

HIGHER EDUCATION PERFORMANCE-BASED FUNDING: BENEFITS AND BURDENS  
FOR FOUR-YEAR UNIVERSITIES IN THE STATE OF TEXAS

A Dissertation

by

ROBIN ELLIS

BA, St. Edwards University, 2005  
MA, Texas A&M University-Corpus Christi, 2007

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This dissertation meets the standards for scope and quality of  
Texas A&M University-Corpus Christi and is hereby approved.

Randall Bowden, PhD  
Chair

Lynn Hemmer, PhD  
Committee Member

Rosa M. Banda, PhD  
Committee Member

Awni Zebda, PhD  
Graduate Faculty Representative

December 2016

## ABSTRACT

How to finance higher education remains controversial among policy makers across the United States and Texas is not exempt from the controversy. In 2011, House Bill 9 (H.B. 9) was enacted in Texas to dedicate a portion of state funding to public colleges and universities that meet specific performance-based standards. Although H.B. 9 has been passed and signed into law, it still has not been determined how funding will be distributed or how effective it will be. The study compared expenditures of the 37 public four-year colleges and universities in Texas to anticipated funding amounts based on performance-based indicators established in H.B. 9.

The study was descriptive in nature and involved three phases with the third phase culminating in an article for publication. The first phase examined the major aspects and driving forces to performance based funding as it changes the paradigm of how colleges and universities receive public funding. Phase one produced an article published in *British Journal of Education, Society, & Behavioral Science* (Ellis & Bowden, 2014). The second phase analyzed data from several states with similar performance-based funding standards to help bring to light to the possible effects H.B. 9 will have on Texas' public. Phase two produced a second published article in the *Journal of Educational Issues* (Ellis & Bowden, 2015). Phase three examined benefits and burdens among public four-year institutions based on funding for performance-based indicators established in H.B. 9.

Results showed if general academic, operations and teaching, and space (GAOTS) allocations are made through 2030, institutions benefit through performance-based funding (\$4.5 billion support). If they have to rely on bonus dollars only, they will be burdened to reallocate

funding from their current budgets on each campus to subsidize (\$2 billion) the state's strategic plan to achieve 60x30TX graduation goals.

There were several recommendations for future research. First, all institutions stand to gain or lose. However, overall, the regional system institutions stand to gain and lose the most, whereas flagship institutions stand to gain and lose the least. Second, institutions need to be intentional about developing strategies that significantly improve student success, uncovering barriers and enablers to degree and credential attainment, as well as to understanding factors that enable student success. Third, institutions need to rethink student success strategies especially with regard to nontraditional and economically disadvantaged students that make up the majority of the student population at public comprehensive colleges and universities in Texas.

## DEDICATION

This dissertation is dedicated to my loving and supportive family and friends. Especially, my husband and daughter for serving as my inspiration in life. This work is also dedicated to my loving parents whose examples in life taught me to live without regret and the meaning of unconditional love. A special feeling of gratitude to Dr. Randall Bowden whose words of encouragement and push for tenacity will forever ring in my ears.

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## CHAPTER I

### Introduction

#### Background and Setting

Historically, higher education was considered essential in serving the public good by contributing to the growth of American society (Cohen & Kisker, 2010). More recently, public higher education is increasingly required to defend, justify, and validate its performance and value to legislators, taxpayers, and society in general. The legislative and executive mistrust in higher education has been a major driving force behind the assessment and accountability movements in higher education (Astin, 1990; Bowman, 2012; Burke & Associates, 2002; Hunsaker & Thomas, 2014). The past several years have been exceptionally difficult as declines in national standings and states have been realized where appropriations are offset by increased student tuition and fee revenue. Much of the decline can be attributed to the shifting paradigm of how public funding is allocated to institutions of higher education (McLendon & Hearn, 2013).

The trend among policymakers has moved away from the reliance on enrollment-driven funding formulas. They have moved toward policies that link appropriations to an institution's ability to document state mandated educational performance standards and results. Historically, colleges and universities received state funding based on how many full time equivalent students enroll at the beginning of a semester. However, states are now reconsidering the enrollment-based funding model because, though it provides incentives for institutions of higher education to enroll students and provide access to postsecondary education, it does not provide incentives for institutions to help students successfully complete degree programs (NCSL, 2014). State policy makers are progressively linking funding to accountability and efficiency

models that directly impact the needs of students, the state, and the economy. However, this model is controversial and has very little data to indicate whether it is successful or not. Because higher education is an economic driver in a time of financial crises, funding allocations will no longer be based on institutional needs, but on how well institutions are meeting state objectives.

How to finance higher education remains controversial among policy makers and constituencies across the United States. Texas is not exempt from the controversy. According to Ellis and Bowden (2015) institutions of higher education and the Texas Higher Education Coordinating Board (THECB) have come under pressure to increase performance accountability, efficiency and competitiveness due to increasingly strained state finances. In Texas, House Bill 9 (H.B. 9) was enacted in 2011 to dedicate a portion of state funding to public colleges and universities that meet specific performance-based criteria. Although H.B. 9 has been passed and signed into law, it has yet to be implemented. Additionally, there is a lack of data assessing whether the costs to colleges and universities to comply with the law fiscally benefit Texas public four year institutions. In addition, it is not known how effective the law will be to produce the outcomes expected (Ellis & Bowden, 2014).

#### Statement of the Problem

According to the National Conference of State Legislatures (2014), 24 states currently have some form of performance-based funding for higher education. Originally, Texas was ahead of the curve when it began discussing the idea but other states leapt ahead and now Texas is in the middle of the pack (The Texas Tribune, 2014). For the past three legislative sessions, coordinating board leaders in Texas were working to implement a shift in funding to universities from formula funding focused on enrollments to formula funding that creates

incentives for institutions to raise student achievements. Currently at the coordinating board, an advisory group consisting of university representatives is continuing to make modifications so that performance-based funding will benefit all public universities and not just a select few (THECB, 2014).

Many representatives from institutions of higher education remain skeptical of performance-based funding (Lederman, 2014; Rabovsky, 2014). They question whether or not allocations under such policies adequately reflect the major differences in institutional missions and the diversity of students served, or whether such policies exacerbate inequalities in institutional funding (AAUP, 2014). In addition, a new round of research shows that performance-based funding programs do not work, at least to the extent states are trying to increase degree completion (NCSL, 2014). One such study by Florida State University examined performance-based systems in 19 states. The research found that while those programs were largely designed to increase the number of students completing degrees, it did so only in four of them. In six states, completions actually declined and the results were inconclusive in nine other states (Lederman, 2014). Advocates for performance-based funding argue that effectiveness would grow as state appropriations linked to them does (Rabovsky, 2014). They also argued it is too early to gauge the success of the most recently enacted performance funding systems which tend to have higher stakes, as is the case in the state of Texas. According to a study conducted by Columbia University in 2012, it is rare to find studies that sample across different kinds of institutions, such as flagship state universities and their system regional institutions. There are 37 public four-year universities in Texas that range in size and cater to varying populations with different goals.

It is clear the influence of performance-based funding in the United States for higher education is gaining momentum as a matter of individual state policy development (Ellis & Bowden, 2015). Texas is rapidly moving towards this model because of legislative mandates to implement formula funding, increase student success, and produce student outcomes that are directly aligned with the states' education goals and economic needs (Ellis & Bowden, 2014). However, the literature reveals a large amount of controversy about the effectiveness of performance-based funding. Although state legislators anticipate a performance-based funding model meeting state goals and needs, by contrast, the literature is scarce with information about how effective the model will be. Before assessing the effectiveness of performance-based funding as a model to meet state objectives, it is important to understand how it affects the performance of public colleges and universities, since state outcomes depend on institutional performance. Therefore, this study will compare expenditures of public four-year colleges and universities to anticipated funding amounts based on performance-based indicators established in H.B. 9.

Currently, there are 37 public four-year institutions. They are grouped into four state university systems that include the University of Houston, the University of North Texas, the University of Texas, and Texas A&M University. The two largest systems are the University of Texas and Texas A&M University. The flagship campus in the University of Texas system is located in Austin, Texas. The flagship campus in the Texas A&M University system is located in College Station, Texas. The following figure shows the groupings. Systems and other state institutions are summarized in Figure 1.

University of Houston System	University of North Texas System	University of Texas System	Texas A&M University System	Other
University of Houston	University of North Texas at Dallas	University of Texas at Austin	West Texas A&M University	Angelo State University
University of Houston- Clear Lake	University of North Texas	University of Texas Rio Grande Valley	Texas A&M University- Texarkana	Lamar University
University of Houston- Downtown		University of Texas Permian Basin	Texas A&M University- San Antonio	Midwestern State University
University of Houston- Victoria		University of Texas at Tyler	Texas A&M University- Kingsville	Sam Houston State University
		University of Texas at San Antonio	Texas A&M University- Corpus Christi	Stephen F. Austin State University
		University of Texas at El Paso	Texas A&M University- Commerce	Texas Woman's University
		University of Texas at Dallas	Texas A&M University- Central Texas	Texas Southern University
		University of Texas at Brownsville	Texas A&M University- Galveston	Texas State University
		University of Texas at Arlington	Texas A&M University	Sul Ross State University
			Texas A&M International University	Texas Tech University
			Prairie View A&M University	
			Tarleton State University	

Figure 1, 37 Public Four-Year Institutions

### Theoretical Framework

The general theoretical framework that guided the study was Neoliberalism. There were two phases of the study that relied on it. In a third stage, the theoretical framework became Stigler's (1971) Economic Theory of Regulation, which is discussed in detail later in the study. Harvey defined the neoliberal phenomenon as a theory of political economic practices (Harvey, 2001). It proposes that human well-being can be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets, and free trade. Federal reports and legislation formally marked the official rise of the neoliberal impact on education. In 1983, President Reagan's administration called for educational reform in the report, *A Nation at Risk* (Hunt, 2008). The report criticized American education as a failing venture and called for educational leaders to redirect their efforts toward developing a more competitive workforce (Hunt, 2008). *No Child Left Behind* legislation followed in 2001 under the President Bush administration. It laid the foundation for states to develop standardized tests in order to participate in federal funding programs (NCP, 2013). In 2006, the Spellings Commission, a 19 member panel of the federal Department of Education, issued a report that set forth four major principles for postsecondary education: (a) better access to higher education; (b) more affordable approaches to higher

education; (c) standardized quality of instruction; and (d) more stringent accountability by postsecondary institutions to students, families, taxpayers, and other stakeholders (DOE, 2006). Finally, in 2009 the President Obama administration developed the Race to the Top grant program to award benefits to states that meet particular performance-based standards according to federal educational policies. Performance-based standards are met when there is compliance to national common core benchmarks, increased student test score performance, and implementation of data systems for assessment and accountability (Assessor, 2011). A performance-based standards' approach to education is reported to be directly tied to economic benefits within the neoliberal approach (Karpinski, 2010). However, little work has been done to examine both benefits and burdens.

#### Purpose of the Study

There are 37 public four-year institutions in Texas. Yet, it is inconclusive how performance-based funding precisely will be distributed or how effective it will be. However, it was estimated based on standards and metrics provided by the state of Texas. Originally, according to The Lumina Foundation (2014) metrics were based on the state allocating 10% of its higher education budget appropriations to performance-based funding according to weighting the importance of standards. In 2014, Texas had the highest state allocation of funding to higher education totaling \$6.6 billion (NCSL, 2014).

Standard one, weight, and metric: total credit hours/course completion; weighted as 1; \$59.4 million.

Standard two, weight, and metric: time to degree; weighted as 1; \$59.4 million.

Standard three, weight, and metric: transfer rates; weighted as 1; \$59.4 million.

Standard four, weight, and metric: number of degrees awarded; weighted as 1; \$59.4 million.

Standard five, weight, and metric: number of minority students; weighted as 2; \$118.8 million.

Standard six, weight, and metric: number low income/1st generation graduates/at risk students; weighted as 2; \$118.8 million.

Standard seven, weight, and metric: STEM credential; weighted as 2; \$118.8 million.

Standard eight, weight, and metric: external research dollars; weighted as 1; \$59.4 million. Metrics are summarized in Figure 2.

Metric 1	Metric 2	Metric 3	Metric 4	Metric 5	Metric 6	Metric 7	Metric 8
Total Credit Hours/Course Completion	Time to Degree	Transfer Rates	Number of Degrees	Number of Minority Students	Number Low Income/1st Generation Graduates/At Risk Students	STEM Degrees	External Research Dollars
Weight: 1	Weight: 1	Weight: 1	Weight: 1	Weight: 2	Weight: 2	Weight: 2	Weight: 1
\$59.4 Million	\$59.4 Million	\$59.4 Million	\$59.4 Million	\$118.8 Million	\$118.8 Million	\$118.8 Million	\$59.4 Million

Figure 2, 2011 H.B. 9 Metrics

Thus, it appeared that 37 public institutions in Texas would have to compete for a portion of \$653.4 million dollars if they meet performance standards in the areas listed above, as Texas moves to a more economically driven funding model. However, the Texas Higher Education Coordinating Board abandoned the metrics delineated above. They since have appointed a sub-committee, the General Academic Formula Advisory Committee, to develop a funding formula to achieve the state's new 60x30TX higher education plan. These are discussed in depth later in the study. In short, the new funding metrics rely on funding formulas based on at-risk and not-at-risk students in the states 37 public, four-year institutions. What the



committee did not consider, however, was how the formulas would affect benefits and burdens of institution through the duration of 60x30TX through the year 2030. The analysis in this study examined benefits and burdens to the 37 institutions from performance-based models of funding as an economic standard. It is guided by the following research questions:

1. What is the relationship of anticipated performance-based funding to institutional expenses to conform to House Bill 9?
2. Which of the 37 Texas four-year institutions benefit from performance-based funding?
3. Which of the 37 Texas four-year institutions are burdened from performance-based funding?

By addressing these questions, this study produced an article for publication in a peer reviewed journal. The timeline of H.B. 9 is summarized in Figure 3.

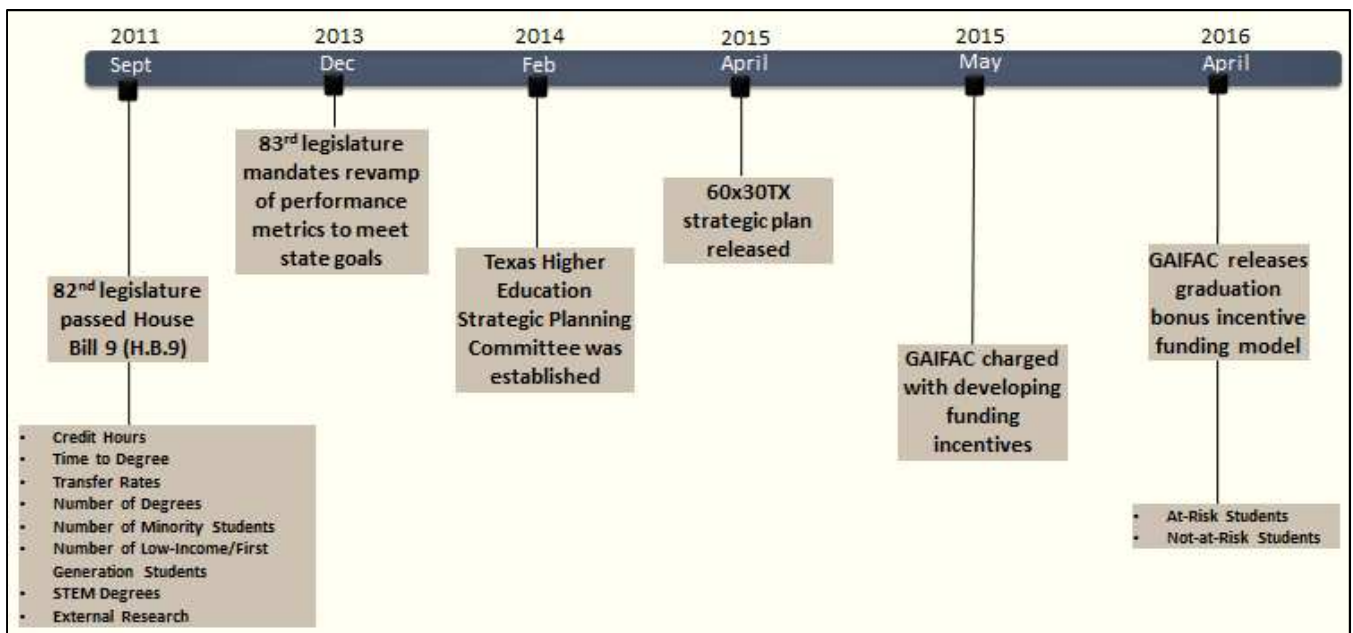


Figure 3, H.B. 9 Timeline

## Glossary of Terms

**Closing the Gaps by 2015:** Closing the Gaps by 2015 was adopted in October 2000 by the Texas Higher Education Coordinating Board with strong support from the state's educational, business and political communities. The plan is directed at closing educational gaps in Texas as well as between Texas and other states. It has four goals: to close the gaps in student participation, student success, excellence and research (THECB, 2016).

**Texas Higher Education Coordinating Board (THECB):** The THECB is the governing board of higher education in Texas. The THECB provides leadership and oversight for the Texas higher education system to promote policy, access, affordability, quality, success and cost efficiency through 60x30TX (THECB, 2016).

**General Academic Formula Advisory Committee (GAIFAC):** The GAIFAC is a committee made up of representatives from institutions of higher education in Texas and charged by the THECB Commissioner with proposing a set of formulas that provide the appropriate funding levels and financial incentives necessary to best achieve the goals of the 60x30TX plan (THECB, 2016).

**60x30TX Plan:** The 60x30TX higher education plan for Texas replaced the Closing the Gaps by 2015 plan and lays out ambitious goals for educational attainment, completion, marketable skills, and student debt. The aim is to help students achieve their educational goals and help the state remain globally competitive for years to come (THECB, 2016).

**At-Risk Student:** At-Risk includes students who received a Pell Grant, graduated with a GED, were 20 years or older when they first entered college, started as a part-time student taking less than 12 hours, or had an SAT/ACT score less than the national average (THECB, 2016).

Not At-Risk: Not At-Risk student is defined as a student who does not require financial assistance (THECB, 2016).

Pell Eligible Students: Pell eligible student definitions differ from high school to college. High school students are identified as PELL eligible (economically disadvantaged) if they receive free or reduced lunch while attending high school. College students are identified as Pell eligible (economically disadvantaged), if they receive Pell financial assistance at any time while earning their degree (THECB, 2016).

Four-year Institutions: Four year institutions are defined as colleges and universities offering an array of bachelors and associates degrees with some grad school programs (THECB, 2016).

Flagship Institution: The Carnegie Foundation defines flag ship institutions as the most prominent public university of their state with a strong emphasis on research, is usually the first public university that was established in the state, and receives the most state support. Flagship institutions offer a full range of undergraduate, master's and doctoral degrees (National Conference of State Legislatures, 2014).

Regional Institutions: The Carnegie Foundation defines regional institutions as providing a full range of undergraduate programs with limited amount of master's and doctoral degrees (National Conference of State Legislatures, 2014).

University System: A university system is a set of multiple, affiliated colleges and universities that are geographically distributed (National Conference of State Legislatures, 2014).

## Significance of the Study

The value of a college education is in high demand and the success of students has crucial implications both socially and economically. States recognize the need to develop human capital and the call for higher education accountability has been growing nationally over the past three decades (Lederman, 2011). At the outset, education leaders should recognize that a national issue definition is the least accessible stage of the policy process and therefore the most difficult to influence (Fowler, 2004). An array of public reports, journal articles, and books has fueled the emergence of accountability and performance approaches to higher education. According to Bogue (2010), there is a national concern for better accountability policies to govern higher education performance. The National Center for Public Policy in Higher Education graded state higher education systems on factors, such as preparation, participation, completion, affordability, and learning outcomes (Bogue, 2010). These concerns have influenced Texas legislators. Over the years, the primary policy question for legislatures in Texas was how to allocate state appropriations equitably among a growing and diverse number of public colleges and universities (THECB, 2011). State legislators sought to address that question by implementing performance-based funding, similar to other states.

The transition to a global economy has increased the value on human capital for individual and collective economic security. Recognizing this, President Obama set the national goal of leading the world in the proportion of college graduates by 2020 (Harnisch, 2011). Boosting graduation rates in an austere funding environment has led to a national productivity agenda for higher education. The policy issue, then, is that H.B. 9 is the shift to performance-based funding efforts aimed at offering more high-quality college opportunities to a greater number of students within existing budgetary constraints. According to Lederman (2011),

performance-based funding is a favored tool of the policy makers, as they push higher education toward greater efficiency and better outcomes in terms of college retention and completion. Policy makers argue that if states can change the incentives for colleges and universities by funding them for retaining and graduating students, institutions alter their behavior (Lederman, 2011).

Due to the critical role played by state allocated funding to public four-year institutions, outcomes of this study may have a significant influence on how system institutions in Texas fundamentally reorganize internal structure to maximize funding allocations aligned with the performance metrics mandated in H.B. 9. As the THECB advances the implementation of performance-based funding for all state funded colleges and universities, outcomes of this study may help decision maker's manipulate metrics that maximize efficiency, equality among institutions of all sizes and better understand unintended consequences.

## CHAPTER II

### Review of Literature

#### Introduction

Chapter two reviews relevant literature and scholarship related to performance-based funding. The chapter is organized into four categories: (a) Published article: Performance-Based Funding: Equity Analysis of Funding Distribution among State Universities (Ellis & Bowden, 2014); (b) Published article Performance Based Funding: Changing the Paradigm for Higher Education (Ellis & Bowden, 2015); and (c) Summary.

#### Performance Based Funding: Changing the Paradigm for Higher Education Funding Analysis

Texas is yet to fully implement performance-based funding. However, as it works to build a framework for the emergence of performance-based funding, it is important to examine the financial distribution of performance-based funding of other states that have implemented models according to metrics similar to those stipulated by H.B. 9. Originally, in Texas, legislatures redirected 10% of the state's enrollment driven funding for allocation to universities based on specific metrics, such as total undergraduate degrees, time to degree, institutional mission factor, cost-to-degree, critical fields factor (STEM and STEM related), at-risk factor and six-year graduation rates (THECB, 2011). Twenty-four other states have formula funding in place that allocates some amount of funding based on performance indicators, such as course completion, time to degree, transfer rates, the number of degrees awarded and the number of low-income and minority graduates (NCSL, 2014). Currently, though, it has calculated performance-based funding according to at-risk and not-at-risk indicators unique to each of the

state's 27 institutions. This is a new development since the publication of the 2014 article (Ellis & Bowden).

In an effort to better understand how equitable performance based funding will be in increasing efficiency, accountability, and productivity in Texas, this study provided an examination of the benefits and burdens on institutions within the state. The funding environment for higher education has changed. In an effort to hold institutions of higher education more accountable for outcomes, policymakers across the country are working towards connecting performance with funding and assigning dollar amounts to metrics. This competitive environment could provide higher revenue sources, or it could cause problems among the 37 public four-year universities in Texas if critical considerations are not made.

In this article of 15 four-year universities in the United States, Texas was well positioned with regard to metric designation and state funding allocation. H.B. 9 requirements include the three most common and highly weighted metrics in the funding analysis. Additionally, Texas receives the largest state funding allocation within the study. Though there are no data yet available for Texas, it is still possible to have a better understanding of institutional funding division among the 37 public four-year institutions by converting metric percentages into dollar amounts designed for individual metrics. For example, in 2014 Texas allocated 6.6B to higher education. Of that amount, if Texas allocated 10% (660M) to performance based funding and 10% to number of degrees metric (66M) to be divided among the 37 four-year public universities in Texas, each institution would receive a healthy 1M. However, other metrics could prove to be game changers for the long list of regional schools within a university system. For example, metrics linked to external research dollars provide significant challenges at the regional level. The cost to advance research to the level of meeting

the proposed metric for external research in H.B. 9 is significant not to mention a very slow process. Flagship universities are already operating at a high level of research and sponsored projects. It will be imperative to consider the effects of this metric on the multitude of smaller regional campuses that are not positioned to meet this requirement for funding.

The creation of university systems in Texas were a result of rapid growth to higher education in Texas. Where there is growth, there is a need for governance to deal with the complex issues of governance. The structure of system institutions include that of a flagship institution with peripheral or regional campuses spread throughout the state. Concerns of how the growth of regional campuses negatively impact flagship campuses is still an ongoing conversation in most system institutions as regional institutions are seen as a drain of resources and funding away from flagships (Berdahl, 2013). However, with regard to performance-based funding, it could easily be a different story. As Texas works towards providing equitable financial resources for higher education, the impact on regional institutions in the fight for funding should be considered. The latest proposal for performance-based funding was recently drafted by a committee of institutions across Texas tasked by the Legislature with developing a one size fits all model. However, several regional institutions with many part-time and low-income students have some of the lowest graduation rates and time to degree in the state fear the model is not nearly flexible enough for them to benefit (Wermund, 2014). Flagship universities in Texas will certainly improve and benefit from the proposed metrics tied to performance-based funding but concerns remain on what will be left for regional institutions. Furthermore, no research has been conducted on the cost for implementing programs to meet the performance criteria, another consideration that will impact regional institutions more than their flagship counterpart.



## Performance Based Funding: Changing the Paradigm for Higher Education

### Introduction

The trend among policymakers is to move away from the reliance on enrollment-driven funding formulas and toward policies that link appropriations to an institution's ability to document state mandated educational performance standards and results (McLendon, 2013). Tennessee, Ohio, and Louisiana have already started implementing performance-based funding models as a significant form of accountability. Additionally, in 2013 the 83rd Texas Legislature signed into law the Outcomes-Based Funding Act mandating up to 10% of funding to public universities will be based on a performance model developed by the Texas Higher Education Coordinating Board. This model includes a host of policy aspects, incorporating elements such as performance reporting, performance funding, and state-level master planning.

Traditionally, public education in the United States has been dominated by three major philosophical movements: (a) moral education; (b) constructivism; and currently, (c) neoliberalism. Moral education emerged from the nation's Colonial days of the 1600s and extended until the early 1800s. Religious authority governed education and commerce (Cohen & Kisker, 2010). They were grounded in Christian values, good character, and civic-minded outcomes (Noddings, 2007). Gradually, constructivism began to emerge in the late 1800s (Schulte, 1996). The nation was rapidly expanding and so was its need for new knowledge, which brought a revolution in political beliefs and college curricula (Cohen & Kisker, 2010). These were influenced by constructivist philosophical thought surrounding the process of discovery, experience, and collaboration (Schulte, 1996). Eventually in the 1980s, education became a primary vehicle for greater earning power and economic development (Boggs, 2011). Through the years as public support decreased, a neoliberal mindset arose with its focus on an

economic model of education leading to performance based educational outcomes Assessor, 2014).

The influence of performance based funding in the United States for higher education is gaining momentum as a matter of individual state policy development. In an effort to understand if these new approaches to funding benefit higher education, the article examined major aspects and driving forces to performance based funding as it changes the paradigm of how colleges and universities receive public funding. For example, Tennessee, Ohio, and Indiana have adopted similar models and are successfully implementing performance funding mechanisms. Furthermore, the article addressed the new Outcomes-Based Funding Act model, its metrics, and its impact on Texas institutions. Texas is rapidly moving towards this model because of a legislative mandate to implement formula funding, increase student success and produce student outcomes that are directly aligned with the state's education goals and economic needs.

#### Funding Formulas

In essence, all funding formulas are performance-based. For many years, institutions have received appropriations from the state for achieving certain objectives. Most often the objective has been providing greater access and growing enrollments (National Center for Higher Education Management Systems, 2012). Funding was allocated to universities largely based on the number of students in the classroom on the 12th day of class. Enrollment was once the primary factor in formula funding distribution where access was rewarded. However, enrollment driven models have recently undergone a significant upgrade to include major incentives for success measures. State after state has shifted its funding formulas from old methods to a new wave that introduces complex metrics with a focus on student success and

institutional improvement (Texas Higher Education Coordinating Board, 2012). This transformation can be attributed to a shift in ideology, as today's fiscal environment has forced states to carefully consider how their limited dollars are spent on higher education. To ensure that tax payer investments yield the best possible returns, states must incentivize both college access and completion by implementing more sophisticated performance measures (Texas Higher Education Coordinating Board, 2012).

### Student Success

In addition to recent mandates redesigning formula funding, state governments are requiring institutions of higher education to improve student success. According to the THECB, the United States continues to fall further behind other countries in awarding degrees and credentials. College completion rates are stagnant or falling today, particularly among young Americans, a trend that threatens to undermine the nation's global competitiveness (Pathways Report, 2012). The challenge here is for colleges and universities to increase productivity. Increasing college completion is becoming imperative at all levels of government. According to the Pathways Report (2012), the goal at the federal level is to have the world's highest rate of college completion. Achieving this goal will require formidable efforts to increase the nation's college degrees. Public colleges and universities are now called upon to address low graduation rates by their state legislatures. Furthermore, a national priority has been established: President Barack Obama, in the American Graduation Initiative, has set the goal that the United States must add five million more graduates to the workforce in this decade to remain competitive in the global marketplace (DeAngelo, 2011). Therefore, in addition to new formula funding criteria, student success is a critical component of performance-based funding.

In Texas, a study conducted by the THECB found that 45% of students in Texas public universities do not graduate within six years (Radice, 2013). According to this report, students who fail to complete course work cost the state \$124 million each biennium in state appropriations and student grants. The State of Texas does not cast blame to any one entity for students who fail to graduate. The THECB (2012) recognized that there lacks a sustained partnership among the P-12 sector, higher education, the state, students, and the community. The state identified five factors that need to be improved: (a) state funding at appropriate levels while monitoring cost efficient measures; (b) public education needs to prepare students to do college level work; (c) students are responsible for their commitment to completion of a college degree in accordance with the aid they receive from the state; (d) various regions within the state must develop a college-going culture; and (e) institutions must ensure that if a student is admitted, he or she will earn a credential (Texas Higher Education Coordinating Board, 2012). Thus, Texas is looking toward new models of accountability to improve the state's educational outcomes. Much like Ohio's Success Challenges, the new outcomes based model adopted in Texas provides incentives for formula funding by means of Progress Indicators. These indicators focus on rewarding universities who increase the number of degrees awarded annually, increase the number of individual course completions, and increase degrees in high demand fields (McLendon, 2013).

#### Student Outcomes Aligned with State Goals

Productivity in higher education is front and center on the national stage, now more than ever. The United States began recognizing the impact of degree completion on the economic health of the nation in the early 1990s (Abdul-Alim, 2013). More recently, higher education, both in the U.S. and internationally, has been required to explain, defend, and validate its

performance and value to a wide variety of constituents including governors, legislators, students, parents, employers, and tax payers (Moak, 2013). Furthermore, employers across the nation are expressing concerns about whether the U.S. is producing enough college graduates and whether they have the skills, knowledge, and personal responsibility to contribute to a changing workplace and help companies and organizations succeed and grow (Pathways Report, 2012).

States are working to address this issue by aligning fiscal resources with performance based measures for institutions of higher education. State legislators across the nation are called on to assess the performance of higher education which has placed pressure on governing bodies and regional agencies to develop and sustain performance based accountability mechanisms (Abdul-Alim, 2013). The challenge is for colleges and universities to produce better outcomes with fewer resources and the state solution is the implementation of performance based funding. New performance based funding models reflect the needs of the state and its citizens, not merely the needs of the institutions. In this time of financial crisis, there appears to be a much greater recognition of the fact that higher education is a major driver of the economy and that the state and local community need higher education to provide educated citizens with their greater earning power and ability to pay more in taxes, as well as the other benefits of higher education, including the transfer of knowledge (Moak, 2013). Universities in Tennessee and Texas are only two examples that are now strongly incentivized to align degree outputs with state economic development and workforce needs and are receiving additional funding for degrees in critical fields such as science, math and engineering (DeAngelo, 2011).

## Conclusion

According to Ellis and Bowden (2014), the purpose and landscape of higher education in the United States is rapidly changing but the question of whether or not the new landscape benefits higher education remains. Clearly, performance based funding will dominate the academic culture. With an undergirding neoliberal philosophy, it does appear the economic model of accountability will remain for quite some time (Ellis & Bowden). However, there could be a major drawback to this approach to state funding of higher education. New reports issued from the federal government showing a decline in the United States degree attainment rates have threatened the nation's overall global competitiveness, exacerbated inequality in income distribution, therefore obligating state objectives to focus on programs that emphasize programs, particularly in Science, Technology, Engineering, and Mathematics (STEM) (Friedel, 2013; Texas Higher Education Coordinating Board, 2013). The federal government emphasized STEM's importance in the Higher Education Opportunity Act of 2008, where qualified individuals receive benefits for participating in STEM fields (Friedel, 2013). The legislation includes the establishment of a national database to track and support student ventures in STEM educational activities. Colleges and universities that do not have the resources to develop programs tied to state objectives may suffer serious disadvantages to performance-based funding. In addition to this, states need to be vigilant about how they implement performance-based funding. South Carolina attempted to implement a model that was 100% performance-based. It did not distinguish between different institutional missions. Thus, it proved to be costly, unproductive, and controversial. In short, it was a failure (McKeown, 2013).

## Summary

As Texas closes in on state wide implementation and as newly elected officials enter the higher education policy arena, it is more important than ever to understand how regional institutions can best position themselves to maximize performance funding reward. There is no proven strategy to ensure the universal success of performance funding models therefore differences in institutional capacity seem to be an obstacle to effective performance funding implementation (Ellis & Bowden, 2015). More studies are needed that sample across different types of system institutions, particularly in regard to flagship and regional institutions. Faced with uncertainties regarding equitable performance funding division in Texas, decision makers in Texas could consider separating funding formulas to accommodate various regional institutions within a university system with varying research goals and missions. According to Ellis and Bowden more research is needed on the costs and benefits to institutions as they attempt to meet state demands for performance data, developing effective organizational learning capacity, mounting initiatives to improve institutional performance, and evaluating the results of those initiatives (p. 12). Better estimates are important to determining whether the costs to institutions of performance-based funding outweigh the fiscal benefits and therefore whether states need to make concerted efforts to offset those costs if they wish performance funding to be welcomed by colleges (Dougherty & Reddy, 2011).

Conversations on performance-based funding are advancing as state economies tighten, budgets are reduced, and the national push for a market-driven reform to higher education gains popularity. Ellis and Bowden (2015) noted:

It is clear performance based funding impacts colleges and universities by increased understanding of state priorities, competition among institutions and greater institutional awareness. Yet it is important to attempt to better understand the unintended impacts of

performance based funding on equity among institutions in a structured state university system. Performance-based funding was implemented, in part, to level the playing field in formula funding as well as provide equity in rewards. If current trends continue it is likely that accountability will increase but efficiency will decrease particularly for the smaller system regional schools that are spending money in the fight for funding. (p. 11)

Increased accountability and decreased resources is the new norm. Colleges and universities are required to do more with less. In addition, policy makers across the nation are now linking funding to the types of results that higher education can produce. Therefore, funding models have been redesigned to reflect performance standards set by the needs of the nation and the states. Research has shown that the United States is falling behind in awarding degrees and credentials to sustain the economy. Economic growth plays a large part in federal and state calls for accountability and is a strong motivator toward performance based funding. It has gained momentum over the last few years. Studies will need to continue to understand if performance-based funding has succeeded in meeting the needs of the states, economy, and students.



## CHAPTER III

### METHOD

#### Introduction

The purpose of the study was to compare expenditures of the 37 public four-year colleges and universities in the state of Texas to anticipated funding amounts based on performance-based indicators established in H.B. 9. When the study began in June 2014, the state was considering an allocation of \$653 million dollars of funding according to eight performance-based indicators. The 37 institutions would have to compete for a portion of the funding. Since then, the Texas Higher Education Coordinating Board was charged with developing “appropriate funding levels and financial incentives necessary to best achieve the 60x30TX plan” (GAIFAC, 2015, p. 5). The 60x30TX plan is the new higher education strategic plan for all public institutions in Texas. The 60x30TX strategic plan will be described later in Chapter Four, the article. Even though there have been new developments in the strategic plan that affects performance-based funding, it does not affect the research questions. The study is guided by the following research questions:

1. What is the relationship of anticipated performance-based funding to institutional expenses to conform to House Bill 9?
2. Which of the 37 Texas four-year institutions benefit from performance-based funding?
3. Which of the 37 Texas four-year institutions are burdened from performance-based funding?

## Design

This study was descriptive in nature. Creswell (2012) stated the descriptive method of research is to gather information about a present existing condition. The emphasis is on describing rather than on judging or interpreting. Due to the non-experimental nature of the study, no causal inferences were drawn. The design involved three phases with the third phase culminating in an article for publication. The first phase produced an article published in *British Journal of Education, Society, & Behavioral Science* (Ellis & Bowden, 2014). It examined the “major aspects and driving forces to performance based funding as it changes the paradigm of how colleges and universities receive public funding” (p. 942). The second phase produced a second published article in the *Journal of Educational Issues* (Ellis & Bowden, 2015). It analyzed “data from several states with similar performance-based funding standards to help bring to light to the possible effects H.B. 9 will have on Texas’ public” (p. 1). Phase three compared expenditures of public four-year colleges and universities to anticipate funding amounts based on performance-based indicators established in H.B. 9. The summary of phases is identified in Figure 4.

Phase One	Phase Two	Phase Three
Intent	Intent	Intent
Examined major aspects to performance-based funding as it changes the paradigm of how colleges and universities receive public funding.	Analyzed data from several states with similar performance-based funding standards to identify possible effects H.B.9 will have on state institutions in Texas.	Identified important elements influencing the benefits versus burdens related to the most recent performance-based incentives established by the THECB.
Data	Data	Data
Three major philosophical movements in the United States National reports focused on accountability and decline of global competitiveness Shift in state funding formulas from enrollment to graduation rates	Total credit hrs/course completion Time to degree Transfer rates Degrees awarded Minority students Low Income/First Generation STEM credentials External research	At-Risk Students Not At-Risk Students
Results	Results	Results
Institutions of higher education need to restructure enrollment, retention, and graduation strategies to be funded through performance-based funding.	Regional institutions will struggle with reallocation of resources, academic and support program development, and access to human capital in order to meet state mandates.	Without supplemental funding every institution would be financially burdened. Performance-based bonus dollars, alone, will not compensate for the additional costs each institution incurs to meet 60x30TX goals.

Figure 4, Summary of Phases

#### Phase One

Phase one laid the foundation for an economic model for states' funding their public higher education institutions. First, it provided an overview of the three major philosophical movements in the United States since the 1600s. Moral education, where religious authority governed the landscape, dominated education from the 1600s until the early 1800s. From the early 1800s until the mid-1900s, constructivism was pervasive. It brought a process of discovery, experience, and collaboration. From the mid-1900s through today, neoliberalism emerged and become a model for educational practices. It supports the approach that education "became a primary vehicle for greater earning power and economic development" (Ellis & Bowden, 2014, p. 943).

Second, neoliberalism was further developed as the current theory of political practice. It took root during in the 1980s with President Reagan. It gained popularity with the report *A Nation at Risk*, which called for education to produce a more competitive workforce. This was followed by *No Child Left Behind* with President Bush in 2001 to develop standardized testing for the K-12 system. Also, under the Bush administration, the Spellings Report outlined major principles for higher education, which included more stringent accountability performance standards for higher education. In 2009 the Obama administration outlined the *Race for the Top* to award benefits to states that comply with national standards of accountability. All these are tied to economic benefits, which also led to cuts in state funding for state social services and programs, a redefinition of state institutions, and a priority on economic outcomes (Ellis & Bowden, 2014).

Third, the article from phase one outlined funding formulas for higher education allocations. It showed a shift from allocations based on primarily student enrollment to a percentage of funding based on performance indicators. These performance indicators range from allocations based on graduation rates to enrollment of minority students to instruction costs according to academic discipline (Ellis & Bowden, 2014).

Fourth, information from phase one examined student success. The national concern is that students in the United States are falling behind other nations in awarding degrees and credentials, particularly in science, technology, engineering, and mathematics (STEM), thus making the United States fall behind in economic competitiveness. To help colleges and universities become more competitive, legislatures are mandating outcomes for higher graduation rates, reduced time to degree completion, and rewards for higher participation in STEM fields (Ellis & Bowden, 2014).

Finally, phase one outlined how higher education is required to defend its performance to its constituents. States are requiring its public colleges and universities to align fiscal resources with performance-based measures established by legislatures. Employers are expressing concerns about whether or not college graduates have the knowledge and skills corporations need to compete in the global market. President Obama expressed concern about the United States' ability to remain competitive in a global market so the American Graduation Initiative set goals for the U. S. to add five million more graduates to the workforce before 2020. The overall focus for higher education from state and federal mandates calls for colleges and universities to provide better and more job training for the economic well-being for states and the country (Ellis & Bowden, 2013).

#### Phase Two

Whereas phase one laid the foundation for an economic model for states to fund their public higher education institutions, phase two analyzed “data from several states with similar performance-based funding standards to help bring to light to the possible effects H.B. 9 will have on Texas’ public four-year universities” (Ellis & Bowden, 2015, p. 1). Data were analyzed according to several types of data structures.

First, the article outlined states that implemented performance-based funding models. For each of the 23 states, it showed the types of performance-based indicators that are funded and the year performance-based funding was implemented. Second, it provided information on the percent of performance-based funding from the total state budget for higher education allocated to each indicator for each state. Third, it conveyed the same information as the previous information with the addition of 2014 actual state higher education allocation and the amount allocated to performance-based funding. Fourth, it provided information about how

much funding was allocated to each performance-based indicator for each state. Fifth, the article showed a ratio of each state's higher education funding to allocation for each performance-based indicator by number of institutions for each state. For example:

[I]n 2014 Arkansas appropriated \$852 for all its four-year institutions. For every \$406 million spent on four-year higher education, \$1 million is allocated to the total credit hours/course completion criterion. It has to be remembered that the standard is capped at \$2.1 million and has to be shared among 11 of institutions. The information shows the ratio of actual funding dedicated to each standard. Since there is only \$42 million dedicated to performance-based funding in Arkansas, the ratio is 20:1. Thus, for every \$20 million allocated to performance-based funding, \$1 million is dedicated to total credit hours/course completion. Again, the standard is capped at \$2.1 million and has to be shared among 11 institutions. (p. 6-7)

Sixth, the article provided information for the three major university systems in Texas. It showed the operating budgets for the institutions in those systems and the state allocations.

Then it gave an example of funding for all 37 public four-year institutions in the state:

“assuming all 37 public four-year institutions performed equally, they would each receive \$1.56 million for each 1 weighted criterion and \$3.13 million for each 2 weighted criteria” (Ellis & Bowden, 2015, p. 945). The question was raised as to equity since, for example, the University of Texas at Austin has over a \$1.6 billion annual operating/revenue budget and the University of Texas at Brownsville only has a \$56.8 million annual operating/revenue budget (Ellis & Bowden, 2015).

The article concluded that performance-based funding models are imminent as state legislators press for more market driven reforms (Ellis & Bowden, 2015). Yet, according to

Dougherty and Reddy (2011), better estimates are needed to help determine if benefits of performance-based funding outweighs costs to implement it. The first two phases and the literature lead to the third phase, which is to assess if benefits of performance-based funding outweighs costs to implement it.

### Phase Three

The outcome of phase three was the development of an article to submit for publication and reported in chapter four. It focused on a comparison of expenditures of public four-year colleges and universities to anticipate funding amounts based on performance-based indicators established in the 2017 legislative proposal. The general structure of the article included the following: (a) background; (b) problem statement; (c) literature review; (d) theoretical framework; (e) methods and analysis; (f) discussion; and (g) summary.

**Background:** This section laid the foundation for the article. It related the major issues leading to performance-based funding; how it was developed in Texas; and where it stands today.

**Problem Statement:** This section conveyed the importance of the topic in more detail. It addresses critical changes in the reform of H.B. 9, such as state objectives; revised Texas Higher Education Coordinating Board metrics; pressure on Texas four-year institutions to comply with H.B. 9; and the problem statement.

**Theoretical Background:** The problem was guided by theory. Although the general theory that guides funding is neoliberal politics, another theory must guide the analysis: Economic Theory of Regulation. The theory was developed by Stigler (1971). According to Stigler, “Theory of economic regulation attempts to explain who will receive benefits or

burdens of regulation, what form this regulation will take, and the effects it will have upon the allocation of resources” (Stigler, n.d., p. 48).

Literature Review: This section provided the highlights of the major elements of performance-based funding, neoliberal model of education; and the Economic Theory of Regulation (Stigler, 1971).

Methods and Analysis: This section explained the major processes to gather data and analyze them. Data gathering included: Texas Higher Education Coordinating Board metrics to determine funding formulas; funding of performance-based indicators based on the formulas; state budget for four-year higher education institutions; state four-year institutions’ operation/revenue budgets and state allocations; and institutional expenditures to comply with performance-based funding indicators.

Discussion, Implications, Recommendations, and Future Research: This section provided the data tables needed to interpret the analysis in light of the problem, theory, and what is already known. Furthermore, it brings a new perspective to the issue and offers insights into its implications.

Summary: This final portion of the article provided a brief overview of the issue and its importance as it impacts higher education in Texas.

### Summary

Performance-based funding represents a significant departure from previous approaches to the finance of higher education, which has relied on enrollment-based funding (Dougherty & Reddy, 2013). Phase one of this study resulted in an understanding of the transformation of performance-based funding and the new paradigm of how public institutions of higher education are funded. Over the past 30 years, neoliberalism has become the dominant



hegemony in the United States and much of the world (Harvey, 2005). As neoliberal ideologies advanced, public higher education was left with few options. The most viable was to conform and implement performance-based funding models. As support grew for the decentralization and deregulation of governmental control over the operation of public institutions of higher education, the expectation is that colleges and universities will be self-sustaining while continuing to serve the public good. The new paradigm involves competition for public funds based on various measures of performance. A portion of state funding will now be offered to public institutions of higher education dependent on an institution's ability to meet measurable goals, such as graduation rates and addressing the needs of various sectors of society such as the nation's workforce. Performance-based funding is how states are prioritizing goals for higher education. Institutions must go beyond simply enrolling students; they must also ensure that students complete their degrees and graduate with skills to be successful in an evolving economy.

Empirical evidence isolates the distinctive impacts of each state's attempt at performance-based funding are inconclusive and of limited generalizability. Each state's model for implementation and funding has been different in both form and magnitude and each has changed over time (Hearn, 2015). Furthermore, each state's funding approach reflects strategic choices tailored not just to that state's unique context, but also to its political agenda. Through an analysis of data in phase two, it was concluded that further research is needed that more closely examine the cost and benefits of performance-based funding programs in Texas. Specifically, further exploration is required on the influence flagship universities have on equitable distribution of performance-based funding within university systems. Chapter Four is the result of further analyses.

## CHAPTER IV

### RESULTS

#### Background

Over the past 35 years, more than half of the states adopted a form of postsecondary performance-based funding in an effort to provide financial incentives for institutions that meet specific outcome criteria. Most of these efforts were abandoned, falling victim to poor design, rushed implementation, or budget cuts (Snyder, 2015). Nevertheless, in 2011, the Texas Higher Education Coordinating Board (THECB) was charged by the legislature with the development and implementation of performance-based funding in Texas as enacted in the 82<sup>nd</sup> legislature and the passing of House Bill 9 (H.B. 9). However, after multiple failed proposals, the 83<sup>rd</sup> legislature directed the THECB to re-evaluate data requests imposed on higher education institutions, revamp performance metrics specific to state and institutional goals, and to build a long-term strategic plan subsequent to the Closing the Gaps by 2015 plan adopted by THECB in 2000 (Abele, 2014). As a result, in December of 2013, the THECB distributed a memorandum requesting nominations for advisory committee members to all chancellors and presidents of Texas institutions of higher education to build a new strategic plan.

In February of 2014, the Texas Higher Education Strategic Planning Committee (TxHESPC) was established. In April of 2015 a draft report was released titled 60x30TX with the premise that 60% of Generation Texas will have a postsecondary credential or bachelor's degree by 2030. Generation Texas is defined as 60% of Texans ages 25-34 years old. The 60x30TX higher education strategic plan is based on the notion that by 2030, Texas will need approximately 60% of its 25 to 34-year old workforce to hold a postsecondary credential

(THECB, 2015). The plan is designed to achieve this goal, focusing on minority students who represent the state's majority population to ensure Texas remains competitive and prosperous.

In April of 2015, the General Academic Institutions Formula Advisory Committee (GAIFAC) was charged by the THECB Commissioner to propose a set of formulas that would provide appropriate funding levels and financial incentives necessary to best achieve the goals of the 60x30TX plan. Recommendations are to include alternative approaches to incorporating undergraduate student success measures into the funding formulas and to compare the effects of funding the success measures within the formula versus applying the success measures as a separate formula (THECB, 2015).

According to the draft 2018-2019 Biennial Appropriations Report released in April of 2016, recommendations from the GAIFAC include appropriating \$200 million to a new Graduation Bonus Incentive-Funding Model for public four-year institutions dedicated to advising, tutoring, and the other interventions many students need to earn a degree. The proposal offers a bonus to regular appropriations. This is based on state appropriations of approximately \$5.15 billion: \$4.36 billion for operations support and teaching experience supplement; and \$786 million for space support. The THECB proposes establishing baseline graduation rates for allocating bonus funds for 2016, 2017, and 2018 based on the three-year average of degrees awarded during 2012, 2013, and 2014. The proposal suggests a funding distribution calculation using the three-year average of (a) \$600 for bachelor's degrees awarded to students who are not at risk; (b) \$1,200 for bachelor's degrees awarded to student who are at-risk. (p. 9)

Funding at-risk students is higher because these students require more services, and these extra services are not accounted for in the Operations Support formula (THECB, 2015).

An at-risk student would be someone who is a Pell grant recipient or whose SAT/ACT score was below the national average for the year taken. Since funding for the Graduation Bonus is for degree completion initiatives, and not for basic support, it should not replace any portion of Operations Support funding (THECB, 2015). The assumptions of the GAIFAC are that the new Graduation Bonus Incentive-Funding Model will (a) significantly increase the number of at-risk students obtaining a degree, (b) improve graduation rates and time to degree, (c) increase retention rates, (d) reduce excess credit hours, (e) improve course completion, and (f) increase affordability.

### Problem Statement

The United States trails 11 countries in educational attainment and the nation is facing a college completion crisis with 46% of students failing to graduate (Snyder, 2015). Now, with the inclusion of a shortage of skilled workers to fill jobs (Miller, 2016) and the rising cost of college (Kelchen & Stedrak, 2016), it is easy to see why policymakers seek the best options possible to promote college completion. Today's fiscal climate and economic need for expanded postsecondary access and completion have fueled a resurgence of the interest in state action regarding performance-based funding policies, which tie a portion of state appropriations to metrics that gauge institutional performance on various indicators (Dougherty, 2014).

When implemented, the performance-based legislation would affect the 37 public, four-year institutions in the state of Texas. The state legislature is expected to allocate \$5.15 billion to public, four-year institutions for the 2018-2019 biennium. With an additional \$200 million allocated as a performance-based incentive over two years (\$100 million a year), institutions could expect this additional allocation based on weightings according to graduation points established by the THECB. However, in the GAIFAC proposal there is a recommendation for

even more additional funding of \$938,600,000 over two years (approx. \$469,300,000 a year) for general academic, operations and teaching, and space. This also is additional funding to the \$5.15 billion to public institutions.

Moreover, there is a cost to the institutions calculated by the THECB and related in the GAIFAC proposal. Institutions must create new programs or redesign existing programs and maintain them. Additionally, the distribution of funding is based on institutions meeting particular performance-based criteria. It cannot be assumed that every institution will meet performance-based criteria. Although the THECB identified costs associated with graduating at-risk and not-at-risk students, there is no projection of benefits versus burdens, that is, does receiving bonus performance-based allocations (benefit) outweigh the cost of increasing the number of graduates (burden)? The purpose of this research is to identify important factors influencing the benefits versus burdens related to the most recent performance-based incentives established by the THECB.

There are three research questions stemming from the purpose.

1. What is the relationship of anticipated performance-based funding to institutional expenses to conform to House Bill 9?
2. Which of the 37 Texas four-year institutions benefit from performance-based funding?
3. Which of the 37 Texas four-year institutions are burdened from performance-based funding?

Although performance-based funding, politically, is driven by an economic model of benefit, neoliberalism (Ellis & Bowden, 2014), it does not provide understanding of possible

burdens. However, to provide a *pragmatic* understanding of applying a performance-based model of funding, a different theoretical approach is needed.

### Theoretical Framework

The theoretical framework for the study is based on Stigler's (1971) Theory of Economic Regulation.

The central tasks of the theory of economic regulation are to explain who will receive the benefits or burdens of regulation, what form regulation will take, and the effects of regulation upon the allocation of resources. Regulation may be actively sought by an industry, or it may be thrust upon it (p. 3).

Although the theory is older, Beard, Kaserman, and Mayo (2007) related it is a powerful tool for examining regulatory outcomes. According to the current study, the Texas state legislature regulates public college and university budgets. Additionally, it recently mandated performance-based funding. However, little is known about how this law will impact public institutions in Texas. Will it be a benefit, burden, or combination of both?

The theory exemplifies two major elements: (a) benefits; and (b) burdens. First, a state by regulation can provide benefits, mainly through the power to coerce. A state can make decisions about distribution of resources and allocations of economic funds. It has the power to assist industries to become more profitable: benefit. Subsequently, there are four crucial aspects to it: (a) control over direct subsidy; (b) control over new rivals; (c) control over support products and services; and (d) control over price-fixing (Stigler, 1971). The law based on Texas House Bill 9 is a directive to "the Texas Higher Education Coordinating Board to propose a new methodology for funding institutions of higher education to achieve the purpose" of developing

“policies that promote postsecondary educational success based on objective indicators of relative performance, such as degree completion rates” (Higher Education’s Outcomes-Based Funding Act, n.d., para. 2 & 3). This directive has the potential to benefit public higher education by direct subsidy, control over support and services, and price-fixing. It also has the potential to become burdensome.

The second major element of the theory is burden. There is a cost to meeting the demands of legislation. The burden, according to the theory, is two-fold. One, there is collateral damage. Although an industry may benefit from the power it is provided from a state, other aspects of the community may suffer. Two, political decisions often do not reflect market conditions. Political decisions may be viewed by such proponents as positive, however stakeholders in a particular market understand the decisions to have negative consequences (Stigler, 1971). The Texas Higher Education Coordinating Board (THECB) was given a directive by the Texas state legislature to develop an outcomes-based approach to funding (referred to in the literature as performance-based funding). Reflecting elements of the Theory of Economic Regulation: “Ultimately, the Texas Legislature has the authority to accept, reject, or amend the Coordinating Board’s recommendations” (Higher Education’s Outcomes-Based Funding Act, n.d., para. 4).

At the time of writing this manuscript, the THECB has proposed a formula and presented it to the Texas state legislature. No response has yet been provided. This study examined the potential benefits and burdens of the legislation (H.B. 9) and the proposal by GAIFAC committee of the THECB.

## Literature Review

The purpose of this research is to analyze important factors influencing the benefits and burdens related to the most recent performance-based incentives established by the THECB. The review of the literature provided a justification for the need to conduct the study and is divided into three sections. The first section explores recent trends in performance-based funding. The second section evaluates the new graduation bonus incentive-funding model proposed by the THECB. The third section explores 60x30TX, the next plan for higher education in Texas. A summary section ends the section.

### Performance-Based Funding

Recent literature on performance-based funding shows a national shift in focus from multiple performance metrics to a narrow list of specific outcomes. Performance-based funding was traditionally associated with any number of policies that tie the allocation of resources to institutional performance on identified metrics. Early performance funding models typically offered bonuses or add-on funding to institutions that met prescribed performance goals. Early performance funding approaches did not always consider the perspectives of all stakeholders in model design, were often not sufficiently differentiated by institutional missions, and often suffered from data inadequate for the task (Strategy Labs, 2015). Additionally, scholars in recent research have argued that performance-based funding models are reinforcing disparities within public higher education and doing little to move the needle on completion (Hillman, 2016). According to the Century Foundation (2016), states that tie public college funding to performance metrics like graduation and retention rates are perpetuating the inequities in funding and performance in public higher education, and they are not boosting completion at institutions in the state. Furthermore, performance-based funding fails to account for non-



graduation measures of institutional success and fails to consider the missions and circumstances facing an institution. While performance-based aid is politically popular, overall it is an inefficient way to allocate resources since it primarily benefits students who would already do well in college regardless of the aid. Likewise, performance-based funding has benefited colleges and universities that already have the greatest likelihood to perform well and the allocation of scarce funds to institutions already performing well only reproduces inequalities (Hillman, 2016).

Research has revealed some of the weaknesses of these models. States began developing more sophisticated performance-based funding models that also incentivize and reward progress toward goals but are tied more explicitly to agreed upon state goals for student success (HCM Strategists, 2015). Amid growing concern about rising college costs, there are calls for improving degree completion. There is a realization that the nation simply must do a better job of enrolling and graduating historically underrepresented populations. State leaders are increasingly asking critical questions about the capacity, productivity, and equity of their higher education institutions (Miller, 2016). After earlier experience with rapid expansion often followed by retreat, policymakers have begun to push for reshaped forms of performance-based funding, focusing more intently on specific outcomes (McLendon & Hearn, 2013). Spurred in part by Lumina Foundation's funding of quality improvement efforts in several states newer performance-based approaches are centered around a shift from state inputs to campus outcomes and from institutional needs to state priorities (Harnisch, 2011).

#### Shift in Performance-Based Funding

Performance-based higher education funding structures have gained popularity. In recent years, as a means for achieving the goal of linking public investment in colleges and universities

to social and economic benefits, states gain a more educated citizenry (Lumina, 2015). In a shift from allocating funds based solely on input measures, many states have sought to link higher education appropriations to specific institutional outcomes. This shift represents an evolution of performance-based funding models with a more exclusive focus on student progression and completion, while attempting to achieve financial alignment to state attainment needs (Lumina Foundation, 2015). According to McLendon and Hearn (2014):

First, the funding of degree production for the emerging economy has been much more strongly emphasized than in earlier efforts. Second, the development of workforces specifically prepared for the states' perceived future needs has become a greater focus. Third, there is increasing recognition that missions, measures, and incentives must be more tightly and efficiently linked. Fourth, these newer efforts have begun incorporating into performance-appraisal systems certain "throughput" indicators of success, as well as output or outcome measures. Such throughput indicators have included, for example, rates of student completion of "gateway" courses (like those in biology, chemistry, mathematics, or psychology), where poor academic performance by students often creates bottlenecks impairing student transition to upper-level curricula and contributes to student dropout. (p. 87)

This funding approach aims to address shortcomings in earlier versions of performance-based funding. Both its logic and some tentative evidence in its support are appealing to many policymakers. Incentives under the model provide significant funding for institutions performing well on goal-driven measures of success. Proponents of the new funding movement argue that it aims to align state goals closely with accurate and appropriate measures and well-designed incentives (Harnisch, 2011). Progress on such state goals as increasing the number of

college graduates, improving program completion, stimulating state development in STEM fields, and increasing educational attainment by minority or lower-income students can be assessed by examining overall and subgroup indicators for end-of-term enrollments, retention over programs' duration, timely degree progress via credit milestones, transfer success rates, graduation rates and numbers, high-need subject outcomes (e. g., in STEM fields) and the like (Hearn, 2015). In Texas, the performance-based model has developed a more focused approach toward funding specific outcomes, particularly those tied to certificate and degree completion.

#### Graduation Bonus Incentive-Funding Model

The General Academic Institution Formula Advisory Committee (GAIFAC), composed of representatives of Texas public universities, examines the formulas that are used to allocate state funding among institutions each legislative session in Texas. In line with the requirements of TEC 61.0593, this interim the committee was charged to “study and make recommendations for alternative approaches to incorporating undergraduate student success measures into the funding formulas” (THECB, 2016, p.7). In April of 2016, the GAIFAC published their most recent proposal for the 2018-2019 biennial appropriations to the Legislative Budget Board. The 85<sup>th</sup> Texas Legislature will decide whether to adopt any or all of the recommendations when they convene in January of 2018. The recommendation made by GAIFAC for general academic institutions is to fund universities through a new Graduation Bonus formula, \$600 for each bachelor's degree awarded to a student who is not at-risk and \$1,200 for each bachelor's degree awarded to an at-risk student (THECB, 2016). The recommended estimated funding is \$200 million. However, the Committee on Affordability, Accountability and Planning (CAAP) is considering a different funding level, lowering the graduation bonus from \$200 million to \$150 million. Since no decision has been made at the writing of this article, the original amounts of

\$200 million over two years (\$100 million annually) and \$938,600,000 over two years (approx. \$469,300,000 a year) for general academic, operations and teaching, and space were used for analysis.

#### 60x30TX

In order to meet the workforce demands and intellectual capital expectations of the next generations of Texans, the Texas Higher Education Coordinating Board (THECB) issued a statewide educational goal calling for 60% of adults aged 25 to 34 to hold college degrees or certificates by 2030. In August of 2013 the THECB announced the new higher education plan for Texas titled 60x30TX. The plan was founded on the critical need for an educated Texas workforce that is able to adapt to change and successfully compete in the global economy. If the goal is reached, Texas will award 6.4 million certificates or degrees during the 15 years of this plan (THECB, 2016). The U. S. Bureau of Labor Statistics (BLS) suggests that fewer than 60% of workers need a college degree to satisfy workforce demand (BLS, 2016). In addition to focusing on increased completion of postsecondary credentials, the plan also places emphasis on attaining marketable skills and reducing student debt.

The THECB needed a new strategic plan to replace the state's Closing the Gaps plan ended in 2015. Since the previous higher education plan, Closing the Gaps, was adopted in 2000, Texas has become increasingly engaged in a global economy dependent on skilled and knowledgeable workers (THECB, 2016). The 60x30TX plan builds on the success of the Closing the Gaps to higher education plan adopted in 2000. Data from the Texas Higher Education Coordinating Board and Texas Workforce Commission indicate that by 2020, 65% of all new jobs in Texas will require postsecondary education (THECB, 2016). However, only 35% of Texans aged 25-34 today have an associate's degree or higher. By 2030 Texas will need

approximately 60% of its 25- to 34-year-olds workforce to hold a postsecondary credential. Centered around students, the 60x30TX higher education strategic plan is designed to achieve this goal and help Texas remain competitive and prosperous. However, the state must include 25-34 year olds, which represent a large number of underrepresented student populations, such as Hispanics and African Americans, if the plan is to succeed.

According to the THECB, the first goal of the 60x30TX plan is broad. It aims to raise the percentage of the Texas younger adult population with postsecondary educational attainment. Strategies to achieve this goal include promoting college attainment, develop college/career readiness standards, focus on teacher preparation and professional development, and encourage stop-outs to return and complete their degree.

The second goal, the completion goal, contributes to the first by supplying graduates from Texas institutions: By 2030, at least 550,000 students by that year are expected to have completed a certificate, associate's, bachelor's, or master's degree from a Texas public, independent, or for-profit college or university. Strategies to achieve this goal include developing innovative approaches for content delivery, encouraging high-impact practices, and increasing use of predictive analytics to identify and assist at-risk students.

The third goal, marketable skills, emphasizes the value of higher education relative to the workforce: By 2030 all graduates from Texas public institutions of higher education will have completed programs with identified marketable skills. Strategies to achieving this goal include the integration of marketable skills into curricula so that students can demonstrate and communicate those skills to future employers and enhance academic and career advising. The final goal, student debt, is intended to help students who graduate with debt complete their programs with reasonable debt: By 2030, undergraduate student loan debt will not exceed 60%

of first-year wage for graduates of Texas public institutions (THECB, 2016). Strategies to achieve this goal include decreasing excess semester credit hours, funding grants for eligible students, and supporting alternate degree pathways to completion.

In order to achieve these goals, the GAIFAC committee of the THECB developed a series of financial formulas and recommendations. They are based on three-year averages of performance-based standards at each of the 37 public, four-year institutions in the state. The formulas and recommendations serve as the foundation for methods and analysis.

### Methods and Analysis

Methods and analysis consisted of a number of sources, steps, and calculations, before addressing the research questions. This was because there is no established data source available in order to calculate benefits and burdens. In order for analysis to be completed, several methods of data collection were completed to prepare the data.

- Identify the 37 public, four-year institutions in Texas affected by H.B. 9;
- Calculate the total number of bachelor's degrees needed to achieve 60x30TX
  - Determine the percentage each institution needs to contribute to achieve 60x30TX
    - At-risk students (defined as Pell grant recipients or SAT/ACT scores below the national average)
    - Not-at-risk students
  - Calculate the number of students needed by each institution
    - At-risk students
    - Not-at-risk students
- Utilize the GAIFC (2015) report for:

- Average bachelor's degree completion rates per institution
  - At-risk students
  - Not-at-risk students
- Funding
  - \$200 million performance-based bonus (for two years)
  - \$938.6 million support for general academic, operations and teaching, and space (GAOTS) for two years
  - Identify per institution funding for:
    - At-risk students
    - Not-at-risk students
- Cost
  - Identify the cost to each institution for:
    - At-risk students at degree completion constant rates plus expected growth needed to achieve 60x30TX
    - Not-at-risk students at degree completion constant rates plus expected growth needed to achieve 60x30TX
  - Calculate funding benefits and burdens per each institution

Figure 5 provides an overview of the process and data sources in order to calculate financial benefits and burdens.

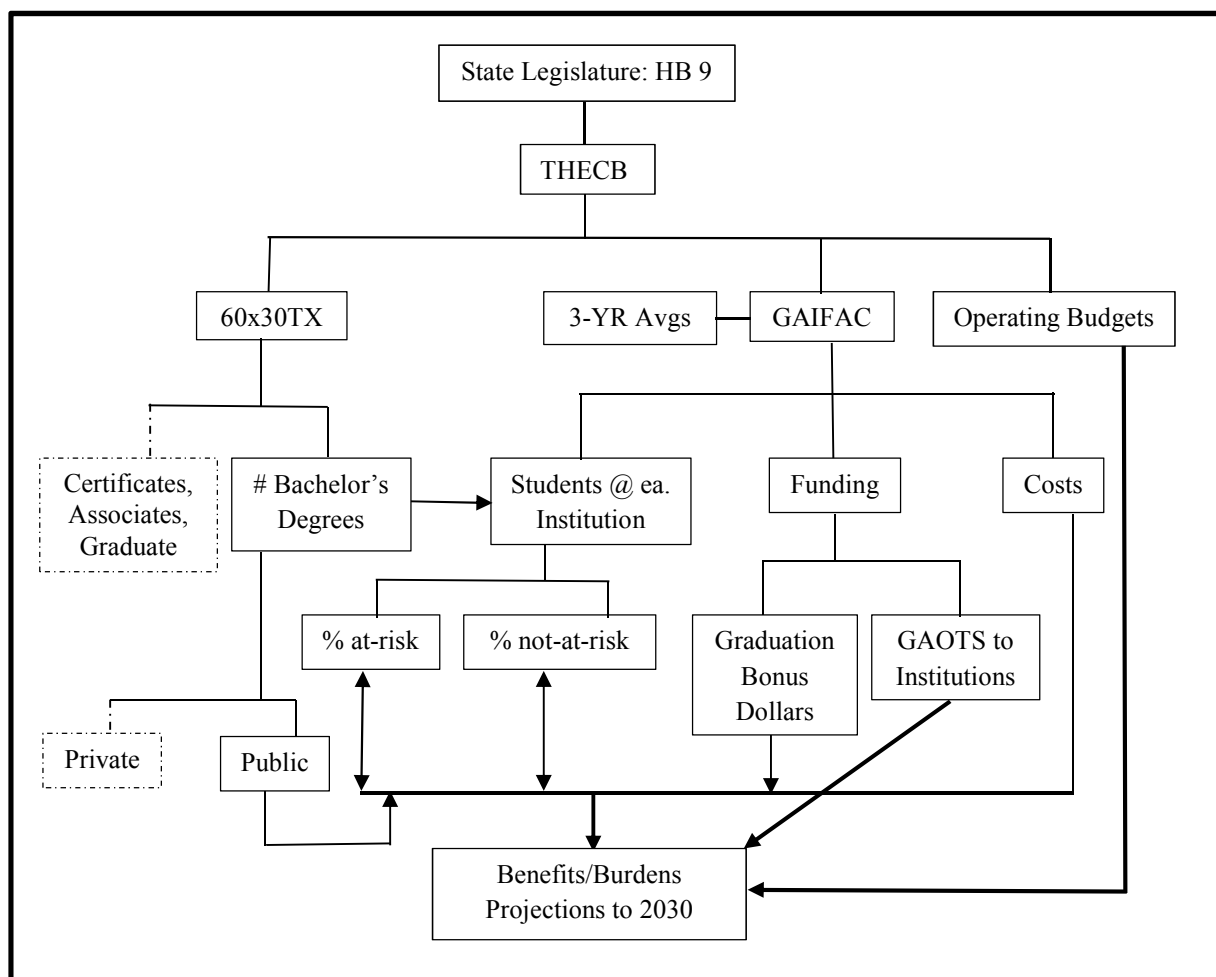


Figure 5, Data Process and Sources

- State Legislature: Data from House Bill 9
- Texas Higher Education Board (THECB): Data from 60x30TX for goals and number of projected college and university certificates, associate, bachelor's, and graduate degrees
- Operating Budgets: Data from THECB; Three-year averages calculated by researcher
- Number of Bachelor's Degrees: Data calculated by researcher
  - Each institution through 2030 from total number of certificates, associate's, bachelor's and graduate degrees
  - Separated public from private four-year institutions



- Students @ Each Institution:
  - Data from GAIFAC for percent of at-risk and not-at-risk students
  - Data calculated by researcher based on enrollment and graduation growth for percent of at-risk and not-at-risk students to meet 60x30TS goals
- Funding:
  - Data from GAIFAC to allocate funding \$600 per not-at-risk and \$1,200 per at-risk student based on a six-year average to graduation
  - Data from GAIFAC to allocate general academic, operations and teaching, and space (GAOTS) funding across all 37 institutions
- Costs: Data per student from GAIFAC to educate at-risk and not-at-risk students at each institution
- Benefits and Burdens through 2030: Calculated by researcher
  - Bonus dollars to be allocated to each institution based on projected growth for percent of at-risk and not-at-risk needed by each institution annually to achieve 60x30TX through 2030
  - Cost to be incurred by each institution based on projected growth on percent of at-risk and not-at-risk needed by each institution annually to achieve 60x30TX through 2030
  - Benefits and burdens for allocation or withholding Bonus Dollars and/or GOATS

The Texas Higher Education Board (THECB), created by the legislature in 1965, is charged with providing leadership and coordination throughout the state's public higher education systems (Agency Information, n.d.) to achieve excellence in college and university education. As part of its operations, the THECB developed the Closing the Gaps Initiative,

2000-2015. Texas' Closing the Gaps initiative (Revised Goals and Targets for 2006-2015, 2006) projected an increase of students completing bachelor's degrees at four-year institutions from 74,100 to 112,500 during 2000 to 2015 years (Progress Report, 2015). Four-year institutions graduated 125,192 students with bachelor's degrees in 2015 (Progress Report, 2015). However, this included all four-year institutions in Texas, public and private.

There are 37 public four-year institutions in the state of Texas (GIAFAC, 2015). Public-four year institutions graduated 57,000 students with bachelor's degrees in 2000, which is 77% of the bachelor's degree population (Closing the Gaps, n.d.). Public-four year institutions graduated 96,480 students with bachelor's degrees in 2015, which is 77% of the bachelor's degree population (Progress Report, 2015). This is an average increase of 6,432 students per year.

The Closing the Gaps initiative came to an end in 2015 but a new initiative was developed: 60x30TX (60x30TX, 2015). *It seeks to increase the number of students completing a certificate, associate's degree, bachelor's degree, or master's degree by the year 2030 to 550,000 graduates, but not all degrees will be from public institutions.* In 2012-2013 (most recent data as of April 2015 from the Southern Regional Education Board) there were 230,506 degrees awarded at both public and private institutions in Texas (Southern Regional Education Board, 2015), associate's through master's (associates-30%; bachelor's-50%; master's-20%).

In order for the THECB to develop recommendations to the state legislature based on funding formulas, the GAIFAC committee relied on a three-year average model from 2012 through 2014 (GAIFAC, 2015). The GAIFAC used the three-year model as a basis for projections, assuming a six-year graduation rate for a bachelor's degree. For example, at the University of Texas at Arlington:

- Number of students graduated, bachelor's degrees, three-year average 6,285 graduates; of those 3,520 were at-risk (56%); and 2,765 were not-at risk (44%).
- Cost to the institution: at-risk \$97,955 annual cost; not-at-risk \$82,385 annual cost.

At all Texas public institutions, associate's degrees are 90% of the total number of degrees awarded, 48% are bachelor's degrees, and 18% are master's degrees. Thus, of the 550,000 degrees and certificates projected by 2030, 275,000 are expected to be bachelor's degrees and 77% of those are from a public institution which is a total of 211,750 additional degrees needed to achieve 60x30TX projections from 2015 to 2030, or 14,117 additional bachelor's degrees per year. Assuming constant rates of change, a method used by The Office of the State Demographer and the Texas State Data Center at the University of Texas at San Antonio (You & Potter, 2014), the following 37 public institutions would need to provide a specific number of graduates, as seen in Table 1.

Table 1

*Number of Public Institutions and Graduates Needed Per Institution for 60x30TX*

Total number of degrees from 3-year averages: 90,611	3-year average of degrees 2012-2014	Number of at-risk degrees (3-year average)	Number of not-at-risk degrees (3-year average)	Percent of total number of degrees (3-year average/total number)	14,117-number of additional graduates per year needed. Each institution to meet state objectives	Number of additional at-risk students needed each year per institution	Number of additional not-at-risk students needed each year per institution
UT-Arlington	6,285	3520 (56%)	2,765	0. 07	988	553	435
UT-Austin	9,183	3490 (38%)	5,693	0. 1	1412	537	875
UT-Dallas	2,702	1405 (52%)	1,297	0. 03	423	220	203
UT-El Paso	3,156	2556 (81%)	600	0. 035	494	400	94
UT-Rio Grande Valley	3,765	3313 (88%)	452	0. 042	593	522	71
UT-Permian Basin	580	418 (72%)	162	0. 006	85	61	24
UT-San Antonio	4,419	3314 (75%)	1,105	0. 05	705	529	176
UT-Tyler	1,166	813 (70%)	353	0. 013	184	129	55

TAMU	9,207	3709 (40%)	5,498	0.102	1440	576	864
TAMU-Galveston	315	181 (57%)	134	0.003	42	24	18
Prairie View	1,019	881 (87%)	138	0.011	158	137	21
Tarleton	1,855	1377 (74%)	478	0.020	282	209	73
TAMU-Central	485	331 (68%)	154	0.005	71	48	23
TAMU-CC	1,488	1101 (74%)	387	0.016	226	167	59
TAMU-Kingsville	946	805 (85%)	141	0.010	141	120	21
TAMU-San Antonio	759	626 (82%)	133	0.008	113	93	20
TAMI	873	790 (90%)	83	0.010	141	127	14
WTAMU	1,360	932 (69%)	428	0.015	212	146	66
TAMU-Commerce	1,488	1090 (73%)	398	0.016	226	165	61
TAMU- Texarkana	353	246 (70%)	107	0.004	56	39	17
UH	5,873	3830 (65%)	2,043	0.065	918	597	321
UH-Clear Lake	1,236	790 (64%)	446	0.014	198	127	71
UH-Downtown	2,348	1646 (70%)	702	0.026	367	257	110
UH-Victoria	659	412 (63%)	247	0.007	99	62	37
Midwestern	1,060	668 (63%)	392	0.012	169	106	63
UNT	5,976	3654 (61%)	2,322	0.066	931	568	363
UNT-Dallas	387	280 (72%)	107	0.004	56	40	16
SFA	2,038	1497 (73%)	541	0.022	311	227	84
TSU	789	678 (86%)	111	0.009	127	109	18
TTU	5,126	2980 (58%)	2,146	0.057	804	446	338
Angelo	1,067	749 (70%)	318	0.012	169	118	51
TWU	1,969	1300 (66%)	669	0.022	311	205	106
Lamar	1,440	1027 (71%)	413	0.016	226	160	66
Sam Houston	3,162	2243 (71%)	919	0.035	494	351	143
TXST	5,742	3827 (67%)	1,915	0.063	889	596	293
Sul Ross	195	163 (83%)	32	0.002	28	23	5
Sul Ross-Rio Grande	141	124 (88%)	17	0.002	28	23	5

Growth projections were made based on the same guidelines established by GAIFAC (2015). Funding recommendations were based on at-risk and not-at-risk classifications of students. The growth also applied to the number of students each institution would need to contribute, proportionately, to meet the 14,117 additional graduates per year to reach 60x30TX

goals. Table 2 provides an overview of the growth through 2019, which is the biennium funding cycle.

Table 2

*Each Institution's Projected Contribution to Graduation Growth for 60x30TX*

	Number of at-risk degrees (3-year average, 2012-2014)	Number of not-at-risk degrees (3-year average)	Number of additional graduates per year & (at-risk) & [not-at-risk]	For biennium 2018, number of at-risk—3 years additional graduates needed from 2015	For biennium 2018, number of not-at-risk—3 years additional graduates needed from 2015	For biennium 2019, number of at-risk—3 years additional graduates needed from 2015	For biennium 2019, number of not-at-risk—4 years additional graduates needed from 2015
UT-Arlington	3,520 (56%)	2,765	440 (246) [194]	738 (Total 4,258)	582 (Total 3,347)	984 (Total 4,504)	776 (Total 3,541)
UT-Austin	3,490 (38%)	5,693	918 (349) [569]	1,077 (Total 4,567)	1707 (Total 7400)	1426 (Total 4916)	2276 (Total 7969)
UT-Dallas	1,405 (52%)	1,297	81 (42) [39]	126 (Total 1,531)	117 (Total 1414)	168 (Total 1573)	156 (Total 1453)
UT-El Paso	2,556 (81%)	600	110 (89) [21]	267 (Total 2,823)	63 (Total 663)	356 (Total 2912)	84 (Total 684)
UT-Rio Grande Valley	3,313 (88%)	452	158 (139) [19]	417 (Total 3,730)	57 (Total 509)	556 (Total 3869)	76 (Total 528)
UT-Permian Basin	418 (72%)	162	4 (3) [1]	9 (Total 427)	3 (Total 165)	12 (Total 430)	4 (Total 166)
UT-San Antonio	3,314 (75%)	1,105	221 (165) [56]	495 (Total 3,809)	168 (Total 1273)	660 (Total 3974)	224 (Total 1329)
UT-Tyler	813 (70%)	353	15 (11) [5]	33 (Total 846)	15 (Total 368)	44 (Total 857)	20 (Total 373)
TAMU	3709 (40%)	5,498	936 (374) [561]	1122 (Total 4,831)	1683 (Total 7181)	1496 (Total 5205)	2244 (Total 7742)
TAMU-Galveston	181 (57%)	134	1 (1) [0]	3 (Total 184)	0 (Total 134)	4 (Total 185)	0 (Total 134)
Prairie View	881 (87%)	138	11 (10) [1]	30 (Total 911)	3 (Total 141)	40 (Total 921)	4 (Total 142)
Tarleton	1377 (74%)	478	38 (28) [10]	84 (Total 1461)	30 (Total 508)	112 (Total 1489)	40 (Total 518)
TAMU-Central	331 (68%)	154	3 (2) [1]	6 (Total 337)	3 (Total 157)	8 (Total 339)	4 (Total 158)
TAMU-CC	1101 (74%)	387	24 (18) [6]	54 (Total 1155)	18 (Total 405)	72 (Total 1173)	24 (Total 411)
TAMU-Kingsville	805 (85%)	141	10 (8) [1]	24 (Total 829)	3 (Total 144)	32 (Total 837)	4 (Total 145)
TAMU-San Antonio	626 (82%)	133	6 (5) [1]	15 (Total 641)	3 (Total 136)	20 (Total 646)	4 (Total 137)
TAMI	790 (90%)	83	8 (8) [1]	24 (Total 814)	3 (Total 86)	32 (Total 822)	4 (Total 87)
WTAMU	932 (69%)	428	20 (14) [6]	42 (Total 974)	18 (Total 446)	56 (Total 988)	24 (Total 452)
TAMU-Commerce	1090 (73%)	398	24 (18) [7]	54 (Total 1144)	21 (Total 419)	72 (Total 1162)	28 (Total 426)
TAMU-Texarkana	246 (70%)	107	1 (1) [0]	3 (Total 249)	0 (Total 107)	4 (Total 250)	0 (Total 107)
UH	3830 (65%)	2,043	381 (247) [133]	741 (Total 4571)	399 (Total 2442)	988 (Total 4818)	532 (Total 2575)
UH-Clear Lake	790 (64%)	446	17 (11) [6]	33 (Total 823)	18 (Total 464)	44 (Total 834)	24 (Total 470)

UH-Downtown	1646 (70%)	702	61 (43) [18]	129 (Total 1775)	54 (Total 756)	172 (Total 1818)	72 (Total 774)
UH-Victoria	412 (63%)	247	5 (3) [1]	9 (Total 421)	3 (Total 250)	12 (424)	4 (Total 251)
Midwestern	668 (63%)	392	12 (8) [5]	24 (Total 692)	15 (Total 407)	32 (Total 700)	20 (Total 412)
UNT	3654 (61%)	2,322	394 (240) [154]	720 (Total 4374)	462 (Total 2784)	960 (Total 4614)	616 (Total 2938)
UNT-Dallas	280 (72%)	107	2 (1) [0]	3 (Total 283)	0 (Total 107)	4 (Total 284)	0 (Total 107)
SFA	1497 (73%)	541	46 (33) [12]	99 (Total 1596)	36 (Total 577)	132 (Total 1629)	48 (Total 589)
TSU	678 (86%)	111	7 (6) [1]	18 (Total 696)	3 (Total 114)	24 (Total 702)	4 (Total 115)
TTU	2980 (58%)	2,146	290 (168) [122]	504 (Total 3484)	366 (Total 2512)	672 (Total 3652)	488 (Total 2634)
Angelo	749 (70%)	318	13 (9) [4]	27 (Total 776)	12 (Total 330)	36 (Total 785)	16 (Total 334)
TWU	1300 (66%)	669	43 (28) [15]	84 (Total 1384)	45 (Total 714)	112 (Total 1412)	60 (Total 675)
Lamar	1027 (71%)	413	23 (16) [7]	48 (Total 1075)	21 (Total 434)	64 (Total 1091)	28 (Total 441)
Sam Houston	2243 (71%)	919	110 (78) [32]	234 (Total 2477)	96 (Total 1015)	312 (Total 2555)	128 (Total 1047)
TXST	3827 (67%)	1,915	364 (244) [120]	732 (Total 4559)	360 (Total 2275)	976 (Total 4803)	480 (Total 2395)
Sul Ross	163 (83%)	32	0 (0) [0]	0 (Total 163)	0 (Total 32)	0 (Total 163)	0 (Total 32)
Sul Ross-Rio Grande	124 (88%)	17	0 (0) [0]	0 (Total 124)	0 (Total 17)	0 (Total 124)	0 (Total 17)

Knowing the three-year degree completion rate averages and each institution and additional contributions needed to meet 60x30TX projections provided a total and per student framework for awarding funding and calculating costs. Table 3 shows the annual costs to graduate students with a bachelor's degree at each institution (GAIFAC, 2015).

Table 3

*Annual Per Institution Costs to Graduate Students*

6-year average to graduation	Total annual cost in dollars for graduating at-risk students	Total annual cost in dollars for graduating not-at-risk students	Cost in dollars to produce a bachelor's degree per at-risk student, per year	Cost in dollars to produce a bachelor's degree per not-at-risk student, per year
UT-Arlington	97,955	82,385	16,325	13,730
UT-Austin	125,293	104,912	20,882	17,485
UT-Dallas	102,980	89,990	17,163	14,998
UT-El Paso	95,843	71,080	15,974	11,847
UT-Rio Grande Valley	91,191	58,646	15,199	9,774
UT-Permian Basin	94,406	66,470	15,734	11,078

UT-San Antonio	97,465	76,665	16,244	12,778
UT-Tyler	79,627	74,918	13,271	12,486
TAMU	71,455	63,220	11,909	10,537
TAMU-Galveston	131,391	110,153	21,899	18,359
Prairie View	154,436	100,180	25,739	16,697
Tarleton	75,113	63,931	12,519	10,655
TAMU-CC	87,442	73,267	14,574	12,211
TAMU-Kingsville	103,546	87,661	17,258	14,610
TAMI	87,617	91,143	14,603	15,191
WTAMU	98,391	74,393	16,399	12,399
TAMU-Commerce	113,557	80,633	18,926	13,439
UH	94,079	70,769	15,680	11,795
UH-Clear Lake	29,228	9,993	4,871	1,666
UH-Downtown	112,363	86,829	18,727	14,472
Midwestern	118,341	94,272	19,724	15,712
UNT	78,174	68,556	13,029	11,426
SFA	88,780	67,375	14,797	11,229
TSU	247,397	137,034	41,233	22,839
TTU	86,641	75,305	14,440	12,551
Angelo	109,361	74,810	18,227	12,468
TWU	67,938	51,793	11,323	8,632
Lamar	126,250	94,358	21,042	15,726
Sam Houston	67,177	55,465	11,196	9,244
TXST	66,805	60,001	11,134	10,000
Sul Ross	157,045	143,222	26,174	23,870

The per institution costs served as a baseline to determine how much additional cost it takes to account for the growth in bachelor's degree graduates to meet 60x30TX. The GAIFAC (2015) proposal used three-year graduation and cost averages from 2012 through 2014 as baseline data. The committee used these data to project costs for the at-risk and not-at-risk students. This baseline was used to calculate costs for the 2018 and again for 2019. For example, at the University of Texas at Arlington, it costs \$16,325 to graduate an at-risk student: 738 students x \$16,325 = \$12,047,850. These costs are represented in Table 4 for each institution.

Table 4

*Annual Costs Per Institution Account for Graduation Rates and Graduation Growth Projections*

6-year average to graduation	Cost in dollars to produce a bachelor's degree per at-risk student, per year	Cost in dollars to produce a bachelor's degree per not-at-risk student, per year	Cost in dollars for additional at-risk graduates for biennium 2018 (graduates + additional graduates x cost)	Cost in dollars for additional not-at-risk graduates for biennium 2018 (graduates + additional graduates x cost)	Cost in dollars for additional at-risk graduates for biennium 2019 (graduates + additional graduates x cost)	Cost in dollars for additional not-at-risk graduates for biennium 2019 (graduates + additional graduates x cost)
UT-Arlington	16,325	13,730	12,047,850	7,990,860	16,063,800	10,654,480
UT-Austin	20,882	17,485	22,489,914	29,846,895	29,777,732	39,795,860
UT-Dallas	17,163	14,998	2,037,798	1,754,766	2,883,384	2,339,688
UT-El Paso	15,974	11,847	4,265,058	746,361	5,686,744	995,148
UT-Rio Grande Valley	15,199	9,774	6,337,983	557,118	8,450,644	742,824
UT-Permian Basin	15,734	11,078	141,606	33,234	188,808	44,312
UT-San Antonio	16,244	12,778	8,040,780	2,146,704	10,721,040	2,862,272
UT-Tyler	13,271	12,486	437,943	187,290	583,924	249,720
TAMU	11,909	10,537	13,361,898	17,733,771	17,815,864	23,645,028
TAMU-Galveston	21,899	18,359	65,697	0	87,596	0
Prairie View	25,739	16,697	772,170	50,091	1,029,560	66,788
Tarleton	12,519	10,655	1,051,596	319,650	1,402,128	426,200
TAMU-CC	14,574	12,211	786,996	219,798	1,049,328	293,064
TAMU-Kingsville	17,258	14,610	414,192	43,830	552,256	58,440
TAMI	14,603	15,191	350,472	45,573	467,296	60,764
WTAMU	16,399	12,399	688,758	223,182	918,344	297,576
TAMU-Commerce	18,926	13,439	1,022,004	282,219	1,362,672	376,292
UH	15,680	11,795	11,618,880	4,706,205	15,491,840	6,274,940
UH-Clear Lake	4,871	1,666	160,743	29,988	214,324	39,984
UH-Downtown	18,727	14,472	2,415,783	781,488	3,221,044	1,041,984
Midwestern	19,724	15,712	473,376	235,680	631,168	314,240
UNT	13,029	11,426	9,380,880	5,278,812	12,507,840	7,038,416
SFA	14,797	11,229	1,464,903	404,244	1,953,204	538,992
TSU	41,233	22,839	742,194	68,517	989,592	91,356
TTU	14,440	12,551	7,277,760	4,593,666	9,703,680	6,124,888
Angelo	18,227	12,468	492,129	149,616	656,172	199,488
TWU	11,323	8,632	951,132	388,440	1,268,176	517,920
Lamar	21,042	15,726	1,010,016	330,246	1,346,688	440,328
Sam Houston	11,196	9,244	2,619,864	887,424	3,493,152	1,183,232
TXST	11,134	10,000	8,150,088	3,600,000	10,866,784	4,800,000
Sul Ross	26,174	23,870	0	0	0	0



The GAIFAC (2015) proposal provided calculations for awarding bonus dollars to institutions that increase graduation rates. This applies to both at-risk and not-at risk students. The importance of providing bonus dollars to both at-risk and not-at-risk students is to assist in achieving 60x30TX goals. Table 5 summarizes bonus dollars to each institution. However, each institution would receive a different amount because they have different numbers of at-risk, not-at-risk, and proportion of at-risk to not-at-risk students. For example, at the University Texas at Austin 38% of students are considered at-risk, whereas the University of Texas at Rio Grande Valley has 88% of its students are classified as at-risk. Bonus dollars are set at \$1,200 per each at-risk student and \$600 per not-at-risk student regardless of institution (GAIFAC, 2015). Bonus dollars are calculated according to the following. For instance, at the University of Texas at Austin, the calculation is: (a) at-risk, 3,490 graduates x \$1,200 = \$4,188,000 bonus; and (b) not-at-risk, 5,693 graduates x \$600 = \$3,415,800 bonus. Table 5 also provides the amount of bonus dollars needed to account for growth to achieve 60x30TX.

Table 5

*Bonus Dollars Allocated Based on Graduation Rates Per Institution*

	At-risk bonus dollars @ 3-year graduation rate avg	Not-at-risk dollars @ 3-year graduation rate avg	For biennium 2018, bonus dollars for number of at-risk—3 years additional graduates needed from 2015	For biennium 2018, bonus dollars for number of not-at-risk—3 years additional graduates needed from 2015	For biennium 2019, bonus dollars for number of at-risk—3 years additional graduates needed from 2015	For biennium 2019,bonus dollars for number of not-at-risk—4 years additional graduates needed from 2015
UT-Arlington	4,224,000	1,659,000	885,600	349,200	1,180,800	465,600
UT-Austin	4,188,000	3,415,800	1,292,400	1,024,200	1,711,200	1,365,600
UT-Dallas	1,686,000	778,200	151,200	70,200	201,600	93,600
UT-El Paso	3,067,200	360,000	320,400	37,800	427,200	50,400
UT-Rio Grande Valley	3,975,600	271,200	500,400	34,200	667,200	45,600
UT-Permian Basin	501,600	97,200	10,800	1,800	14,400	2,400
UT-San Antonio	3,976,800	663,000	594,000	100,800	792,000	134,400
UT-Tyler	975,600	211,800	39,600	9,000	52,800	12,000

TAMU	4,450,800	3,298,800	1,346,400	1,009,800	1,795,200	1,346,400
TAMU-Galveston	217,200	80,400	3,600	0	4,800	0
Prairie View	1,057,200	82,800	36,000	1,800	48,000	2,400
Tarleton	1,652,400	286,800	100,800	18,000	134,400	24,000
TAMU-CC	1,321,200	232,200	64,800	10,800	86,400	14,400
TAMU-Kingsville	966,000	84,600	28,800	1,800	38,400	2,400
TAMI	948,000	49,800	28,800	1,800	38,400	2,400
WTAMU	1,118,400	256,800	50,400	10,800	67,200	14,400
TAMU-Commerce	1,308,000	238,800	64,800	12,600	86,400	16,800
UH	4,596,000	1,225,800	889,200	239,400	1,185,600	319,200
UH-Clear Lake	948,000	267,600	39,600	10,800	52,800	14,400
UH-Downtown	1,975,200	421,200	154,800	32,400	206,400	43,200
Midwestern	801,600	235,200	28,800	9,000	38,400	12,000
UNT	4,384,800	1,393,200	864,000	277,200	1,152,000	369,600
SFA	1,796,400	324,600	118,800	21,600	158,400	28,800
TSU	813,600	66,600	21,600	1,800	28,800	2,400
TTU	3,576,000	1,287,600	614,800	219,600	806,400	292,800
Angelo	898,800	190,800	32,400	7,200	43,200	9,600
TWU	1,560,000	401,400	100,800	27,000	134,400	36,000
Lamar	1,232,400	247,800	57,600	12,600	76,800	16,800
Sam Houston	2,691,600	551,400	280,800	57,600	374,400	76,800
TXST	4,592,400	1,149,000	878,400	216,000	1,171,200	288,000
Sul Ross	195,600	19,200	0	0	0	0

Now that costs and bonus dollars have been determined based on graduation rates and growth projections, data were needed on each institutions' operating budget. This information allows for benefits and burdens analyses later. Table 6 presents total operating budgets for 2012-2014 (THECB, 2016) with a percent difference and three-year average difference calculated. The 2012-2014 budget years were used because they correspond to the 2012-2014 years used by GAIFAC (2015) for all other calculations.

Table 6

*Each Institutions' Operating Budget*

	2012	2013	2014	% difference	\$ average	\$ average difference
UT-Arlington	312,796,092	345,269,754	353,898,263	6. 57%	337,321,370	20,551,086
UT-Austin	1,375,258,048	1,430,216,358	1,609,600,000	8. 52%	1,471,691,469	117,170,976
UT-Dallas	249,612,288	338,107,678	329,991,128	16. 10%	305,903,698	40,189,420
UT-Brownsville	96,292,672	97,245,331	56,800,979	-20. 51%	83,446,327	(19,745,847)
UT-El Paso	219,254,668	220,414,148	227,726,454	1. 93%	222,465,090	4,235,893
UT-Rio Grande Valley	128,530,108	119,673,988	122,456,909	-2. 36%	123,553,668	(3,036,600)
UT-Permian Basin	22,438,641	26,159,305	29,424,633	15. 57%	26,007,526	3,492,996
UT-San Antonio	289,194,082	297,330,364	294,894,903	0. 99%	293,806,450	2,850,411
UT-Tyler	31,796,361	53,154,097	51,873,585	31. 57%	45,608,014	10,038,612
TAMU	1,194,318,007	1,228,579,682	1,352,072,480	6. 60%	1,258,323,390	78,877,237
TAMU-Galveston	49,805,095	56,063,405	58,230,775	8. 46%	54,699,758	4,212,840
Prairie View	168,542,297	166,642,508	168,738,756	0. 06%	167,974,520	98,230
Tarleton	135,670,445	144,375,108	155,430,411	7. 28%	145,158,655	9,879,983
TAMU-Central	26,437,787	27,721,720	30,276,810	7. 26%	28,145,439	1,919,512
TAMU-CC	161,066,004	162,619,659	173,839,270	3. 97%	165,841,644	6,386,633
TAMU-Kingsville	122,597,613	131,706,096	142,726,278	8. 21%	132,343,329	10,064,333
TAMU-San Antonio	35,734,685	33,117,134	40,005,484	5. 98%	36,285,768	2,135,400
TAMI	94,898,460	100,157,933	107,668,580	6. 73%	100,908,324	6,385,060
WTAMU	127,395,754	128,814,180	132,575,722	2. 03%	129,595,219	2,589,984
TAMU-Commerce	140,232,986	155,092,297	162,816,970	8. 05%	152,714,084	11,291,992
TAMU-Texarkana	29,237,319	34,156,971	35,368,896	10. 49%	32,921,062	3,065,789
UH	258,285,741	276,260,289	289,016,320	5. 95%	274,520,783	15,365,290
UH-Clear Lake	48,370,244	91,009,927	94,233,214	47. 41%	77,871,128	22,931,485
UH-Downtown	105,413,733	109,623,112	115,833,219	4. 94%	110,290,021	5,209,743
UH-Victoria	25,165,463	26,333,788	27,283,893	4. 21%	26,261,048	1,059,215
Midwestern	94,154,646	95,706,395	98,468,305	2. 29%	96,109,782	2,156,830
UNT	876,061,021	872,065,333	885,343,900	0. 53%	877,823,418	4,641,440
UNT-Dallas	25,955,168	26,029,005	26,135,672	0. 35%	26,039,948	90,252
SFA	217,975,710	227,891,123	237,087,075	4. 38%	227,651,303	9,555,683
TSU	248,675,531	273,941,554	266,006,766	3. 48%	262,874,617	8,665,618
TTU	215,710,328	217,372,281	245,432,350	6. 89%	226,171,653	14,861,011
Angelo	40,246,096	40,498,037	43,598,871	4. 17%	41,447,668	1,676,388
TWU	78,178,228	79,302,689	84,021,060	3. 74%	80,500,659	2,921,416

Lamar	86,886,263	92,020,435	100,974,614	8. 11%	93,293,771	7,044,176
Sam Houston	238,631,354	263,966,714	277,559,063	8. 16%	260,052,377	19,463,855
TXST	443,353,765	495,560,807	524,125,100	9. 11%	487,679,891	40,385,668
Sul Ross	2,047,669	2,414,116	2,302,500	6. 22%	2,254,762	127,416

With the data set established, the research questions can be addressed. Not only do the 37 public four-year institutions need to address at-risk and not-at-risk graduation rates, they also must increase the number of graduates by 14,117 per year, every year to achieve the goals of 60x30TX. The general questions underlying the goals are these: Are there financial allocations in place to support the goals? Then, do the goals award benefits or place burdens on the institutions? The model the GAIFAC (2015) proposed was one that would provide equity among the institutions. To what extent will this apply? These questions lead to specific research questions and results of data analysis.

It must be noted, though, that the results of the analyses only included data based on guidelines provided by the GAIFAC, 60x30TX, and the Texas Higher Education Coordinating Board. No calculations were conducted for additional revenue and that might be associated with student fees, auxiliary sources, or traditional funding formulas from retaining students and increasing enrollments for degree completion.

## Results

The Texas Higher Education Coordinating Board was charged by state legislation to develop a funding plan to meet the graduation goals of state's higher education strategic plan: 60x30TX. Although the GAIFAC (2015) provided extensive analyses based on three year trends for funding for the 2018-2019 biennium, further analyses were needed to evaluate whether this model would benefit or burden institutions through 2030. As such, the following research questions were developed.

1. What is the relationship of anticipated performance-based funding to institutional expenses to conform to House Bill 9?

2. Which of the 37 Texas four-year institutions benefit from performance-based funding?

3. Which of the 37 Texas four-year institutions are burdened from performance-based funding?

Research question one looked at the relationship of anticipated performance-based funding to institutional expenses to conform to House Bill 9. *Due to incomplete data from the THECB, 31 institutions were used to address the research question. Institutions not included are University of Texas Brownsville, Texas A&M University-Central, Texas A&M University-San Antonio, Texas A&M University-Texarkana, University of Houston-Victoria and University of North Texas- Dallas.* The results showed a two-part approach to the analysis. Not only did the GAIFAC (2015) propose bonus dollars based on graduation rates for all 37 institutions with at-risk and not-at risk students (\$100,000,000 per year limit for 37 institutions), it also recommended the state legislature allocate \$469,300,000 a year for general academic, operations and teaching, and space (GAOTS). Thus, the results are two-pronged: (a) funding to expense relationship with bonus dollars only; and (b) funding to expense relationship with bonus dollars plus GAOTS.

Understanding the relationship of performance-based funding to expenses requires information from institution's operating budgets. Using a three-year average, data from the 31 institutions shows an average operating budget of \$8,288,330,226 annually. However, if institutions increase graduation rates, there are additional bonus dollars and costs. This reduces the operating budget to \$6,899,181,509 when growth is added to achieve 60x30TX. When

GAOTS are added, the operating budget plus bonus dollars minus costs to graduate students, including additional growth numbers needed to achieve 60x30TX, the operating budget increases to \$7,354,402,509. Initially, the 31 institutions will have to account for \$933,927,717 from their budgets in order to begin to meet 60x30TX. However, if calculated from 2020 through 2030, the numbers can be more positive. For example, operating budgets plus bonus dollars and GAOTS show the 31 institutions will have \$4,552,210,000 additional funds to assist with achieving 60x30TX. This is a 6.2% increase in funding. If institutions have to rely on bonus dollars alone, they lose \$1,985,504,320 resulting in a 2.8% loss. In other words, it would cost them more money to graduate more students than what the state would allocate in bonus dollars. Table 7 shows a summary of the data.

Table 7

*The Relationship of Anticipated Performance-Based Funding to Institutional Expenses Per Year, N = 31 Four-Year Institutions*

Operating Budget	Operating Budget + Bonus \$ - Constant Costs	Operating Budget + Bonus \$ - Constant Costs & Additional Costs	Operating Budget + Bonus \$ + GAOTS - Constant Costs & Additional Costs
\$8. 3 B	\$7. 1 B	\$6. 9 B	\$7. 4 B
Loss		(\$1. 4 B)	(\$933 M)
Gain		\$0	\$0
2020-2030			
Loss		(\$2 B; -2. 8%)	
Gain			\$4. 5 B; 6. 2%

Based on the GAIFAC (2015) recommendations, the relationship of performance-based funding to institutional expenses to graduate students is either promising or imposing. If general academic, operations and teaching, and space (GAOTS) allocations are made through 2030, institutions are rewarded through performance-based funding (\$4.5 billion support). If they have

to rely on bonus dollars only, they will have to reallocate funding from their current budgets on each campus to subsidize (\$2 billion) the state's strategic plan to achieve 60x30TX graduation goals at the bachelor's degree level. This leads to the second research question.

Research question two examined which of the 37 public, four-year institutions would benefit from performance-based funding. *Due to incomplete data from various sources, 31 institutions were used to address the research question.* Benefit was established by ranking the institutions by percent of increase in operating budget based on operating budget plus bonus dollars minus additional costs to graduate students according to growth projections compared to operating budget plus bonus dollars plus general academic, operations and teaching, and space allocations minus additional costs to graduate students according to growth projections to meet 60x30TX goals at the bachelor's degree level. The growth ranges from a low of 1.82% at Texas Southern University to a high of 23.43% at the University of Texas-Rio Grande Valley. Table 8 provides a summary of the rankings.

Table 8

*Four-Year Institutions Benefit from Performance-Based Funding Ranked by Percentage*

*Change of Funding Growth, N = 31 Institutions*

Institutions	Operating Budget+Bonus-Add'l Cost w/Growth	Operating Budget+Bonus+GAOTS-Add'l Cost w/Growth	Percent Change
UT-Rio Grande Valley	\$64,424,626	\$84,135,226	23. 43
Angelo State University	\$22,133,779	\$27,765,379	20. 28
UT-Tyler	\$29,199,844	\$35,300,744	17. 28
U Houston-Downtown	\$65,298,076	\$77,499,876	15. 74
Texas Tech University	\$150,387,129	\$177,137,229	15. 10
Texas Women's University	\$58,731,544	\$69,056,144	14. 95
University of Houston	\$183,044,043	\$213,548,543	14. 28
UT-Permian Basin	\$17,005,176	\$19,820,976	14. 21
UT-Arlington	\$232,776,645	\$265,627,645	12. 37

Lamar	\$62,264,563	\$69,773,363	10. 76
UT-San Antonio	\$219,626,146	\$243,091,146	9. 65
UT-El Paso	\$170,423,312	\$186,848,812	8. 79
Tarleton	\$121,371,816	\$130,757,816	7. 18
Midwestern	\$74,730,846	\$80,362,446	7. 01
UH-Clearlake	\$87,560,283	\$94,130,483	6. 98
Sam Houston	\$224,435,625	\$240,861,125	6. 82
TXST	\$406,676,692	\$436,242,592	6. 78
WTAMU	\$107,167,591	\$114,207,091	6. 16
TAMU-Commerce	\$124,340,253	\$131,849,053	5. 69
UT-Dallas	\$257,990,413	\$272,069,413	5. 17
TAMU-International	\$87,041,446	\$91,734,446	5. 12
Sul Ross	\$17,540,448	\$18,479,048	5. 08
TAMU-CC	\$143,469,106	\$150,977,906	4. 97
SFA	\$213,910,616	\$224,235,216	4. 60
TAMU	\$1,148,006,331	\$1,195,874,931	4. 00
TAMU-Kingsville	\$115,063,259	\$119,756,259	3. 92
UNT	\$797,914,170	\$828,887,970	3. 74
Prairie View	\$140,257,395	\$145,419,695	3. 55
UT-Austin	\$1,280,314,626	\$1,327,244,626	3. 54
TAMU-Galveston	\$47,717,495	\$49,125,395	2. 87
Texas Southern University	\$228,358,215	\$232,581,915	1. 82

The GAIFAC (2015) established performance-based funding criteria based on student at-risk and not-at-risk status. They calculated costs according to each institution's characteristics and setting. How performance-based funding is allocated, though, is not as simple as assigning funding to student status then deducting costs. To determine which institutions benefit the most, the process must also consider operating budgets, percent of at-risk and not-at-risk students on each campus, and projected growth proportionate to each campus in graduation numbers for both at-risk and not-at-risk students. Given those variables, some institutions stand to benefit far



more than others as seen in Table 7 above. However, that ranking does not consider which institutions benefit in relation to its burdens. Research question three addressed that issue.

Research question three assessed how the 37 Texas four-year institutions were burdened from performance-based funding. *Due to incomplete data from various sources, 31 institutions were used to address the research question.* Burden was determined by percentage of loss of revenue by achieving 60x30TX graduation goals from years 2020 through 2030 according to institutions receiving only bonus dollars. Table 9 provides a summary of the results.

Table 9

*Four-Year Institutions Benefit Burden from Performance-Based Funding, N = 31 Institutions*

Institutions	Constant Operating Budget with no Bonus Dollars or GAOTS	Constant Additional Benefit to the Institution w/Bonus Dollars & GAOTS- Total 2020-2030 (just benefits-no operating budget)	Percent Benefit	Constant Additional Burden to the Institution w/out GAOTS- Total 2020-2030 (just burdens-no operating budget)	<b>Percent Burden</b>	Total Percent Spread
UT-Rio Grande Valley	\$123,553,668	\$197,106,000	23. 43	\$86,278,320	<b>(11. 81)</b>	35. 24
Angelo State University	\$41,447,680	\$56,316,000	20. 28	\$27,866,540	<b>(11. 18)</b>	31. 46
U Houston-Downtown	\$110,290,021	\$122,018,000	15. 74	\$64,047,590	<b>(8. 93)</b>	24. 67
UT-Tyler	\$45,608,014	\$61,009,000	17. 28	\$23,986,890	<b>(7. 59)</b>	24. 87
UT-Permian Basin	\$26,007,526	\$28,158,000	14. 21	\$12,256,460	<b>(6. 72)</b>	20. 93
University of Houston	\$274,520,783	\$305,045,000	14. 28	\$131,471,550	<b>(6. 70)</b>	20. 98
Texas Tech University	\$226,171,653	\$267,501,000	15. 10	\$106,824,780	<b>(6. 63)</b>	21. 73
Lamar	\$93,293,771	\$75,088,000	10. 76	\$44,046,360	<b>(6. 61)</b>	17. 37
UT-Arlington	\$337,321,370	\$328,510,000	12. 37	\$150,002,750	<b>(6. 05)</b>	18. 42
Texas Women's University	\$80,500,659	\$103,246,000	14. 95	\$32,362,070	<b>(5. 22)</b>	20. 17
UT-San Antonio	\$293,806,450	\$234,650,000	9. 65	\$108,420,040	<b>(4. 70)</b>	14. 35
UT-El Paso	\$222,465,090	\$164,255,000	8. 79	\$75,032,180	<b>(4. 22)</b>	13. 01
Midwestern	\$96,109,782	\$56,316,000	7. 01	\$30,806,000	<b>(3. 96)</b>	10. 97
Sul Ross	\$23,077,402	\$9,386,000	5. 08	\$7,213,520	<b>(3. 95)</b>	9. 03
TAMU-Commerce	\$152,714,084	\$75,088,000	5. 69	\$39,425,690	<b>(3. 07)</b>	8. 76
WTAMU	\$129,595,219	\$70,395,000	6. 16	\$32,125,880	<b>(2. 91)</b>	9. 07
Tarleton	\$145,158,655	\$93,860,000	7. 18	\$33,942,860	<b>(2. 72)</b>	9. 90
Prairie View	\$167,974,520	\$51,623,000	3. 55	\$38,768,800	<b>(2. 69)</b>	6. 24
UT-Dallas	\$305,903,698	\$140,790,000	5. 17	\$68,204,540	<b>(2. 58)</b>	7. 75
TAMU-International	\$100,908,324	\$46,930,000	5. 12	\$20,672,550	<b>(2. 32)</b>	7. 44
TXST	\$472,261,374	\$295,659,000	6. 78	\$95,658,640	<b>(2. 30)</b>	9. 08
Sam Houston	\$260,052,377	\$164,255,000	6. 82	\$52,516,880	<b>(2. 29)</b>	9. 11
TAMU-CC	\$165,841,644	\$75,088,000	4. 97	\$31,543,070	<b>(2. 25)</b>	7. 12
Texas Southern University	\$262,874,617	\$42,237,000	1. 82	\$49,054,990	<b>(2. 10)</b>	3. 92
UT-Austin	\$1,471,691,469	\$469,300,000	3. 54	\$265,130,090	<b>(2. 03)</b>	5. 57

TAMU-Kingsville	\$132,343,329	\$46,930,000	3. 92	\$23,777,700	<b>(2. 02)</b>	5. 94
SFA	\$244,317,969	\$103,246,000	4. 60	\$43,021,550	<b>(1. 97)</b>	6. 57
TAMU-Galveston	\$54,699,758	\$14,079,000	2. 87	\$8,560,380	<b>(1. 76)</b>	4. 63
UNT	\$877,823,418	\$309,738,000	3. 74	\$115,481,100	<b>(1. 43)</b>	5. 17
TAMU-College Station	\$1,258,323,390	\$478,686,000	4. 00	\$159,635,520	<b>(1. 37)</b>	5. 37
UH-Clear Lake	\$91,672,512	\$65,702,000	6. 98	\$7,369,030	<b>(. 83)</b>	7. 81

Table 9 is clear with its data. Without GAOTS every institution would be financially burdened. Performance-based bonus dollars alone will not compensate for the additional costs each institution incurs to meet 60x30TX goals. On the high end, the University of Texas-Rio Grande Valley would suffer an 11.8% burden to its operating budget. This means it would have to account for an \$8.6 million shortfall each year for 10 years (2020 through 2030). On the low end, the University of Houston would suffer a .83% burden to its budget, which is an additional expense of \$736,900 each year for 10 years. Other institutions may have higher dollar amounts, such as the two flagship institutions, but proportionately the percentages are lower (UT-Austin, 2.03%, \$26.5 million a year; TAMU-College Station, 1.37%, \$16 million a year).

The data showed the institutions are in a precarious position. The state is mandating funding for performance-based outcomes as an incentive to contribute to 60x30TX. From a Theory of Economic Regulation perspective (Stigler, 1971), institutions only benefit when both bonus dollars and GAOTS are allocated. If only bonus dollars are allocated, institutions are burdened. The results are even more ominous if operating budgets remain constant and there is no additional funding for growth in graduation rates. However, institutions could benefit if they adhere to their current practices of retention and approaches to graduation without participating in a performance-based funding model. Since H. B 9 is law, there is not an option not to participate. The next section relates the importance of the analysis.

## Discussion

The Texas state legislature through House Bill 9 is requiring the state's 37, four-year institutions to implement performance-based funding. Allocations for bonus dollars (performance-based funding) and general academic, operations and teaching, and space, and costs have been projected for the 2018-2019 biennium based on reports from the Texas Higher Education Coordinating Board. In the meantime, the Texas Higher Education Strategic Planning Committee released a new strategic plan titled 60x30TX which give degree and certificate projections through 2030. However, no previous analyses have been conducted to examine how those allocations and costs affect the state's 37 four-year institutions through the year 2030 in accordance with 60x30TX bachelor's degree completion rate expectations. This research examined those allocations and costs and found the results to be beneficial under one funding model and burdensome under another model.

According to Stigler's (1971) Theory of Economic Regulation, it explains who receives benefits and who are burdened from regulations. House Bill 9 requires a performance-based funding approach to its 37, public four-year institutions. Some may benefit more than others and some may be burdened more than others.

The General Academic Institutions Formula Advisory Committee (GAIFAC) calculated performance-based funding based on three-year graduation rates and costs unique to each institution. The GAIFAC sought to provide financial benefits to each institution. However, over a 10-year period the formulas do not account for growth projections from 60x30TX. Looking at the outcomes through Stigler's (1971) Theory of Economic Regulation benefits and burdens gives a fuller perspective of the GAIFAC intent.

Stigler's (1971) theory relates four benefits. The first benefit has to do with policy control over subsidies. The premise being that any group positioned to influence how power is used can benefit. In Texas, there is growing public concern over the production of an educated workforce. In response, policy makers have charged the higher education regulation authority in Texas, THECB, with implementing H.B. 9 and developing a Graduation Bonus model that offers the financial incentives necessary to achieve the goals of the 60x30TX plan. This model provides fiscal motivation to public institutions of higher education in obtaining additional revenue for meeting state goals.

The second benefit is control over new rivals. Traditionally, public institutions of higher education would lobby for increases in funding only to have other public institutions compete for the same funds. However, the Graduation Bonus model approach imposes price controls eliminating competition over a limited pool of funds between institutions.

The third benefit (Stigler, 1971) is control over support products and services. The state of Texas charged THECB with revising the metrics associated with H.B. 9 that institutions will be required to meet to receive funding incentives. By establishing the conditions in which institutions will receive bonus funding places the State in control. Notably, the 2016 strategy is a transposition from the original metrics introduced in 2011. The new strategy reflects a supplementary incentive-based structure whereas the initial metric structure was punitive in nature and penalized institutions for not meeting performance measures.

The fourth benefit is control over fixed pricing. The recommendation made by GAIFAC for general academic institutions is to fund universities through a new Graduation Bonus formula, \$600 for each bachelor's degree awarded to a student who is not at-risk and \$1,200 for each bachelor's degree awarded to an at-risk student (THECB, 2016). This fixed price

configuration commits the THECB to the equitable distribution of appropriations to all institutions.

Stigler's (1971) theory also relates two burdens. The first burden is collateral damage. The implementation of the 60x30TX plan comes at no additional cost to the state but without careful consideration of funding allocations and the differences in institutional missions and the diversity of students they serve, the higher education community will suffer, particularly the number of at-risk student populations on each respective campus. If allotments from both the bonus model and GAOTS are not provided, colleges and universities will be required to redirect funding from their individual operating budgets to offset the costs of meeting the 60x30TX goals. The greatest financial hardship will be felt by regional institutions with less resources and smaller operating budgets than the flagship institutions.

The second burden is that policy makers' views do not always reflect stakeholder's views, which tend to be negative (Stigler, 1971). The evolution of performance-based funding in Texas stems from public concerns over accountability in higher education. However, many administrators at colleges and universities believe performance-based funding initiatives encourage competition rather than collaboration and reduce the academic rigor of a postsecondary degree (BLS, 2016).

### Implications

There are several implications to the implementation of H.B. 9. First, all institutions stand to gain or lose. However, overall, the regional system institutions stand to gain and lose the most whereas flagship institutions stand to gain and lose the least. For example, the percent of burden is greater at each of the seven regional institutions in the University of Texas system than at the system flagship institution, UT-Austin. Likewise, the percent of burden is greater at

each of the six regional institutions in the Texas A&M University system than at the system flagship institution, TAMU-College Station. Ultimately, if general academic, operations and teaching, and space (GAOTS) allocations are provided, institutions will be positively incentivized through performance-based funding. If they have to rely on Graduation Bonus dollars alone, each institution will need to reallocate funding from their current operating budgets to subsidize the cost to achieve the goals of the 60x30TX strategic plan.

A second implication relates to the primary objective of the 60x30TX plan to raise the percentage of the younger adult population in Texas with a postsecondary education. More specifically, the goal is that by 2030, at least 60% of Texans ages 25-34 will have a postsecondary credential or degree (THECB, 2016). The successful implementation of H.B. 9 means many more students will not only need access to higher education, they must succeed in completing their college degree. The undergraduate enrollment in the United States has more than doubled since 2009 while completion rates have been virtually unchanged (Complete College America, 2016). For this reason, colleges and universities in Texas will need to take bold action to implement systemic reforms and implement evidence based student success strategies such as co-requisite remediation, structured scheduling, and guided pathways. Institutions will need to be intentional about developing strategies that significantly improve student success, uncovering barriers and enablers to degree and credential attainment as well as to understanding factors that enable student success.

A third implication relates to serving a new generation of college students. The current pipeline of students approaching college age is dramatically different from what it was a generation ago (Kelchen & Stedrak, 2016). Yesterday's nontraditional student is today's traditional student yet the higher education system continues to operate the same as before.

According to the U.S. Department of Education's National Center for Education Statistics (2016), 45% of public high school graduates are projected to be non-white, first generation and low-income. The 60x30TX plan seeks to produce 550,000 credentials by 2030 (THECB, 2016). Reaching a goal of this magnitude will require institutions to rethink student success strategies especially with regard to nontraditional and economically disadvantaged students that make up the majority of the student population at public comprehensive colleges and universities in Texas. In this new era, student success and institutional success are inseparable. To better serve the new majority of students, institutional transformation will be critical in succeeding in meeting the goals of the 60x30TX.

### Recommendations

Performance-based funding approaches change funding philosophies. No longer can legislatures allocate funds from budget year to budget year based on enrollment formulas. They must have a long term strategy that is not only consistent with the State's strategic plan but also contributes to the capacity of each institution for achieving the goals of the strategic plan. Effective performance-based funding models should reflect core values, public goals, respect institutional missions, and monitor student progression. Policy makers need to clearly define and disseminate state-level priorities and engage all stakeholders and consider unique institutional characteristics that impact performance-based funding outcomes.

Using indicators that measure both progress and completion will be critical to the success of performance-based funding at the institutional level. The performance-based funding model supporting the 60x30TX plan emphasizes only completion metrics, such as graduation rates, which creates unequitable and inflexible targets for colleges and universities that serve a regionally diverse set of at-risk students. Focusing on completion metrics alone could

discourage institutions from developing student support programs that advance individual student progress such as retention, time to degree, course completion and credit attainment rates.

Clearly communicating the goals of performance-based funding initiatives to all stakeholders, including institutions of higher education, will advance the outcomes of performance-based funding. Detailed, descriptive communication is critical to attaining buy-in to performance-based funding as students, faculty and staff are integral to the process of responding to new funding mandates (Dougherty & Reddy, 2011; Harnisch, 2011; Miao, 2011).

### Future Research

The findings of this study on performance-based funding in Texas have led to the identification of needs for future research. First, longitudinal studies need to be conducted to examine the effects of performance-based funding on regional comprehensive institutions. Researchers need to look at the financial impact performance dollars have on individual institutions, the influence it has on student success measures, and how these compare across institutions. Incorporating individual institutional growth projections and operating budgets into funding models will result in a more sustainable performance-based funding model.

Second, a quantitative analysis ensures performance-based funding models adequately incentivize all institutions. Instead of implementing a “one size fits all” standard, policy makers need to consider flexibility within the formula to address differences in institutional regions, student demographics, missions and capacities. Declining state resources to postsecondary institutions must be factored into what these colleges and universities are capable of doing.

Third, adequate funding is necessary to effectively achieve cross campus buy-in and enact change in institutional behavior. Performance-based funding models would be more



effective if funding was allocated based on each institution's budget as opposed to supplemental funding that does not consider campus culture, at-risk student populations, or fiscal conditions. Policy makers need to consider the resource environments on each campus and identify ways to support the growth and sustainability of student success programs.

### Summary

As Texas prepares to implement performance-based funding, information examined recent funding policies with revised incentives that could reposition colleges and universities based on cost, benefits, burden and equity of distribution. The introduction of 60x30TX strategic plan by a newly established strategic planning committee was founded on the critical need for an educated Texas workforce and sets the stage for the acceleration of postsecondary credential production aiming to award 2.7 million certificates or degrees by 2030. The goal of the 60x30TX plan is for Texas higher education to have 60% of young adults, ages 25 to 34, complete some form of higher education by 2030. Therefore, funding models have been redesigned to incentivize the 37 public, four-year institutions in Texas that reflect the 60x30TX plan where bonus dollars are awarded to institutions graduating the largest number of at-risk students. Yet no information was provided on how such funding incentives would benefit or burden colleges and universities with varying institutional capacities, operating budgets, or annual growth trajectories.

Some of the changes resulting from the new funding model could take time to reveal actual outcomes, both because the policies institutions put in place to respond to performance funding require a number of years to reach their full impact, and because there is a lag in data availability that would allow for comparison with other states that do not use performance funding (Jonson & Yanagiura, 2016). The analysis conducted in this chapter reveals many

colleges and universities do not have the resources to develop programs tied to the 60x30TX plan objectives receiving bonus dollars alone and will suffer serious disadvantages. If the state legislature approves the recommendation to award the general academic, operations and teaching, and space (GAOTS) allocations are made through 2030, institutions will be positively incentivized through performance-based funding. Essentially, the new funding model will work if discretionary funding is provided, however, if it is not, it could cost institutions of higher education in Texas over 2 billion dollars from 2020 to 2030.

## CHAPTER V

### DISCUSSION

#### Introduction

Performance-based funding is not a new idea in higher education finance but it is new to Texas. For the past three legislative sessions, policy makers in Texas have been working to transform funding to higher education from formula funding based on student enrollment to formula funding that creates fiscal incentives for institutions to increase student attainment. By January of 2018, a new performance-based funding model for Texas state-supported public higher education institutions will be fully operational. This dissertation was developed in three phases covering a four-year period of assessment on the progress Texas has made toward the implementation performance-based funding.

#### Phase One

Phase one examined the “major aspects and driving forces to performance based funding as it changes the paradigm of how colleges and universities receive public funding” (Ellis & Bowden, p. 942). This study began in 2013 when the 83rd Texas Legislature signed into law the Performance-Based Funding Act mandating up to 10% of funding to public universities will be based on a performance model developed by the Texas Higher Education Coordinating Board. In many ways, H.B. 9 was a response to a series of federal reports and legislation that introduced the theory of neoliberalism to higher education (Ellis & Bowden). The more the American education system was seen as a failing venture, the more accountability was demanded such as increased access, affordability, quality, and accountability by institutions of higher education. The neoliberalism approach provided the groundwork for the rise of performance-based funding by linking performance to economic benefits in the United States.

Traditional funding formulas that once allocated funds to institutions based primarily on student enrollment now cease to exist in Texas. The first performance-based model emerged in its place targeting institutional accountability and improving the state's educational outcomes aligned with the state's educational goals and economic needs. The model was built on the premise of incentivizing institutions to produce graduates in critical fields that directly support the needs of the state such as math, science, technology, and engineering. Specifically, legislation redirected 10% of the state's enrollment driven funding for allocation to universities based on specific standards, such as total undergraduate degrees, time to degree, institutional mission factor, cost-to-degree, critical fields factor (Science, Technology, Engineering, and Mathematics—STEM and STEM related), at-risk factor and six-year graduation rates (THECB, 2011). The new model provided incentives for formula funding by means of progress indicators, including weighted metrics, such as number of bachelor degrees awarded, bachelor degrees awarded in STEM related fields, and bachelor degrees awarded to at-risk students. Implications for the first performance-based model related to the lack of evidence the new model would meet the needs of the state, the economy, or the students. Furthermore, the metrics were indicative of unequitable distribution of funding to regional institutions lacking the resources needed to meet the new performance measures hence rewarded flagship institutions and penalized the regional institutions.

## Phase Two

Phase two analyzed "data from several states with similar performance-based funding standards to help bring to light to the possible effects H.B. 9 will have on Texas' public" (Ellis & Bowden, 2015 p. 1). To examine the inequities suspected from the 2013 assessment, this study was conducted in 2015 that provided an equity analysis of funding distribution among

state universities in Texas based on performance-funding criteria. The research sought to evaluate whether or not the proposed performance-based model reflected the major differences in institutional missions, the diversity of students, or if metrics will exacerbate inequalities in funding to institutions in Texas.

The analysis was conducted by comparing metric definitions, funding distributions, operating budgets, and state allocations of 14 other states implementing performance-based funding with the proposed model in Texas. Because there was no data yet available in Texas, the study sought to understand the general effects of the metrics proposed in the performance model on institutions by converting weights into dollar amounts.

Findings concluded that most institutions in Texas would have been required to divert resources from current needs toward compliance with state mandates. In addition, the distribution of funds to institutions in Texas would have greatly rewarded larger flagship with strong graduation rates and STEM programs in place. The data revealed the proposed performance model would have penalized smaller system institutions with limited resources in geographically and economically diverse regions. Results determined these smaller system institutions would have been left to find the resources needed to develop the academic and support programs needed that larger institutions already have, just to compete for performance-based funding.

### Phase Three

Phases one and two are complete and resulted in two peer reviewed publications. Phase three is a further analysis of H.B. 9. It is structured for publication as it examined critical changes in the reform of H.B. 9, such as state objectives, revised Texas Higher Education Coordinating Board metrics, and new pressure on Texas four-year institutions to comply with

H.B. 9. The study compared expenditures, operating budgets, and growth trajectories of public four-year colleges and universities to anticipate funding amounts based on the 2014 recommendations from a newly formed strategic planning committee at THECB. Proposed revisions to the previous performance funding model were guided by the new 60x30TX strategic plan, which committed higher education institutions to graduating 60% of the 25- to 34-year old population in Texas by 2030. With the state legislature and the higher education governing board at the helm of the 60x30TX plan that changed the trajectory of performance-based funding in Texas, Stigler's (1971) Theory of Economic Regulation was utilized to examine the two major elements of benefits and burdens.

Funding incentives shifted since the initial development of metrics from H.B. 9. Specific standards have developed from total undergraduate degrees, time to degree, institutional mission factor, cost-to-degree, critical field factors like STEM to three-year average graduation rates of degrees awarded to at-risk students and not-at-risk students. In addition, two funding mechanisms are proposed. The first is bonus dollars, weighted differently for at-risk and not-at-risk students, awarded to institutions that increase graduation rates. The second is supplemental funding allocations for general academic, operations, teaching, and space. Results of this study concluded that graduation bonus dollars alone would not compensate for the additional costs each institution would incur to meet 60x30TX goals. If institutions are funded through the revised performance model of graduation bonus dollars alone, institutions will be burdened. The following research questions guided the study:

1. What is the relationship of anticipated performance-based funding to institutional expenses to conform to House Bill 9?

2. Which of the 37 Texas four-year institutions benefit from performance-based funding?

3. Which of the 37 Texas four-year institutions are burdened from performance-based funding?

Phase one outlined funding formulas proposed by THECB in response to in H.B. 9. It laid the foundation for an economic model for Texas to allocate fiscal incentives for higher education institutions raising questions about inequitable distribution and unfair advantages for some institutions over others. It exposed a performance paradox in which states demanded performance, yet did not adequately fund smaller institutions to address institutional performance. Phase two resulted in a funding analysis that compared performance-funding data from institutions across the United States with data from similar institutions in Texas. The analysis confirmed suspicions of inequities from H.B. 9, specifically for regional institutions smaller in size and capacity. In 2015, Texas introduced the new 60x30TX strategic plan for higher education, causing THECB to abandoned the original performance-based funding model and develop a new model for incentivizing institutions to align with the new plan. This charge was led by a newly formed committee, the GAIFAC, within the THECB. This provided the purpose of phase three in examining important factors influencing the benefits versus burdens related to the new performance funding model.

Phase three findings concluded with multiple considerations that directly influence the success or failure of the implementation of performance-based funding. First, if legislation ties state funding to graduation bonus dollars only, institutions will be forced to reallocate funding from their current operating budgets to subsidize the additional \$2 billion needed to achieve the goals of the 60x30TX strategic plan. Though institutions would be adequately rewarded with

\$4.5 billion in incentives if legislation accepts the recommendation from the THECB to allocate GAOTS funding through 2030, no commitment has been made by legislation to allocate GAOTS funding, either short-term or long-term. Without a long-term commitment to adequate performance-based funding, institutions are left to assume the costs of meeting the attainment goals of the 60x30TX strategic plan.

Second, the performance model neglected to calculate costs according to each institutional operating budget or projected growth specific to each institution. Data showed that without GAOTS funding, all institutions in Texas are financially burdened by performance-based funding with smaller regional institutions being the hardest hit as opposed to larger flagship institutions. Essentially, no consideration for institutional expenses to meet the goals of 60x30TX is identified in the current state performance-based funding model. Furthermore, sufficient fiscal support for institutions to achieve credential attainment goals is insufficient. The most common theme found in the evaluations of higher education performance-based funding is that low-resources colleges and universities struggle to meet performance goals (Hillman, 2016). The recommendation made by GAIFAC for general academic institutions is to fund universities through a new Graduation Bonus formula, \$600 for each bachelor's degree awarded to a student who is not-at-risk and \$1,200 for each bachelor's degree awarded to an at-risk student (THECB, 2016). Though data were provided by the GAIFAC to show the three-year averages of graduation bonus dollars for institutions graduating at-risk students, data were not provided to show cost for additional campus growth over time or for increased numbers of students needed to meet 60x30TX outcomes.

Third, by only incentivizing institutions to graduate at-risk students, the legislature, the THECB, and the GAIFAC neglected to incorporate incentives that encourage or support low-



performing institutions to improve. In higher education, it is likely that institutions already performing well will have the resources necessary to respond and adapt to the performance demand (Snyder, 2015). Those with the least resources will struggle to respond, if they do not have the experience or financial capability to adopt or implement new retention and completion initiatives (Hillman, 2016).

Fourth, funding incentives are insufficient for institutional growth. The 60x30TX plan has committed higher education to graduate at least 550,000 students by 2030, with certificates, associate's, bachelor's, and graduate degrees. In addition, the plan calls for significant increases to graduation rates of traditionally underrepresented students, such as first-generation, low-income, and students of color. To support this goal, the performance funding model weighs at-risk students higher than not-at-risk students to incentivize institutions to focus on the new critical mass of traditionally underserved students entering college. However, the funding is insufficient to strengthen the capacity and expansion and programming needed for institutions to integrate support initiatives that foster student success for this target population. New models of student success must address issues related to characterizing the diverse nature of students who are entering higher education today. The 60x30TX plan does not provide support for transitioning institutions away from programs developed for a homogenous student base. It is impossible to think that a single mega-model can account for everything related to the success of a diverse group of students entering college today (Anderson, 2014). The basic institutional structure and outdated delivery methods need to change in order meet the needs of traditionally underserved students. Figure 5 provides a summary of benefit versus burden.

<i>Four-Year Institutions Benefit Burden from Performance-Based Funding, N = 31 Institutions</i>						
Institutions	Constant Operating Budget with no Bonus Dollars or GAOTS	Constant Additional Benefit to the Institution w/Bonus Dollars & GAOTS- Total 2020-2030 (just benefits-no operating budget)	Percent Benefit	Constant Additional Burden to the Institution w/out GAOTS- Total 2020-2030 (just burdens-no operating budget)	Percent Burden	Total Percent Spread
UT-Rio Grande Valley	\$123,553,668	\$197,106,000	23.43	\$86,278,320	(11.81)	35.24
Angelo State University	\$41,447,680	\$56,316,000	20.28	\$27,866,540	(11.18)	31.46
UHouston-Downtown	\$110,290,021	\$122,018,000	15.74	\$64,047,590	(8.93)	24.67
UT-Tyler	\$45,608,014	\$61,009,000	17.28	\$23,986,890	(7.59)	24.87
UT-Permian Basin	\$26,007,526	\$28,158,000	14.21	\$12,256,460	(6.72)	20.93
University of Houston	\$274,520,783	\$305,045,000	14.28	\$131,471,550	(6.70)	20.98
Texas Tech University	\$226,171,653	\$267,501,000	15.10	\$106,824,780	(6.63)	21.73
Lamar	\$93,293,771	\$75,088,000	10.76	\$44,046,360	(6.61)	17.37
UT-Arlington	\$337,321,370	\$328,510,000	12.37	\$150,002,750	(6.05)	18.42
Texas Women's University	\$80,500,659	\$103,246,000	14.95	\$32,362,070	(5.22)	20.17
UT-San Antonio	\$293,806,450	\$234,650,000	9.65	\$108,420,040	(4.70)	14.35
UT-El Paso	\$222,465,090	\$164,255,000	8.79	\$75,032,180	(4.22)	13.01
Midwestern	\$96,109,782	\$56,316,000	7.01	\$30,806,000	(3.96)	10.97
Sul Ross	\$23,077,402	\$9,386,000	5.08	\$7,213,520	(3.95)	9.03
TAMU-Commeroe	\$152,714,084	\$75,088,000	5.69	\$39,425,690	(3.07)	8.76
WTAMU	\$129,595,219	\$70,395,000	6.16	\$32,125,880	(2.91)	9.07
Tarleton	\$145,158,655	\$93,860,000	7.18	\$33,942,860	(2.72)	9.90
Prairie View	\$167,974,520	\$51,623,000	3.55	\$38,768,800	(2.69)	6.24
UT-Dallas	\$305,903,698	\$140,790,000	5.17	\$68,204,540	(2.58)	7.75
TAMU-International	\$100,908,324	\$46,930,000	5.12	\$20,672,550	(2.32)	7.44
TXST	\$472,261,374	\$295,659,000	6.78	\$95,658,640	(2.30)	9.08
Sam Houston	\$260,052,377	\$164,255,000	6.82	\$52,516,880	(2.29)	9.11
TAMU-CC	\$165,841,644	\$75,088,000	4.97	\$31,543,070	(2.25)	7.12
Texas Southern University	\$262,874,617	\$42,237,000	1.82	\$49,054,990	(2.10)	3.92
UT-Austin	\$1,471,691,469	\$469,300,000	3.54	\$265,130,090	(2.03)	5.57
TAMU-Kingsville	\$132,343,329	\$46,930,000	3.92	\$23,777,700	(2.02)	5.94
SFA	\$244,317,969	\$103,246,000	4.60	\$43,021,550	(1.97)	6.57
TAMU-Galveston	\$54,699,758	\$14,079,000	2.87	\$8,560,380	(1.76)	4.63
UNT	\$877,823,418	\$309,738,000	3.74	\$115,481,100	(1.43)	5.17
TAMU-College Station	\$1,258,323,390	\$478,686,000	4.00	\$159,635,520	(1.37)	5.37
UH-Clear Lake	\$91,672,512	\$65,702,000	6.98	\$7,369,030	(.83)	7.81

Figure 5, Four-Year Institutions Benefit Burden from Performance-Based Funding

Fifth, the plan emphasizes the value of higher education relative to the workforce by committing institutions to graduating students with identified marketable skills. To achieve this goal, the plan calls for the expansion of programs, such as co-requisite remediation, competency-based courses, and developmental education. For institutions to achieve the workforce readiness demands in the 60x30TX plan, institutions will be required to hire more personnel, find additional space, provide specialized faculty development opportunities, revise curriculum and supply the technology needed for students to be effectively prepared to succeed in college and secure jobs in an increasingly competitive and dynamic workforce. Currently,

there are no specific industry targets identified in the plan. A new survey from the Pew Research Institute (2016) indicates 50% of employers believe education is the major factor in the ability to achieve student success, and 72% believe that training and credentialing is the responsibility of higher education. The 60x30TX plan will need to identify more specifically the workforce demands in Texas, collaborate directly with institutions as well as industry leaders to develop credentialing programs to ensure institutions, industry and students are prepared to enter the workforce.

### Implications

Performance-based funding appears to be a basic concept but it has complex processes and procedures. In basic terms, incentives are provided to induce particular outcomes. For example, the state would provide institutions with \$1,200 per at-risk student who graduated with a bachelor's degree. The reality is, though, much more complex. For instance, there has to be an infrastructure already in place or being implemented to meet the demands of increased enrollments. The implications for performance-based funding in Texas address many of those complexities.

First, institutions need to build institutional capacity that supports student success. Colleges and universities that have more financial capacity are in the best position to serve students well as funding per student is one of the strongest predictors of college graduation (Bound, 2012). As states divest from public higher education, they shift the financial responsibility onto students in the form of higher tuition. Rather than stemming this tide, performance-based funding may actually reinforce this race to the bottom in that colleges that have the greatest capacity are those that will be most likely to perform well (Hillman, 2016). If this occurs to a high extent, financial incentives will be a blunt policy instrument not well

designed for improving college completions. Instead, states should focus on building the resource capacity of the lowest-performing colleges and then allocate funds according to performance-oriented needs (Hillman, 2016).

Second, colleges and universities must integrate a need-based funding system to level the playing field. A need-based funding model for colleges and universities would target resources to institutions serving the most underrepresented student populations (Gerrish, 2015). The problem with college completion is not where elite or highly selective colleges are under-performing, but rather campus resources are insufficient in many of the public institutions where low-income, working class, and racial/ethnic minority students attend (Hearn, 2015). Building institutional capacity to better serve such students would be a more effective and promising way to increase college completion. The 60x30TX performance-based funding incorporated diversity (i.e. at-risk students) into their funding models, but this is likely insufficient, if diversity and equity is not at the forefront of the funding conversation. By prioritizing equity, rather than embedding it within a funding formula, states will be in a better position to improve educational outcomes (Hillman, 2016).

Third, there needs to be a long-term funding philosophy in higher education. As the major stakeholders of performance-based funding build the plan to incentivize institutions to implement programs focused on increasing graduation rates over time, it is important that policy and decision makers within the THECB come together to build a long-term funding model that provides sustainability to institutions. If change is expected at the institutional level, so too should those expectations be in place legislatively to provide long-term funding initiatives for higher education. Traditional biennium budgeting should be replaced with a more durable model beyond the biennium.

Fourth, institutions need to remain fiscally prepared to sustain student support programs. As institutions prepare for the implementation of H.B. 9 in the 2018-2019 biennium, there is not yet any indication from THECB where funding incentives will be allocated past 2018-2019. Presidents and CFO's should plan to set aside funding to meet the 60x30TX goals without legislative funding commitments. With the potential of a \$2 billion shortfall, H.B. 9 could plunge Texas' public institutions into retrenchment. According to McKnight, Paugh, Waltz, and McKnight (2015), the higher education environment is now framed in business strategies and practices to where there is a focus on "the reduction or elimination of unprofitable programs, services or products" (p. 67). This could mean significant and drastic cut-backs. Campuses could expect a hiring freeze with many vacancies never filled. Pay increases could cease. Intense pressure may be put on campus communities for increased enrollments, higher faculty to student ratios, fund raising efforts for every unit, more external research funding, less money for travel, higher student fees, and fewer employee benefits.

Fifth, policymakers need to consider the implications of student debt for traditionally underserved students. Students designated as at-risk, who need financial aid the most, are the ones who incur the most college debt. Today the majority of all minority college students at four-year public institutions rely on grants and loans to pay tuition. Americans now hold \$1.2 trillion in student debt (Quinton, 2015). According to the Urban Institute (2016), first-generation, low income, and students of color borrow more frequently to earn bachelor's degrees, even at public schools. To meet the attainment rates focused on at-risk students outlined in the 60x30TX plan, policy makers should consider leveraging federal dollars to bring down the cost of college. Additionally, institutions will need to build programs that provide

financial education programs and increase financial aid packages to help students make better decisions before they take out loans.

Sixth, policymakers and institutions alike need to consider the implications of legislative exemptions that drain already restricted state resources, such as the Hazelwood Act. The Hazelwood Act is a state of Texas benefit that provides qualified Veterans, spouses, and dependent children with an education benefit of up to 150 hours of tuition exemption, including most fee charges, at public institutions of higher education in Texas. Essentially, the Hazelwood Act allows for children of veterans in Texas to go to college for free. The Hazelwood Act has already cost institutions nearly \$180 million since 2009 with little help from the state (Cawton, 2016). According to Chancellor Sharp of the Texas A&M System, this will cost the A&M institutions about \$47 million in 2016. Therefore, if public four-year institutions have to subsidize both the \$180 million from the Hazelwood Act and the \$2 billion if GAOTS funding is not approved in the H.B. 9 proposal, institutions are enormously burdened.

Seventh, policymakers and institutions need to consider the long term effects of not graduating a greater number of students. According to the Center for American Progress (2012), the nation's economy demands workers that process increasing levels of knowledge, skills, and abilities that are best acquired through postsecondary education. A recent study by Georgetown University's Center on Education and Workforce (2015), found that at current levels of production, the United States economy will have a shortfall of five million college-educated workers by 2020 which will have negative implications on the economic and social wellbeing of the nation and within the states.

## Recommendations

House Bill 9 and 60x30TX are attempts by the state to incentivize institutions to become more productive in enrolling and graduating students from all of the state's public institutions. However, the financial outcomes based on the analyses of this study, showed the possibility of incentives to less beneficial and more burdensome. The recommendations provide some directions for state and institutional considerations.

### State Support

Policymakers in Texas overwhelmingly agree that the state needs more people with college degrees or other postsecondary credentials. They are very close to implementing performance-based funding initiatives to fulfill that goal (McLendon & Hearn, 2014). States are using performance-based funding to incentivize institutions to graduate more students, increase accountability, and communicate the goals of the state's priorities. However, little state support is provided to build up resources as colleges and universities to respond to performance funding.

Policymakers need to help institutions consider avenues for change. The state could sponsor discussions of organizational change in response to performance-based funding. By collectively gathering all major stakeholders, institutions would benefit from learning about research findings on organizational change in higher education and how H.B. 9 supports the goals of the 60x30TX plan for Texas. In addition, the state of Texas could create communities of practice, involving peer institutions in collaborating on how to improve student outcomes rather than competing with each other.

State agencies need to make decisions based on data-driven studies. According to a Gottfried, Ikemoto, Orr, and Lemke (2011) in a report for the Institute of Educational Sciences,

data-driven decisions are needed at all levels of the educational system. Their study looked at how Arkansas, Florida, Texas, and Virginia created data systems for better decision making. Although states and state agencies are making advances toward data-driven policies, there is still a lack of capacity to use the data. It is not just a matter of having data: it has to be the right data, whether qualitative or quantitative. Currently, the Texas Education Agency provides data through a clearing house to promote data use for best practices, webinars, further research, and informed decisions. However, the Texas Education Agency is focused on the K-12 system. This same effort needs to be developed for higher education.

There also needs to be a fundamental shift in state thinking about its educational system. There is a problematizing perspective of US education (Hurley, 2013). Public leaders view education as an industry as a problem in constant crises versus a system that consistently contributes to the knowledge, advancement, and economic development of the country. The crises mode of education promotes an accountability agenda among policy makers to establish a set of rigid principals to force education to conform. Therefore, policy-makers are intent on fixing education. Performance-based standards are the outgrowth of this mentality. Hurley (2013) suggested the crisis is not with educational performances but with a lack of open discourse. With the acceptance of applying the business model of commerce to education, discourse is restricted to “outcomes, targets, merit pay, bottom line, product, performance, and data” (p. 67). Though the concepts are not bad, the current political framework is not open to alternate perspectives. Since education is not purely a business, political constituents need to be open to a larger discourse about the purpose and direction of education.

Institutional Change



Performance-based funding requires institutions to re-imagine academic, student, faculty, staff, and administrative engagement. To achieve the goals of the 60x30TX plan, institutions will be required to revamp programs to promote persistence, degree completion, job placement, and other performance funding objectives, as well as how campus personnel interact with students and each other. Specifically, consideration will be needed for developmental education, curricular and graduation requirements, changes to academic departments and academic personnel, and changes to instructional techniques. Since the 60x30TX plan relies heavily on reaching traditionally underrepresented populations, a business-as-usual approach to education will not suffice. There will need to be a greater emphasis on major societal issues, such as social justice and democracy. However, those involved in education do not necessarily interact with others who are demographically, ethnically or racially different in order to engage in social justice and democracy efforts. Campus officials need to be more engaged in critical reflection to alter current actions that dehumanize sociopolitical conditions and practices (Ross, 2014). This requires admission policies, orientation practices, mentoring programs, pedagogy, course scheduling, and support services, for example, to be conducted differently. There must be equal chances for students, faculty, staff, administrators, and constituents to develop their differential abilities required for individual and collective success (Bull, 2012).

According to a report released by Complete College America (2014), the most common academic change following performance-based funding adoption in the United States was the altering of developmental education. Institutions are lowering the number of credits required for a degree, enhancing course articulation, reforming developmental education and building degree maps. Student services efforts have been addressing issues of advising, counseling services, and implementing early alert systems, degree audits, and the integration of faculty into the advising

process (Complete College America, 2014). In Texas, the Texas Higher Education Coordinating Board (THECB) (Transforming Developmental Education, 2014) reported the most effective way to address underprepared students in Texas is through a complex process involving widespread change. The THECB expects colleges and universities to use extensive student assessments as a diagnostic profile of students according to academic subject areas, which comes at extensive costs to colleges and universities. The point from the THECB is for postsecondary institutions to meet the needs of lower academically skilled students in order to build their skills and create academic success for their placement in the workforce. This is the major goal of 60x30TX. Strong developmental courses are crucial to those outcomes.

Currently, there is no identifiable role of performance-based funding in supporting, progressing, or incentivizing these initiatives for the long term. States, like Texas, have shifted to performance-based funding, believing that by connecting funding dollars to results provide incentives to pursue those results. However, studies (Dougherty & Reddy, 2011; Harnisch, 2011; Miao, 2011) consistently show the majority of performance-based funding initiatives has failed more than they have succeeded. Hillman, 2016 show that tying financial incentives to performance-based metrics rarely results in positive outcomes or are sustained over time. Sustainability is difficult when standard performance metrics are applied across a multitude of complex institutions of varying size and structure.

Specifically, in higher education, it is easier to count the number of students who enroll or graduate, but the process of moving a student successfully through a multifaceted system is anything but simple (Hillman, 2016). As states reduce financial support to institutions, they are losing ground on the resources needed to graduate students. This is because the success of performance-based funding is dependent upon the design of funding formulas (Klein, 2015).

Klein argued that there must be a seven-stage process for success: (a) state commitment; (b) state task force; (c) state funding priorities; (d) definitive measures for allocating; (e) data sources; (f) formula allocations; (g) implementation plan. Even after it is implemented, its effectiveness may not be understood until after a 3- to 5-year cycle. According to Klein, performance-based funding can be highly effective. However, as Nisar (2015) related, performance-based funding works well when there is an era of economic growth, such as in the 1980s and 1990s. When there was more money, the incentives to produce performance outcomes helped organizational design and structure. As economic times became less prosperous, most states abandoned many of the practices because performance-based funding showed no effect (Nisar). Nevertheless, in recent years there has been a resurgence of these policies based on accountability ideology. However, analyses have shown most national and international outcomes to have limited success or no success at all (Robovsky, 2012; Nisar, 2015; Shin, 2010; Volkwein & Tanberg, 2008).

If the state of Texas is not going to adjust its approach to performance-based education or its metrics, institutions must redirect their resources. For example, many institutions across the nation are redirecting resources from increasing total student enrollment numbers in order to compensate for attrition rates toward investing in retention programs (Nisar, 2015). It is a gamble, but with a poor economy, limited resources, and the potential of a \$2 billion loss by Texas' four-year institutions, reinvestment may be the only option. One of the best options appears to be redirecting funds from marketing. Much of marketing efforts are on recruitment strategies, communications, student-institutional match, online programs, and emotional connections (Sarkane & Sloka, 2015). With newer, more social media savvy populations entering higher education as students, colleges and universities should consider less expensive

marketing efforts and engage in social media strategies (Mocan & Maniu, 2016). Mocan and Maniu found the tech-savvy generation engaged in social media. It is becoming a more effective way to reach prospective students. Institutional administrators should rethink their approaches to marketing toward cost saving venues to redirect funding for retention efforts. The answer to needing more college graduates is more people in college, but also much higher retention rates.

#### Alternative Approaches

By 2018, 63% of all jobs in the United States will require a college degree or certificate (Carnevale, 2013). The trend is expected to continue, at least in the state of Texas according to 60x30TX. Performance-based funding is intended to help institutions achieve more college degrees and certificates. However, the literature (e.g., Hillman, 2015; Lee, 2015) reveals marginal achievement records, at best. College and university administrators should be looking at alternative approaches.

First, institutions may need to be more aggressive in developing programs and relationships with high schools and community colleges. In 2015, H. B. 505 was signed into law and deals with dual credit programs. Dual credit programs are where high school students take courses which also apply to college credit. Thus, in the past a student graduating high school could enter college as a sophomore or possibly as a junior. However, with the implementation of H.B. 9, beginning with the 2015-2016 school year, the law states that school districts cannot limit the following: (a) number of dual credit hours a high school student takes while in high school, (b) number of dual credit courses or hours enrolled in a semester or academic year; and (c) the grade level at which a high school student may be eligible for enrollment in dual credit courses (Lofters, 2015). Although it may mean younger and younger students from high schools

arriving on college campuses as sophomores, juniors, and seniors, colleges and universities may need to admit more and more dual credit high school students in order to meet 60x30TX targets.

Second, institutions may want to explore alternative admission requirements. Traditional admission criteria, such as minimum scores on standardized tests, grade point average, letters of reference, and extra-curricular activities have dominated the landscape for decades (e.g., Bial & Rodriguez, 2007). Bial and Rodriguez even stated that “[s]election in college admissions is, by definition, a practice of discrimination among students” (p. 18). To meet Texas state goals admission standards will have to be more inclusive of diverse populations. With the push by states to include more underrepresented populations and non-traditional students (e.g., dual credit), alternative admission approaches may be required to achieve completion goals. For example, institutions can partner with programs that typically serve underrepresented populations. Institutions would not have to develop alternative programs, but would rely on the standards set by organizations that serve and prepare underrepresented groups. Programs, such as A Better Chance, Project Grad, The Posse Foundation, the Quest Scholars Program, Higher Education Opportunity Program, Transitional Year Program, and Bridge Programs, help prepare underrepresented groups for college success (Bial & Rodriguez).

Third, there have been challenges to traditional methods of admissions for decades. It may be time for the challenges to take root. For instance, Sternberg (2004) developed an abilities assessment. The Sternberg Triarchic Abilities Test measures an applicant’s practical, creative, and analytical intelligence. The results are used as predictors for success in college and life. Sedlacek (1993) introduced a non-cognitive questionnaire. The tool measures eight traits, specifically designed for selecting non-traditional students: (a) self-concept; (b) self-appraisal; (c) understanding racism; (d) long-range goals; (e) leadership; (f) strong support person; (g)

community involvement; and (h) non-traditional knowledge. In 1999 the Bial Dale College Adaptability Index was developed with the assistance of a \$1.9 million dollar grant. It was designed to help identify nontraditional students, who have the potential to excel in a competitive academic environment but not perform well on standardized tests (Bial & Rodriguez, 2007).

This mindset has carried over to graduate admissions thinking as well. Kent and McCarthy (2016) wrote a report for the Council of Graduate Studies delineating a variety of considerations for a holistic approach to graduate admissions. For example, they found that non-cognitive approaches to admissions with or without the GRE doubled underrepresented minorities in programs and did not affect program quality. Holistic approaches can be institutional mission or program goal focused, training outcome related, discipline specific, or combinations of these. The key is that holistic approaches consider a broad range of applicant qualities, including non-cognitive assessments, goal orientations, interviews, program understanding, undergraduate major (Gilbert, 2008; Kent & McCarthy, 2016; Kreiter, 2013). A holistic approach may be better at assessing all students, regardless of their background. The holistic approach is an attempt to level the field for all applicants.

Additionally, Kureska and Bowden (in progress) are looking at resilience factors as predictors for doctoral student completion. The study may have implications for using the Resilience Scale for Adults (Hjemdal, Friborg, & Stiles, 2012) as a non-cognitive assessment for graduate admissions. The instrument assesses: (a) perception of self as related to self-confidence, belief in own ability, and awareness of self-worth; (b) planned future for ability to pre-plan, be goal oriented, and have a positive point of view; (c) social competence for extraversion, social flexibility, ability to make friends and to use humor in a positive way; (d)

structured style to measure one's preference to follow routines, be structured, have clear goals and plans before starting projects; (e) family cohesion to measure if values are shared or conflicting within the family, enjoyment spending time with family, positive outlook of future, are loyal, appreciate and support family; and (f) social resources for social support outside the family and whether if they can utilize these resources for help (Hjemdal, Friborg, & Stiles). In short, college and university officials need to be looking at alternative admission programs whether the 30x60TX plan is funded or not. The magnitude of numbers it is attempting to achieve across certificate, associate's bachelor's, and graduate degrees is aggressive. In addition, the populations the plan is targeting are traditionally underrepresented. Between those two goals, alternative admissions processes may not be an option.

#### Future Research

The findings from this study regarding the implementation of H.B. 9 and meeting the goals of the 60x30TX strategic plan have led to the identification of multiple opportunities. Future researchers should be looking at a number of areas to conduct additional studies on the topic of performance-based funding at state supported institutions of higher education. To date, there is little empirical or theoretical support behind performance-based funding in higher education, examining its financial outcomes, yet states continue to adopt and expand their efforts even when the weight of evidence suggests performance-based funding is not well suited for improving educational outcomes (need citation). This research only exposed the benefits and burdens to each of the Texas state's 37 four-year institutions. Additional research is needed.

First, quantitative studies are needed that sample across different types of system institutions, particularly in regard to flagship and regional institutions. The H.B. 9 success could be increased, if policymakers differentiated metrics by institutional type to reflect diverse goals,

student populations, and missions of Texas institutions. As Dougherty and Hong (2006) explained, if performance-based funding models are not carefully designed and monitored, they can “create a vicious cycle where colleges and universities with more disadvantaged students and fewer institutional resources will find it difficult to meet state standards, and, hence, will lose funding, further compounding their lack of resources and imperiling their future performance” (p. 82). Unaccompanied by sufficient financial resources to help build institutional capacity for change and improvement, performance-based funding could further imperil the performance of colleges and universities that predominately serve at-risk students (Tandberg et al., 2014). Faced with uncertainties regarding equitable performance-based funding division in Texas, decision makers in Texas could consider separating funding formulas to accommodate various regional institutions within a university system with varying research goals and missions. For example, some campuses might use technology and predictive analytics to identify and reach out to students who are struggling academically. Other campuses might provide new ways to deliver developmental education or allocate financial aid in order to retain and graduate more students (Hillman, 2016). A more flexible approach acknowledges the needs that vary across campuses to increase the value and outcome of H.B. 9.

Second, more research is needed at the institutional level to better understand how student and institutional characteristics influence student persistence and degree attainment. Neither H.B. 9 nor the 60x30TX strategic plan investigated causes or reasons for improvements of student retention by individual institution. Additionally, they did not consider the costs associated in building student success initiatives. A longitudinal study needs to be conducted. It should begin with the implementation of H.B. 9 and continue through the completion of 60x30TX through 2030. Completion rates, retention rates, time to completion, and cost to



institutions should be examined for both at-risk and not-at-risk students. This includes how operating budgets are impacted, how it affects faculty tenure and promotion, salary increases, hiring practices, and how financial aid is awarded and tracked, such as default rates as a possible collateral damage (Stigler, 1971). These issues need to be identified and tracked.

Third, future research should explore cost savings measures, such as marketing strategies, that redirect funds from expensive recruitment tactics to fund retention efforts. The new generation of students typically selects colleges based on program of interest, convenience, and recommendations of others (Dietrich, 2016). To engage prospective students, institutions have to communicate with them on their timetable, not the institutions' time frames. One innovative and low-cost marketing strategy is faculty phone calls to high-potential students. Students are used to hearing from admissions representatives, but to hear from faculty about their particular academic interest allows students to feel more confidence in the institution. Another low-cost marketing strategy involves social media. Colleges and universities are increasingly utilizing various types of social media for student recruitment. Facebook, Twitter, YouTube, Snapchat, and Instagram were higher education's most popular social media avenues for student recruitment among institutions (Dietrich, 2016). Institutions could also generate more applications by implementing low-cost communication tactics that target specific students. For example, pursuing students who have submitted test scores or transcripts but not yet applied could receive electronic communication that drives them to the website or have a student caller contact them to encourage application. Scholars could compare the effects of these strategies with traditional ones across different types of institutions.

Finally, future research should explore low cost retention initiatives to retain students in meeting the demands of the 60x30TX attainment goals. Student retention is one of the most

important issues facing higher education today. With one-third of college students dropping out of school each year, it is a topic institutions across the country have noticed, but few have found workable solutions to the problem (Heldman, 2016). Developing and maintaining effective student retention programs will be of the utmost importance in achieving the goals of the 60x30TX plan. Institutions should start with assessment to understand the multifaceted problems with retention they face and the varying reasons students do not return to class the next semester. Thorough assessment of the reasons students are leaving is an inexpensive approach that yields valuable insight to help form an effective retention plan unique to each institution. Another low cost strategy that will address the issues uncovered by the assessment is implementing an effective, meaningful communication plan for students who have been identified as high risk for attrition (Heldman, 2016). Effective communication strategies include building a database that monitors students' risk levels based on at risk criteria that schedules communication alerts such as email, phone calls to students when they meet an at risk condition. According to the U.S. Department of Education (2015), the benefit of building individualized communication systems is to free up staff for personal interaction while providing students with the resources needed to stay in school. Low cost communication strategies like this can accomplish more and make retention more efficient and effective.

### Summary

The value of a college degree is at the highest in history and more jobs than ever now require a postsecondary credential. Yet, the United States continues to fall behind in educating its population. This will have serious consequences on the nation's future prosperity and the social mobility of the American people. Twenty years ago the conversation was driven around access being the primary issue in higher education, but now it is access plus retention plus

completion. Overtime, the story of higher education has changed. Lessons have been learned about how to improve student success and now a new story is being told. Performance-based funding is a part of that story, but without the intentional efforts to tie performance funding metrics to an inclusive network of proven, evidence-based practices that are accelerating student success, especially for low-income, first generation, and students of color, progress is postponed. No longer can higher education operate under the notion that students should leave high school college ready. To meet the sizable educational needs of the nation, colleges need to restructure, redesign, and rethink about how they can be student ready.

There is a lot policy-makers can do to support colleges and universities to better support the new era of students they serve today. More support is needed that encourage institutional leaders to establish a campus culture that values student success and accepts responsibility for student achievement. Students succeed when campus leaders honor and promote student success by not treating faculty members as problems to be solved but as problem solvers. More funding should be provided to campuses that dive deep into relevant data to identify institutional specific barriers to student success. Institutions can learn from disaggregated data to spot problems and frame action. Institutions should focus on data that show how students are doing early in a term and take action whenever students go off course. Institutions need more funding in order to build high impact practices that affect large numbers of at-risk students, such as meta-majors, academic maps, early alert systems and summer bridge programs, providing students with a clear, efficient path forward to graduation. In a student ready college environment, institutions understand the path to graduation is not as clear or functional as faculty and administration believe it to be. Going forward, policy makers need to work with institutions of higher education and be more intentional about providing adequate resources for

student success. In the end, the choices made and the action taken by policy makers and institutions, matter.

The study was conducted to examine the progress Texas has made toward the implementation performance-based funding. While there has been a large amount of research citing why performance-based funding is necessary for Texas, there have not been any studies that consider the funding inequities across institutions or compare institutional resource capacities with such unintended consequences. There is no concrete evidence the performance funding strategy will have a positive impact on the 60x30TX plan.

Texas state agencies have moved forward with funding recommendations without analyses of equity. The equity analysis of funding distributions among state four-year universities in Texas based on performance-funding criteria from 2013 in phase two of this study confirmed the concept from phase one that major differences in institutional missions, the diversity of students, or if metrics would exacerbate inequalities in funding to institutions in Texas. Findings concluded that low-resourced institutions would struggle to meet the performance-based funding goals. More specifically, low-resourced institutions would lose funding and have less capacity to make improvements. The state has demanded performance, yet the initial metrics proposed in H.B. 9 did not provide institutions with the resources to perform. This performance paradox benefited high-performing institutions leaving low-performing institutions to struggle without the financial capability to implement new completion initiatives. To give all institutions an equal opportunity to succeed within a performance-based funding model it will be necessary to assess the ability of less-resourced institutions' ability to implement effective practices that improve performance.

Due to the critical role played by state allocated funding to public four-year institutions, outcomes of this study may have a significant influence on institutions in higher education. They work to fundamentally reorganize internal structures that maximize funding allocations aligned with the performance model outlined in H.B. 9. Outcomes of this study may help decision makers and institutions better understand unintended consequences of performance-based funding, as well as how to maximize efficiency and equality among institutions of all size in regions all over the state as Texas approaches the implementation of performance-based funding.

Increased accountability and decreased resources are the new norm. Colleges and universities are required to do more with less. In addition, policy-makers across the nation are now linking funding to the types of results that higher education can produce. Therefore, funding models have been redesigned to reflect performance standards set by the needs of the nation and the states. Studies will need to continue to understand if performance based funding has succeeded in meeting the needs of the states, economy, and students.

It is clear that a more educated population is needed in this country to ensure its economic future and protect its social foundation. Open access must be provided but stakeholders need to do a much better job of defining access to what and for whom. Students found in the bottom quarter of the socioeconomic class have a one in ten chance in completing college degree (Hearn, 2015). The new majorities of students entering college have been and remain traditionally under-served and these students statistically do not succeed in college. That is not good enough. Institutions must find solutions and advance innovations on campus to ensure this new era of students get the support the need to graduate. Institutions have to innovate, collaborate, and be more intentional advancing student success. Stakeholders can no

longer work in silos. They do not have another 20 years to spread ideas. Changes have to happen now, but it will require institutions to work much more intentionally and collaboratively.

Ultimately, performance-based funding will require state funded colleges and universities to think about student success strategies for the future. Radical transformation, both programmatically and holistically, is necessary to increase student attainment rates in the 30x60TX plan. Institutions will have to join in an innovation movement that needs to be pervasive throughout higher education. Programs, such as Meta-Majors and Bridge Programs will be critical to student success going forward. In addition, holistic approaches that eliminate attrition need to be adopted, such as understanding a student's sense of belonging, grit, and mindset. Faculty need to better understand the processes that shape adolescent development and how social cognitive factors interact with structural and physiological factors to create positive or negative trajectories for youth (Yeagar, 2016). Change is imminent. Higher education professionals can either formulate their future or have policy-makers do it for them.

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## APPENDIX A



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# Performance Based Funding: Changing the Paradigm for Higher Education

Robin Ellis<sup>1</sup> and Randall Bowden<sup>1\*</sup>

<sup>1</sup>Texas A and M University, 6300 Ocean Dr Corpus Christi, Texas, 78412, USA.

### *Authors' contributions*

*This work was carried out in collaboration between both authors. Authors RE and RB collaborated on all aspects of the manuscript. Author RE developed much of the content under the guidance of author RB. All authors contributed to the revisions. Both authors read and approved the final manuscript.*

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## ABSTRACT

**Aims:** To examine major aspects and driving forces to performance based funding as it changes the paradigm of how colleges and universities receive public funding.

**Study Design:** The manuscript is a position, review paper, therefore it selects a controversial topic and builds a case for a position.

**Place and Duration of Study:** Covers recent literature that relates to performance based funding of colleges and universities while grounded in neoliberal philosophy.

**Methodology:** Structure the paper moves the subject matter through a series of topics, formula funding; student success; student outcomes and state goals; and conclusions.

**Results:** The purpose and landscape of higher education is changing. Performance based funding will dominate the landscape. The neoliberal approach as an economic model of funding will remain for quite some time. Colleges and universities may not benefit from performance based models of funding if they do not have the resources or programs that correspond to state objectives.

**Conclusion:** Increased accountability and decreased funding is the new norm. Policy makers are now linking funding to the types of results that higher education can produce.

**Keywords:** Performance based funding; accountability; neoliberal philosophy.

\*Corresponding author; Email: [randall.bowden@tamucc.edu](mailto:randall.bowden@tamucc.edu);



## **1. INTRODUCTION**

Historically, higher education was considered essential in serving the public good by contributing to the growth of American society [1]. More recently, public higher education is increasingly required to defend, justify, and validate its performance and value to legislators, taxpayers, and society in general. The past several years have been exceptionally difficult as declines in national standings and states have been realized where appropriations are offset by increased student tuition and fee revenue.

State policy makers are progressively linking funding to accountability and efficiency that directly impact the needs of students, the state, and the economy. Because higher education is an economic driver in a time of financial crises, funding allocations will no longer be based on institutional needs but on how well institutions are meeting state objectives. State governments are calling for policies that assess the cost and the quality of higher education. The trend among policymakers is to move away from the reliance on enrollment-driven funding formulas and toward policies that link appropriations to an institution's ability to document state mandated educational performance standards and results [2].

Tennessee, Ohio, and Louisiana have already started implementing performance based funding models as a significant form of accountability. Additionally, in 2013 the 83<sup>rd</sup> Texas Legislature signed into law the Outcomes-Based Funding Act mandating up to 10% of funding to public universities will be based on a performance model developed by the Texas Higher Education Coordinating Board. This model includes a host of policy aspects, incorporating elements such as performance reporting, performance funding, and state-level master planning.

Traditionally, public education in the United States has been dominated by three major philosophical movements: (a) moral education; (b) constructivism; and currently, neoliberalism. Moral education emerged from the nation's Colonial days of the 1600s and extended until the early 1800s. Religious authority governed education and commerce [1]. They were grounded in Christian values, good character, and civic-minded outcomes [3]. Gradually, constructivism began to emerge in the late 1800s [4]. The nation was rapidly expanding and so was its need for new knowledge, which brought a revolution in political beliefs and college curricula [1]. These were influenced by constructivist philosophical thought surrounding the process of discovery, experience, and collaboration [4]. Eventually in the 1980s, education became a primary vehicle for greater earning power and economic development [5]. Through the years as public support decreased [5], a neoliberal mindset arose with its focus on an economic model of education leading to performance based educational outcomes [6].

Harvey [7] defined the neoliberal phenomenon as a theory of political economic practices. It proposes that human well-being can be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets, and free trade. Federal reports and legislation formally marked the official rise of the neoliberal impact on education. In 1983 President Reagan's administration called for educational reform in the report, *A Nation at Risk* [8]. The report criticized American education as a failing venture and called for educational leaders to redirect their efforts toward developing a more competitive workforce [8]. No Child Left Behind legislation followed in 2001 under the President Bush administration. It laid the foundation for states to develop standardized tests in order to participate in federal funding programs [9]. In 2006 the Spellings Commission, a nineteen member panel of the federal Department of Education,



issued a report that set forth four major principles for postsecondary education: (a) better access to higher education; (b) more affordable approaches to higher education; (c) standardized quality of instruction; and (d) more stringent accountability by postsecondary institutions to students, families, taxpayers, and other stakeholders [10]. Finally, in 2009 the Obama administration developed the Race to the Top grant program to award benefits to states that meet particular performance based standards according to federal educational policies. Performance based standards are met when there is compliance to national common core benchmarks, increased student test score performance, and implementation of data systems for assessment and accountability [6,11]. A performance based standards' approach to education is directly tied to economic benefits within the neoliberal approach [12].

Saunders [13] recognized neoliberalism as two-pronged. As an hegemonic practice, it has dominated the societal milieu since the 1980s. First, it was noted this practice resulted in drastic cuts in state funding to social services and programs, leading to a redefinition of social, cultural, and political institutions with a focus on prioritizing economic outcomes [14-17]. Second, higher education has been on a parallel track. In order to compensate for shortages from state funding sources, revenue generation has become a top priority with a reliance on funding from private sources. This, in turn, created a charge to become economically efficient [17]. Although there is debate about the historical purpose of higher education of whether it promotes economic growth or it serves better civic development, the reality encompasses a component of both. What is new to the table, though, is the broad scope of acceptance by students, faculty, staff, administrators, and policy makers as they have embraced capitalistic goals, priorities, and business models consistent with neoliberalism [13,18,19]. According to Saunders [12] higher education has become a business similar to any other business. It operates accordingly in response to states' reductions in funding social services, cuts in higher education appropriations, privatization and commercialization of higher education functions, with a reliance on private funding, heavy emphasis on faculty to generate revenue, mass hiring of part-time and adjunct faculty to reduce costs, and re-definition of students as customers who purchase products and services [12]. Even states' power bases are channeled toward economic rationales away from broader social, cultural, and political concerns [20]. This affects how they approach education allocations [20].

Fish [21] reported if the percentage of a state's contribution to a college's operating expenses declines and if at the same time the demand for the product of higher education rises and the cost of delivering that product skyrockets, a new performance gap opens up that will have to be filled. Because neoliberalism is an economic based philosophy, it fills the performance gap. Since it is an economic model, it requires metrics, measurement goals, and outcomes to indicate its effectiveness. Performance criteria are accentuated at all levels of college and university operations with an emphasis on measurable outputs, both locally and globally [19].

Performance based funding, as an extension of a neoliberal foundation extends beyond the borders of the United States. The European higher education system has been evolving since the introduction of competitive market forces into higher education. Across Europe and the world, a sweeping change is orchestrated by governments that are pressed by globalization to provide high-ranking, attractive institutions for hubs of competitiveness in knowledge-based economies [22]. What has become evident in Europe is that policies which were first developed as an empirical, short-term response to financial difficulties have now assumed a long-term strategic thrust, bearing down on the relationship between higher



education, the government, and society [23]. The past few decades reveals that European universities are entrenched in competitive markets, dominated by neoliberal economics and commerce [24]. This was decades in the making. According to Maassen and Stanaker [25], it occurred in three phases. The first phase began in the 1960s where growing student enrollments required an increase in public spending on higher education. This raised concerns about the value of education in relation to its costs, as well as the efficiency of its delivery. Beginning in the 1990s it triggered a second phase. Political awareness arose where Ministries introduced steering models for higher education concentrated in output funding models, multi-year agreements, and contracts individualized to institutions. This often led to new types of controlling performance indicators. Finally and recently, the third stage was realized through the Bologna Declaration, particularly the Lisbon Declaration. Though complex, in essence research and development were emphasized for economic growth and competition. The Declaration stressed education as a major factor for the labor market. Moreover, it moved the emphasis away from national diversity toward commonalities in social and economic outputs. The UK can be viewed as a microcosm of the breath of neoliberal influence across Europe where the shift is from professional power to executive power, focusing on performance measures grounded in quantitative targets of measurement [26]. As a result of neoliberal thinking, the introduction of competitive markets into funding models for higher education in Europe has its own implications. In terms of the individual's process of occupational choice, it suggests that students are being asked to consider what they shall study in the light of what they wish to do after they finish their studies, whereas historically the enduring feature of most European school systems was they track and select their students in such a way that occupational choice is largely made in light of previous performance and attainment [23].

Although already more widespread across Europe, the influence of performance based funding in the United States for higher education is gaining momentum as a matter of individual state policy development. This paper examines major aspects and driving forces to performance based funding as it changes the paradigm of how colleges and universities receive public funding. For example, Tennessee, Ohio, and Indiana have adopted similar models and are successfully implementing performance funding mechanisms. Furthermore, the paper will address the new Outcomes-Based Funding Act model, its metrics, and its impact on Texas institutions. Texas is rapidly moving towards this model because of a legislative mandate to implement formula funding, increase student success and produce student outcomes that are directly aligned with the state's education goals and economic needs. Do these new approaches to funding benefit higher education?

## **2. FUNDING FORMULAS**

In essence, all funding formulas are performance based. For many years, institutions have received appropriations from the state for achieving certain objectives. Most often the objective has been providing greater access and growing enrollments [27]. Funding was allocated to universities largely based on the number of students in the classroom on the 12<sup>th</sup> day of class. Enrollment was once the primary factor in formula funding distribution where access was rewarded. However, enrollment driven models have recently undergone a significant upgrade to include major incentives for success measures. State after state has shifted its funding formulas from old methods to a new wave that introduces complex metrics with a focus on student success and institutional improvement [28]. This transformation can be attributed to a shift in ideology as today's fiscal environment has forced states to carefully consider how their limited dollars are spent on higher education. To ensure that tax payer



investments yield the best possible returns, states must incentivize both college access and completion by implementing more sophisticated performance measures [29].

In Louisiana, the most recent funding formula is designed to maximize equitable distribution of funds. In addition, Louisiana's colleges and universities are governed by multiple boards due to lack of confidence from the state in the higher education coordinating board [30]. New revisions in formula funding for Louisiana drive performance improvements by allocating funds based on instruction cost by discipline and by graduation rates in place of enrollment counts only [31]. For example, in 2012 25% of funding in Louisiana was based on performance with an emphasis on graduation rates of undergraduate students, students over 25, minority students, and transfer students [31].

Similarly, in Texas, the new outcomes based funding formula has been restructured to focus less on enrollment and more on results. However, universities in Texas are governed by the Texas Higher Education Coordinating Board (THECB), a single agency of the state that oversees all public institutions of higher education. While funding for enrollment is still primarily a formula metric, performance based funding in Texas is shifting towards a focus on degree completion metrics, such as graduating students with bachelor's degrees, degrees in critical fields, graduating at-risk students, and 6 year predicted graduation rates [28]. The new Outcomes Based Funding Act allocates 10% of base formula funding based on metrics of bachelor's degrees awarded. This is primarily driven by the Closing the Gaps initiative developed in October 2000 by the Texas Higher Education Coordinating Board as part of the Texas Higher Education plan. The plan sets forth four state goals for universities to implement and the state to measure through 2030: (a) add 500,000 students to higher education by 2015; (b) increase the number of participants and graduates by 50% in critical fields, such as education, engineering, computer science, math, physical science, allied health, and nursing; (c) increase nationally recognized programs in each institution, while the state will fund critical programs for business contributions; and (d) increase federal funding for science and engineering research by 50% by 2015.

### **3. STUDENT SUCCESS**

In addition to recent mandates redesigning formula funding, state governments are requiring institutions of higher education to improve student success. According to the THECB [28] the United States continues to fall further behind other countries in awarding degrees and credentials. College completion rates are stagnant or falling today, particularly among young Americans, a trend that threatens to undermine the nation's global competitiveness [32]. The challenge here is for colleges and universities to increase productivity. Increasing college completion is becoming an imperative at all levels of government. According to the Pathways Report [32] the goal at the federal level is to have the world's highest rate of college completion and achieving this goal will require formidable efforts to increase the nation's college degrees. Public colleges and universities are now called upon to address low graduation rates by their state legislatures. Furthermore, a national priority has been established: President Barack Obama, in the American Graduation Initiative, has set the goal that the United States must add five million more graduates to the workforce in this decade to remain competitive in the global marketplace [33]. Therefore, in addition to new formula funding criteria, student success is a critical component of performance based funding.

Ohio began its performance funding in the 1980s, and like many other states, traditional formula funding focused on enrollment. However, in 2010, a new model in Ohio was



implemented. Mandated by the legislature, the new model contained "Success Challenges" set by the state that incentivized universities to increase graduation, student participation, and improved time to degree completion [34]. Formula funding for universities in Ohio will reward campuses heavily for successful course completion and degree completion with a smaller emphasis on contributions by campuses contributions to the state's strategic plan. A study conducted by the University System of Ohio Board of Regents [35] found that 42% of students who begin college in Ohio graduate, meaning both students and the state have wasted their money.

In Texas, a study conducted by the THECB [26] found that 45% of students in Texas public universities do not graduate within six years. According to this report, students who fail to complete course work cost the state \$124 million each biennium in state appropriations and student grants. The State of Texas does not cast blame to any one entity for students who fail to graduate. The THECB [28] recognized that there lacks a sustained partnership among the P-12 sector, higher education, the state, students, and the community. The state identified five factors that need to be improved: (a) state funding at appropriate levels while monitoring cost efficient measures; (b) public education needs to prepare students to do college level work; (c) students are responsible for their commitment to completion of a college degree in accordance with the aid they receive from the state; (d) various regions within the state must develop a college-going culture; and (e) institutions must ensure that if a student is admitted, he or she will earn a credential [28]. Thus, Texas is looking toward new models of accountability to improve the state's educational outcomes. Much like Ohio's "Success Challenges," the new outcomes based model adopted in Texas provides incentives for formula funding by means of "Progress Indicators." These indicators focus on rewarding universities who increase the number of degrees awarded annually, increase the number of individual course completions and increase degrees in high demand fields [2].

Performance factors focused on degree completion initiatives are a high priority for outcomes based funding efforts both in Ohio and Texas. College degree completion rates are among the most important indicators of institutional quality as degree attainment is vital to the economic health of the United States [33]. Though legislative mandates and formula metrics differ, Ohio and Texas are working towards the same student success goals that address a greater national need; increase the nation's global competitiveness and open the door to new academic and career opportunities that will boost the state economy and job growth.

#### **4. STUDENT OUTCOMES ALIGNED WITH STATE GOALS**

Productivity in higher education is front and center on the national stage, now more than ever. The United States began recognizing the impact of degree completion on the economic health of the nation in the early 1990s. More recently, higher education, both in the U.S. and internationally, has been required to explain, defend, and validate its performance and value to a wide variety of constituents including governors, legislators, students, parents, employers, and tax payers [31]. Furthermore, employers across the nation are expressing concerns about whether the U.S. is producing enough college graduates and whether they have the skills, knowledge, and personal responsibility to contribute to a changing workplace and help companies and organizations succeed and grow [32].

States are working to address this issue by aligning fiscal resources with performance based measures for institutions of higher education. State legislators across the nation are called on to assess the performance of higher education which has placed pressure on governing



bodies and regional agencies to develop and sustain performance based accountability mechanisms [34]. The challenge is for colleges and universities to produce better outcomes with fewer resources and the state solution is the implementation of performance based funding. New performance based funding models reflect the needs of the state and its citizens, not merely the needs of the institutions. In this time of financial crisis, there appears to be a much greater recognition of the fact that higher education is a major driver of the economy and that the state and local community need higher education to provide educated citizens with their greater earning power and ability to pay more in taxes, as well as the other benefits of higher education, including the transfer of knowledge [31]. Universities in Tennessee and Texas are only two examples that are now strongly incented to align degree outputs with state economic development and workforce needs and are receiving additional funding for degrees in critical fields such as science, math and engineering [33].

In Tennessee, funding was once linked to retention, enrollment, and research funding. In 2010, formula funding was redesigned to focus on outcomes such as degree completion with additional points awarded for the institutions alignment with state goals [31]. Tennessee's performance based funding model has a strong funding component relating to alliance with state priorities as well as degree completion [34]. The agenda for higher education in Tennessee includes a strong partnership with goals of the state's workforce and economic development priorities. According to Friedel [36], without guidance on the vision of the state and its workforce and economic needs, public higher education cannot truly serve as a tool for the state to advance on its goals. Performance models in Tennessee measure indicators are heavily weighted towards the goals of the institution that support the state's public agenda.

Similar to Tennessee, a major goal in Texas is to maximize higher education in response to the economic development needs of the state. For example, the agenda in the 81<sup>st</sup> legislative session focused primarily on increasing postsecondary student achievement that aligns state resources with state goals in education and economic development [37]. In 2011, Texas began working towards restructuring current funding models to realize maximum efficiency and effectiveness in both graduating the rapidly growing college-age population and helping students earn the educational credentials that the state's economy will need to sustain itself going forward [37]. Like Tennessee, Texas institutions of higher education are strongly incentivized to increase productivity in critical fields that directly support economic needs of the state such as math, science, technology and engineering.

## **5. PERSPECTIVES**

The purpose and landscape of higher education in the United States is rapidly changing. Does this new landscape benefit higher education? Time will tell. Clearly, performance based funding will dominate the academic culture. With an undergirding neoliberal philosophy, it does appear the economic model of accountability will remain for quite some time. However, there could be a major drawback to this approach to state funding of higher education. New reports issued from the federal government showing a decline in the United States degree attainment rates have threatened the nation's overall global competitiveness, exacerbated inequality in income distribution, therefore obligating state objectives to focus on programs that emphasize programs, particularly in Science, Technology, Engineering, and Mathematics (STEM) [36-38]. The federal government emphasized STEM's importance in the Higher Education Opportunity Act of 2008, where qualified individuals receive benefits for participating in STEM fields [39]. The legislation includes the establishment of a national database to track and support student ventures in STEM educational activities [39].



Colleges and universities that do not have the resources to develop programs tied to state objectives may suffer serious disadvantages to performance based funding. In addition to this, states need to be vigilant about how they implement performance based funding. South Carolina attempted to implement a model that was 100% performance based. It did not distinguish between difference institutional missions. Thus, it proved to be costly, unproductive, and controversial. In short, it was a failure [2,40].

## **5. CONCLUSION**

Increased accountability and decreased resources is the new norm. Colleges and universities are required to do more with less. In addition, policy makers across the nation are now linking funding to the types of results that higher education can produce. Therefore, funding models have been redesigned to reflect performance standards set by the needs of the nation and the states. Research shows that the United States is falling behind in awarding degrees and credentials to sustain the economy. Economic growth plays a large part in federal and state calls for accountability and is a strong motivator toward performance based funding. It has gained momentum over the last few years. Studies will need to continue to understand if performance based funding has succeeded in meeting the needs of the states, economy, and students.

## **CONSENT**

Both authors declare that consent was not needed for the manuscript as a review paper.

## **ETHICAL APPROVAL**

Not applicable.

## **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

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## Performance-Based Funding: Equity Analysis of Funding Distribution among State Universities

Robin Ann Ellis (Corresponding author)

Corpus Christi in Education Leadership Program, College of Education

Texas A&M University, TX 77843, USA

E-mail: [robin.ellis@tamucc.edu](mailto:robin.ellis@tamucc.edu)

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### Abstract

How to finance higher education remains controversial among policy makers and constituencies across the United States. Texas is not exempt from the controversy. With increasingly strained state finances, institutions of higher education and the Texas Higher Education Coordinating Board (THECB) have come under pressure to increase performance accountability, efficiency, and competitiveness. In Texas, House Bill 9 (H.B. 9) was enacted in 2011 to dedicate a portion of state funding to public colleges and universities that meet specific performance-based standards. Although H.B. 9 has been passed and signed into law, it still has not been determined how funding will be distributed or how effective it will be. This paper analyzes data from several states with similar performance-based funding standards to help bring to light to the possible effects H.B. 9 will have on Texas' public four-year universities.

**Keywords:** Policy, Accountability, Performance-based funding, Texas higher education

### 1. Introduction

Higher education is considered essential in serving the public good by contributing to the growth of the American society (Cohen & Kisker, 2010). More recently, public higher education is increasingly required to defend, justify, and validate its performance and value to legislators, taxpayers, and society in general. The past several years have been exceptionally difficult on colleges and universities as declines in state appropriations are offset by increased student fee revenue. Much of the decline can be attributed to the shifting paradigm of how public funding is allocated to institutions of higher education (McLendon & Hearn, 2013).

The trend among policymakers is to move away from the reliance on enrollment-driven funding formulas toward policies that link appropriations to an institution's ability to

document state mandated educational performance-based standards and results (Miao, 2012). Historically, colleges and universities received state funding based on how many full time equivalent students enrolled at the beginning of a semester. However, states are now reconsidering the enrollment-based funding model because, though it provides incentives for institutions of higher education to enroll students, it does not offer incentives for institutions to help students successfully complete degree programs (NCSL, 2014). State policy makers are progressively linking this funding model to accountability and efficiency outcomes that directly impact the needs of students, the state, and the economy (Rabovsky, 2014). However, initial data challenges the success of performance-based legislation for higher education (Rabovsky). Since higher education is frequently viewed as an economic driver (Goldsmith, 2013), in many states a portion of funding allocations is no longer based on institutional needs, but on how well institutions are meeting state objectives toward economic development.

How to finance higher education remains controversial among policy makers and constituencies across the United States (Rabovsky, 2014). Texas is not exempt from the controversy. With increasingly strained state finances, institutions of higher education and the Texas Higher Education Coordinating Board (THECB) have come under pressure to increase performance accountability, efficiency, and competitiveness. In Texas, House Bill 9 (H.B. 9) was enacted in 2011 to dedicate a portion of state funding to public colleges and universities that meet specific performance-based standards. Although H.B. 9 has been passed and signed into law, it still has not been determined how funding will be distributed or how effective it will be. This paper analyzes data from several states with similar performance-based funding standards to help bring to light to the possible effects H.B. 9 will have on Texas' public four-year universities.

## **2. Background**

The value of a college education is in high demand and the success of students has crucial implications both socially and economically. Many states require more accountability for higher education accountability and it has been growing nationally over the past three decades (McLendon & Hearn, 2013). An array of public reports, journal articles, and books has fueled the emergence of the accountability and performance movements in higher education (e.g., Description of State Performance Funding Programs, 2013; Hillman, Tandberg, & Gross, 2014; McKeown-Moak, 2013; Washington Higher Education Coordinating Board, 2011). According to Bogue (2010), there is a national concern for better accountability policies to govern higher education performance. The National Center for Public Policy in Higher Education graded state higher education systems on factors such as preparation, participation, completion, affordability and learning outcomes (Bogue, 2010). These concerns have influenced Texas legislators. Over the years, the primary policy question for legislators in Texas was how to allocate state appropriations equitably among a growing and diverse number of public colleges and universities (THECB, 2011). State legislators sought to address that question by implementing performance-based funding, similar to other states.



The transition to a global economy has increased the value on human capital for individual and collective economic security. Recognizing this, President Obama set the national goal of leading the world in the proportion of college graduates by 2020 (Harnisch, 2011). Boosting graduation rates in an austere funding environment has led to a national productivity agenda for higher education. The policy issue that arose in Texas, then, is that H.B. 9 is the shift to performance-based funding efforts aimed at offering more high-quality college opportunities to a greater number of students within existing budgetary constraints. According to Lederman (2011), performance-based funding is a favored tool of policy makers as they push higher education toward greater efficiency and better outcomes in terms of college retention and completion. Policy makers argue that if states can change the incentives for colleges and universities by funding them for retaining and graduating students, institutions alter their behavior (Lederman, 2011).

### **3. Problem Statement**

Understanding the diverse nature of performance-based funding environments will provide a useful landscape to better analyze a variety of outcomes. To build a useful, inclusive, and effective performance-based funding model, meaningful data will be needed before decision makers can identify best practices and develop a strong, flexible and equitable framework.

According to the National Conference of State Legislatures (2014), twenty-four states currently have some form of performance funding for higher education. Originally, Texas was ahead of the curve when it began discussing the idea but other states leapt ahead and now Texas is in the middle of the pack (The Texas Tribune, 2014). For the past three legislative sessions, coordinating board leaders in Texas were working to implement a shift in funding to universities from formula funding focused on enrollments to formula funding that creates incentives for institutions to raise student achievements. Currently at the coordinating board, an advisory group consisting of university representatives is continuing to make modifications so that performance-based funding will benefit all public universities and not just a select few (THECB, 2014).

Many representatives from institutions of higher education remain skeptical of performance-based funding. They question whether or not allocations under such policies adequately reflect the major differences in institutional missions and the diversity of students served, or whether such policies exacerbate inequalities in institutional funding (AAUP, 2014). In addition, a new round of research shows that performance-based funding programs do not work; at least to the extent states are trying to increase degree completion. One such study by Florida State University examined performance-based systems in 19 states and found that while those programs were largely designed to increase the number of students completing degrees, it did so only in four of them. In six states completions actually declined and the results were inconclusive in nine other states (Lederman, 2014). Advocates for performance-based funding argue that effectiveness will grow as state appropriations linked to them does (Rabovsky, 2014). They also argue it is too early to gauge the success of the most recently enacted performance funding systems which tend to have higher stakes, as is the case in the state of Texas. Concerns raised by leaders in Texas higher education do not



believe that the new performance-based funding model is strong enough yet to dictate more than 10% of university funding and many are asking what research is available for them to better understand the effect performance funding will have on Texas (Lederman, 2014). According to a study conducted by Columbia University in 2012, it is rare to find studies that sample across different kinds of institutions, such as flagship state universities and their system regional schools. There are 38 public four-year universities in Texas that range in size and cater to varying populations with different goals. Because performance-based funding model in Texas continues to be developed, there is insufficient data for the task of making funding distinctions. The purpose of this paper assesses performance-based standards as they apply to public, four-year institutions with similarities with Texas. Data include performance-based standards, state higher education appropriations to higher education, percentage and funding allocations according performance-based standards, ratios of appropriations funding to performance-based funding, and Texas' institutions' operating budgets and state appropriations per institution (Two-year institutions are not included since they have different performance standards and metrics).

#### **4. Funding Analysis**

Texas is yet to fully implement performance-based funding. However, as it works to build a framework for the emergence of performance-based funding, it is important to examine the financial distribution of other states that have implemented performance-based models similar to those stipulated by H.B. 9 (See Appendix B). In Texas, legislation redirected 10% of the state's enrollment driven funding for allocation to universities based on specific standards, such as total undergraduate degrees, time to degree, institutional mission factor, cost-to-degree, critical fields factor (Science, Technology, Engineering, and Mathematics—STEM and STEM related), at-risk factor and six-year graduation rates (THECB, 2011). Twenty-four other states have formula funding in place that allocates some amount of funding based on performance standards, such as course completion, time to degree, transfer rates, the number of degrees awarded and the number of low-income and minority graduates (NCSL, 2014).

The table in Appendix A outlines data related to the states that have implemented performance-based funding. It conveys their individual distribution and the year in which performance-based funding was instituted. The most common performance metric across the board can be identified as the number of degrees awarded, 19 out of 24 states, including Texas; have linked undergraduate graduation rates with funding allocations. Degrees with STEM credentials, otherwise known as critical field degrees, are the second most common metric. Thirteen of 24 states including Texas allocate funding for STEM degrees.

The table in Appendix B outlines the distribution of state based allocated funds by percentage for each metric (see Appendix G for items of performance-based standards). The table includes the 15 states where four-year universities have standards similar to those designated by the Texas legislature in H.B. 9. The range varies from as low as .06% state allocation for all standards in Michigan to 100% state allocation designated to total hours completed in North Dakota. State based allocation designated to the number of degrees awarded ranges



from .06% in Michigan to 50% in Ohio. The number of degrees awarded is the most common metric used in performance funding models yet it only constitutes the second largest percentage of funding recovery with an average weighted metric of 22%. Science, Technology, Engineering, and Mathematics degrees are the second most common metric and are weighted third highest with an average weight of 19%. Total credit hours completed is the largest weight overall at 41%.

The table in Appendix C outlines the 2013-2014 percentages of state appropriations to higher education, as well as the 2013-2014 percentage of state allocation to performance-based funding. In addition, the total performance-based allocation for each state is provided. Tennessee and Ohio are the only two states to have 100% performance-based funding formulas in place. In 2014, Texas had the highest state allocation of funding to higher education totaling \$6.6 billion followed by Illinois totaling \$4 billion. In 2014, Ohio had the highest allocation to performance-based funding totaling \$1.1 billion followed by Minnesota totaling \$52 million. Data sets for both 2014 state appropriations and allocations to performance-based funding are provided by the Lumina Foundation and the National Conference of State Legislatures.

The table in Appendix D converts percentages into dollar amounts attributing a funding designation. For example, in 2014 Arkansas allocated \$852 million for funding its four-year institutions. Of that amount, the state allocated approximately \$42 million to be distributed among all five performance-based standards. According to Appendix C, 5% will be allocated to total credit hours/course completion, which results in \$2.1 million as seen on Appendix D. According to the distributions among all the states and categories presented in this paper, the table reveals where states place priority based on the amount of dollars they choose to allocate toward performance-based funding for four-year institutions. Two-year institutions are not included since they have different performance standards and metrics. As a reminder, only those states that have performance-based standards similar to Texas are included. The data below gives an indication of how performance-based funding according to standards could be distributed if all state, four-year institutions performed equally. For example, Arkansas has 11 four-year institutions. This means 11 institutions must compete for a portion of the \$2.1 million for the performance-based funding allocated to the total credit hours/course completion standard. Since the allocation is based on performance, not all institutions will receive the same amount. However, if it is assumed that each institution would receive the same amount, they would receive only \$191,000 each (\$2.1 million/11 institutions). The information below in Table 1 shows the number of four-year institutions per state that would have to compete for performance-based funding for their respective criteria (Texas excluded since no financial data are available).

Table 1. Four year institutions per state

	#4YRs	*1	*2	*3	*4	*5	*6	*7	*8	*9	*10	*11	*12	*13
AK	11	2.1M			4.2M	10.5M	8.4M	6.3M						
FL	12		5M		6M		3M	2M			2M			
IL	13	2.4M			2.4M	2.4M	2.4M	2.4M						
IN	15		27.45M		18.3M		9.15M	6.1M						
MI	15				14.4K			14.4K	14.4K					
MN	12				10.4M		10.4M	10.4M		10.4M				10.4M
MS	8	27.9M	620K		620K		620K		620K			620K		
MO	13	5M	5M		5M				5M			5M		
NM	6	11.5M			3.63M		4.95M	3.63M		660K				
NV	6		1.9M	950K	7.6M		2.85M	2.85M	1.9M					
ND	6	5M												
OH	38	330M			550M			*bonus						
SD	6							3M	3M					
TN	11	900K	1.2M	600K	1.5M				600K					
TX	38	X	X		X	X	X	X						

*Note.* 1 = Total credit hrs/course completion; 2 = Time to degree; 3 = Transfer rates; 4 = # of degrees awarded; 5 = Minority students; 6 = # low income/1<sup>st</sup> generation graduates/at risk; 7 = STEM credentials; 8 = External research \$; 9 = Graduates employed or continuing; 10 = # of degrees focused on state strategic plan; 11 = Cost per completion; 12 = Remedial courses; 13 = Retention rates.

The table in Appendix E outlines two types of ratios. First, it shows the ratio of how much a state allocates from its total funding appropriations for each performance-based standard. For example, in 2014 Arkansas appropriated \$852 for all its four-year institutions. For every \$406 million spent on four-year higher education, \$1 million is allocated to the total credit hours/course completion criterion. It has to be remembered that the standard is capped at \$2.1 million and has to be shared among 11 of institutions. Second, the information shows the ratio of actual funding dedicated to each standard. Since there is only \$42 million dedicated to performance-based funding in Arkansas, the ratio is 20:1. Thus, for every \$20 million allocated to performance-based funding, \$1 million is dedicated to total credit hours/course



completion. Again, the standard is capped at \$2.1 million and has to be shared among 11 institutions.

As the data are further categorized, a trend begins to emerge. It appears that very little funding is provided for performance-based funding (It is more evident when Appendix F is discussed). This becomes particularly apparent when the funding is examined according to three tendencies. First, the total amount of funding for performance-based standards is very little when compared to states' total appropriations. Second, the performance-based amount has to be spread among a number of standards. Third, each institution in each state has to compete for the amount allocated per each standard, which further dilutes the amount an institution might receive. This leads to a major concern. With regard to institutions' operating budgets and state appropriations, the analysis portrays a dire perspective for individual institutions to compete for performance-based funding.

The table in Appendix F lists three major state university system institutions in Texas to include the University of Texas at Austin (flagship), Texas A&M University at College Station (flagship), and the University of Houston (flagship). The 2014 operating budget of Texas A&M University at College Station is over \$1 billion more than the second largest school in the system, Texas A&M University-Corpus Christi and over \$200 million more in state appropriations. Likewise, the operating budget of the University of Texas at Austin is \$1.2 billion more than the second largest school in the system, The University of Texas at Arlington and over \$52 million more in state appropriations. It suggests that larger institutions have the resources, financial and human capital, to respond to state mandates better than regional institutions.

Although financial data do not exist yet for Texas based on performance-based allocations, the trend could very well be similar to other states. For most states the majority of funding comes from state allocations other than performance-based formulas. However, institutions have to divert resources from current needs toward compliance with state mandates for performance-based standards (Sanford & Hunter, 2011) with little to show in return (Sanford & Hunter, 2011; Shin, 2010; Volkwein & Tandberg, 2008). "[R]ecent studies have concluded that performance-funding-oriented reforms have had negligible impacts on organizational performance and student outcomes" (Rabovsky, 2014: p. 763).

Possibly, of greater concern is actual distribution of funds. Performance-based standards will tend to favor some institutions over others. For example, institutions with strong STEM programs have an advantage over others according to the STEM standard. This also applies to other performance-based standards, such as number of minority students served; external research funding; and number of low income and first generation or at-risk students. Some institutions are positioned better for achieving these outcomes than others according to resources, mission, and/or geographical location. Therefore, some institutions stand to lose or not receive performance-based funding simply because of the misfortune of their existence in a particular region.

Tennessee and Ohio are two exceptions and are good examples of institutions who implemented performance-based funding early enough to have perfected models that



overcome challenges regarding design and implementation, institutional autonomy, student body disparities and contrasting regional university missions.

## 6. Conclusions

The funding environment for higher education in many states has radically changed. Performance-based funding, if it has been implemented, varies according to standards, funding amounts, and percentages of allocations. In an effort to help bring to light the possible effects of performance-based funding will have on Texas' public four-year universities, this paper looked at common criteria among 14 states and the funding allocated to them. Policymakers across the country are working towards connecting performance with funding and assigning dollar amounts to metrics in a competitive environment. In an attempt to solve some state problems a competitive environment grounded in performance-based funding could cause problems among the 38 public four-year universities in Texas.

The creation of university systems in Texas were a result of rapid growth to higher education in Texas. Where there is growth, there is a need for governance to deal with the complex issues of governance. The structures of system institutions include that of a flagship institution and regional campuses spread throughout the state. Concerns of how the growth of regional institutions negatively impact flagship campuses is still a conversation ongoing in most system institutions as regional institutions are seen as a drain of resources and funding away from the flagship (McLendon & Hearn, 2013). The latest proposal for performance-based funding was recently drafted by a committee representing institutions across Texas tasked by the legislature with developing a one size fits all model. A one size fits all model is doubtful, though. Several regional institutions that rely on part-time and low-income students often have some of the lowest graduation rates and time to degree in the state. They fear the model is not nearly flexible enough for them to benefit from state mandates (Wermund, 2014). Additionally, flagship universities in Texas may already possess the resources to respond to legislative mandates, whereas smaller, regional institutions could struggle with reallocation of resources, academic and support program development, and access to human capital in order to meet state mandates.

There are no solid data results yet available for Texas for its performance-based initiatives. Nevertheless, it is still possible to understand some general effects that performance-based funding may have on the 38 public four-year institutions by converting weights into dollar amounts designed for individual standard. In 2014 Texas allocated \$6.6 billion to higher education. Of that amount, Texas plans to allocate 10% (\$660 million) to performance-based funding. The allocations are weighted so no percentages have been established. However, five criteria are weighted as 1 and three are weighted as 2. If 1 is converted to percentages at 9%, then 2 would be approximately 18%. This would represent approximately 100% of the \$660 million for performance-based allocations. Assuming the distributions are equal among the institutions, that is, they all performed equally well according to the standards, the allocations would be as follows.



- Allocations to Completion Rates: \$59.4 million (1 weighted);
- Time to Degree: \$59.4 million (1 weighted);
- Transfer Rates: \$59.4 million (1 weighted);
- Number of Degrees Awarded: \$59.4 million (1 weighted);
- Minority Students: \$118.8 million (2 weighted);
- Number of Low Income/First Generation, At-Risk Students \$118.8 million;
- STEM Credentials: \$118.8 million (2 weighted);
- External Research Funding: \$59.4 (1 weighted).

Again, assuming all 38 public four-year institutions performed equally, they would each receive \$1.56 million for each 1 weighted criteria and \$3.13 for each 2 weighted criteria.

There are two caveats to this, though. First, the state has not yet determined if this funding will be in addition to regular appropriations or as part of them. If it is in addition to regular appropriations, it is a bonus. If not, it could be a detriment. Second, a distribution of \$1.56 million dollars for 1 weighted standard to each institution assumes each one performed similarly with respect to the standard. This is too much to assume since all institutions will not perform similarly. Furthermore, if performance-based funding is part of regular allocations, institutions could stand to lose millions, again simply because of the misfortune of their existence in a particular region and according to their mission. As a side note, it could force institutions toward budget cuts. Administrators may choose to reduce their budgets by the amount of performance-based funding available since there is no guarantee their institution will receive it.

Another effect of performance-based funding is homogeneity of education. The state could very well have unintended consequences of homogeneity. Although a 10% allocation of state funding for performance appears minimal, for smaller institutions it represents a larger proportion of their operating budget (See Appendix F). It may force smaller, regional institutions to develop academic and support programs that other institutions already have. Instead of promoting diversity, Texas could see a shift toward homogeneity of programs, services, and outcomes. This is particularly troublesome for institutions, since they cannot control who decides to attend college. The December 2014 Texas State Higher Education Committee Interim Report reflected this problem. For example: "The growth in participation rates has been uneven among racial/ethnic groups in Texas; there is a growing gender gap in Texas higher education" (p. 7). It will be difficult for institutions to achieve the minority student performance-based criteria when state minority participation wanes and is different in various regions.

It appears that if performance-based funding will be effective, it should consider at least two factors. First, allocations should be in addition to regular funding. It would give a sense of incentives instead of punishments since it would be in addition to regular appropriations instead of penalizing institutions by withholding appropriations. Second, allocations must be



based on proportionate matrices. For example, performance-based funding for minority student enrollment could be allocated according to the proportion of minority eligible students in the region that a university serves. A university student body should be proportionate in minority student enrollments in line with the region it serves. This approach would address the two caveats listed above, as well as address the diversity of the state.

A proportional approach to allocations would apply to other standards. Regional institutions cannot compete for research funding in the same vein as flagship institutions. For example, distribution of funds linked to external research dollars provides significant challenges at the regional level. "On a practical note, US\$35 million to US\$405 million annually from grants and contracts are awarded to the top 88 research universities [in the nation] with a mean of \$US130 million" (Bowden & Gonzalez, 2012, p. 16). With a pool of research funding already spread thin, it makes competition for performance-based funding according to the external research standard extremely difficult for regional institutions. However, if a formula grounded in a proportional matrix were developed and implemented, it could help provide incentives for research at smaller institutions, as well as provide an environment of fair competition. This is an oversimplification of a solution, though. A proportional funding formula could over reward some institutions according to current institutions' operating budgets and state appropriations. Would it be fair for the regional institution, University of Texas-Tyler, to receive \$3.13 million of performance-based funding with an operating budget of \$51.9 million and the flagship institution, University of Texas-Austin, to receive \$3.13 million with an operating budget of \$1.61 billion? It is not just the allocation of funds that is a problem.

The cost to ramp up research to the level of meeting the proposed standard for external research in H. B. 9 is significant, not to mention a very slow process. Flagship universities are already operating at a high level of research and sponsored projects. It will be imperative to consider the effects of this standard on the multitude of smaller regional campuses that are not positioned to meet this requirement for funding. Not only do they not have the resources to compete for research dollars, their mission may not be consistent with the standard. Other performance-based standards have hurdles to overcome as well. For instance, is there a greater financial cost to larger institutions than smaller ones to design, implement, and operate programs related to completion rates? The data are just not yet available to address many of the concerns, issues, and problems being raised. In the short term, the initial analysis does not appear promising. However, larger institutions and those regionally positioned, which are congruent with the performance-based standards may fair very well. Analysts and researchers need more time and more data. Unfortunately, it may come too late for some state four-year institutions.

## 7. Summary

As Texas closes in on state-wide implementation of performance-based standards and as newly elected officials enter the higher education policy arena, it is more important than ever to understand how regional institutions can best position themselves. There is no proven strategy to ensure the universal success of performance funding models; therefore differences



in institutional capacity seem to be an obstacle to effective performance-based funding implementation. Faced with uncertainties regarding equitable performance-based funding in Texas, decision makers could consider separating funding formulas to accommodate various regional institutions within a university system with varying research goals and missions. Likewise, more information is needed on the cost to institutions of meeting state demands for performance-based funding data, developing effective organizational learning capacity, mounting initiatives to improve institutional performance, and evaluating the results of those initiatives. Better estimates are needed to determine whether the fiscal benefits of performance-based funding outweighs the costs to institutions and therefore whether states need to make to concerted efforts to offset those costs if they wish performance funding to be welcomed by colleges (Dougherty & Reddy, 2011).

Conversations on performance-based funding are advancing as state economies tighten, budgets are reduced, and the national push for market-driven reforms to higher education gain popularity. It is clear performance-based funding impacts colleges and universities by increased understanding of state priorities, competition among institutions, and greater institutional awareness. Performance-based funding was implemented, in part, to level the playing field in formula funding, as well as provide equity in rewards. However, if current trends continue, it is likely that accountability will increase as will costs, but efficiency will decrease particularly for the smaller system regional institutions that are spending money in the fight for funding.

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## Appendix

Appendix A. University Metrics Aligned with Texas

	AZ	AK	FL	IL	IN	KS	LA	ME	MI	MN	MS	MO	NM	NV	NC	ND	OH	OK	PA	SD	TN	TX	UT	WA
First implemented	'13	'14	'13	'11	'11	'11	'10	'13	'12	'14	'12	'14	'12	'11	'13	'11	'10	'08	'10	'13	'10	'11	2013	2007
Bachelor Credits Hrs																								
Total Credits Hrs		X		X							X		X			X	X	X			X	X		X
Time to Degree		X	X		X				X			X			X						X	X		
Transfer Rates			X				X		X					X	X						X	X		X
Degrees Awarded	X			X	X	X	X	X	X	X	X	X	X	X	X		X	X			X	X	X	X
Low-Income/ Minority Graduates		X	X		X					X	X	X					X		X					X
STEM Credentials		X		X	X	X		X	X	X	X			X	X					X	X		X	
External Research \$				X			X	X	X		X		X	X						X	X	X	X	
Graduates employed or continuing education			X			X	X			X		X		X										
Degrees focused on State strategic plan			X			X	X							X					X					
Cost per completion			X	X				X	X		X	X												
Remedial courses					X										X		X					X	X	X
Retention rates						X	X			X		X						X					X	

Appendix B. State Base Allocation for PBF

	AK	FL	IL	IN	MI	MN	MS	MO	NM	NV	ND	OH	SD	TN	TX
Total Credit Hrs/ Course Completion	10%		40%				90%	20%	35%		90%	30%		15%	1
Time to Degree		25%		45%			2%	20%		10%				20%	1
Transfer Rates										5%				10%	1
Degrees Awarded	10%	30%		30%	0.06%	20%	2%	20%	11%	40%		50%		25%	1
Minority Students	25%		40%												2
Low-Income "at risk"	20%	15%	40%	15%		20%	2%		15%	15%					2
STEM Credentials	15%	10%	40%	10%	0.06%	20%			11%	15%		*bonus	50%		2
External Research \$					0.06%		2%	20%		10%			50%	10%	1
Graduates employed or continuing education						20%			2%						
Degrees focused on State strategic plan		10%													
Cost per completion							2%	20%							
Remedial courses		10%													
Retention rates						20%									
State Allocated Base	10%	6%	1%	6%	2.00%	5%	15%	10%	5%	5%	90%	100%	10%	100%	10%

Appendix C. State/PBF Allocation by Percentage

	AK	FL	IL	IN	MI	MN	MS	MO	NM	NV	ND	OH	SD	TN	TX
Total Credit Hrs/ Course Completion	5%		40%				90%	20%	35%		100%	30%		15%	1
Time to Degree		25%		45%			2%	20%		10%				20%	1
Transfer Rates										5%				10%	1
Degrees Awarded	10%	30%	40%	30%	0.06%	20%	2%	20%	11%	40%		50%		25%	1
Minority Students	25%		40%							5%					2
Low-Income "at risk"	20%	15%	40%	15%		20%	2%		15%	5%					2
STEM Credentials	15%	10%	40%	10%	0.06%	20%			11%	15%		*bonus	50%		2
External Research \$					0.06%		2%	20%		10%			50%	10%	1
Graduates employed or continuing education						20%			2%	10%					
Degrees focused on State strategic plan		10%													
Cost per completion							2%	20%							
Retention rates						20%									
Current PBF Allocation	10%	6%	<1%	6%	2%	5%	15%	10%	5%	5%	90%	100%	10%	100%	10%
2014 State HE allocation	852M	3.9B	4B	1.7B	1.7B	1.4B	973M	967M	871M	487M	409M	2.1B	198M	1.6B	6.6B
2014 allocation to PBF	40M	200M	5.9M	46M	38M	52M	31M	25M	33M	17M	5M	1B	6M	570M	TBD

Appendix D. State/PBF Allocation by Dollar Amount

	AK	FL	IL	IN	ME	MN	MS	MO	NM	NV	ND	OH	SD	TN	TX
Total Credit Hrs/ Course Completion	2.1M		2.4M				27.9M	5M	11.5M		5M	330M		900k	X
Time to Degree		5M		27.45M				5M		1.9M				1.2M	X
Transfer Rates										950k				600k	X
Degrees Awarded	4.2M	6M	2.4M	18.3M	14400	10.4M	620k	5M	3.63M	7.6M		550M		1.5M	X
Minority Students	10.5M		2.4M												X
Low-Income "at risk"	8.4M	3M	2.4M	9.15M		10.4M	620k		4.95M	2.85M					X
STEM Credentials	6.3M	2M	2.4M	6.1M	14400	10.4M			3.63M	2.85M		*bonus	3M		X
External Research \$					14400		620k	5M		1.9M			3M	600k	X
Graduates employed or continuing education						10.4M			660k						
Degrees focused on State strategic plan		2M													
Cost per completion							620k	5M							
Remedial courses															
Retention rates						10.4M									



### Appendix E. State/PBF Ratio

Metric	AK	State	P/FB	FL	State	P/FB	IL	State	P/FB	IN	State	P/FB	MI	State	P/FB	MO	State	P/FB	MS	State	P/FB
1	2.1M	406m1	20m1				2.4M		2m1										27.9M	25m1	1.1m1
2				5M	396m1	4m1				27.45M	62m1	2m1									
3																					
4	4.2M	403m1	30m1	6M	430m1	2m1	2.4M		2m1	11.35M	90m1	2m1	1440			11.4M	137m1	5m1	62M	1,5681	50k1
5	10.5M	81m1	4m1				2.4M		2m1												
6	8.4M	301m1	5m1	2M	1.351	7m1	2.4M		2m1	9.15M	185m1	2m1				11.4M	137m1	5m1	62M	1,5681	50k1
7	6.3M	115m1	7m1	2M	2m1	10m1	2.4M		2m1	6.1M	279m1	10m1	1440			11.4M	133m1	5m1			
8													1440						62M	1,5681	50k1
9																11.4M	137m1	5m1			
10				2M	2m1	10m1															
11																			62M	1,5681	50k1
12																					
13																11.4M	137m1	5m1			

	MD	State	P/FB	NM	State	P/FB	NV	State	P/FB	ND	State	P/FB	OH	State	P/FB	SD	State	P/FB	TN	State	P/FB
1	5M	193m1	5m1	11.5M	35m1	3m1				5m	82m1	1m1	330M	6m1	3m1				900k		
2	5M	193m1	5m1				2M	256m1	10m1										1.2M		5m1
3							950k												600k		
4	5M	193m1	5m1	3.61M	240m1	9m1	7.6M	64m1	2.5m1				350M	4m1	2m1				1.5M		4m1
5																					
6				4.99M	135m1	7m1	3M	171m1	7m1												
7				4M	240m1	9m1	3M	171m1	1m1							3M	66m1	2m1			
8	5M	193m1	5m1				2M	256m1	10m1							3M	66m1	2m1	600k		
9				600k																	
10																					
11	5M	193m1	5m1																		
12																					
13																					

Appendix F. 2014 Operating Budget/State Appropriation of 3 University Systems in Texas

<b>Texas</b>	<b>Operating Budget/Revenue</b>	<b>State Appropriation</b>
Tarleton State University	\$ 155,430,411.00	\$ 34,776,026.00
Texas A&M International University	\$ 107,668,580.00	\$ 29,729,302.00
Texas A&M University	\$ 1,352,072,480.00	\$ 252,631,564.00
Prairie View A&M University	\$ 168,738,756.00	\$ 42,769,684.00
Texas A&M University at Galveston	\$ 58,230,775.00	\$ 16,679,368.00
Texas A&M University-Central Texas	\$ 30,276,810.00	\$ 12,043,870.00
West Texas A&M University	\$ 132,575,722.00	\$ 26,870,459.00
Texas A&M University-Commerce	\$ 162,816,970.00	\$ 36,069,589.00
Texas A&M University-Corpus Christi	\$ 173,839,270.00	\$ 43,888,091.00
Texas A&M University-Kingsville	\$ 142,726,278.00	\$ 32,457,748.00
Texas A&M University-San Antonio	\$ 40,005,484.00	\$ 18,064,879.00
Texas A&M University-Texarkana	\$ 35,368,896.00	\$ 16,183,477.00
The University of Texas at Arlington	\$ 353,898,263.00	\$ 15,108,252.00
The University of Texas at Austin	\$ 1,609,600,000.00	\$ 67,112,823.00
The University of Texas at Brownsville	\$ 56,800,979.00	\$ 8,998,602.00
The University of Texas at Dallas	\$ 329,991,128.00	\$ 8,192,924.00
The University of Texas at El Paso	\$ 227,726,454.00	\$ 21,196,489.00
The University of Texas at San Antonio	\$ 294,894,903.00	\$ 21,324,646.00
The University of Texas at Tyler	\$ 51,873,585.00	\$ 7,850,763.00
The University of Texas of the Permian Basin	\$ 29,424,633.00	\$ 1,464,756.00
The University of Texas-Pan American	\$ 134,583,383.00	\$ 29,884,992.00
University of Houston	\$ 289,016,320.00	\$ 141,617,290.00
University of Houston-Clear Lake	\$ 94,233,214.00	\$ 24,451,405.00
University of Houston-Downtown	\$ 115,833,219.00	\$ 21,783,611.00

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**Appendix G. Performance-Based Funding Criteria Definitions**

- 1 = Total credit hrs/course completion;
- 2 = Time to degree;
- 3 = Transfer rates;
- 4 = # of degrees awarded;
- 5 = Minority students;
- 6 = # low income/1<sup>st</sup> generation graduates/at risk;
- 7 = STEM credentials;
- 8 = External research \$;
- 9 = Graduates employed or continuing;
- 10 = # of degrees focused on state strategic plan;
- 11 = Cost per completion;
- 12 = Remedial courses;
- 13 = Retention rates.

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APPENDIX C

**Agenda Materials**  
**General Academic Institutions Formula**  
**Advisory Committee (GAIFAC) for the**  
**2018-2019 Biennial Appropriations**

November 2015

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## **Agenda**

**Meeting of the General Academic Institutions Formula Advisory Committee  
Texas Higher Education Coordinating Board  
Board Room, First Floor, 1.170  
1200 East Anderson Lane, Austin  
Wednesday, November 4, 2015  
1:00 p.m.**

### Agenda

- I. Call to Order
- II. Consideration and approval of the minutes from October 7, 2015, meeting
- III. Discussion, review, and consideration of the Commissioner's 2018-2019 Biennium charges
- IV. Planning for subsequent meetings
- V. Adjournment

## Prior Meeting's Draft Minutes

**Meeting of the General Academic Institutions Formula Advisory Committee  
Texas Higher Education Coordinating Board  
Board Room, First Floor  
1200 East Anderson Lane, Austin  
Wednesday, October 7, 2015  
1:00 p.m.**

### Minutes

**Attendees:** Mr. Martin V. Baylor, Dr. Allen Clark, Dr. Dana G. Hoyt, Dr. Edward T. Hugetz, Dr. Harrison Keller, Dr. César Malavé, Dr. Perry Moore, Dr. Karen Murray, Dr. Robert Neely, Dr. Marc A. Nigliazzo, Dr. J. Patrick O'Brien, Dr. Paula M. Short, Ms. Noel Sloan, and Ms. Angie W. Wright

**Absent:** Dr. James Marquart

**Staff:** Dr. David Gardner, Dr. Julie Eklund, Mr. David Young, and Mr. Paul Turcotte

1. The vice chair called the meeting to order at 1:03 p.m.
2. The minutes from the meeting on September 9, 2015, were reviewed and unanimously approved by nomination from Dr. Hugetz and second from Dr. Malavé.
3. The committee discussed, reviewed, and considered the Commissioner's 2018-2019 biennium charges.
  - a. On Charge 4 relating to the Pharmacy Funding Policy:
    - i. Mr. Turcotte presented two issues with the policy for the committee's consideration.
    - ii. The committee unanimously approved changes to the formula funding policy by nomination from Dr. O'Brien and second from Dr. Neely.
      1. Modify the policy so that undergraduate pharmacy courses not in the Pharm-D program are weighted using the undergraduate pharmacy weights instead of the current direction to weight those courses using the undergraduate science weights.
      2. Modify the policy so that Pharm-D course enrollments use the same enrollment adjustment methodology as all other programs.
  - b. On Charge 2 relating to undergraduate student success funding:
    - i. Mr. Young presented the Graduation Bonus incentive-funding model.
    - ii. The committee requested data on transfer-student graduates. Staff committed to providing the number of transfer students in the model, the number of those graduates who were identified as at risk, and the number of

overall graduates who are transfer students and were not reported as taking the SAT or ACT.

- iii. It was pointed out that sum-certain incentive funding models have self-defeating effects and efforts would be amplified if institutions could be certain of the amount appropriated per degree awarded.
- iv. Members asked to see the degrees by institution, the funding levels generated if the model were funded at \$600 per degree for students who are not at risk and \$1,200 per degree for students who are at risk. They also requested a comparison to that funding allocated with the operations support and the previously recommended outcomes-based funding model. Additionally, members requested the change in the percent of at-risk degrees by institution from the latest data and the preceding three-year period.
- v. Members requested a linear projection be applied to the total and at-risk degrees in the model to forecast institutions' degree production into the funded biennium.
- vi. Members requested a study of the cost differential of graduating an at-risk student versus a non-at-risk student.
- vii. The impact of reallocation was considered. This proposal will allocate funds differently from Operations Support because it has a different objective – to support student service with the aim to increase completion rates. Since the Graduation Bonus is not designed to fund basic support, it should not replace any portion of Operations Support funding.
- viii. The committee discussed an interim study committee to determine various details of the issue, but there was hesitation of not recommending a model for the 2018-2019 biennium as the commissioner will need to make a recommendation.

c. On Charge 1 relating to funding levels:

- i. Mr. Turcotte reviewed the draft recommendation for growth, rate, and inflation increases.
- ii. The committee requested to see funding levels by institution if the graduation bonus is recommended.

4. The meeting was adjourned at 2:25 p.m. until November 4, 2015, at 1:00 p.m.



### Commissioner's Charges

The GAIFAC, conducted in an open and public forum, is charged with proposing a set of formulas that provide the appropriate funding levels and financial incentives necessary to best achieve the four major goals of *60x307X* plan. A preliminary written report of its activities and recommendations is due to the Commissioner by December 3, 2015, and a final written report by February 3, 2016. The GAIFAC's specific charges are to:

1. Study and make recommendations for the appropriate funding levels for the operations support and space support formulas and the percent split between the "utilities" and "operations and maintenance" (O&M) components of the space support formula. (TEC, Section 61.059 (b))
2. Study and make recommendations for alternative approaches to incorporating undergraduate student success measures into the funding formulas and compare the effects of funding the success measures within the formula versus applying the success measures as a separate formula. (TEC, Section 61.0593)
3. Study and make recommendations on the treatment of competency-based courses in formula allocations.
4. Study and make recommendations on the treatment of pharmacy hours for professional practice pharmacy courses.
5. Study and make recommendations on changes to the funding model that will enable institutions to meet the goals of *60x307X*.

**General Academic Institutions Formula Advisory Committee for the 2018-2019 Biennium**

<b>Name</b>	<b>Institution</b>	<b>Contacts</b>
<b>Dr. Dana G. Hoyt</b> (Chair) (2018) President	Sam Houston State University Box 2027 Huntsville, TX 77341	dlg013@shsu.edu (936) 294-1013
<b>Mr. Martin V. Baylor</b> (Vice Chair) (2018) Executive Vice President for Finance and Administration	The University of Texas Rio Grande Valley 1201 West University Dr. Edinburg, TX 78539	baylormv@utpa.edu (956) 665-2121
<b>Dr. Allen Clark</b> (2016) Vice Provost for Academic Resources	University of North Texas 1501 W. Chestnut St., Suite 206 Denton, Texas 76201	Allen.Clark@unt.edu (940) 565-2496
<b>Mr. Edward T. Hugetz</b> (2018) Interim Provost and Senior Vice President for Academic Affairs	University of Houston-Downtown 1 Main Street Houston, TX 77002	hugetze@uhd.edu (713) 221-5005
<b>Dr. Harrison Keller</b> (2020) Deputy to the President for Strategy and Policy	The University of Texas at Austin 1 University Station G1000 Austin, TX 78712	harrison.keller@austin.utexas.edu (512) 232-8277
<b>Dr. César Malavé</b> (2020) Department Head, Industrial and Systems Engineering	Texas A&M University 101 Bizzell St. College Station, TX 77840	malave@tamu.edu (979) 845-5535
<b>Dr. James Marquart</b> (2020) Provost and Vice President Academic Affairs	Lamar University PO Box 10002 Beaumont, TX 77710	james.marquart@lamar.edu (409) 880-8398
<b>Dr. Perry Moore</b> (2016) Vice Chancellor for Academic Affairs	Texas State University System 208 E 10th Suite 600 Austin, TX 78701	perry.moore@tsus.edu (512) 463-7281
<b>Dr. Karen Murray</b> (2020) Executive Vice President of Academic Affairs and Provost	Tarleton State University 1333 West Washington Stephenville, TX 76402	kmurray@tarleton.edu (254) 968-9992
<b>Dr. Robert Neely</b> (2016) Provost and Vice President Academic Affairs	Texas Woman's University PO Box 425617 Denton, TX 76204	rneely@twu.edu (940) 898-3301
<b>Dr. Marc A. Nigliazzo</b> (2016) President	Texas A&M University Central Texas 1001 Leadership Place Killeen, TX 76549	marc.nigliazzo@tamuct.edu (254) 519-5720
<b>Dr. J. Patrick O'Brien</b> (2020) President	West Texas A&M University 2501 4th Avenue Canyon, TX 79016	pobrien@wtamu.edu (806) 651-2100
<b>Dr. Paula M. Short</b> (2018) Senior Vice President for Academic Affairs and Provost	University of Houston 4302 University Dr., Room 204 S2019 Houston, TX 77204	pshort@uh.edu (832) 842-0550
<b>Ms. Noel Sloan</b> (2020) Chief Financial Officer and Vice President of Administration and Finance	Texas Tech University 2500 Broadway Lubbock, TX 79409	noel.a.sloan@ttu.edu (806) 834-1625
<b>Ms. Angie W. Wright</b> (2020) Vice President for Finance and Administration	Angelo State University 2601 West Ave N San Angelo, TX 76903	angie.wright@angelo.edu (325) 942-2017

Note: The year after the member's name is when that member's term expires.

**Charge 1 – Study and make recommendations for the appropriate funding levels for the operations support and space support formulas and the percent split between the “utilities” and “operations and maintenance” (O&M) components of the space support formula. (TEC, Section 61.059 (b))**

Sector	2016-17 Appropriations (millions)	2018-19 Appropriations (millions)	Change Amount (millions)	Percent Change
General Academic Institutions	4,676	5,146	469	10.0%
Operations Support and Teaching Experience Supplement	3,942	4,360	418	10.6%
Space Support (includes Small Institution Supplement)	734	786	51.6	7.0%

**Draft Recommendation for Discussion Purposes**

The GAIFAC recommends the Legislature **return formula funding rates to the 2010-11** biennium appropriated rates (\$62.19 for the Operations Support formula and \$6.21 for the Space Support formula) by phasing in these increases over the next three biennia. While the GAIFAC understands the Legislature decreased funding due to a reduction in state revenue, the committee is concerned that institutions may not meet the *60x30TX* goals at current funding levels and urges legislators to find funds to support higher education, specifically to

- fund \$5,146 million to the formulas for the 2018-19 biennium, which would be an increase of \$469 million, or 10.0 percent, compared to the \$4,676 million appropriated for the 2016-17 biennium;
- fund \$4,360 million to the Operations Support formula (includes Teaching Experience Supplement) for the 2018-19 biennium, which would be an increase of \$418 million, or 10.6 percent, compared to the \$3,942 million appropriated for the 2016-17 biennium.
  - ❖ The recommendation increases the funding rate to \$58.99 per weighted semester credit hour (SCH), which would be an increase of \$3.60, or 6.5 percent, compared to the \$55.39 funded for the 2016-17 biennium. This rate includes a \$2.27 increase to return the rate to the 2010-11 biennium rate (a third of the way to \$62.19) and a 2.3 percent increase for inflation.
  - ❖ It assumes a 3.9 percent increase for growth in weighted SCH between the 2015 and 2017 base years.
  - ❖ It allocates funding using a relative weight matrix based on the three-year average of expense per semester credit hour to include fiscal years 2014, 2015, and 2016;



- fund \$786 million to the Space Support formula (includes Small Institution Supplement) for the biennium, which would be an increase of \$51.6 million, or 7.0 percent, compared to the \$734 million appropriated for the 2016-17 biennium.
    - ❖ The recommendation increases the funding rate to \$5.86 per square foot, which would be an increase of \$0.31, or 5.6 percent, more than the \$5.55 funded for the 2016-17 biennium. This rate includes a \$0.18 increase to return the rate to the 2010-11 biennium rate (a third of the way to \$6.09) and a 2.3 percent increase for inflation.
    - ❖ It assumes a 2.3 percent increase for growth in square feet between fall 2014 and 2016;
  - split the recommended space support rate between "utilities" and "operations and maintenance" components using FY 2016 utility rates, update the utility rate adjustment factors using the FY 2016 utilities expenditures, and allocate the space support formula using the fall 2016 space model predicted square feet and;
  - fund the Small Institution Supplement using the same methodology and rate as the 2016-17 biennium
-

**Charge 2 – Study and make recommendations for alternative approaches to incorporating undergraduate student success measures into the funding formulas and compare the effects of funding the success measures within the formula versus applying the success measures as a separate formula. (TEC, Section 61.0593)**

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**Draft Recommendation for Discussion Purposes**

Fund \$200 million to new Graduation Bonus formula for advising, tutoring, and the other interventions many students need to earn a degree. Fund the three-year average of the following:

- \$600 for bachelor's degrees awarded to students who are not at risk
- \$1,200 for bachelor's degrees awarded to student who are at-risk

Funding for at-risk students is higher because these students require more services, and these extra services are not accounted for in the Operations Support formula.

For the purpose of this model, an at-risk student is someone who is a Pell grant recipient or whose SAT/ACT score was below the national average for the year taken.

**Since funding for the Graduation Bonus is for degree completion initiatives, and not for basic support, it should not replace any portion of Operations Support funding.** This committee should biennially review the model to ensure it equitably distributes appropriations.

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### **NCES Releases New Data on Today's Nontraditional Students**

Recently, the National Center for Education Statistics (NCES) released *Demographic and Enrollment Characteristics of Nontraditional Undergraduates: 2011-12*, a report with descriptive statistics about nontraditional undergraduate students. **Nontraditional students** have the following characteristics: they are independent, have dependents of their own, did not enter postsecondary education immediately after high school, and/or may be working while enrolled in school. The report presents key demographic, enrollment, and academic data from comprehensive, nationally representative surveys of nontraditional students.

Seventy-four percent of all 2011–2012 undergraduates had at least one nontraditional characteristic. Comparing this with longitudinal data from four other surveys, the report finds an upward trend from 1995-1996 to the current survey (2011-2012). Similarly, the percentage of students with dependents, as well as single students with dependents, has continued to grow; survey data for 2011-2012 report the highest percentages since 1995-1996 for both groups (27.5 percent and 15.2 percent respectively). Roughly a third (33.9 percent) of all female undergraduates had at least one dependent, while Blacks and students attending four-year for-profit institutions most commonly had more than one dependent.

**CLASP highlights** additional data points reflecting the nontraditional status of today's undergraduates and makes policy recommendations to address these students' complex circumstances.



**Graduation Bonus** - Three-year average (2012 through 2014) of undergraduate degrees and undergraduate degrees awarded to at-risk students defined as students who received Pell grants or scored below the national average on the SAT/ACT. Award amounts are \$600 for graduates who are not at risk and \$1,200 for graduates who are at risk.

FICE	Institution	Degrees	At-Risk Degrees	Graduation Bonus Points	Graduation Bonus (GB)	Percent Distribution
003656	UT-Arlington	6,285	3,520	9,805	\$ 11,766,000	6.7%
003658	UT-Austin	9,183	3,507	12,690	15,228,400	8.6%
009741	UT-Dallas	2,702	1,399	4,101	4,921,200	2.8%
003661	UT-El Paso	3,156	2,564	5,720	6,864,400	3.9%
003599	UT-Rio Grande Valley	3,765	3,308	7,073	8,487,200	4.8%
009930	UT-Permian Basin	580	419	999	1,198,800	0.7%
010115	UT-San Antonio	4,419	3,323	7,742	9,290,400	5.3%
011163	UT-Tyler	1,166	813	1,979	2,374,800	1.3%
003632	TAMU	9,207	3,709	12,916	15,498,800	8.8%
010298	TAMU-Galveston	315	181	496	595,200	0.3%
003630	Prairie View	1,019	881	1,900	2,280,000	1.3%
003631	Tarleton	1,855	1,377	3,232	3,878,400	2.2%
042295	TAMU-Central	485	331	816	979,600	0.6%
011161	TAMU-CC	1,488	1,101	2,589	3,106,800	1.8%
003639	TAMU-Kingsville	946	805	1,751	2,100,800	1.2%
103639	TAMU-San Antonio	759	626	1,385	1,662,000	0.9%
009651	TAMI	873	790	1,663	1,995,200	1.1%
003665	WTAMU	1,360	932	2,293	2,751,200	1.6%
003565	TAMU-Commerce	1,488	1,090	2,578	3,093,600	1.7%
029269	TAMU-TeXarkana	353	246	599	719,200	0.4%
003652	UH	5,873	3,830	9,703	11,644,000	6.6%
011711	UH-Clear Lake	1,236	790	2,026	2,431,600	1.4%
012826	UH-Downtown	2,348	1,646	3,995	4,793,600	2.7%
013231	UH-Victoria	659	412	1,072	1,286,000	0.7%
003592	Midwestern	1,060	668	1,727	2,072,800	1.2%
003594	UNT	5,976	3,654	9,630	11,556,000	6.5%
042421	UNT-Dallas	387	280	667	800,800	0.5%
003624	SFA	2,038	1,497	3,535	4,241,600	2.4%
003642	TSU	789	678	1,467	1,760,400	1.0%
003644	TTU	5,126	2,980	8,106	9,727,200	5.5%
003541	Angelo	1,067	749	1,816	2,179,200	1.2%
003646	TWU	1,969	1,300	3,270	3,923,600	2.2%
003581	Lamar	1,440	1,027	2,467	2,960,800	1.7%
003606	Sam Houston	3,162	2,243	5,405	6,485,600	3.7%
003615	TXST	5,742	3,827	9,568	11,482,000	6.5%
003625	Sul Ross	195	163	358	429,200	0.2%
000020	Sul Ross-Rio Grande	141	124	264	317,200	0.2%
	Total	90,611	56,792	147,403	\$ 176,883,600	100.0%



### Comparison of the Graduation Bonus to the Operations Support Allocation

1. A graduation bonus for universities of \$600 per degree awarded to students who are not at-risk and \$1,200 per degree awarded to at-risk students on top of an operations support allocation of \$4.36 billion
2. Allocation of \$4.537 billion on weighted semester credit hours (operations support recommendation of \$4.36 and graduation bonus funds of \$176,883,600).

Institution	Percent of Degrees to At-Risk Students	2018-2019 Operations Support Per Semester Credit Hour	Operations Support with a Graduation Bonus (1)	Operations Support without a Graduation Bonus (2)	Difference	Percent Difference
UT-Arlington	56%	\$307	\$ 260,000,196	\$258,305,011	\$1,695,185	0.7%
UT-Austin	38%	359	502,847,164	507,401,366	(4,554,202)	-0.9%
UT-Dallas	52%	370	209,683,572	213,069,543	(3,385,971)	-1.6%
UT-El Paso	81%	249	144,044,605	142,745,580	1,299,025	0.9%
UT-Rio Grande Valley	88%	227	175,160,794	173,435,510	1,725,284	1.0%
UT-Permian Basin	72%	231	27,404,522	27,268,883	135,639	0.5%
UT-San Antonio	75%	258	191,839,170	189,954,739	1,884,431	1.0%
UT-Tyler	70%	280	52,737,808	52,406,226	331,582	0.6%
TAMU	40%	389	633,662,679	643,242,672	(9,579,993)	-1.5%
TAMU-Galveston	57%	248	24,004,545	24,359,058	(354,513)	-1.5%
Prairie View	87%	241	55,557,898	55,439,372	118,526	0.2%
Tarleton	74%	236	71,890,428	70,771,263	1,119,165	1.6%
TAMU-Central	68%	279	15,305,768	14,907,378	398,390	2.7%
TAMU-CC	74%	247	69,853,787	69,454,900	398,887	0.6%
TAMU-Kingsville	85%	344	74,912,383	75,765,536	(853,152)	-1.1%
TAMU-San Antonio	82%	271	25,826,632	25,144,986	681,645	2.7%
TAMI	90%	221	40,822,017	40,402,014	420,003	1.0%
WTAMU	69%	242	56,222,571	55,640,694	581,877	1.0%
TAMU-Commerce	73%	310	86,940,962	87,249,034	(308,072)	-0.4%
TAMU-Texarkana	70%	235	10,544,804	10,224,227	320,577	3.1%
UH	65%	318	331,744,598	333,087,019	(1,342,421)	-0.4%
UH-Clear Lake	64%	369	65,927,830	66,072,261	(144,430)	-0.2%
UH-Downtown	70%	208	68,778,136	66,580,376	2,197,759	3.3%
UH-Victoria	63%	270	27,089,304	26,850,140	239,165	0.9%
Midwestern	63%	217	35,739,300	35,032,344	706,956	2.0%
UNT	61%	262	244,035,275	241,910,915	2,124,359	0.9%
UNT-Dallas	72%	226	11,249,996	10,873,118	376,878	3.5%
UNT-Dallas Law <sup>1</sup>		605	3,973,851	4,135,069	(161,218)	-3.9%
SFA	73%	216	74,200,643	72,797,268	1,403,375	1.9%
TSU	86%	275	65,368,435	66,188,601	(820,166)	-1.2%
TTU	58%	316	290,997,136	292,681,004	(1,683,869)	-0.6%
Angelo	70%	220	38,132,120	37,411,524	720,597	1.9%
TWU	66%	283	102,045,836	102,103,036	(57,201)	-0.1%
Lamar	71%	291	102,450,411	103,525,886	(1,075,475)	-1.0%
Sam Houston	71%	222	116,524,067	114,502,707	2,021,360	1.8%
TXST	67%	221	213,118,032	209,816,368	3,301,664	1.6%
Sul Ross	83%	252	11,625,694	11,650,734	(25,040)	-0.2%
Sul Ross-Rio Grande	88%	267	4,601,350	4,457,957	143,393	3.2%
Total	63%	291	\$4,536,864,318	\$ 4,536,864,318	\$ -	0.0%

1. The graduation bonus does not apply to UNT-Dallas Law. This bonus is for undergraduate success and the law school is for graduate students only.

### Comparison of the Graduation Bonus to the Outcomes-Based Funding Model

1. A graduation bonus for universities of \$600 per degree awarded to students who are not at risk and \$1,200 per degree awarded to students who are at-risk on top of an operations support allocation of \$4.36 billion
2. Outcomes-Based Funding of \$177 million, using the metrics recommended by the committee two years ago, on top of an operations support allocation of \$4.36 billion

Institution	2018-2019 Operations Support with a Graduation Bonus (1)	2018-2019 Operations Support with Outcomes- Based Funding (2)	Difference	Percent Difference
UT-Arlington	\$ 260,000,196	\$ 258,478,371	\$ 1,521,825	0.6%
UT-Austin	502,847,164	505,713,707	(2,866,543)	-0.6%
UT-Dallas	209,683,572	209,983,884	(300,312)	-0.1%
UT-El Paso	144,044,605	143,416,009	628,596	0.4%
UT-Rio Grande Valley	175,160,794	174,625,192	535,602	0.3%
UT-Permian Basin	27,404,522	27,252,327	152,195	0.6%
UT-San Antonio	191,839,170	191,457,291	381,878	0.2%
UT-Tyler	52,737,808	52,548,296	189,512	0.4%
TAMU	633,662,679	637,146,142	(3,483,463)	-0.5%
TAMU-Galveston	24,004,545	24,406,263	(401,718)	-1.6%
Prairie View	55,557,898	55,523,008	34,890	0.1%
Tarleton	71,890,428	71,493,106	397,322	0.6%
TAMU-Central	15,305,768	15,229,985	75,782	0.5%
TAMU-CC	69,853,787	69,670,249	183,537	0.3%
TAMU-Kingsville	74,912,383	74,734,169	178,215	0.2%
TAMU-San Antonio	25,826,632	25,494,072	332,559	1.3%
TAMI	40,822,017	40,747,598	74,419	0.2%
WTAMU	56,222,571	55,951,992	270,579	0.5%
TAMU-Commerce	86,940,962	86,604,122	336,841	0.4%
TAMU-Texarkana	10,544,804	10,498,911	45,894	0.4%
UH	331,744,598	331,626,754	117,844	0.0%
UH-Clear Lake	65,927,830	65,614,839	312,991	0.5%
UH-Downtown	68,778,136	67,593,804	1,184,332	1.8%
UH-Victoria	27,089,304	26,865,739	223,565	0.8%
Midwestern	35,739,300	35,584,346	154,955	0.4%
UNT	244,035,275	243,790,017	245,258	0.1%
UNT-Dallas	11,249,996	11,201,446	48,550	0.4%
UNT-Dallas Law	3,973,851	3,973,851	-	0.0%
SFA	74,200,643	74,202,907	(2,265)	0.0%
TSU	65,368,435	65,309,770	58,666	0.1%
TTU	290,997,136	292,180,153	(1,183,017)	-0.4%
Angelo	38,132,120	37,948,704	183,416	0.5%
TWU	102,045,836	101,621,587	424,249	0.4%
Lamar	102,450,411	102,210,196	240,215	0.2%
Sam Houston	116,524,067	116,457,119	66,948	0.1%
TXST	213,118,032	213,507,935	(389,903)	-0.2%
Sul Ross	11,625,694	11,580,144	45,550	0.4%
Sul Ross-Rio Grande	4,601,350	4,620,312	(18,962)	-0.4%
Total	\$4,536,864,318	\$ 4,536,864,318	\$-	0.0%



### Comparison of the Graduation Bonus to Projected Graduation Bonus

1. A graduation bonus for universities of \$600 per degree awarded to students who are not at risk and \$1,200 per degree awarded to at-risk students for a projected three-year average of 2016, 2017, and 2018 using the linear trend three-year averages by institution for 2006 through 2014.
2. A graduation bonus for universities of \$600 per degree awarded to students who are not at risk and \$1,200 per degree awarded to at-risk students for the three-year average of degrees awarded in 2012, 2013, and 2014.

Name	Degrees	At-Risk Degrees	Graduation Bonus Points	Graduation Bonus (2016-2018 Projected Degrees)	Graduation Bonus (2012-2014 Degrees)	Difference	Percent Change
UT-Arlington	7,867	4,496	12,363	\$ 14,835,400	\$ 11,766,000	\$3,069,400	26.1%
UT-Austin	9,744	4,114	13,858	\$ 16,629,940	\$ 15,228,400	\$1,401,540	9.2%
UT-Dallas	2,985	1,672	4,657	\$5,588,280	\$4,921,200	\$ 667,080	13.6%
UT-El Paso	3,705	3,102	6,807	\$8,168,500	\$6,864,400	\$1,304,100	19.0%
UT-Rio Grande Valley	4,266	3,822	8,087	\$9,704,940	\$8,487,200	\$1,217,740	14.3%
UT-Permian Basin	637	464	1,101	\$1,321,080	\$1,198,800	\$ 122,280	10.2%
UT-San Antonio	5,050	4,009	9,059	\$ 10,871,080	\$9,290,400	\$1,580,680	17.0%
UT-Tyler	1,383	1,074	2,457	\$2,948,080	\$2,374,800	\$ 573,280	24.1%
TAMU	9,911	4,189	14,100	\$ 16,920,280	\$ 15,498,800	\$1,421,480	9.2%
TAMU-Galveston	337	213	550	\$ 660,320	\$ 595,200	\$65,120	10.9%
Prairie View	1,092	999	2,091	\$2,509,400	\$2,280,000	\$ 229,400	10.1%
Tarleton	2,000	1,599	3,599	\$4,319,360	\$3,878,400	\$ 440,960	11.4%
TAMU-Central	900	615	1,515	\$1,817,580	\$ 979,600	\$ 837,980	85.5%
TAMU-CC	1,555	1,229	2,784	\$3,340,520	\$3,106,800	\$ 233,720	7.5%
TAMU-Kingsville	845	762	1,607	\$1,928,400	\$2,100,800	\$ (172,400)	-8.2%
TAMU-San Antonio	1,378	1,123	2,501	\$3,001,240	\$1,662,000	\$1,339,240	80.6%
TAMI	1,037	974	2,011	\$2,412,820	\$1,995,200	\$ 417,620	20.9%
WTAMU	1,568	1,110	2,678	\$3,213,860	\$2,751,200	\$ 462,660	16.8%
TAMU-Commerce	1,522	1,162	2,685	\$3,221,720	\$3,093,600	\$ 128,120	4.1%
TAMU-TeXarkana	346	272	618	\$ 741,680	\$ 719,200	\$22,480	3.1%
UH	6,619	4,541	11,160	\$ 13,392,040	\$ 11,644,000	\$1,748,040	15.0%
UH-Clear Lake	1,247	880	2,127	\$2,552,900	\$2,431,600	\$ 121,300	5.0%
UH-Downtown	2,701	2,051	4,752	\$5,702,860	\$4,793,600	\$ 909,260	19.0%
UH-Victoria	878	550	1,429	\$1,714,200	\$1,286,000	\$ 428,200	33.3%
Midwestern	1,116	784	1,899	\$2,279,320	\$2,072,800	\$ 206,520	10.0%
UNT	6,998	4,523	11,522	\$ 13,826,220	\$ 12,081,600	\$1,744,620	14.4%
UNT-Dallas	599	445	1,044	\$1,252,200	\$ 275,200	\$ 977,000	355.0%
SFA	2,213	1,764	3,977	\$4,772,380	\$4,241,600	\$ 530,780	12.5%
TSU	846	771	1,617	\$1,940,120	\$1,760,400	\$ 179,720	10.2%
TTU	5,356	3,341	8,697	\$ 10,436,560	\$9,727,200	\$ 709,360	7.3%
Angelo	1,180	876	2,056	\$2,466,720	\$2,179,200	\$ 287,520	13.2%
TWU	2,411	1,694	4,104	\$4,925,200	\$3,923,600	\$1,001,600	25.5%
Lamar	1,567	1,166	2,732	\$3,278,860	\$2,960,800	\$ 318,060	10.7%
Sam Houston	3,736	2,808	6,545	\$7,853,840	\$6,485,600	\$1,368,240	21.1%
TXST	6,542	4,615	11,157	\$ 13,388,560	\$ 11,482,000	\$1,906,560	16.6%
Sul Ross	191	160	351	\$ 420,800	\$ 429,200	\$ (8,400)	-2.0%
Sul Ross-Rio Grande	139	122	261	\$ 313,020	\$ 317,200	\$ (4,180)	-1.3%
Total	102,466	68,092	170,559	\$ 204,670,280	\$ 176,883,600	\$27,786,680	15.7%

### Pell versus Pell Eligible

What would the Graduation Bonus be if Pell eligible students, not just students who received Pell, were included in the model? Adding students who were Pell eligible, but did not receive the Pell grant to the at risk pool would add 5,821 at-risk points based on 2012-2014 degrees, an funding increase of 3.9 percent.

Institution	Graduation Bonus Points (Pell Recipients)	Graduation Bonus (Pell Recipients)	Graduation Bonus Points (Pell Eligible)	Graduation Bonus (Pell Eligible)	Difference	Percent Difference
UT-Arlington	9,805	\$ 11,766,000	10,156	\$ 12,187,200	\$ 421,200	3.6%
UT-Austin	12,690	15,228,400	13,202	15,842,800	614,400	4.0%
UT-Dallas	4,101	4,921,200	4,279	5,134,800	213,600	4.3%
UT-El Paso	5,720	6,864,400	5,810	6,972,000	107,600	1.6%
UT-Rio Grande Valley	7,073	8,487,200	7,160	8,591,600	104,400	1.2%
UT-Permian Basin	999	1,198,800	1,027	1,232,000	33,200	2.8%
UT-San Antonio	7,742	9,290,400	7,968	9,562,000	271,600	2.9%
UT-Tyler	1,979	2,374,800	2,070	2,484,400	109,600	4.6%
TAMU	12,916	15,498,800	13,716	16,459,600	960,800	6.2%
TAMU-Galveston	496	595,200	519	622,400	27,200	4.6%
Prairie View	1,900	2,280,000	1,935	2,322,400	42,400	1.9%
Tarleton	3,232	3,878,400	3,338	4,005,200	126,800	3.3%
TAMU-Central	816	979,600	850	1,020,000	40,400	4.1%
TAMU-CC	2,589	3,106,800	2,689	3,226,400	119,600	3.8%
TAMU-Kingsville	1,751	2,100,800	1,789	2,146,800	46,000	2.2%
TAMU-San Antonio	1,385	1,662,000	1,411	1,693,200	31,200	1.9%
TAMI	1,663	1,995,200	1,678	2,014,000	18,800	0.9%
WTAMU	2,293	2,751,200	2,399	2,879,200	128,000	4.7%
TAMU-Commerce	2,578	3,093,600	2,645	3,173,600	80,000	2.6%
TAMU-TeXarkana	599	719,200	619	742,800	23,600	3.3%
UH	9,703	11,644,000	10,102	12,122,800	478,800	4.1%
UH-Clear Lake	2,026	2,431,600	2,109	2,531,200	99,600	4.1%
UH-Downtown	3,995	4,793,600	4,105	4,926,400	132,800	2.8%
UH-Victoria	1,072	1,286,000	1,104	1,324,800	38,800	3.0%
Midwestern	1,727	2,072,800	1,794	2,152,400	79,600	3.8%
UNT	9,630	11,556,000	10,094	12,112,447	556,447	4.8%
UNT-Dallas	667	800,800	692	830,753	29,953	3.7%
SFA	3,535	4,241,600	3,657	4,388,800	147,200	3.5%
TSU	1,467	1,760,400	1,485	1,781,600	21,200	1.2%
TTU	8,106	9,727,200	8,625	10,350,400	623,200	6.4%
Angelo	1,816	2,179,200	1,892	2,270,000	90,800	4.2%
TWU	3,270	3,923,600	3,382	4,058,800	135,200	3.4%
Lamar	2,467	2,960,800	2,549	3,058,400	97,600	3.3%
Sam Houston	5,405	6,485,600	5,653	6,783,600	298,000	4.6%
TXST	9,568	11,482,000	10,092	12,110,000	628,000	5.5%
Sul Ross	358	429,200	363	435,600	6,400	1.5%
Sul Ross-Rio Grande	264	317,200	265	318,400	1,200	0.4%
Total	147,403	\$ 176,883,600	153,224	\$ 183,868,800	\$ 6,985,200	3.9%



**How do transfer students contribute to the Graduation Bonus?**

- Transfer student graduates account for 35 percent of all undergraduate degrees.
- At-risk transfer student graduates make up 40 percent of all at-risk undergraduate degrees.
- For the 23,752 at-risk degrees earned by transfer students, 19,365, or 82 percent, were at risk because they received a Pell grant, while, 3,386, or 18 percent, were at risk because their average SAT or ACT scores were below the national average. 74 percent of non-transfer student graduates are at risk because they received a Pell grant.
- Transfer student graduates who did not receive a Pell grant, but who earned below average SAT or ACT scores, make up 14 percent of all transfer student graduates. This is 11 percent for non-transfer student graduates.
- For completers, an SAT or ACT score was reported for 56 percent of transfer students and 73 percent of non-transfer students, a difference of 17 percentage points.
- Of the 32,097 transfer students who earned a degree:
  - 44 percent, 14,274 of the 32,097, were reported as not having an SAT or ACT score.
  - 70 percent, 9,929 of the 14,274, of these were at-risk for being Pell recipients.

Three-Year Average Degree Counts	All Degrees	Native	Transfer
Degrees	90,611	58,514	32,097
At-Risk	59,792	36,040	23,752
Pell	45,908	26,543	19,365
SAT/ACT	10,883	6,497	4,386
Part-Time	1,978	775	1,203
Older	420	211	209
GED	20	8	12
Tested	60,3061	42,483	17,823
Percentage of Degrees			
Percent At-Risk	66%	62%	74%
Percent Pell	51%	45%	60%
Percent SAT/ACT	12%	11%	14%
Percent Part-Time	2%	1%	4%
Percent Older	0%	0%	1%
Percent GED	0%	0%	0%
Percent Tested	67%	73%	56%

From the point when students reach junior status, how do the completion rates of transfer students compare to native students (those who start at a university)?

Completion Rates for Fall 2010 Juniors	Natives			Transfers		
	Total	Total Graduates	Percent Graduating in 4 years	Total	Total Graduates	Percent Graduating in 4 years
UT-Arlington	1,286	1,064	83%	1,132	694	61%
UT-Austin	5,453	4,912	90%	265	209	79%
UT-Dallas	927	809	87%	708	475	67%
UT-El Paso	1,435	1,048	73%	521	285	55%
UT-Pan American	1,671	1,212	73%	396	265	67%
UT-Brownsville	163	141	87%	209	110	53%
UT-Permian Basin	187	158	84%	110	62	56%
UT-San Antonio	2,252	1,756	78%	685	424	62%
UT-Tyler	306	267	87%	280	178	64%
TAMU	6,437	5,971	93%	413	363	88%
TAMU-Galveston	192	166	86%	17	8	47%
Prairie View	768	531	69%	52	39	75%
Tarleton	717	619	86%	384	299	78%
TAMU-Central Texas <sup>1</sup>				114	73	64%
TAMU-Corpus Christi	612	490	80%	239	154	64%
TAMU-Kingsville	394	306	78%	102	75	74%
TAMU-San Antonio <sup>1</sup>				390	254	65%
TAMI	435	336	77%	196	104	53%
WTAMU	613	480	78%	275	177	64%
TAMU-Commerce	327	261	80%	447	322	72%
TAMU-Texarkana <sup>2</sup>				143	98	69%
UH	2,285	1,908	84%	1,089	625	57%
UH-Clear Lake <sup>2</sup>				833	553	66%
UH-Downtown	302	203	67%	575	335	58%
UH-Victoria <sup>2</sup>				191	117	61%
Midwestern	445	343	77%	129	79	61%
UNT	2,346	1,944	83%	996	700	70%
UNT-Dallas <sup>2</sup>				175	124	71%
SFA	1,233	1,057	86%	288	219	76%
TSU	502	310	62%	22	13	59%
TTU	2,973	2,602	88%	411	292	71%
Angelo	677	532	79%	11	6	55%
TWU	437	349	80%	357	251	70%
Lamar	777	590	76%	126	76	60%
Sam Houston	1,325	1,150	87%	480	360	75%
TXST	2,468	2,001	81%	950	655	69%
Sul Ross	94	75	80%	23	15	65%
Sul Ross Rio Grande <sup>1,3</sup>			67%	90	33	37%
<b>Statewide</b>	<b>40,042</b>	<b>33,593</b>	<b>84%</b>	<b>13,824</b>	<b>9,121</b>	<b>66%</b>

1. Upper-Level only. Natives include high school graduates with dual credit who enrolled at a university after high school graduation

2. Four-Year cohort data not yet available

3. FERPA restricted, less than 5



### How academically successful are transfer students?

The grade point averages (GPA) of transfer students are similar to their peers who started at a public university.

Institution Name	Junior Transfers	Junior Natives	Transfer Student Average GPA	Native Student Average GPA	Difference (Native minus Transfer)
UT-Arlington	1,569	1,039	3.05	3.12	0.07
UT-Austin	611	4,868	3.12	3.20	0.09
UT-Dallas	1,129	801	3.09	3.27	0.17
UT-El Paso	998	1,025	3.15	3.18	0.03
UT-Pan American	682	1,166	3.06	3.02	(0.04)
UT-Brownsville	531	137	2.98	3.11	0.13
UT-Permian Basin	235	154	3.20	3.15	(0.05)
UT-San Antonio	1,230	1,712	3.04	3.00	(0.04)
UT-Tyler	462	261	3.08	3.10	0.02
TAMU	1,084	5,926	3.01	3.19	0.17
TAMU-Galveston	34	161	2.75	2.88	0.13
Prairie View	138	521	3.12	2.85	(0.27)
Tarleton	522	612	3.08	2.98	(0.10)
TAMU-Central <sup>1</sup>	181	N/A	3.19	N/A	
TAMU-CC	436	482	3.14	3.11	(0.04)
TAMU-Kingsville	177	300	3.17	3.02	(0.16)
TAMU-San Antonio <sup>1</sup>	423	N/A	3.24	N/A	
TAMI	266	327	3.08	3.17	0.09
WTAMU	394	475	3.20	3.12	(0.08)
TAMU-Commerce	607	255	3.35	3.18	(0.17)
TAMU-Texarkana <sup>1</sup>	183	N/A	3.29	N/A	
UH	1,827	1,864	3.11	3.18	0.07
UH-Clear Lake <sup>1</sup>	1,035	N/A	3.33	N/A	
UH-Downtown	742	198	3.07	2.92	(0.15)
UH-Victoria <sup>1</sup>	329	N/A	3.22	N/A	
Midwestern	225	338	3.08	2.99	(0.09)
UNT	1,907	1,911	3.07	3.14	0.07
UNT-Dallas <sup>1</sup>	25	N/A	3.21	N/A	
SFA	483	1,043	3.06	3.06	(0.00)
TSU	133	300	3.17	2.85	(0.31)
TTU	853	2,529	3.03	3.19	0.16
Angelo	71	524	3.04	3.12	0.08
TWU	729	344	3.28	3.24	(0.04)
Lamar	228	579	3.08	3.10	0.02
Sam Houston	1,183	1,142	3.04	3.06	0.03
TXST	1,895	1,981	3.01	3.08	0.07
Sul Ross	38	75	3.13	3.09	(0.04)
Sul Ross-Rio Grande <sup>1</sup>	103	N/A	3.08	N/A	
Statewide	25,265	33,613	3.09	3.13	0.03

1. Upper-division or not in existence long enough to have a junior natives in fall 2010

2. Transfer Student - attempted at least 30 hours at a CTC excluding dual credit before fall 2010

3. Native Student - started at the same university where enrolled as a junior in fall 2010

4. GPA based on courses completed in FY 2011-2014

5. Excludes data at institutions where the total number of transfers were less than 5



### What is the additional expense of graduating an at-risk student?

Public universities spend about 20 percent more graduating an at-risk student, which is a student who is low-income or not college ready.

The per-student expense in the table below is based on a cohort of students who enrolled for the first time (part-time or full-time) at a public university in the fall or summer of 2008. Students who transferred to the public university after starting at a different institution are not part of the cohort (including those from community colleges).

The model assumes a similar expense per semester credit hour (rate) for all students, but accounts for the lower completion rates and additional semester credit hours of at-risk students. The model groups cohort students as graduates, those who completed a degree by 2014, and leavers, those who did not complete by 2014. Leavers may be persisting to complete their degrees.

The model includes per-student expenses for leavers and graduates using the institutions' Fiscal Year (FY) 2014 rate and the average semester credit hours for the group. The model applies the lower-level rate for the first 60 hours and developmental education hours. The upper-level rate was applied to the remaining hours.

A third per-student expense was calculated by adding the expense of the hours for leavers into the expense for graduates to show the additional expense of lower graduation rates.

Institution	Expense of Not At-Risk			Expense of At-Risk			Increased Expense of Graduating At-Risk Students
	Leaver	Graduate	Graduate (Includes Leaver Expense)	Leaver	Graduate	Graduate (Includes Leaver Expense)	
UT-Arlington	\$30,489	\$58,304	\$82,385	\$37,133	\$59,688	\$97,955	19%
UT-Austin	69,455	94,660	104,912	77,605	102,591	125,293	19%
UT-Dallas	49,304	76,804	89,990	52,685	77,850	102,980	14%
UT-El Paso	20,693	50,857	71,080	24,799	55,018	95,843	35%
UT-Pan American	26,890	42,369	58,035	27,038	47,884	78,333	35%
UT-Brownsville	8,998	50,327	58,646	28,004	57,809	91,191	55%
UT-Permian Basin	23,309	47,045	66,470	27,843	54,188	94,406	42%
UT-San Antonio	30,156	57,845	76,665	34,605	60,831	97,465	27%
UT-Tyler	31,389	53,361	74,918	33,723	55,184	79,627	6%
TAMU	41,795	57,355	63,220	45,757	59,730	71,455	13%
TAMU-Galveston	49,414	88,062	110,153	55,519	92,528	131,391	19%
Prairie View	35,741	78,928	100,180	40,538	90,837	154,436	54%
Tarleton	22,437	47,628	63,931	25,390	51,082	75,113	17%
TAMU-Corpus Christi	26,859	51,463	73,267	29,114	53,214	87,442	19%
TAMU-Kingsville	21,774	61,627	87,661	21,997	66,192	103,546	18%
TAMI	33,368	48,675	91,143	32,396	52,116	87,617	-4%
WTAMU	26,459	59,294	74,393	26,126	62,406	98,391	32%
TAMU-Commerce	24,283	64,376	80,633	34,946	71,799	113,557	41%
UH	28,697	52,754	70,769	35,648	58,880	94,079	33%
UH-Clear Lake	4,110	8,543	9,993	0	29,228	29,228	192%
UH-Downtown	8,925	45,589	86,829	19,696	49,154	112,363	29%
Midwestern	29,259	71,387	94,272	38,985	74,442	118,341	26%

Institution	Expense of Not At-Risk			Expense of At-Risk			Increased Expense of Graduating At-Risk Students
	Leaver	Graduate	Graduate (Includes Leaver Expense)	Leaver	Graduate	Graduate (Includes Leaver Expense)	
UNT	27,385	50,438	68,556	33,109	54,004	78,174	14%
SFA	27,012	51,430	67,375	31,299	55,859	88,780	32%
TSU	18,341	84,908	137,034	32,317	93,705	247,397	81%
TTU	39,435	61,454	75,305	42,717	64,005	86,641	15%
Angelo	29,433	55,798	74,810	28,623	58,160	109,361	46%
TWU	18,039	38,444	51,793	25,511	41,402	67,938	31%
Lamar	21,250	62,953	94,358	28,000	68,096	126,250	34%
Sam Houston	21,208	44,525	55,465	26,851	47,550	67,177	21%
TXST	26,963	46,757	60,001	30,770	47,781	66,805	11%
Sul Ross	25,109	80,449	143,222	27,046	90,374	157,045	10%
Total	32,787	64,642	77,425	33,066	62,818	93,778	21%

**Charge 3 – Study and make recommendations on the treatment of competency-based courses in formula allocations.**

**Draft Recommendation for Discussion Purposes**

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- Fund competency-based education courses (not modules) using the existing formula calculation and updated expenditure-based weights for the 2018-19 biennium.
    - ❖ Institutions offering competency-based programs should report hours to the Coordinating Board upon the student's completion of all the modules associated with the course.
    - ❖ The expenditure study should include the courses' expense and hours reported for the respective fiscal years.
    - ❖ Fund hours through the formula for courses where the student attained mastery of the subject at the institution through instruction or independent study. Exclude hours where the student obtained mastery of the entire course prior to enrolling in the program. This includes not funding credit obtained through CLEP tests or similar evaluation practices through the formula.
  - Expenditure data from the Texas A&M University-Commerce program was insufficient in determining the appropriate funding formula for competency-based education.
    - ❖ The program had only been in operation a single semester during Fiscal Year (FY) 2014. The committee requests Texas A&M University-Commerce continue to provide competency-based course expenditure data as a subset of the expenditure study data provided for fiscal years 2015 and 2016.
    - ❖ The commissioner should charge the 2020-21 biennium GAIFAC with reviewing this information to determine if the expense per hour for these courses varies enough from the statewide ratios to warrant an additional formula to fund competency-based education courses.
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**Alternative approaches for the committee's consideration in making recommendations:**

1. Estimate the number of weighted semester credit hours to complete the CBE program using a degree audit of a similar program and include those hours in the base year for each CBE student that graduates in the base year.
  - a. This approach would encourage timely completion, maintain the program's activity in the expenditure-based formula, and eliminate the need to associate the program modules with courses.
  - b. This option results in funding lags for students who take longer to complete and excludes activity for students who never complete.
2. Fund institutions based on the fraction of total number of competencies in a CBE program that a CBE student completes during the semester.

$\text{Funds allocated per student per semester} = \left( \frac{\text{Number of modules completed in a semester}}{\text{Total number of modules in CBE program}} * \text{Program Weight} \right) * \text{Value of CBE Program}$
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- a. This approach takes into account the number of competencies a student places out of as a result of Prior Learning Assessments (PLA).
- b. It is more in line with how CBE programs are being designed in Texas and across experimental sites in the U.S.
- c. The Program Weight equalizes the variation in the maximum length and number of competencies across CBE programs.
- d. This option requires that CBE programs be valued or monetized.

**Charge 4 – Study and make recommendations on the treatment of pharmacy hours for professional practice pharmacy courses.**

**Recommendation (Approved October 7, 2015)**

Update the pharmacy funding policy to fund pharmacy courses with pharmacy expenditure-based weights and the standard enrollment adjustment methodology.

- Weight pharmacy undergraduate semester credit hours using pharmacy undergraduate course expenditures and hours. Remove directions to use science weights.
- Adjust pharm-D program course enrollments in the same manner as enrollments for all other programs.
  - ❖ Weight hours for graduate level students (master's, doctoral, and professional-practice) enrolled in pharmacy professional practice courses at the pharmacy professional practice weight.
  - ❖ Weight hours for undergraduate level students (lower and upper) enrolled in pharmacy professional practice courses at the corresponding pharmacy lower- and upper-level weights.

**Charge 5 – Study and make recommendations on changes to the funding model that will enable institutions to meet the goals of 60x30TX.**

**Recommendation (Approved September 9, 2015)**

State funding is an essential resource for institutions to meet the 60x30TX goals. The committee considered the four goals of this plan when setting the funding level recommendations included in this report. Over the course of the 15 years during the *Closing the Gaps* plan, general academic institutions increased enrollments 45 percent and increased graduation rates over 11 percentage points (from 49.5 to 60.5 percent). These strides require quality faculty and staff motivated to reaching a higher standard of education for our students and our state.

Since fiscal year 2000, these same institutions received decreasing amounts in state support on a per full-time student equivalent basis – a trend that must be reversed if the state intends to educate 3 out of 5 citizens, nearly double the annual graduates, and increase students' awareness of their marketable skills, all while maintaining student debt levels. This committee encourages the Legislature to work diligently in forming budgets over the next 15 years that help higher education institution in the state of Texas reach these ambitious but attainable goals.

This document is available on the Texas Higher Education Coordinating Board  
Website: <http://www.thecb.state.tx.us/formulafunding>

**For more information contact:**

**Paul Turcotte**  
Program Director  
Finance and Resource Planning  
Texas Higher Education Coordinating Board  
P.O. Box 12788  
Austin, TX 78711  
(512) 427-6235  
[paul.turcotte@thecb.state.tx.us](mailto:paul.turcotte@thecb.state.tx.us)



APPENDIX D

**60x30TX**

60 percent of "Generation Texas" will have a  
postsecondary credential or degree by 2030

April 2015 – Draft of the Next Higher  
Education Strategic Plan for Texas

4/20/15  
Texas Higher Education Coordinating Board

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## Executive Summary

### Introduction

Since the last higher education plan was adopted in 2000, Texas has become increasingly engaged in a global economy dependent on skilled and knowledgeable workers. Many of those workers must come from the state's institutions of higher education. Although higher education in Texas must continue to pursue greater learning, in general, as well as continually push toward higher standards of excellence in teaching, research, and innovation, universities and colleges also must work toward achieving the objective many students have in mind when they attend college: to get a better job and achieve a better life through higher education.

For Texas to solve problems and address public concerns now and in the future, the state must have a large workforce

with the insight, skills, and knowledge to push it forward. This workforce must be educated and able to adapt and compete at the highest levels to maintain a strong state economy. All forms of postsecondary attainment will be critical to the state's success.

### The Goals of this Plan

By 2030, Texas will need approximately 60 percent of its 25- to 34-year-old workforce to hold a postsecondary credential. Centered around students, the 60x30TX higher education strategic plan is designed to achieve this goal and help Texas remain competitive and prosperous. However, the state's 25-34 year olds are increasingly Hispanic, and the inclusion of underrepresented student populations, such as Hispanics and African Americans, in higher education will be critical to this plan's success.

Placeholder for graphic showing goals/targets; this graphic needs to lay out simply but effectively the goals and targets of the 60x30 plan at a glance.

The first goal of this plan, the 60x30 goal, is overarching and aims to raise the percentage of the Texas younger adult population with postsecondary educational attainment. Because Texas has seen a relative decline in educational attainment by the younger population, this goal focuses on 25-34 year olds: *By 2030, at least 60 percent of Texans ages 25-34 will have a postsecondary credential or degree.* Although ambitious, given the current level of educational attainment, this goal is achievable through focused effort.

The second goal contributes to the first by supplying graduates from Texas institutions: *By 2030, at least 550,000 students in that year will complete a certificate, associate, bachelor's, or master's from a Texas public, independent, or for-profit college or university.* To reach this goal, Texas will need to maintain the strong degree production increases it has experienced in recent years, with large increases needed among targeted groups.

The third goal emphasizes the value of higher education relative to the workforce: *By 2030, all graduates from Texas public institutions of higher education will have completed programs with identified marketable skills.* Students need to be aware of the marketable skills affiliated with their programs. This goal ensures institutions document, update, and communicate the skills students acquire in their programs.

The final goal is intended to help students who graduate with debt complete their programs with reasonable debt: *By 2030, undergraduate student loan debt will not exceed 60 percent of first-year wage for graduates of Texas public institutions.* This goal is designed to balance the levels of student loan debt with a graduate's earning potential during the first year after college.

#### Conclusion

By charting a student-centered course and prioritizing higher education completion and workforce readiness, this plan enables the state, institutions of higher education, and the private sector to set Texas on a path toward continued prosperity. To compete and remain

relevant in the future, Texas workers need to complete quality postsecondary credentials, and exit their programs with skills that employers need. Furthermore, if graduates are to provide the state with sufficient revenue and have the means to pursue personal goals, they must exit their programs with no debt or reasonable debt, given their incomes.

This plan addresses students' desire for a better life, employers' desires to remain competitive, and the state's need for a robust economy. This plan also strengthens the mission of excellence and quality in Texas higher education by setting goals that cannot be postponed without postponing the progress of Texas.



## Introduction

Since the last higher education plan was adopted in 2000, Texas has become increasingly engaged in a global economy dependent on skilled and knowledgeable workers. Many of those workers must come from the state's institutions of higher education. Although higher education in Texas must continue to pursue greater learning in general, as well as continually push toward higher standards of excellence in teaching, research, and innovation, universities and colleges also must work toward achieving the objective many students have in mind when they attend college: to get a better job and achieve a better life through higher education.

Given the mission of higher education, the needs of the community, the expectations of students, and the reality of a global marketplace, the question is how Texas institutions of higher education can achieve their missions and educate students to supply the necessary workforce needed to compete in a global market. The 60x30TX higher education plan for Texas lays out ambitious goals for educational attainment, completion, marketable skills, and student debt. The aim is to help students achieve their educational goals and help the state remain globally competitive for years to come. At the same time, this plan provides institutions with the latitude to pursue the greater purposes of higher learning.

### Skills Deficits, Attainment, and Completion

In 2012, the Organisation for Economic Co-operation and Development (OECD), which globally promotes policies to improve economic and social well-being, listed Texas as one of several states experiencing skills deficits.<sup>1</sup> Some sectors of the state's economy could not hire enough workers with the required skillsets to meet workforce demand, resulting in lost revenue for the state. Although Texas saw a large immigration of workers and met most of the goals and targets set in the previous higher

education plan, only 35 percent of the 25- to 34-year-old population had an associate or higher degree in 2013, far less than many other states and nations. Adding certificates earned by this age group only increased the number of graduates with a postsecondary credential to about 38 percent.<sup>2</sup>

Those percentages suggest a link between the number of Texans holding a certificate or degree and the state's deficit in skilled and knowledgeable workers. Certainly Texas made enormous strides during the years of the previous higher education plan, *Closing the Gaps by 2015*. At the outset of the

plan's Success goal in 2000, only about 100,000 students had completed an associate, bachelor's, or certificate. By 2011, the state had reached the Success goal – awarding 210,000 postsecondary credentials by 2015 – four years early, and by Fiscal Year 2014, the state had reached nearly 251,000 total undergraduate awards.<sup>3</sup>

Yet despite the state's successes, the demand for skilled and knowledgeable workers continues to outpace workforce supply in Texas. For Texas to remain competitive and prosperous, it will need approximately 60 percent of its 25-34 year olds to hold a quality postsecondary credential by 2030. (Some experts believe that Texas will need to reach this goal even sooner.)

Reaching a goal of this magnitude will require solutions from both public and private sectors. Although ambitious, this goal is achievable, provided a wide and representative range of Texans, including traditional and nontraditional students, economically disadvantaged students, and students from many ethnic backgrounds are able to attain a postsecondary education.

### Greater Representation, Demographic Shifts

Appealing to a wide range of Texans will be particularly important in light of the state's enormous growth among Hispanics,

Some sectors of the state's economy could not hire enough workers with the required skillsets to meet workforce demand.



who accounted for 65 percent of the state's population increase during the 2010 census. Other minority populations grew significantly, too, while the white population numbers remained relatively flat. These demographic changes underscore the need to push for greater educational attainment in Texas among all populations.

#### Social Mobility and Affordability

Preparing students to enter community colleges and universities and supporting students through the completion of certificates and degrees will mean demonstrating that postsecondary attainment is still the best path toward greater social and economic mobility. Supporting students through completion will also mean addressing college affordability and making the workplace skills and knowledge learned in programs transparent.

#### Student-Centered

The *60x30TX* Plan focuses on the critical role of both public and private stakeholders and lays out a comprehensive approach that focuses heavily on the needs of students. Students, after all, are the ones who will decide to pursue higher education. Their decisions will influence the future prosperity

of Texas greatly and affect the state's ability to meet its needs for educated and skilled workers.

#### The 60x30TX Plan

The intention of the goals and targets described in this plan are to help students, institutions of higher education, employers, and the state succeed and flourish using a shared vision of excellence for higher education in Texas. Developed with input from school administrators, higher education leaders, community leaders, private industry, elected officials, and others, the *60x30TX* plan establishes ideals for higher education in Texas that will help secure the state's place in a global economy.

Like its predecessor, this plan seeks to create qualitative results built on quantitative foundations and is a living document that will be used to track the state's progress toward its higher education goals. Also like its predecessor, this plan includes four goals; however, the goals in this plan are different and focus more heavily on the alignment of higher education and students with the workforce.

## Texas Higher Education: You Are Here

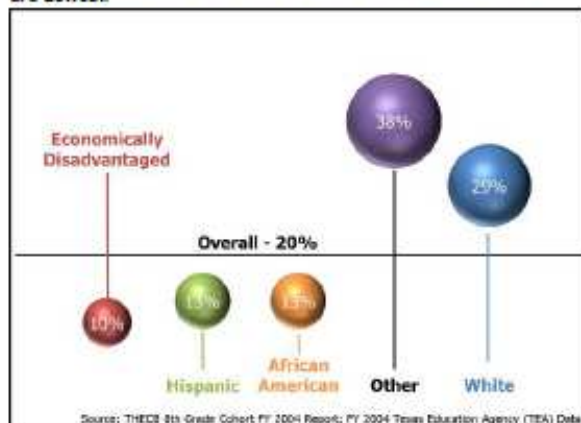
The current higher education landscape provides the clues and data that lead to a better understanding of the benefits of increased higher education attainment. According to the Social Mobility Index, which focuses on higher education policy related to economic disparities among students, the U.S. now provides the least economic mobility among developed nations.<sup>4</sup> Among states, Texas fares no better. The pipeline to the state's higher education starts with a K-12 public school population in which 60 percent of students qualify for free or reduced lunches.<sup>5</sup>

#### Economic Disadvantage, Demographics, and the Workforce

Among the poorest eighth grade students in Texas, only roughly 10 percent attain a postsecondary credential when tracked for 11 years.<sup>6</sup> Without focused action

and attention to these economically disadvantaged students, Texas cannot remain

Figure 1. Completion for Economically Disadvantaged Students are Lowest.





competitive. Even beyond ethnicity, economic disadvantage is the greatest indicator in determining an individual's chance of attaining education past high school. If the state is to remain competitive in a constantly changing world, higher education in Texas will need to make huge efforts to reach out to a range of students.

According to Anthony Carnevale, Director and Research Professor of the Georgetown University Center on Education and the Workforce, a majority of future jobs in the nation and in the state will require a postsecondary credential. He asserts that as early as 2020, "fewer jobs will be available to people with less than high school or only a high school diploma."<sup>7</sup>

This is particularly important because of the demographic shift in Texas to a largely Hispanic population, projected to comprise 70 percent of the net growth through 2050. Although the state has made some strides among this population, poverty has increased among those with lower levels of income and education. Without bold action, this trend is expected to continue.<sup>8</sup>

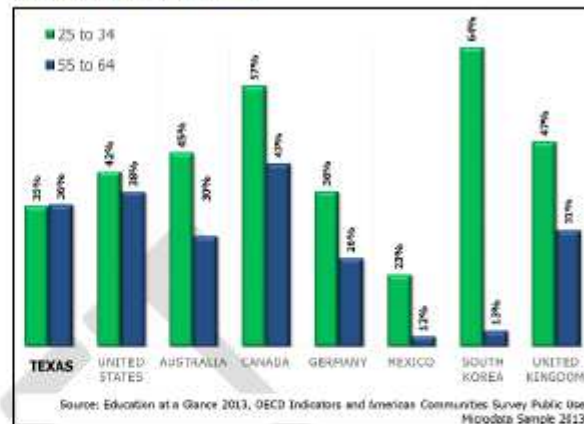
Texas must continue to build aggressively upon its successes in implementing changes in higher education. Otherwise, workers possessing only high school education or below will likely increase from 48 percent in 2010 to 53 percent in 2050.<sup>9</sup> As noted by experts, this less educated population

likely will lead to more pronounced and long-term workforce shortages.<sup>10</sup>

#### Decrease in Global Ranking

The population and geographic size of Texas is greater than that of many countries. Placing the state's educational attainment in this context highlights the relative decline over time. Texans who were 55 to 64 in 2013 achieved associate and higher degrees in numbers that placed them between the 3rd

Figure 2. Educational Levels of Younger Texans Drop While International Peers See Gains.



and 4th highest-ranking OECD nations. Although 25- to 34-year-old Texans attained associate and higher degrees at increased rates during 2013, they did not keep pace with the rest of the world. As a result, this age group fell between the 23rd and 24th highest-ranking OECD nations in educational attainment – a relative and notable decline in the state. Demographic shifts and the underrepresentation of minorities and economically disadvantaged students in the state's higher education system – in proportion to the population – contributed to Texas losing ground globally.

#### Re-imagining College

To address this situation, bold action will be required. Texas must continue to re-imagine "college" and "college going" in broader terms to meet the state's workforce needs, ensure the economic viability of its future, and remain competitive in a global marketplace. Increasingly, college will mean much more than attaining a four-year baccalaureate.

For some students, "college" will mean earning a certificate in a yearlong program. For other students, college will mean earning an associate or bachelor's degree by attending traditional classes or by participating in competency-based programs. For others still, college may mean earning an associate degree

Texas must continue to re-imagine college and college going in broader terms to meet the state's workforce needs.

through dual credit or early college high school programs.

College may take place on a brick-and-mortar campus or on a device in a student's

living room. Regardless of the credential or method used to attain it, however, a "college" education translates into greater prosperity for individuals, which in turn translates into greater economic prosperity for the state.

## Some Benefits of Higher Education

Despite negative headlines about student loan debt that often fail to acknowledge the skills gained in college, higher education is a boon for the state's economy. Texas, in fact, has seen a boost from the previous higher education plan. A report by the group Economic Modeling Specialists International (EMSI) for Fiscal Year 2013 found that money spent by institutions and students on higher education in Texas boosted the state's economy in a one-year period equal to \$143.9 billion or 11 percent of the gross state product. This dollar amount equates to the creation of 2,258,077 jobs.<sup>11</sup>

While these numbers confirm the recent achievements of higher education in the state, much more needs to be done to reduce reliance on the state budget for public expenditures such as Medicaid and corrections. Higher education, by its nature, increases knowledge and skills and results in greater individual marketability, wealth, and self-reliance, as well as reduces dependence on public programs.

### Individual Return on Investment

The individual return on investment from higher education is well documented. Experts from the Brookings Institution's Hamilton Project contend, "on average, the benefits of a four-year degree are equivalent to an investment that returns 15.2 percent per year."<sup>12</sup> The EMSI report supports this claim and asserts that higher lifetime incomes resulting from Texas students attaining degrees will account for \$524.9 billion in added income during their working lives.<sup>13</sup>

Figure 3. Cumulative Increases in Personal Income Grow if Texas Reaches 550,000 Completions by 2030.

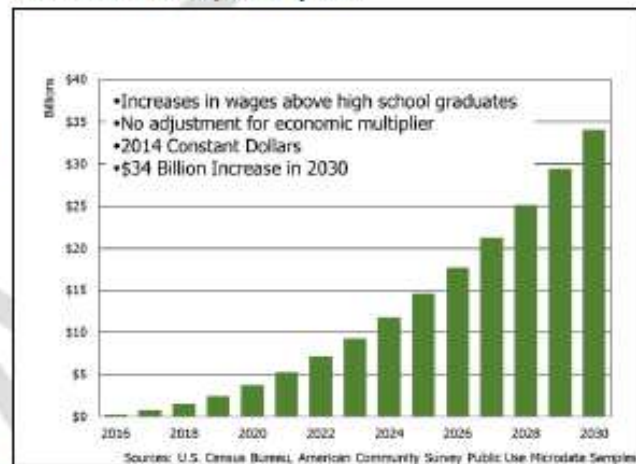
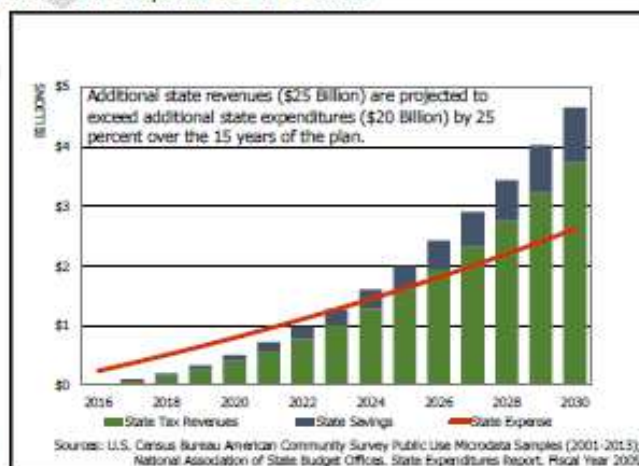


Figure 4. Project Additional State Revenues (in Current Dollars) Increase if Completion Goal is Reached.





Savings in public assistance and corrections means more money for the state and ultimately, for Texas citizens. The nationally focused College Board report *Education Pays* found that 12 percent of high school graduates lived in households that relied on SNAP (Supplemental Nutritional

Assistance Program) benefits in 2011, compared to only 2 percent of bachelor's graduates.<sup>14</sup> Higher education benefits the state, the individual, and society in measurable and specific ways that must be encouraged and strengthened.

## To Higher Education and Through Completion

The overarching goal of this plan targets 25-34 year olds in Texas as the population to achieve 60 percent postsecondary attainment by 2030. Tracking their completion rates and educational attainment will provide an indicator of the state's economic future and possible workforce deficits for areas requiring postsecondary training over the next several decades.

Texas community and technical colleges, public and independent colleges and universities, health-related institutions, and private career colleges will play a crucial role in meeting the 60x30 overarching goal. Aligning postsecondary programs with the state's workforce needs will require a thoughtful process that not only acknowledges the value of workforce demands, but that also acknowledges the creativity, diversity, and varied strengths of students. Many of those workforce skills will include soft skills and knowledge not easily aligned to a specific job or industry. Liberal arts studies, for example, often hone these skills and over time create flexibility and resourcefulness for individuals, allowing them to adapt nimbly to the jobs of the future while meeting current needs.

### Matching Credentials to Workforce Needs

When matching credentials to workforce needs, the role of higher education is essential, as is coordinating efforts with businesses and communities. Jeff Strohl, Director of Research for Georgetown University's Center on Education and the Workforce, states that, "Without this [collaboration], increased education can just mean increased unemployment and higher levels of mismatch."<sup>15</sup>

To achieve workforce success for students, institutions in the state will need to reconnect with the reason that most students go to college. In a recent UCLA study, 88 percent of surveyed students identified "getting a better job" as the most important reason for attending college.<sup>16</sup> This statement is not to suggest that institutions hold the only key to workforce success in Texas, but they will play a critical role. Some workforce success will depend on external factors, such as a strong economy to retain graduates from Texas institutions and to attract graduates from other states.

### K-12, Two-year, and Four-year Alignment

The state will achieve its goals for higher education through many strategies, and several factors will influence students to complete certificates and degrees.

Figure 5. Many Components Influence Student Completion.



Higher levels of cooperation among higher education, K-12 education, and workforce leadership will be required to

create pathways to careers and high-demand jobs. Two-year and four-year institutions will need to collaborate and align lower-division curricula so that students receive a coherent and rigorous general education, while being assured that their courses will transfer and count toward degrees. Texas will need more online education and more innovation, such as applied baccalaureates offered through

community colleges, as well as competency-based programs. Institutions of higher education will need to work together more closely on such issues as teacher training, professional development, and college readiness. All of these strategies will combine to hit the targets of this plan and produce the best outcome for Texas and its students.



## Vision

### Draft Vision for the 60x30TX Higher Education Strategic Plan

Higher education is attainable for all Texans through challenging and diverse learning environments that foster individual potential and maximize the societal and economic contributions of graduates.

### The 2030 Higher Education Goals for Texas



This section contains the goals, targets, and strategies of the next Texas higher education plan. The goals contain broad language to provide latitude in achieving them. Although measurable, each goal's design allows institutions to respond according to their needs and environment. The result of many meetings and discussions, the goals of this plan rest on the careful assessment of the possible.<sup>18</sup>

The plan's targets are key to achieving each goal. Additional targets might have been included in the plan, but input from many stakeholders deemed the ones that appear critical for the state's future workforce needs and prosperity. One plan cannot respond to every educational aspiration in the state, but it can drive success through focused goals and targets. If the state and its institutions of higher education implement successful strategies to reach each target, the state will reach each goal.

Implementing strategies for reaching each target will require both top-down and bottom-up approaches at institutions of higher education and both public and private partnerships. Institutions should collaborate with state agencies such as the Texas Higher Education Coordinating Board, Texas Workforce Commission, and Texas Education Agency, as well as with local, regional, state, and national companies that extend far beyond the institutions themselves. The challenge will be to develop fluid solutions that produce changes over time. The strategies in this plan represent only some of the solutions that will help institutions reach the targets and overall goals for higher education in Texas and educate the necessary workforce to remain globally competitive and economically diverse.

## Overarching Goal



### 60x30

By 2030, at least **60 percent** of Texans ages 25-34 will have a postsecondary credential or degree.

This goal takes into account not only graduates of Texas institutions but also the in-migration of new residents who hold postsecondary credentials. Achieving this ambitious goal means improving at a higher rate of attainment than Texas has done during the average of the five best years since 1998. Retaining graduates from Texas institutions also will be necessary to reach this goal, as will attracting graduates from other states.

#### Big State, Bold Numbers

To reach this goal, 2.7 million Texans ages 25-34 will need to have attained a postsecondary credential by 2030. According to 2013 data, only an estimated 1.3 million residents in this age group had attained a postsecondary credential.<sup>19</sup> The same data show that Texans ages 25-34 lag the U.S. average in attainment of associate and bachelor's degrees by 234,004 completers. The outcome of continuing this trend will be a poorer and significantly less competitive state. Achieving the 60x30

goal is critical for Texas to remain globally competitive.

#### Strategies to Achieve This Goal

To achieve 60 percent attainment among 25 to 34 year olds, community and technical colleges, which tend to focus more closely on local school districts and local or regional government, will need to continue strengthening connections and partnerships with school districts. Four-year institutions, which tend to focus more on state and national issues, may need to build and

strengthen their connections to local or regional independent school districts. P-16 councils, adult education learning programs, dual-credit programs, early college high school programs, and affordable baccalaureates – to name a few – will help to connect institutions to local and regional communities and support educational attainment in Texas. Two-year and four-year institutions working together can also support each other in reaching this goal.

#### Matching the 60x30 Goal to Demographics

Educational attainment for Hispanics and African Americans will have a major impact on the state's future economic development and competitiveness. Already these two populations make up more than 60 percent of the K-12 pipeline for higher education in Texas<sup>20</sup> – cause for

#### Scope

- Measures the percent of the Texas population with a postsecondary credential and counts each individual once, including
  - those who migrate into Texas with credentials
  - those who receive credentials in-state
- Targets 25-34 year olds
- Includes credentials earned over multiple years
- Includes professional/doctoral degrees
- Focuses on the percentage of credentials needed to supply workforce demand and remain globally competitive

Achieving this ambitious goal means doing better in attainment than Texas has done during the average of the five best years since 1998.



government, institutions, community organizations, and business leaders to rally around the common cause of ensuring all Texans have access to higher education and the means to pursue it.

Encouraging and supporting economically disadvantaged students also will play a tremendous role in helping the state reach its 60x30 goal. More than 60 percent of high school graduates in Texas are economically disadvantaged, so the state cannot hope to

reach this goal without them. Positively affecting the life of one economically disadvantaged student through higher education can improve the prospects for an entire family. The attainment of higher education for those individuals through degree and credential attainment translates into stronger communities and greater capacity for workforce success – the key to the continued prosperity of the state and its residents.

Goal and Interim Benchmarks	2020	2025	2030
<p>➤ Increase the percent of Texans ages 25-34 with a postsecondary credential to at least ...</p> <p><i>These benchmarks ensures progressive improvement of state educational attainment throughout the plan years.</i></p>	48%	54%	60%

#### Possible Strategies

1. Provide high-quality adult education programs to improve educational attainment for educationally underserved adults.
2. Increase efforts to promote college attainment to students and parents prior to high school, including collaboration with existing organizations to ensure consistent messaging.
3. Improve opportunities for students to pursue and complete higher education, including developing practices to encourage stop-outs with more than 50 semester credit hours to return and complete a degree or certificate.



### COMPLETION

**Goal:** By 2030, at least **550,000** students in that year will complete a certificate, associate, bachelor's, or master's from a Texas public, independent, or for-profit college or university.

Unlike the 6ox3o goal, this goal pertains solely to credentials produced at Texas institutions of higher education. To meet the future workforce needs of Texas, the state's public colleges and universities will need 550,000 completions by students in the year 2030, a significant increase in the number of postsecondary awards. All total, during the 15 years this goal is measured, Texas will award 6.4 million certificates and degrees by reaching this goal.

#### The Target Populations for This Goal

These numbers take into account a growth rate of roughly 4 percent for certificate and degree completions. This rate of growth may not seem very aggressive until the targets for this goal are examined; this goal calls for significant increases among African Americans, Hispanics, males from these and other groups, and economically disadvantaged students. The aim of this goal is not only to achieve a large number of completers from Texas institutions, but also to achieve parity for underrepresented populations in Texas higher education. Viewed through this lens, this goal is bold and very Texan.

#### Scope

- Measures the number of credentials Texas institutions of higher education produce each year
- Targets students of all ages in higher education
- Breaks down the number of credentials needed to reach this goal into completions by ethnicity, gender, and economic disadvantage

All total, during the 15 years this goal is measured, Texas will award 6.4 million certificates or degrees by reaching this goal.

In addition to the populations mentioned in this goal's targets, institutions will need to target female STEM students, veterans, adults who have completed and left but never completed their degrees, and students in adult basic education programs, among others.

Reaching this goal also will require greater numbers of college-ready high school graduates and will mean directing more participants in the state GED and adult basic education programs toward certification and other postsecondary programs. Reaching, enrolling, and graduating students who are at risk of foregoing or "stopping out" of higher education without a degree because of economic factors will be particularly important and may be addressed through institutional innovation. Although overlaps exist for the targets that will help to achieve this goal (e.g., a student may be both Hispanic and economically disadvantaged), all of the targets will make a difference in the state's future and move Texas toward greater prosperity.

#### Time-to-Degree Factors

Substantial evidence suggests that institutions need to be more prescriptive in their efforts to help students narrow their choices as they navigate higher education. An analysis of students who had "stopped out" of higher education between 2008 and 2012, for example, revealed 48,000 university students had stopped out with 90 or more semester credit hours, and 161,000 two-year college students had stopped out with 55 or more semester credit hours.<sup>21</sup>



Since 2000, Texas has made measurable progress in improving graduation rates, but it must sustain and strengthen these efforts for the state to compete successfully with other states and countries. As of 2014, the state's six-year graduation rate was 60.5 percent for public, four-year institutions, but if the two most selective public universities in the state are extracted from the data, the state's overall graduation rate falls to around 53 percent. For two-year institutions, the current six-year graduation rate for associate degrees is about 28 percent.<sup>22</sup>

#### **Strategies to Achieve This Goal**

To reach the Completion goal, institutions of higher education in Texas will need to support students early to help them persist in their higher education pursuits. This may include expanding co-requisite class opportunities for developmental education students, which allow students to take credit-bearing courses at the same time they are taking courses to improve their skills. Institutions also may need to consider competency-based programs that allow adult students to move through blocks of classes based on what they know for a fixed semester cost, regardless of the number of courses a student is able to complete successfully in one semester.

Using assessments, such as the Texas Success Initiative Assessment, will enable institutions to accurately determine students' strengths and weaknesses and give advisors the ability to provide better counseling to students based on this information. Electronic degree plans that allow students to type in majors and receive a list of the required courses needed to complete a specific degree in four years could greatly help students. They

could avoid taking classes unnecessarily and avoid prolonging the time to a degree. Studies show that achieving 30 semester credit hours (SCH) in Texas during the first year of college is critical for students to persist and complete. Achieving 30 SCH in the first year might happen in a number of ways, including (1) by students taking two semesters of 15 SCH during the traditional academic year, or (2) by students taking two semesters of 12 SCH during the traditional academic year and one session of 6 SCH during the summer. Reducing the time to a degree will help students persist in completing postsecondary credentials, which will increase the number of graduates and help reach this goal.

Inherent in this goal also will be strengthening guided pathways between two- and four-year institutions and aligning lower-division curricula across institutions and degree programs so that students receive a coherent and rigorous education that will transfer between colleges and count toward degrees.

#### **How the Completion and 60x30 Goals Differ**

This goal closely relates to, but differs from, the 60x30 goal. The Completion goal tracks annual awards earned; the 60x30 goal tracks the level of education of the state's 25- to 34-year-old population. The Completion goal contains targets that build toward 550,000 degrees awarded solely by Texas institutions in 2030 with the understanding that growth in degree production will be critical to reach 60 percent in the 60x30 goal. The Completion goal helps ensure that growing numbers of Texans, and the state as a whole, reap the personal and societal benefits that come from completing high-quality degrees and certificates.

Goal and Interim Benchmarks	2020	2025	2030
➤ Increase the number of students completing a certificate, associate, bachelor's, or master's from a Texas public, independent, or for-profit college or university to at least ...	376,000	455,000	550,000

*The first four targets are directly related to the Completion goal. To reach this goal, Texas will need to maintain the strong degree production increases that it has experienced in recent years.*

Targets to Reach the Goal	2020	2025	2030
➤ Increase the number of Hispanic students completing a certificate or degree to at least ...	138,000	198,000	285,000

*This target and the next one will help increase parity across completers for groups that have traditionally been underrepresented.*

➤ Increase the number of African American students completing a certificate or degree to at least ...	48,000	59,000	76,000
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➤ Increase the number of male students completing a certificate or degree to at least ...	168,000	215,000	275,000
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*The percentage of women enrolled in and graduating from higher education institutions has grown and men are not keeping pace. This target provides a means to monitor progress toward gender parity.*

➤ Increase the number of economically disadvantaged undergraduate students (PELL Recipients) completing a certificate or degree to at least ...	146,000	190,000	246,000
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*Economically disadvantaged students are less likely to succeed in higher education than their non-economically disadvantaged peers. This target emphasizes the importance of improving completion rates for this subgroup.*

➤ Increase the percentage of all Texas public high school graduates enrolling in a Texas public, independent, or for-profit college or university by the first fall after their high school graduation to at least ...	58%	61%	65%
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*Students who enroll directly from high school into college are much more likely to be college ready. This target helps to ensure high school graduates enroll in higher education at rates that support the Completion goal.*



## Possible Strategies

### *Support the completion pipeline by ensuring student access “to” higher education*

1. Scale up and share practices that support **academic preparation** of students for postsecondary education.
2. Scale up and share practices that **guide students** to higher education (for example, encourage a college-going culture, improve advising, and simplify the enrollment process).
3. Increase participation by **economically disadvantaged** high school students in dual credit and other college-level courses.

### *Increase completion by improving student progress “through” higher education*

4. Use **innovative approaches for content delivery** and assessment to improve completion and reduce student cost, e.g., guided pathways, prior learning assessments, and competency-based education models.
5. Employ **High-Impact Practices (HIPs)** such as first-year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research, diversity/global learning, service and community-based learning, internships, and capstone courses and projects.
6. Increase use of **predictive analytics** to identify and assist students at risk of not completing.
7. Scale up and share practices that **support underprepared students** to increase persistence and completion and reduce time-to-degree. These practices may include **pathways to English proficiency** for second language learners and the use of **co-requisite courses**.
8. **Structure programs and support services** in a manner that reflects an understanding of student populations, including economically disadvantaged students.



### MARKETABLE SKILLS

**Goal:** By 2030, all graduates from Texas public institutions of higher education will have completed programs with identified marketable skills.

This higher education plan defines marketable skills as “those valued by employers that can be applied in a variety of work settings, including interpersonal, cognitive, and applied skill areas. These skills can be either primary or complementary to a major and are acquired by students through education, including curricular, co-curricular, and extracurricular activities.”

In this era of global competitiveness, questions sometimes arise about how best to meet workforce needs, e.g., “Are colleges and universities graduating too many English and philosophy majors for the job market?” The assumption is that some programs of study lead to graduates who lack marketable skills. In 2014, more than 90 percent of employers who participated in a national survey identified the following skills and abilities as important for new hires:

- Capacity to think critically, communicate clearly, and solve complex problems
- Ability to demonstrate ethical judgment and integrity
- Intercultural skills
- Capacity for continued new learning<sup>23</sup>

In a recent study, 88 percent of surveyed students identified “getting a better job” as the most important reason for attending college.

This list makes it clear that liberal arts and other majors have much to contribute to the workforce, but regardless of the major, students acquire marketable skills within their programs. So how can the state ensure that all graduates not only gain marketable skills but also can articulate them? This goal addresses this question by enabling institutions to think more explicitly about the programs they offer.

#### Thinking Explicitly about Skills

The programs at many Texas institutions already include learning outcomes within the framework of their courses. This goal goes a step further and asks institutions to think explicitly about the job skills students learn within programs. This goal also asks institutions to consider the educational experiences within each program they offer and the functional value of those experiences in the workplace. In other words, this goal asks institutions to think about how students succeed in the workplace.

This change in thinking will result in students being able to articulate their acquired skills to potential employers on a resumé or in a job interview. The capacity to articulate acquired skills will help students to succeed in greater numbers in the marketplace and will help Texas meet its workforce needs. This goal may incentivize students to complete their degrees as they take courses and help them see how their programs connect to the workplace. In this way, this goal complements the Completion goal and helps supply the skilled workforce implied by the 60x30 goal.

#### Marketable Skills for All Programs, All Types of Degrees

Identifying marketable skills for each program of study might seem daunting, but this task strikes at the heart of why many students pursue higher education. As mentioned earlier in



this plan, 88 percent of surveyed students in a 2012 study said a better job was the motivation for going to college.<sup>24</sup> Given the desires of students to gain a better job and the desires of employers to hire the best workers, identifying marketable skills gained through higher education is essential for both students and employers.

For this goal, all program types will undergo the process of creating, identifying, and updating marketable skills. This goal also recognizes the complex and diverse nature of the state's workforce. As such, the list of marketable skills that institutions of higher education develop for their programs will be varied and extensive and may require frequent updates.

Reaching the 60x30 goal of 60 percent, however, will be a great achievement only if the skills attained by students meet the demands of the state's workforce. If most students, for example, hold an associate, but the available jobs require bachelor's degrees, Texas won't meet market demand. For this reason, the types of awards held by Texans will be monitored to ensure that the supply of degrees aligns with workforce demand.

#### Benefits for Institutions, Students, Employers

Mapping marketable skills within individual programs of study is central to this goal. This process will help students be aware of the skills and knowledge they are learning. It will help institutions identify the skills and knowledge that accompany programmatic

learning outcomes. It will help employers understand how those skills align with prospective jobs. To achieve this goal, Texas institutions of higher education will need to forge and maintain close partnerships with the business community to get feedback about the skills needed in specific fields by prospective employers.

#### Strategies to Achieve This Goal

Institutions also will need to implement strategies such as building a network of paid internships that count as college credit for students. Additionally, institutions may need to consult chambers of commerce, workforce development boards, and other workforce-related organizations to identify marketable skills for particular jobs and industries.

#### Connection to the 60x30 Goal

This goal connects to the overarching goal of educational attainment because aligning higher education with workforce needs will give students a clearer picture of the jobs for which they qualify after graduation and will encourage them to persist toward degree completion. In addition, the goal will create new lines of communication between institutions and employers that will open doors to student opportunity and employer satisfaction and innovation, while also creating greater institutional awareness of unique program offerings and opportunities.

Targets to Reach the Goal		2020	2025	2030
➤	By 2020, institutions will have created and implemented a process to identify and regularly update marketable skills for each of their programs, in collaboration with business and other stakeholders.	100% Implemented	Continuously Updated	
				

*Students need to be aware of the marketable skills affiliated with their programs. The targets above ensure that institutions document, update, and communicate to students the skills acquired in their programs so that students can communicate those skills to potential employers. Target years can be modified to accommodate institutional program review cycles.*

- |   |   |     |     |     |
|---|---|-----|-----|-----|
| ➤ | Maintain the percentage of students who are found working or enrolled within one year of earning a degree or certificate. | 80% | 80% | 80% |
|---|---|-----|-----|-----|

*It is important to the state that a substantial portion of Texas completers remain in the state and are employed or pursuing additional education.*

**Possible Strategies**

1. **Convene a statewide advisory group** to identify general characteristics of institutional and program quality. This advisory group should include representatives from institutions, industry, and other relevant stakeholders.
2. **Establish collaborations** among institutions, state, regional, and local employers to define desirable skills, and identify programs and courses in demand that offer those skills.
3. **Increase the quality and availability of information** targeted to students about the transition from **higher education to the workforce**, including information about the transferability and alignment of skills. This information should be available through **academic and career advising strategies**.
4. **Ensure marketable skills are integrated into curricula** such that there are established mechanisms for students to **demonstrate those skills**.
5. **Leverage existing efforts** to ensure that marketable skills are addressed in every program, such as Liberal Education and America's Promise (LEAP) and Degree Qualification Profile (DQP).





## STUDENT DEBT

**Goal:** By 2030, undergraduate student loan debt will not exceed **60 percent** of first-year wage for graduates of Texas public institutions.

College affordability impacts student debt load, and unchecked student debt impacts life choices such as buying a house, raising a family, and saving for retirement. The health of Texas depends on a population that is economically healthy and has discretionary income. As with other states, most of the Texas budget comes from taxes, and between 20 and 30 percent of the state's revenue originates from sales taxes.<sup>25</sup> The more discretionary income that is available to an individual, the greater the individual's purchasing power and the greater the state's potential revenues from sales taxes. Individual purchasing power also affects local governments that heavily depend on property taxes for their operating budgets. A population that can contribute to these tax bases is vital to the economic health of Texas, and students saddled with unreasonable loan debt cannot contribute to the state's revenue stream.

### Texas Student Debt on the Rise

Although Texas student debt has not reached national levels, it is on the rise at a rate of 8 to 9 percent annually. At this pace, student debt will become a deterrent to much larger numbers of Texans making decisions about pursuing higher education. To help students avoid debilitating debt after graduation, Texas public institutions of higher education will need to

For students who borrow and do not complete their degrees, the average default rate is higher.

examine the affordability of attaining postsecondary credentials. The less affordable a higher education is, the more debt students will accrue and the more access will be denied for those with the greatest financial need. This goal focuses on student loan debt in relation to first-year earnings with the understanding that college affordability is critical to achieving this goal and the other higher education goals in this plan.

### Students with Debt but No Degree

This goal also considers default rates in maintaining a health balance between debt levels and earning power. Data from Texas Guaranteed, which are included in the *State of Student Aid and Higher Education in Texas* report, indicate default rates have risen in the last 10 years and that a larger share of students with small loans default when compared to students with large loans. For students who borrow and do not complete their degrees, the average default rate is higher. About one-quarter of Texas student borrowers borrow less than \$5,000 and leave college without a degree; of those, one in four defaults.<sup>26</sup>

This issue highlights the connection between the Student Debt and Completion goals in this plan. Because loan debt jeopardizes financial stability, it can undermine the perceived return on investment in higher education. This issue, in turn, affects the decisions of potential students about pursuing a postsecondary credential, which has long-term repercussions for students' earning power and the state's workforce needs. Given the higher income and tax base associated with education past high school, the state's revenues will suffer if some students perceive that higher education is an option reserved only for some Texans.

### Strategies to Achieve This Goal

To achieve this goal, institutions will need to steer students toward degree plans early in their postsecondary careers. Evidence suggests that institutions of higher education need to be



more prescriptive in helping students narrow their choices when navigating through higher education.<sup>27</sup> Emphasis in this area will help students avoid taking excessive SCH, which lead to greater costs and more debt in pursuit of an associate or bachelor's degree. As of 2014, students in Texas averaged 98 SCH to complete a two-year degree and 145 SCH to complete a four-year degree, while most programs of study require only 60 and 120 SCH, respectively.<sup>28</sup> Excessive semester credit hours for degree completion in Texas contribute to student debt and less than timely completions.

Continued institutional emphasis on on-time completion will be integral to helping students avoid the higher costs associated with attending college for a fifth or sixth year in pursuit of a degree. Many studies have shown that the costs associated with the fifth and sixth years of study among six-year graduates are much higher than the first four years and produce much greater student debt. Returning to an expectation that students graduate in four years will help to reduce student debt.

#### **Student Choices Based on Talent, Interests**

Another intention of this goal is to balance costs relative to areas of study so that students can choose programs based on their talents and aspirations and not solely based on the needs of the job market or the starting salary for a particular field. Loan debt, for example, might discourage some students from pursuing a career in K-12 teaching because teachers' starting salaries are generally lower than the mean for all starting salaries of four-year graduates. The same is true for social workers, journalists, artists, and community workers. As a result, the state could experience greater shortages

in important fields, such as teaching and social work, if student loan debt spikes to the point where a majority of students choose programs based entirely on their potential income.

#### **Roles of Student, Institutions, and State in Making College Affordable**

College affordability is key, and three groups directly influence college affordability:

- Students can make an impact by maintaining the lowest possible debt levels and making good decisions about their time and finances during and after college, by maintaining an affordable college lifestyle, and by understanding the total cost of borrowing money.
- Colleges and universities can affect affordability by striving to reduce expenses, while maintaining quality and ensuring that students know what they are buying and where their educational choices will lead them after college.
- The state can influence affordability by adequately funding higher education.

#### **Connection to the 60x30 Goal**

These actions increase access and persistence, expand students' options for majors and careers after graduation, and advance other life choices. Helping students complete credentials and balance debt levels will help the state reach the 60x30 goal in this plan and will lead to healthier individual finances and a stronger state economy.

Goal and Interim Benchmarks	2020	2025	2030
<p>➤ <b>Maintain undergraduate student loan debt at or below 60 percent of first-year wage for graduates of Texas public institutions.</b></p> <p><i>These benchmarks ensure student loan debt levels stay in balance with the earning potential of the credential.</i></p>	60%	60%	60%
Targets to Reach the Goal	2020	2025	2030
<p>➤ <b>Decrease the excess semester credit hours (SCH) that students attempt when completing an associate or a bachelor's degree.</b></p> <p><i>This target focuses on decreasing the total SCH to degree to reduce costs and debt.</i></p>	12	6	3
<p>➤ <b>Work to limit debt so that no more than half of all students who earn an undergraduate degree or certificate will have debt.</b></p> <p><i>This target focuses on decreasing the overall number of students who have student loan debt.</i></p>	50%	50%	50%

#### Possible Strategies

1. Fundamentally redesign higher education funding for the betterment of students.
2. Convene a statewide advisory group to determine ways to better advise students and parents on financial aid options and impacts before and during their college careers.
3. Make higher education more affordable and accessible to students by optimizing state and other funding sources and fully funding grants for eligible students.
4. Support experiments for more affordable baccalaureate initiatives.



## **The Challenge for Higher Education in Texas**

The purpose of the 60x30TX plan is to set goals for higher education in Texas for the next 15 years to help the state meet the needs of its workforce, communities, and citizens. To compete and remain relevant in the future, Texas workers must attain quality postsecondary credentials, and they must complete those credentials and exit their programs with skills employers need. If those workers are to provide the state with sufficient revenue, they also must exit their programs with no debt or reasonable debt, given their incomes. This plan addresses each of these areas through higher education goals aimed at the continued progress of Texas.

By design, this plan is Texas-bold because it is Texas-achievable. As President John F. Kennedy once said about going to the moon, “We choose to go to the moon ... and do other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win.”<sup>17</sup>

*(For more information about how this plan was developed, see Appendix A.)*

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