2%	3.2%	3.2%	3.6%	0.6%
Difference	1.1%	1.2%	1.4%	1.5%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	0.5%
White	5.1%	5.3%	5.5%	5.6%	5.6%	5.6%	5.5%	5.5%	5.5%	5.8%	0.7%
Female	5.6%	5.7%	6.0%	6.1%	6.2%	6.2%	6.1%	6.1%	6.1%	6.4%	0.8%
Male	4.7%	4.8%	5.0%	5.1%	5.1%	5.0%	5.0%	4.9%	5.0%	5.2%	0.5%
Difference	0.9%	0.9%	1.0%	1.1%	1.1%	1.2%	1.1%	1.1%	1.1%	1.1%	0.3%

Note: Differences and changes are expressed as percentage points.

Appendix Table A-4: Freshmen as a Percentage of All Students at Public Higher Education Institutions

Sector	White	African American	Hispanic	Asian	Other	Total
Fall 2000 Total	41.1%	47.0%	46.9%	33.6%	27.0%	42.1%
Two-Year	64.4%	61.9%	61.7%	53.1%	57.2%	62.7%
Four-Year	19.1%	29.2%	23.8%	20.1%	10.5%	20.5%
Fall 2009 Total	41.9%	47.1%	48.8%	33.9%	31.5%	43.6%
Two-Year	64.9%	63.5%	64.1%	56.0%	59.0%	63.8%
Four-Year	15.9%	25.4%	22.1%	17.6%	8.2%	18.1%

Appendix Table A-5: Public Higher Education Enrollment by Region and Type of Institution and Ethnicity

Sector	Fall 2000						Fall 2009					
	White	African American	Hispanic	Asian	Other	Total	White	African American	Hispanic	Asian	Other	Total
Region of Institution												
High Plains (1)	38,873	1,688	7,010	1,095	1,794	50,460	44,086	3,162	12,746	2,454	2,070	64,518
Northwest (2)	10,436	1,178	1,742	243	533	14,132	12,622	1,753	3,024	423	768	18,590
Metroplex (3)	117,576	23,386	20,142	12,168	12,336	185,608	151,559	45,533	51,023	20,314	21,040	289,469
Upper East (4)	24,786	5,014	1,328	226	386	31,740	33,966	7,863	4,327	582	1,078	47,816
Southeast (5)	22,754	5,473	1,742	633	591	31,193	24,147	9,131	3,652	911	1,809	39,650
Gulf Coast (6)	88,636	36,771	33,752	15,095	10,652	184,906	97,557	52,867	63,511	22,018	20,882	256,835
Central (7)	122,484	10,141	23,129	10,370	11,399	177,523	138,385	18,449	41,376	14,843	13,939	226,992
South Texas (8)	42,245	5,287	91,413	2,578	2,722	144,245	56,011	9,678	146,605	5,675	7,461	225,430
West (9)	13,363	982	5,602	222	274	20,443	13,964	1,475	9,057	419	439	25,354
Upper Rio Grande (10)	5,092	865	26,263	334	2,427	34,981	5,045	1,390	39,341	520	2,767	49,063
Type of Institution												
University	242,024	40,763	81,180	23,626	27,033	414,626	261,691	63,811	133,562	36,490	36,672	532,226
Community College	227,361	46,871	125,222	17,362	15,118	431,934	296,045	82,275	231,098	28,390	32,003	669,811
Technical & State College	9,068	2,543	4,086	283	84	16,064	10,331	3,966	7,183	427	1,127	23,034
Health-Related	7,792	608	1,635	1,693	879	12,607	9,275	1,249	2,819	2,852	2,451	18,646
Total	486,245	90,785	212,123	42,964	43,114	875,231	577,342	151,301	374,662	68,159	72,253	1,243,717

Appendix B: Success Data

Appendix Table B-1: Actual Awards FY 2000-2009 and *CTG* Success Targets

	Degrees and Certificates Awarded										CTG Goals/Targets	
Type of Award	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2015**
Bachelor's, Associate's, & Certificates (BAC)	116,235	116,754	124,626	132,478	139,626	144,338	147,705	152,058	155,542	164,715	171,000	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		
Public Four-Year	58,818	59,337	61,995	63,777	67,099	69,852	73,182	75,951	78,384	81,425		
Independents	16,864	16,973	17,934	18,713	18,676	17,628	17,503	17,905	18,218	18,815		
Bachelor's	74,906	75,286	78,919	81,141	84,595	86,473	89,780	93,032	95,778	99,463	100,000	112,500
Public Two-Year	0	0	0	0	0	0	0	30	46	112		
Public Four-Year	58,574	58,988	61,611	63,356	66,742	69,505	72,837	75,577	77,989	81,014		
Independents	16,332	16,298	17,308	17,785	17,853	16,968	16,943	17,425	17,743	18,337		
Associate's	25,505	25,363	27,512	30,482	33,608	35,796	37,196	37,869	39,486	42,329	43,400	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		
Public Four-Year	163	139	121	144	177	166	177	168	185	242		
Independents	532	675	626	739	743	560	460	392	398	355		
Doctorates	2,629	2,671	2,539	2,637	2,807	3,041	3,220	3,623	3,763	3,692	3,350	3,900
Public Two-Year	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		
Independents	332	353	301	434	451	481	440	500	547	609		
African American BAC	11,215	11,756	12,625	13,373	14,667	14,600	14,695	15,460	15,568	17,287	19,800	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		
Public Four-Year	4,323	4,559	4,805	5,136	5,576	5,723	6,213	6,616	6,821	7,579		
Independents	1,700	1,750	1,807	1,809	2,009	1,784	1,777	1,713	1,765	1,831		
Hispanic BAC	23,368	24,036	26,251	28,832	31,334	33,723	35,385	37,704	39,267	43,158	50,000	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		
Public Four-Year	10,879	11,135	11,974	12,502	13,263	14,504	15,478	17,055	17,971	19,511		
Independents	2,282	2,363	2,444	2,595	2,583	2,495	2,493	2,726	2,970	3,201		
Technology BAC	11,979	12,122	12,720	14,578	14,336	13,677	12,978	12,666	12,877	13,999	24,000	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		
Public Four-Year	6,895	6,982	7,292	7,311	7,370	7,508	7,701	7,415	7,517	7,842		
Computer Science	4,002	4,352	4,759	5,507	5,110	4,198	3,455	3,102	2,867	3,206		
Math	744	700	766	817	938	949	1,028	1,062	959	1,073		
Physical Science	1,153	1,094	1,192	808	829	821	957	966	1,041	1,108		
Engineering	6,080	5,976	6,003	7,446	7,459	7,709	7,538	7,536	8,010	8,612		
Allied Health & Nursing BAC	13,207	12,878	12,960	13,535	15,019	16,113	17,289	17,924	18,184	19,912	20,300	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		
Public Four-Year	3,819	3,852	3,736	3,674	3,902	4,151	4,451	4,883	5,283	5,658		
BSN	2,004	1,961	2,056	2,125	2,345	2,430	2,607	2,944	3,266	3,476		
ADN	2,752	2,695	2,708	3,220	3,496	3,595	3,984	4,141	4,566	4,819		
Other Nursing	2,847	2,601	2,812	2,933	3,058	3,457	3,494	3,620	3,203	3,675		
Allied Health	5,604	5,621	5,384	5,257	6,120	6,631	7,204	7,219	7,149	7,942		
All Teachers Initially Certified, All Routes	11,807	14,383	17,708	21,453	22,885	23,160	24,686	25,229	26,360	25,723	34,600	44,700
Math & Science Teachers	2,156	2,473	2,972	3,061	2,498	2,737	2,991	3,032	3,373	3,206	5,400	6,500

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

Type of Award	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Bachelor's, Associate's, & 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's	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
All Teachers 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 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 $ Thousands), U.S. and Top Seven States, FY 1999-2007

State	1999	2000	2001	2002	2003	2004	2005	2006	2007
U.S. Total	$15,569,103	$17,289,808	$19,390,153	$21,154,640	$22,804,253	$23,810,968	$25,025,362	$25,361,561	$25,335,978
California	$2,247,783	$2,517,086	$2,697,229	$2,951,472	$3,193,421	$3,458,540	$3,562,040	$3,458,085	$3,487,825
% of U.S. Total	14.4%	14.6%	13.9%	14.0%	14.0%	14.5%	14.2%	13.6%	13.8%
New York	$1,269,773	$1,410,518	$1,580,912	$1,682,187	$1,857,646	$1,948,714	$2,048,855	$2,010,960	$1,991,832
% of U.S. Total	8.2%	8.2%	8.2%	8.0%	8.1%	8.2%	8.2%	7.9%	7.9%
Pennsylvania	$990,736	$1,082,830	$1,239,294	$1,378,756	$1,417,348	$1,489,570	$1,491,231	$1,536,857	$1,591,859
% of U.S. Total	6.4%	6.3%	6.4%	6.5%	6.2%	6.3%	6.0%	6.1%	6.3%
Maryland	$1,004,165	$1,051,387	$1,122,508	$1,296,852	$1,294,617	$1,382,909	$1,461,924	$1,652,290	$1,569,606
% of U.S. Total	6.4%	6.1%	5.8%	6.1%	5.7%	5.8%	5.8%	6.5%	6.2%
Massachusetts	$937,584	$998,935	$1,072,841	$1,147,934	$1,220,700	$1,342,039	$1,377,471	$1,483,191	$1,491,859
% of U.S. Total	6.0%	5.8%	5.5%	5.4%	5.4%	5.6%	5.5%	5.8%	5.9%
Texas	$834,577	$958,185	$1,147,752	$1,222,324	$1,385,229	$1,342,911	$1,396,643	$1,401,353	$1,418,120
% of U.S. Total	5.4%	5.5%	5.9%	5.8%	6.1%	5.6%	5.6%	5.5%	5.6%
North Carolina	$573,092	$636,881	$766,285	$841,951	$938,818	$948,086	$1,020,230	$1,079,329	$1,076,694
% of U.S. Total	3.7%	3.7%	4.0%	4.0%	4.1%	4.0%	4.1%	4.3%	4.2%

Source: National Science Foundation, Survey of Federal S&E Support to Universities, Colleges, and Nonprofit Institutions: Federal Obligations for Research and Development. Available online at: https://webcaspar.nsf.gov/index.jsp?subHeader=WebCASPARHome

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 $ Thousands) by Source of Funds at Texas Public Four-Year Institutions, FY 1999-2009

Type of Institution and Source	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
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
State Appropriated	$113,107	$146,241	$154,227	$181,170	$192,545	$164,060	$178,457	$188,607	$194,793	$239,248	$261,504
State 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
Institutional	$88,518	$80,512	$77,158	$92,735	$102,690	$109,589	$129,826	$139,173	$144,064	$178,282	$208,213
Private-Profit	$29,205	$53,546	$63,347	$64,765	$61,670	$62,315	$71,011	$79,413	$86,185	$115,434	$128,414
Private-Non-Profit	$88,733	$64,305	$71,233	$76,996	$81,401	$85,935	$76,930	$77,920	$84,960	$84,659	$104,711
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	$1,558,716	$1,689,121
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
State Appropriated	$83,801	$90,655	$94,141	$119,859	$133,768	$149,561	$164,507	$205,871	$210,984	$251,078	$261,218
State 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
Institutional	$11,367	$27,624	$38,793	$38,501	$38,962	$43,951	$51,283	$70,291	$82,275	$110,797	$134,385
Private-Profit	$60,196	$57,762	$63,032	$78,841	$79,164	$67,522	$78,454	$82,281	$93,615	$112,523	$109,732
Private-Non-Profit	$95,875	$116,072	$132,457	$141,687	$154,054	$160,926	$167,100	$178,450	$207,523	$212,997	$229,945
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
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
State Appropriated	$196,908	$236,896	$248,368	$301,029	$326,314	$313,621	$342,964	$394,478	$405,778	$490,325	$522,722
State 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
Institutional	$99,885	$108,135	$115,951	$131,237	$141,652	$153,540	$181,109	$209,463	$226,339	$289,079	$342,598
Private-Profit	$89,400	$111,308	$126,379	$143,606	$140,835	$129,837	$149,465	$161,694	$179,800	$227,957	$238,146
Private-Non-Profit	$184,609	$180,376	$203,690	$218,683	$235,455	$246,861	$244,030	$256,369	$292,482	$297,657	$334,656
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	$3,104,324	$3,312,647

Appendix Table C-4: Trend Line Data Points for Research and Development Expenditures ($ 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

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