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TEACHERS COLLEGE, COLUMBIA UNIVERSITY

Policy Levers to Strengthen Community College Transfer Student Success in Texas

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OVERVIEW

Texas relies heavily on its community colleges to provide low-cost access to undergraduate coursework for students pursuing a bachelor's degree.¹ Yet, while the majority of Texas students who enter higher education through a community college enroll in transfer programs,² only 35 percent transfer and only 15 percent earn a bachelor's degree within six years of starting at a community college. Moreover, there is a large gap in bachelor's degree attainment between lower-income students who start at a community college and transfer and their higher-income peers. Many community college students who intend to earn a bachelor's degree make substantial progress in community college but fail to transfer. Among students who transfer, most do so without earning a community college credential.³ Many of those who do graduate end up earning excess credits, wasting their time and money, and making poor use of taxpayer resources.⁴ While two- to four-year transfer does not work well in many other states, in Texas it seems to be especially inefficient.⁵

The Greater Texas Foundation asked CCRC to conduct an analysis of ways state policy could help to improve outcomes for community college transfer students in Texas. To do this, we first used National Student Clearinghouse data to examine the performance of Texas community colleges and universities in serving transfer students compared to two- and four-year institutions nationally. Second, we analyzed state transfer policies to better understand the policy environment and identify policies that may facilitate or inhibit transfer success in the state. Third, we conducted interviews with over 50 individuals who work with transfer students at 36 Texas colleges (18 two-year and 18 four-year institutions) to learn how state policy plays out on the ground with students and institutions.⁶

This report presents our main findings and recommendations. The report is intended to inform the development of Texas state policy in a way that will positively influence transfer behaviors of students and institutions.

The goal is to increase rates at which entrants to Texas community colleges—particularly those from disadvantaged backgrounds—transfer and earn a bachelor's degree, while lowering the cost to students and taxpayers.



To improve the transfer system, we must first understand how a well-functioning transfer system might work and how the actual system in Texas fails to meet that ideal. In an effective transfer system, after entering a college, students would:

- Take and ideally complete lower division general education requirements for a bachelor’s degree in a student’s chosen major.
- Begin to take lower division pre-major courses that will fully transfer and count toward the degree requirements of that major at the four-year college.
- Complete an associate degree of about 60 credits before transfer. Less ideally, if the student transfers before completing an associate degree, then their general education and pre-major coursework would transfer and count toward the degree requirements of their intended major at the four-year college.
- Complete a bachelor’s degree of about 120 total credits including the credits earned from both community college and four-year college.

In **Section 1** following this introduction, we present data on transfer outcomes showing that the transfer system in Texas does not work in this way and is rife with inefficiencies that impede student success and waste student and taxpayer resources.

In **Section 2**, we discuss how Texas transfer policy fails to adequately address this problem. We focus on two central problems: first, students do not have what we refer to as clear “transfer pathways” that lead in coherent, transparent, widely accepted ways from community college enrollment (or even before enrollment) through transfer, to bachelor’s completion; and second, even if there were clearer pathways, students are not given much help in choosing, entering, and staying on those pathways. We also argue that neither two- nor four-year colleges in Texas have strong incentives to address these problems.

Section 3 suggests ways that state transfer policy could encourage colleges and universities to create clearer pathways to transfer success and help students choose, enter, and stay on those transfer pathways. Of course, just instituting policies does not mean that colleges and universities will follow them in ways that benefit student success.

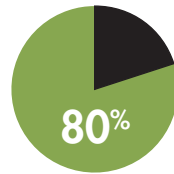
In **Section 4**, we discuss how state policy and private philanthropy might build on growing market incentives that are creating momentum for community colleges and regional public universities to collaborate on improving transfer outcomes. In the conclusion we summarize our recommendations.

Colleges and universities need to create clearer pathways to transfer success and help students choose, enter, and stay on those transfer



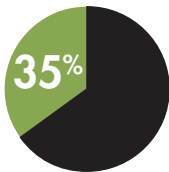
SECTION 1: TEXAS TRANSFER OUTCOMES

Most students entering a Texas community college want to earn a bachelor's degree. National surveys suggest that about 80 percent of entering community college students aspire to a bachelor's degree,⁷ and Texas data indicate that the majority of students are in programs explicitly designed for transfer.⁸ But most of these students do not



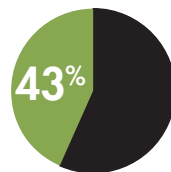
Community college students aspiring to a bachelor's degree

get anywhere near these goals. Research by CCRC using data from the National Student Clearinghouse (NSC) found that only 35 percent of "degree seeking" students who started higher education in a Texas community college transferred to a four-year



Those attending a community college that transfer to four-year institution

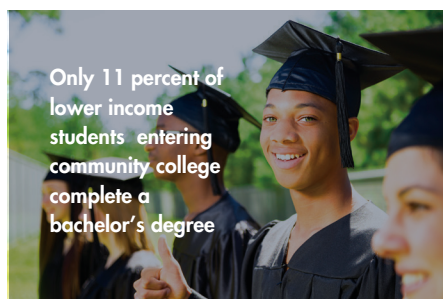
institution within six years. Of those who transfer, only 43 percent complete a four-year degree so, overall, 15 percent of entering community college students earn a bachelor's degree in that time.



Transfer students that complete a four-year degree

There is also a gap in these outcomes for lower and higher income students. For example, 18 percent of higher income students entering community college complete a bachelor's degree in six years, but only 11 percent of lower income students in Texas do so. These numbers are similar to national averages—14 percent of students entering community college nationally earn a bachelor's degree in six years and there is a six percentage point difference between

lower and higher income students. These outcomes represent a widespread failure by students to achieve their goals.⁹



EXCESS CREDITS

Texas higher education is characterized by significant numbers of excess credits at both the two- and four-year levels. According to Complete College America (CCA), Texas community college students who earn an associate degree complete on average 90 college-level credits for a 60-credit degree. Students who complete a bachelor's degree at a non-flagship college earn on average 145 credits for a 120-credit degree, higher than comparable figures for any of the other 33 states for which CCA reports data on its website.¹⁰

Texas bachelor's degree completers generally also earn substantially more credits than are necessary to graduate, but Texas community college transfer students who earn bachelor's degrees pay an even greater penalty. Using data from the Texas Higher Education Board (THECB), Cullinane compared community college students who transferred to a Texas university to equivalent peers who entered a Texas university as freshmen. In the study sample, community college transfers who earned a bachelor's degree attempted 150 college credits compared with 142 for native students.¹¹ These figures include credits for courses that students attempted but did not pass and credits attempted while in high school. They do not, however, include remedial courses. The Greater Texas Foundation estimated that excess credits cost Texas students and taxpayers nearly \$120 million annually.¹² In a study using national data, Attewell and Monaghan found that credit loss discourages transfer students and prevents some from graduating.¹³ The added time and cost of earning a bachelor's degree through the transfer route likely discourages many students, particularly those from low-income families, from earning a bachelor's degree.

We do not know definitively why so many students lose credits along the transfer pathway. Anecdotal evidence suggests that many students who transfer take community college courses that do not apply or are not accepted toward a major at their destination university.

Administrators at University of North Texas (UNT) report that, among entering students whose sending institution was a community college, eight percent arrive with 150 credit hours, and 20 percent come with 120 credit hours.¹⁴ Given that a bachelor's degree generally requires around 120 credits, and that students can only transfer in about half of their credits, these students start their tenure at the four-year college on track to require 180 credits to complete a bachelor's degree. This means that more than a quarter of incoming transfer students to UNT will have to take excess credits to earn a degree.

As we will discuss in more detail below, one reason transfer students accumulate excess credits is that even community college students who complete Texas's 42-credit general education core may find that these courses may not meet general education requirements for particular majors at a four-year college. As a result of this misalignment, students must in effect retake lower division general education courses to satisfy bachelor's degree requirements.

According to a June 2001 report by the Transfer Issues Advisory Committee convened by the THECB, a degree audit conducted by five Texas universities—Midwestern State University, Texas A&M International University, The University of Texas at Austin, University of Houston, and University of North Texas—revealed that 83 percent of credit hours presented by transfer students who had earned at least 30 credits hours at a Texas community college were accepted for transfer but only 70 percent of the credits were accepted as applicable toward a bachelor's degree.¹⁵ Furthermore, of the 30 percent of transfer credits not applied toward a bachelor's degree, over 75 percent—or one in every five credits students transferred—were rejected for reasons that are unclear. As high school students in Texas take more and more dual credit courses, the excess credit problem could worsen if those students accumulate too many general credits and do not instead focus their coursework to ensure each credit applies not only to a college degree but to *their* degree. We discuss dual credit below both as a potential problem and possible solution.

TRANSFER WITHOUT A COMMUNITY COLLEGE AWARD

The majority of Texas community college students want to transfer, therefore the basic structure of the Texas higher education system would suggest that most students would follow the 2+2 sequence—earn an associate degree, transfer, and complete the final two years in the four-year institution. But very few students experience this model transfer process. Only 18 percent of Texas students who transfer earn a certificate or associate degree before transferring. This is 11 percentage points below the national average of 29 percent and 40 points below Florida, the state with the highest rate at 58 percent.¹⁶

Research by CCRC and others indicates that, in some states at least, earning a community college credential before transferring is associated with higher rates of bachelor's degree completion for transfer students.¹⁷ Our analysis of NSC data suggests that this may not be the case in Texas.¹⁸ Given the lack of curricular alignment between many community colleges and universities in Texas, it may be better for students to transfer before earning a credential from a community college. But that does not mean that this approach is economically efficient. By transferring early, students take more of their coursework at universities, where educational costs are higher compared to community colleges. That may increase costs for students and taxpayers. Moreover, in Texas, more than half of students who transfer do not earn a bachelor's degree, so many of those who transfer without an associate degree end up with no degree,¹⁹ and, ultimately, miss out on the economic benefits associated with having a college credential.²⁰



SECTION 2: EFFECTS OF STATE TRANSFER POLICY ON INSTITUTIONAL BEHAVIOR AND TRANSFER STUDENT OUTCOMES

Texas has a variety of policies to promote and facilitate transfer. These include the Texas General Education Core Curriculum, common course numbering based on the Academic Course Guide Manual (ACGM), statewide major-related transfer agreements, and reverse transfer. How effective are these policies in creating a clear pathway through the transfer process for students seeking a bachelor's degree and what stands in the way of improved transfer outcomes in the state?

Statewide transfer policies are focused on transferability of credit, rather than on applicability of credits toward a degree in the student's major.

As a result, students are encouraged to take courses at a community college that may not apply toward a degree in their desired major and students may therefore have to take additional lower division courses at the university to satisfy major pre-requisites. This could encourage students to transfer early before they have completed a lot of courses, much less a degree, at the community college, even though that may not be the most economical approach for students or the taxpayer.

The central element of Texas's transfer policy is the Texas General Education Core curriculum. Students who transfer "core complete"—in that they have completed the required 42-credit core—are guaranteed to receive credit for the entire block from a state university without having to have individual courses reviewed. The core is defined based on "exemplary educational objectives" or learning outcomes in nine component areas, including communication, mathematics, humanities, natural sciences, government and political science, visual and performing arts, speech, and college success.²¹ Colleges develop their own courses to meet these educational objectives, although community colleges must ensure that

the courses correspond to those in the THECB's Academic Course Guide Manual, which inventories courses approved for state funding.²² The core is not major-specific: it is conceived as a means of ensuring that all students master learning outcomes that are considered essential to a college education, regardless of major.

In practice, the general education core credit transfer process in Texas is inefficient and error prone. Community colleges are expected to indicate "core complete" on the transcripts of students who have completed the core, although some of the university staff we interviewed indicated that this does not always happen. Students who have not completed the entire core or do not have "core complete" indicated on their transcripts should nevertheless be able to transfer credits for individual courses they have taken that satisfy one or more of the subject area components of the core. But some university advisors we interviewed said that their institutions do not always follow this requirement. This lack of compliance appears to be due more to the complexity of the transcript review process than negligence by universities. If a student's transcript is not marked "core complete," a university must go through the process of checking every course. The THECB does maintain a repository of the core curriculum courses for each community college and university in the state, but the advisors we interviewed said that this information is often out-of-date and inaccurate, so the review process is prone to errors. Students are allowed to contest university decisions not to accept core credits. However, the THECB staff noted that they receive few such petitions.

Even if the transcript review process was more efficient and universities were better at complying with general education core transfer policies, students would not necessarily experience better outcomes. When a university accepts some or even all of a student's general education

credits, those credits will not always be accepted toward a major in the student’s field of interest. This disparity occurs because different majors have different general education requirements and these requirements vary across institutions, even in many cases for the same majors. Thus, even students who are “core complete” may be required to take additional general education courses if the courses they have completed differ from those required for their major.

Students therefore do not have a strong incentive to complete the core before they transfer. According to the THECB, of students who complete at least 30 hours at a Texas community college, only a little more than a third (37 percent) complete the general education core.²³ An analysis by CCRC of transcripts of students at an anonymous Texas community college found that only 12 percent of students in transfer programs completed the core after five years (of course many others had transferred to a four-year institution or dropped out of college completely).²⁴

The large majority of the sixty community college advisors we interviewed noted problems with core coursework counting toward degrees in particular majors. Advisors voiced frustration about the lack of alignment among the requirements for the core, associate degrees, and baccalaureate majors. Unless students have a sense of what their major will be, it is difficult if not impossible to enable students to achieve all three without having to take more credits than they need for the bachelor’s degree. Many community college students do not know what their major will be. In order “to be safe” and ensure that community college students’ credits will at least transfer toward a degree, advisors say that they typically advise students to complete the core before they transfer. In fact, this might unintentionally mislead students into thinking that they will be able to transfer core credits toward a degree in their desired major when that may not be the case.

If students realize that it will be difficult to transfer their core courses to count toward their major requirements, students and advisors may perceive that it is beneficial for

students not to complete the general education core at a community college because students are likely to accumulate credits that will not ultimately count toward their degree program. This is also likely one reason so many Texas community college students who transfer do so without first earning an associate degree.

Instituting common course numbering will not solve the credit applicability problem or help students choose the right courses for their major.

While it might improve the efficiency of the credit review process, common course numbering would not improve applicability of credit toward degrees in specific majors.

Texas community colleges are required to offer courses registered in the Academic Course Guide Manual (ACGM) maintained by the THECB, which uses a standard four-digit course numbering system (TCCNS). This helps to promote standardization of course content across colleges in the state. Texas universities have more freedom to offer lower division courses not in the ACGM. Most universities do not use common course numbers and instead list equivalents. Universities generally list course equivalents in their catalogs, but many do not list them on their websites. According to a 2015 THECB report on transfer:

A total of 86 percent (33) of [public universities] have degree program guides that include Texas Common Course Numbers (TCCNS) on their website, but a complete listing of an institution’s TCCNS course equivalents appears less frequently on websites. Specifically, 68 percent (26) of universities reported that a comprehensive listing of TCCNS courses offered by the institution is available on their website. This represents an increase over last year, when almost half did not respond affirmatively about the availability of the TCCNS information.²⁵

Common course numbering was a top priority for Texas community college advocates in the last two legislative sessions. Four-year institutions, including the flagship universities, are strongly opposed. While common course numbering might reduce confusion and the information burden for students and registrars, it still would not address the problem of the applicability of courses to a student's major program of study. Even in other states, such as Florida, that have common course numbering for both two- and four-year institutions, students still face the issue that they need to take the "right" general education courses for the major field they want to pursue.²⁶

Statewide major-related transfer agreements in Texas are thus far inadequate.

Efforts to create statewide transfer agreements in particular fields of study to date in Texas are too limited and lacking in "teeth" to have an impact.

According to the 2015 THECB transfer report: "Survey responses indicate 1,206 local articulation agreements currently in effect among universities and colleges in the state, with 96 new agreements initiated this year by 20 institutions."²⁷ Our interviews suggest that a great deal of variation exists in the quality of local articulation agreements in terms of whether they actually improve the clarity of expectations and set up smooth transfer pathways between institutions. While some agreements map out courses needed to transfer in specific majors, many fail to outline specific curricular pathways toward successful transfer and degree attainment in particular fields. As one university administrator noted:

"One of the things that I have learned a lot in this process is that the articulation agreements themselves often don't get to the level where they actually impact students... It's really somewhat like signing a sister city agreement. 'We're going to be nice to you, you're going to be nice to us. We're going to obey state laws going back and forth, so we'll honor

the Texas Common Course Numbers, we'll honor the core curriculum transferability, we'll accept your students in. Here's our admission requirements.' But in truth, there isn't a lot of meat beyond what's already expected in those documents. And students never see them. Nor would they understand them if they saw them."

Even when there are program-to-program agreements (which appear more useful in offering granular detail about the courses that will transfer toward a degree), the sheer number of agreements is overwhelming to students and advisors. Requirements for the same major can differ among different universities. These differences make course selection difficult for community college students planning to apply to multiple institutions. At the institution level, maintaining and updating articulation agreements requires a great deal of time and effort, often at a pace that colleges are not equipped to sustain.

The THECB has recognized this problem and has pushed to create statewide field of study (FOS) curricula, which specify approximately one quarter to one half of lower division courses for particular majors. This is a step in the right direction; although the FOS curricula do not specify the general education courses required for particular fields, and therefore do not fully solve the problem of applicability of general education credits toward majors. Currently, only nine active FOS curricula are listed on the THECB website.²⁸ The THECB is working on developing curricula for 25 additional majors that are the most popular. Simply adding more majors, however, will not help unless they are regularly updated and institutions and students follow them.²⁹ Criticisms of FOS curricula to date include (1) that they do not address high-enrollment programs, and (2) that most of them have not been revised in the decade since their development. While the THECB is now responding to the first issue, there is still no process for regular review and revision of developed FOS curricula.

Further, few incentives appear to exist to utilize these curricula. Specifically, no incentives exist for institutions to align their own programs to statewide FOS curricula. In addition, completion of an FOS is not rewarded with success point funding, as is the case with core completion. Many of the advisors we interviewed were not even familiar with the FOS policy. To our knowledge, community colleges in Texas generally do not monitor which students are following particular FOS curricula. It is not surprising, therefore, that only a tiny fraction of students who transfer complete an FOS curriculum.³⁰

For the past several years, the THECB has also promoted voluntary statewide articulation agreements that list all of the courses needed for a particular major program of study and include recommended two-year transfer course plans. The process of developing these agreements has been slow and contentious. Only about a dozen Voluntary Transfer Compacts, which are developed through a process called “tuning,” have been created so far. Approximately 18 (out of 38) universities and 64 colleges have signed on to at least one agreement, though it is unclear what “signing” such agreements obligates universities to do.³¹ To our knowledge no data exist on student use of these agreements. The most recent information on the statewide transfer compacts on the THECB website comes from June 2014. It is not clear if new agreements are still being developed.

Reverse transfer seems unlikely to make a big dent in improving outcomes for transfer students in Texas.

Texas's reverse transfer law requires that, when a student reaches 66 credit hours at a university and has at least 30 semester credit hours from a community college, the university must send a transcript back to the community college to check for associate degree completion.³² In practice, this law has proved difficult to administer. The THECB's Undergraduate Education Advisory Committee did a study that found a litany of barriers to reverse transfer, many related to difficulty sharing data and processing requests.³³ The personnel we interviewed

described similar problems. A community college administrator noted that reverse transfer, like many other transfer policies, is a “mandate that’s unmanned,” meaning that it is not monitored or enforced. While universities are required to send transcripts back to community colleges for students who “opt in” on their applications, no accountability measures are in place to ensure that students who fulfill the requirements to earn an associate degree actually get one. As a result, the number of students who have earned degrees through reverse transfer does not seem to be large. Moreover, the policy does not address the larger problem of the lack of curricular alignment between community colleges and universities.

Based on our interviews, it sounds as though many community colleges are unable to process the transcripts that they receive. At Lone Star College (LSC), the office of student completion recently overhauled their process for handling reverse transfer in order to ensure that they could keep up with the demand. They created transcript processing teams (including hiring five new staff members) and purchased new technology to process transcripts electronically. Prior to these changes, LSC did not have enough personnel to handle the volume of transcripts received, which, at the time, were processed by hand. Since implementing the changes, the system awarded over 1,000 more associate degrees due to reverse transfer alone than in the year prior. LSC seems to be an isolated case where reverse transfer audits are done on a large scale. While legislation requiring reverse transfer may increase the number of reverse transfer requests throughout the state, our findings suggest that improving rates of degree completion through reverse transfer may require greater investment in the infrastructure necessary to process those requests.

The advisors we interviewed at most institutions had no idea how many students at their colleges were earning degrees through reverse transfer, a process which in most cases the college registrar administers. The THECB reports that they have no way of tracking the number of students who receive associate degrees through reverse transfer.

Given the problems associated with the process, the numbers are not likely to be large. Even if those numbers were not insignificant, simply awarding an associate degree to students taking 66 credits does not address the underlying problem that students need to take the lower division courses that will apply toward their desired bachelor's degree program.

In the end, reverse transfer is not a policy to facilitate completion of a bachelor's degree through transfer, so it does little to solidify the student transfer pathway or help students establish goals and plans. Indeed the main purpose of reverse transfer is to give the student who has reached a certain credit threshold some sort of degree. Those credentials, however, tend to be general studies associate degrees. While associate degrees on average do have value in the labor market, research suggests that general studies associate degrees have little employment value.³⁴

Texas has weak or counterproductive policy incentives for two- and four-year colleges to strengthen transfer outcomes.

Weak incentives for community colleges.

Texas transfer policy creates conflicting incentives for community colleges. On the one hand, they are encouraged to help students complete the Texas general education core. As we have stated, completing the core does not guarantee that courses will be accepted for credit toward a particular major, so students do not have an incentive to complete it. At the same time, the state encourages community colleges to help students satisfy lower division requirements for specific majors. The fact that the requirements even for the same major often vary among universities makes it difficult for community colleges to offer the pre-major courses students need and creates incentives for students to transfer before they earn an associate degree.

In general, Texas community colleges have few policy incentives to make the investments in advising that would help better guide students toward program completion and successful transfer. Ninety percent of Texas

community college funding is based on enrollments rather than outcomes. Roughly 10 percent is based on performance, which is calculated on the basis of points colleges receive when students attain "success points." In the last session, the legislature cut appropriation for success points from \$185 per point to \$173 per point, reducing the incentive for colleges to focus on student outcomes in programs vis-à-vis enrollment in courses.³⁵ Advisors and other faculty and staff who support transfer students report that performance incentive funding is "above their pay grade" and do not believe that it affects their behavior and practices.³⁶



Even weaker policy incentives for universities.

No policy incentives exist at the university level in Texas to help community colleges better advise students or otherwise support them in ways that facilitate smooth transfer. Texas public universities are not funded based on performance and are not held accountable for the success of transfer students. Some universities provide advising and other outreach to community college students prior to transfer, but such efforts are entirely voluntary and vary in intensity. The 2015 THECB report on transfer found that:

87 percent of Texas public universities report they send advisors either routinely or for special events to community college campuses. Several institutions mentioned additional or new advising days and events at feeder community colleges, which included on-the-spot transcript evaluations. Five institutions indicated that part of their outreach ... involves meetings with the community colleges' advisors to familiarize them with the university's admission requirements and specific academic program requirements. ... Some universities provide on-site admissions, advising, and enrollment at community college campuses.³⁷

Similarly, no policy incentives exist for Texas universities to encourage students to take as much of their lower division coursework as possible at a community college, much less complete an associate degree. According to the THECB, 20 universities report having at least one dual admissions agreement with a community college in which they offer guaranteed admissions based on certain criteria such as GPA and completion of an associate degree, but these are voluntary and limited in the number of students served.

University personnel we interviewed generally indicated that they did not prioritize earning an associate degree prior to transfer, stressing that students should transfer at whatever time works best for them. From the perspective of most university personnel we interviewed, an associate degree is unnecessary. Some university admissions staff were frustrated that community college advisors push students toward associate degree attainment, even though they understood their incentive to do so.

In Texas—as is the case elsewhere—because lower division offerings are generally less expensive and therefore more “profitable” to offer than upper-division offerings, universities would generally prefer that students transfer as soon as they can succeed in lower division university-level coursework. In fairness, it is also likely true that universities are concerned that students might take too many extraneous courses at a community college and exhaust their financial aid before they earn a bachelor’s degree. They recognize that students are more likely to get into a program of study—and thus take courses that count toward a degree in a major—once they are enrolled at a university.

In an effort to reduce excess credits, Texas will not subsidize tuition for students who attempt 30 or more credits above those required for their degree program. Institutions can charge in-state students out-of-state tuition for each semester credit hour in excess of the limit to recover funds no longer subsidized by the state. Because a student’s credit counts accumulate from any institution of higher education in Texas, courses that fail to transfer or

fail to apply to a student’s major put that student at risk of paying higher tuition. Unless efforts are made to ensure that courses taken at the community college will transfer toward students’ intended majors, this creates disincentives for students to take courses at community colleges and for universities to accept transfer students from community colleges. The 2015 THECB transfer report indicated that when universities were asked to rank barriers to transfer, excess credit hours among transfer students was the barrier most frequently cited.³⁸

There are no statewide financial aid incentives for students to transfer efficiently.

Some universities offer financial aid for community college transfer students, but generally transfer students do not have access to the level of aid available to students who enter college as freshmen.

According to the 2015 THECB transfer report, 71 percent of Texas public universities offer scholarships to high-performing transfer students from community colleges, but the number of such scholarships is small. Moreover, the THECB report goes on to say that:



After excess hours and academic advising, the third most frequently ranked barrier was lack of financial support for transfer students. Ten universities ranked this as either the first or the second most severe problem they face with transfer students. University respondents indicated there is a discrepancy in the level of funding for scholarships offered to first-time-in-college students versus those offered to transfer students. While a full-ride scholarship may be offered to a first-time-in-college student, no such offering exists for transfer students.³⁹

There is no statewide financial aid that would provide incentives (1) to students to build early momentum, to transfer with the right lower division courses for their major, and to obtain an associate degree prior to transferring, and (2) to community colleges and universities to help students accomplish these goals.

Systemic Failure: Transfer in Texas breaks down at each step of the process, and the Texas transfer policy does not adequately address these problems.

In light of these findings, we can see how the transfer process breaks down at each step. Students who do not transfer earn excess credits for both associate and bachelor's degrees and transfer students have an additional burden of excess credits. Most students who transfer do not complete an associate degree. Fewer than one in five transfer students take the expected 2+2 route. General education courses taken at a community college, even those in the Texas core curriculum, often do not meet general education requirements for the student's major. Perhaps the biggest failure is that most students who intend to earn a bachelor's degree, even those who make substantial progress at a community college, do not transfer. Thus they end up "leaving cards on the table."

Through the many complexities and inefficiencies in this system, we see two broad foundational problems with transfer in Texas. First, the state and its educational system fail to provide clear transfer pathways to students. Students can be, and often are, derailed at every step of the process described above. Second, even if there were clearer pathways, students are not given much help in choosing, entering, and staying on those pathways. Recent research by CCRC has shown that getting a good start in college and gaining "momentum" by attempting at least 30 credits in the first year has significant positive effects on associate and bachelor's degree completion—effects that are especially strong for students of color.⁴⁰

These two problems reflect broader shortcomings in the overall design of higher education in Texas. Community colleges and many universities are generally organized to maximize enrollment in courses rather than to provide clear pathways into and through programs that lead to careers and further education for students. This leads to high rates of "swirling" among institutions, excess credits for graduates, and barriers to successful degree completion and transfer, particularly for disadvantaged students.

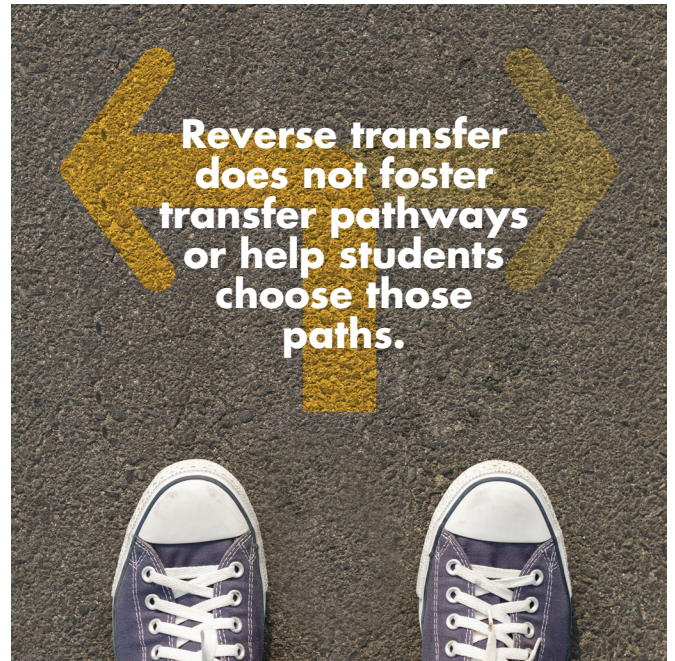
Based on our experience with Texas colleges involved in Texas Completes and other initiatives, most Texas community colleges—like many community colleges nationally—are organized in a "cafeteria" model designed to maximize course enrollment but less organized to help students enter and complete programs.⁴¹

College websites rarely map out program pathways clearly. Information on transfer requirements from both community



college and universities is difficult to access and interpret and, as we discuss below, rife with inaccuracies. Advising resources are limited and are oriented to helping students schedule courses. Texas community colleges generally do not monitor the progress of their students toward meeting degree requirements. With no one monitoring their progress, students are apt to take courses that do not count toward a degree or to fail to take courses that do. This lack of oversight or advising is likely one reason why associate degree completers in Texas earn so many excess credits. When asked about barriers to student transfer, Texas universities most frequently cited: "inadequate and/or inaccurate transfer advising at the community college."

Although many of the problems that students who want to transfer encounter take place at the community college, the four-year colleges share the blame for the overall problems with the system. Any significant improvement in the transfer system would require four-year college personnel to work closely with their two-year college counterparts to construct and update transfer pathways and to be willing to accept more transfer credits, especially the key general education and pre-major courses required for particular majors. Four-year colleges would also have to be willing to abide by any agreements once they are established. While there is wide variation in the effectiveness of transfer practices among different Texas universities, we have seen that state policy provides them with little incentive to partner with community colleges in this way.



Texas Transfer Policy: Overall Assessment

We can now get a clearer picture of the inadequacies of the Texas transfer policies. The current Texas transfer policies are not effective in establishing transfer pathways to degrees in particular majors, or in helping students choose and stay on those pathways. The Texas general education core is based on a myth that there exist program-independent general education requirements. In fact, different majors and fields require particular sets of core courses. One important example is that majors in different fields require different introductory math courses. Currently if a student has made a clear major choice, he or she could choose core courses that apply to that major, but that would require either highly informed advising or very persistent and well-informed searching on the part of the student. In any case, the core policy does not help students come to those clear choices. The statewide Field of Study (FOS) agreements represent, at least in principle, a good direction, but they have not been widely established or rigorously followed. Once again, they will only be helpful to students who have chosen a major. Reverse transfer also does not foster transfer pathways or help students choose those paths. And there are only weak policy incentives for community and four-year colleges to work together to strengthen transfer pathways. In the next section we will discuss ways in which these shortcomings might be addressed.

SECTION 3: STRATEGIES FOR STRENGTHENING TRANSFER PATHWAYS AND HELPING STUDENTS CHOOSE AND ENTER TRANSFER PATHWAYS IN TEXAS

Given the barriers to student success created by Texas transfer policy and practice, a strategy to strengthen transfer outcomes should include at least two broad components. The first is to strengthen the design of transfer pathways within Texas community colleges to ensure that students take the general education courses required not only for an associate degree but also for transfer with junior standing in a major leading to a bachelor's degree completion with few excess credits. The second is to help students choose, enter, and stay on a transfer path. The following describes what these components would look like in practice and suggests roles for state policy in helping scale them in Texas.

USING GUIDED PATHWAYS TO BUILD STRONG PATHWAYS IN TEXAS COMMUNITY COLLEGES

One key to improving transfer outcomes is to design clear paths for students in their studies in community college, through the transfer process, and all the way to completion of a bachelor's degree. Efforts to reform the transfer process will have the most chance of success if they are embedded in a broader reform of higher education in the state based on the guided pathways model. Using guided pathway reforms, community colleges and universities across the country are undertaking systemic reforms aimed at (1) clarifying the paths to degree completion, career advancement, and further education, (2) redesigning the new student intake experience to help students explore program options and choose and enter a program of study, and (3) monitoring student progress to provide ongoing feedback and support as needed.

LESSONS FROM OTHER STATES

These "guided pathways" reforms are potentially significant for strengthening transfer outcomes because they focus on creating clearer pathways to further education and on strengthening advising to help students explore and choose a program of study long before they

transfer. In *The Transfer Playbook: Essential Practices for Two- and Four-Year Colleges*, which CCRC published in May 2016 with the Aspen Institute, we described the practices of six partnerships of two- and four-year institutions that are more effective than expected in enabling students who start at community colleges to transfer and earn a bachelor's degree.⁴² Among the essential practices we identified for both two- and four-year institutions was creating clear maps showing major-specific bachelor's program lower division requirements, recommended course sequences, and progress milestones. At none of the high-performing institutions we visited was there a sense that just satisfying a generic general education core was adequate preparation for successful transfer.

Recognizing that students may not be able to choose a specific major in their first year, these colleges are designing "meta-majors" that combine majors into broadly related fields such as business, health, or social and behavioral sciences. The meta-major curricula are designed to ensure that students take core general education courses in math and other foundation subjects that will apply toward major programs in the fields students have indicated an interest in exploring. They also force students to take early in their college careers

courses that are critical to success in that field, so if they find they are not able to do well in these courses, or do not like them, they can switch to another area before they have invested too much time going down that path.

St. Petersburg College’s program redesign provides a good example. This Florida community college offering two-year and four-year programs has organized all of its programs into 10 meta-majors, or what the college calls “career and academic communities” (see Figure 1). The college’s website highlights the employment opportunities and earnings of graduates from programs in each meta-major. For each meta-major, the college provides a list of all of its credential programs ranging from certificates to bachelor’s degrees, including programs with university transfer partners—which is especially important here (see Figure 2).

For each program, the college’s faculty and advisors have created an “academic pathway” or map showing the recommended sequence of courses students should take to ensure they complete the program with no excess credits. Figure 3 shows a map for an applied science associate degree in computer networking. The first term or two of coursework in all programs in a meta-major are the same, giving students the flexibility to change direction early on. Note also that embedded in the map are certificates and certifications that students can earn on the way to an associate degree, which they could use to advance in the labor market even as they continue to pursue a degree.



Figure 1. (above) St. Petersburg College Academic and Career Communities (or “Meta-Majors”)



Figure 2. (left) St. Petersburg College: Technology Meta-Major Programs

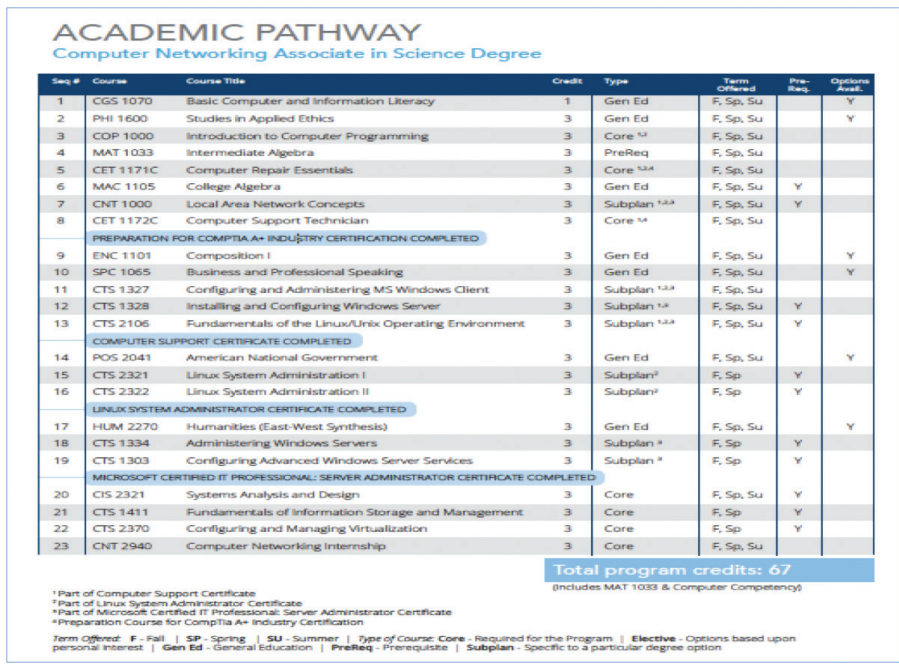


Figure 3. (below) St. Petersburg College: Academic Pathway Map for AAS in Computer Networking

Community colleges typically have multiple four-year college destinations to which their students transfer, so effective transfer reform cannot be based solely on reforming the policies and practices of individual colleges. To ensure that students' community college credits count toward degrees at four-year institutions, several states have adopted "field-specific transfer pathways" policies, which indicate general education and pre-major courses that will transfer toward junior standing in broad major fields. Arizona and Washington State were early adopters of such policies. In both states, studies have found improvements in transfer outcomes statewide following the introduction of these policies, although the findings are not definitive.⁴³ More recently, other states, including California, Colorado, Connecticut, Maryland, Massachusetts, and Tennessee, have adopted field or major-related transfer pathway policies.

Arizona has three versions of its 35-credit Arizona General Education curriculum (AGEC) that students choose among depending on the general field they are interested in pursuing: liberal arts (AGEC-A), science (AGEC-S), or business (AGEC-B). While Arizona has built their system around three fields, other states have used a somewhat larger number of meta-majors. For example, the two- and four-year institutions under the Tennessee Board of Regents have grouped their programs under nine "academic foci" (Tennessee's term for meta-majors)—STEM, social sciences, education, humanities, arts, business, applied technology, health professions, and general education—and identified core lower division requirements for each field through statewide agreements called the Tennessee Transfer Pathways, or TTPs.

Similarly, Washington State has created statewide transfer agreements in broad fields such as biosciences, engineering and computer science, and business rather than in specific majors. These agreements cover the common requirements in particular broad fields and leave it to individual colleges and universities to establish institution-specific transfer guides for particular programs. We find that such transfer guides are necessary regardless of state policy.

In some cases, statewide agreements have been criticized for being too prescriptive and not allowing for variation in program requirements among universities.⁴⁴ Such variation is both reasonable and desirable, given differences in admissions requirements and content focus across institutions—even in the same field. The Washington system addresses this potential problem by allowing institution-specific variation within an overall statewide framework.

Having statewide field-focused (rather than major-specific) agreements provides a level of standardization of common requirements and a general framework and language for faculty from two- and four-year institutions to communicate across a state, making them far more desirable than if there were only local agreements among institutions.

BUILDING STRONGER STATEWIDE TRANSFER PATHWAYS IN TEXAS



As noted above, Texas has tried to create statewide agreements that lay out program plans covering both

general education and pre-major requirements for particular majors through a process of "tuning" involving faculty from community colleges and universities. But after several years, only about a dozen "voluntary transfer compacts" have been developed and not all universities have signed on to them. According to one observer, the process has left those involved "with severe battle scars" and acknowledging that the agreements were probably too prescriptive to be acceptable to all parties, especially the universities. In the following we recommend steps that Texas could take to move toward more field-focused statewide transfer agreements by building on existing policy and momentum in the field, but without being overly prescriptive.

Provide clear guidance on which Texas general education core courses to take for particular fields.

The first recommended step would be to provide much clearer guidance to students on particular core courses students should take in math and other foundation subject areas if they are interested in pursuing a program of study in a particular broad field. These general education requirements should be specified for broad fields or “meta-majors” that encompass the major fields offered by Texas colleges and universities. Texas may want to consider organizing these broad fields to correspond to those specified by the HB5 legislation: STEM, business, public service, education, arts and humanities, social science, and allied health.⁴⁵ The THECB could be charged to engage faculty from two- and four-year institutions across the state to identify requirements from the current core to recommend to students interested in pursuing a bachelor’s degree in a particular broad field. These requirements need only include core courses that are essential for the given field. If it is not important what courses in a particular distribution area students need to take for the given field, then there is no problem in allowing students to choose. Both the THECB and the colleges should be required to post information about field-specific core requirements on their websites.

Expand and strengthen statewide field of study (FOS) agreements to the most popular majors.

To complement guidance the field-specific core requirements, the THECB could be asked to expand development of FOS agreements to the most popular majors. These agreements would specify particular general education and pre-major courses that are critical to the given major and that all Texas public universities would accept toward a bachelor’s degree in the major. Rather than attempt to develop FOS guides for all majors, the THECB could concentrate on the most popular ones—say the top two dozen. Ideally, the THECB would ensure that at least some FOS plans are developed for the most popular majors in the broad fields or meta-majors that encompass all of the majors offered by Texas colleges and universities. Given limited resources and time, regular review and revision of the highest

enrollment FOS majors should be a high priority compared to exhaustive efforts to develop curricula for myriad lower-enrollment programs that cannot feasibly be maintained.

As we have stated above, simply adding more FOS agreements does not mean that institutions and students will follow them. Given that many advisors are not familiar with FOS policy (as discussed above), Texas should develop a robust communication and dissemination plan to educate community college and university advisors on both the field-focused general education core requirements and FOS curricula. Community colleges and four-year colleges should be required to post information about these agreements on their websites. While improved FOS curricula with robust communication should encourage more students to complete an associate degree, the majority of transfer students in Texas do not earn pre-transfer degrees. In informing students about the FOS curricula, community colleges and four-year colleges should encourage students to complete the associate degree—for example by communicating the cost-savings or labor-market outcomes. Additionally, students who decide to transfer earlier must also be accommodated, and the legislature should consider requiring that universities guarantee acceptance of FOS courses even if a student does not complete an FOS.

The development of field-focused transfer pathways will require faculty from two- and four- year colleges to work together. As we will argue below, and as discussed above, in many cases they do not have strong incentives to collaborate in this way. Legislation and state policy can provide a framework for this collaboration, but in a complex, decentralized system, such legislation is difficult to enforce and often contains loopholes that can be exploited if faculty and administrators, especially at the four-year colleges, are not in agreement with the policy. Later we will discuss other strategies for promoting collaboration, including encouraging the development of regional partnerships, financial aid incentives, and a public information campaign to put pressure on colleges and legislators.



HELPING STUDENTS CHOOSE A PROGRAM PATH

Well-designed transfer pathways will not improve transfer outcomes if students are not better supported to choose, enter, and stay on those pathways. Strategies for helping students choose and enter a major or meta-major include redesign of the college intake and advising system and better collaboration and interaction with high schools. Texas has important opportunities for its colleges to work with high schools through the growing dual credit system and the HB5 legislation that requires students in high school to choose one of five “endorsement” fields. The following describes steps the state could take to capitalize on these opportunities.

Require community college students to choose a meta-major early on and support college efforts to redesign advising and first-year experiences to help students explore options for college and careers and choose a program path

The Texas general education core policy assumes a lower division curriculum that is independent from major choice. We have argued that this model fails to ensure applicability of credits to students’ major programs. One goal of the general education requirements is to expose students to a broad range of fields to help them choose a program of study, but there are also indications that this

process does a poor job of helping students choose a major. Therefore, we advocate building coherent field-focused “meta-majors” that help students to begin to explore broad fields encompassing specific majors from the start. But this policy requires a much more intentional mechanism for exploring and choosing fields and majors than exists in most Texas community colleges.

Helping university-bound community college students choose majors is a fundamental element of the successful transfer institutions that we profiled in *The Transfer Playbook*. Among all six high-performing two- and four-year partnerships that we studied, there was a strong emphasis on helping community college students explore program options and choose at least a broad program of study, if not a major, as soon as possible to ensure that they take the right lower division courses for their intended program of study.⁴⁶ St. Petersburg College, which we discussed earlier, has redesigned its intake and advising systems (1) to help students choose a meta-major (or a specific major) by the time they reach 30 credits (and ideally earlier), and (2) to monitor students’ progress on degree maps specific to their chosen field. The college requires all new students to take a five-week non-credit workshop that introduces them to programs and careers in the college’s “career and academic communities” (i.e., their meta-majors) and helps them choose a field of study and develop a plan for program completion, including transferring and completing a bachelor’s degree in the field if that is their goal.

Once a path is chosen, helping students stay on that path is also crucial. According to an academic dean at Everett Community College in Washington State, faculty there understand that students who stray from their program maps will almost certainly have to take additional courses to qualify for junior standing in their field of interest—even in fields considered less restrictive such as communications, sociology, or psychology.

The universities in our *Transfer Playbook* study were especially emphatic about the importance of students’

choosing a program of study as early as possible. All of the universities we visited have in place processes for their students who enter as freshmen to explore and choose a major early on. For example, Florida International University (FIU) requires students who enter as freshmen to choose a major in their first year or, barring that, to choose an “exploratory major” designed to help students explore a field that is of interest to them. FIU also requires all transfer students to have declared a major, based on past experience that students who arrive without a major tend to meander and accumulate credits that do not count toward a degree. FIU, which serves a largely commuter, predominantly minority student body, has seen substantial increases in student retention and completion since redesigning its programs and supports according to a pathways model.⁴⁷

Many Texas colleges are already following national trends and redesigning advising to better help students choose a program of study. For example, we learned in our interviews that Northwest Vista College (part of the Alamo system) recently overhauled its advising services, moving to a caseload management approach. The college has hired new advisors to bring the student to advisor ratio down to 350 to 1 from 1,200 to 1. In the past, students went to any available advisor, and advisors were expected to be knowledgeable about all career and transfer pathways, which is unrealistic. Advisors are now assigned to a broad field or “career pathway” and must be up-to-date on both the job and transfer opportunities in their pathway. Over 80 percent of the college’s students intend to transfer. The college requires that students identify a transfer institution and prospective major(s) by the time they complete 30 credits. Advisors follow an agreed upon protocol when discussing with students where they want to transfer, what they want to major in, and what they need to do to fulfill their transfer goals. If students indicate uncertainty about major goals, they are referred to career and transfer services and given homework to think through options. Advising is highly “intrusive” in the first 30 credits, providing guidance and support to help students choose a program path and ensure they are making progress in it.

Thus Texas policy makers should consider requiring that students entering community college choose a broad field of study or meta-major, if not a specific major, before they get too far along, perhaps by the time they accumulate 30 credits. Colleges should be required to ensure that students have an academic plan that lays out the courses students need to take to complete a program in their meta-major or major. A good step in this direction was provided by the Texas Legislature in its last session, which enacted a policy requiring students participating in the newly created multidisciplinary studies associate degree plan to meet with an advisor before the beginning of the semester after they have completed 30 semester credit hours to develop a specific degree plan and identify a desired transfer institution and major. We recommend expanding that requirement to students in all transfer-oriented associate degree programs, based on lessons learned from early implementation of the multidisciplinary studies degree programs.

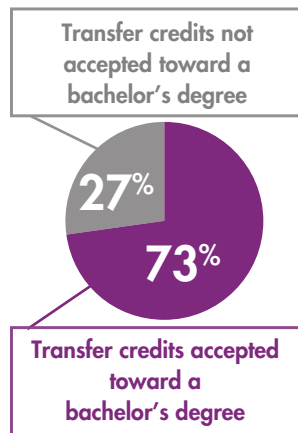
Connect dual high school-college credit coursework to transfer pathways

The rapid growth of dual credit in Texas presents an opportunity to build stronger pathways through community colleges to bachelor’s degrees. The number of high school students taking college courses through “dual credit” arrangements is growing nationally. In Texas the growth has been especially marked. A recent article in *The Chronicle of Higher Education* cites THECB data showing that 133,000 Texas high school students enrolled in dual credit classes at Texas colleges in 2015–16, more than triple the number from a decade earlier.⁴⁸ That same article reported that some, including Texas Commissioner of Higher Education Raymund Paredes, are questioning whether too many students are being allowed to take such courses and believe that academic rigor may be suffering as a result.

These are valid concerns. At the same time, research by CCRC and others indicates that dual enrollment students are more likely to attend and complete college than are

similar high school students who do not take college courses while in high school.⁴⁹ CCRC’s analysis of NSC data suggests a similar pattern in Texas, where 37 percent of dual credit high school students who entered community college in 2007 earned a bachelor’s degree within six years, while only 15 percent of community college entrants who were not dual credit students earned a bachelor’s degree in a similar period. Since dual credit students were likely to be more successful academically in high school, we do not know how much of that gap is due to those differences rather than the effects of dual credit.

Yet there is evidence that Texas students who take college courses while in high school still confront the same difficulty in ensuring that universities accept their community college credits toward a degree. An analysis by Greater Texas Foundation of students who received scholarships for graduates of early college high schools found that on average only 73 percent of college credits earned by these students in early college high schools were applied to their major at the universities they attended—or to put it another way, over a quarter of the credits were not accepted toward a bachelor’s degree in their major.⁵⁰ We do not know precisely how many dual credit courses are not counted for transfer credit, but it is likely to be as high or even higher than those for students who enter college after high school because colleges are not monitoring what courses high school students are taking, and the quantity and quality of college advising such students receive undoubtedly varies. We suspect that many students who take such courses in high schools receive little if any advising beyond that which their high school provides.



Dual credit offerings have the potential to improve transfer outcomes by encouraging students to explore options for college and careers while they are still in high school and

to increase the chances that college courses students take will count toward a degree in the major field they end up choosing. Therefore, Texas colleges should be encouraged to use dual credit to recruit and guide high school students into college pathways leading to associate degrees and on to transfer and bachelor’s degrees—ideally in fields where jobs are projected to be in demand in their regions.

One way state policy could help do this is to provide stronger guidance to colleges on what courses students can take while in high school. Students should not be allowed to take, and institutions should not advise students to take, any college courses they want. Rather, students should take those courses that will help expose them to college programs of study and enable them to earn credits that are not only transferable but applicable toward a degree in a major. The North Carolina Community College System stipulates that colleges only offer dual enrollment courses that are part of college-level programs of study. If, however, high school students are accumulating many college credits that count toward a degree program, that does not ensure that those credits count toward their degree program. Ideally, Texas dual credit students should, after reaching a certain threshold of credits, be required to focus their course-taking on a particular program of study. This focus will help prevent them from accumulating too many general credits that do not all apply toward a particular degree program. One way to address this issue could be to urge or require high school students who surpass a certain threshold of credits earned to take courses related to the HB5 “endorsement” they have chosen to help strengthen the alignment between high school and college programs. The program paths for dual credit students should both (1) lead to sub-baccalaureate credentials that enable students to secure decent-paying jobs in the near term, but also (2) articulate with associate and bachelor’s degree programs to ensure that students can advance in their careers over the long run.

State policy should require colleges to provide advising to dual credit students on college and career paths. It should

also help them develop a plan that indicates at least a tentative choice of field of interest (i.e., a meta-major) and maps out what courses students should take in high school (both dual credit and regular high school courses) to be on track to complete postsecondary credentials in a field of interest as quickly and affordably as possible after they enter college. In addition, state policy should encourage colleges to bring dual enrollment students taking classes in high school to college campuses for curricular and extracurricular activities related to their fields of interest.

We recognize that the issues surrounding dual credit in Texas are complex and fraught with concerns about “turf” and funding, as they are elsewhere. At the same time, colleges in Texas and other states are facing increased scrutiny over the quality and rigor of the courses offered and the applicability to college degrees of credits earned through dual credit. This scrutiny creates an opportunity to step back and consider a more strategic approach that could help to address a key leakage point where students lose credits on the education pathway and to improve degree completion outcomes for students whether they enter a community college or a university after high school. This would produce a much higher return for the state on its investment in dual credit courses than it probably now receives, and strengthen the pipeline of students who arrive at Texas colleges and universities prepared and motivated to succeed.

Strengthen alignment between the HB5 endorsements and postsecondary pathways

Texas policy makers and policy advocates are increasing pressure on educational institutions at both the K-12 and postsecondary levels to create better alignment across educational sectors and between education and regional and state labor market demands. As noted above, in 2013, the Texas legislature passed HB5, which among other things requires high school students to choose one of five “endorsement” fields—STEM, business and industry, public services, arts and humanities, and interdisciplinary. It specified a core 26-credit curriculum

for each endorsement and required all high schools to create a curriculum to enable students to earn an endorsement in at least one of the five areas. The legislation sought to encourage high school students (1) to begin to explore options for college and careers, (2) to recognize that different broad fields have different sets of foundation curricula, and therefore (3) to start taking and passing the right foundation courses for their fields of interest. The legislation was also designed to prompt high schools to help students explore college and career options, a key part of which, research suggests, is taking coursework in a field students think they might be interested in.⁵¹ The legislature, however, did not provide high schools with additional resources to strengthen career and college advising and to offer foundation coursework in the endorsement fields.

Requiring students to begin to explore college and careers in high school would appear to benefit colleges and universities (as well as employers concerned about future labor market needs). Such a requirement provides an opportunity for higher education institutions to work with high schools to help prepare students to succeed in a college-level program of study. Such a requirement also could improve transfer outcomes by helping college students choose a program path early on (in some cases in high school) and thus help ensure that students take lower division coursework at a community college that will apply toward a major in their field of interest.

As far as we can tell, while some exceptions appear to exist, community colleges and universities in Texas have generally not been reaching out to high schools to build pathways for students into their programs. In addition, efforts to comply with HB5 have not been connected to the efforts to improve the design of dual enrollment, efforts that are logically linked. Moreover, the streams of reform that we have argued should be part of a broad effort to build strong transfer pathways (including the college and career pathway reforms at the K-12 level in Texas and the growing guided pathways reforms among the state’s community colleges) seem thus far to be proceeding largely parallel to one another. Given both

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the need of Texas’s K-12 schools to respond to unfunded mandates of HB5 and the enrollment challenges facing the state’s community colleges and some regional universities, now would seem like an opportune time align the reforms on both fronts.

One way to make this link would be to require colleges to work with high schools to create a crosswalk of high school endorsements offered by the school districts to fields of study offered by colleges. Colleges should be required to create websites and other advising tools to help clarify for high school students and their parents and counselors the requirement for college programs of study by field and indicate what students should be taking in high school to prepare to enter a field of interest when they enroll in college.⁵²



SECTION 4: BUILDING MOMENTUM FOR COMMUNITY COLLEGE–UNIVERSITY COLLABORATION TO IMPROVE TRANSFER OUTCOMES

We have argued that efforts to improve transfer in Texas are more likely to be successful if they are part of a broader movement to (1) create stronger and more transparent pathways through community college and into the four-year college all the way to the bachelor’s degree, and (2) explicitly help students choose and stick to those paths. Meeting these goals will require community colleges and four-year colleges to collaborate in mapping program paths and helping students adhere to them. In this section, we describe developments that are creating market incentives for community colleges and at least some universities to partner on a regional basis to strengthen transfer pathways. We also discuss strategies for promoting such partnerships.

MARKET INCENTIVES TO CREATE STRONGER TRANSFER PATHWAYS ARE GROWING

Despite a lack of policy incentives historically, a number of factors seem to be driving Texas colleges and universities to make the substantial investments (in resources and political capital) necessary to strengthen transfer pathways. One key factor is that both community colleges and some regional universities in Texas and elsewhere

are facing declining or stagnating enrollment and increased competition. This new competitive market is causing colleges and universities to realize that they will be better able to maintain healthy enrollments by offering programs that enable students to achieve their goals in a reasonable timeframe rather than by continuing to focus on low-cost access to courses that are often not connected with one another.

In many parts of the country, regional public universities in high population areas are becoming more aggressive about recruiting transfer students and building partnerships with community colleges to do so.⁵³ As state funding declines, these institutions tend to be increasingly dependent on tuition revenue. The

freshmen they do recruit tend to be less prepared than they have been in the past and therefore drop out at higher rates. To replace the students who drop out and to maintain enrollment in a period when demographics and the labor market are pushing enrollments down, these institutions are increasingly relying on transfer students to fill seats and generate tuition revenue. This shift to relying on transfer students is happening even though recruiting and retaining these students is costly. These institutions would likely rather serve better prepared freshmen (that would certainly be more profitable to them), but they do not always have that option.

In Texas, regional public universities, particularly those in parts of the state



with significant competition, are facing growing market pressures to build strong transfer partnerships with community colleges in order to maintain or grow enrollment. One example is University of Houston Downtown (UH-D), which is not as selective as the University of Houston main campus and competes with Sam Houston State University. A high-level administrator we interviewed at the UH-D said that building stronger relationships with community colleges is “life or death” for the university since transfer students comprise two-thirds of the university’s population. Given the importance of transfer students to its enrollment, UH-D is one of the only universities where interviewees indicated that they encourage community college students seeking to transfer to complete their associate degree prior to transfer. They also find that emphasizing the associate degree results in more students entering “core complete.” UH-D’s reliance on transfer students for enrollment enhances its willingness to consider the needs of the community college. According to the provost at UH-D, the university considers its relationship with area community colleges to be a true partnership.

Throughout the country, regional public universities are beginning to collaborate with community colleges, K-12 schools, and employer groups to create regional career pathways partnerships focused on meeting current and future demand for skilled

workers in their regions. In the *Transfer Playbook*, we described such a partnership in Miami led by the Beacon Council, a regional economic development group, and involving Florida International University (FIU), University of Miami, Broward College, Miami Dade College, and the Miami Dade Public Schools.⁵⁴ FIU, the University of Central Florida in Orlando and University of South Florida in Tampa/St. Petersburg have created the Florida Consortium of Metropolitan Research Universities with funding from the state and private sources to strengthen their capacity to serve as leaders in regional efforts like the one in Miami. Arizona State University, in partnership with the Maricopa Community College District and Maricopa Public Schools, is leading a similar regional partnership in Phoenix.

How can policy makers and private funders promote regional collaboration of this sort in Texas, while working to change the incentives inherent in the “non-system” of transfer that creates barriers to completion and progression at each stage, particularly for students from disadvantaged backgrounds? We suggest three strategies: (1) create a program in which institutions in regions could compete for capacity-building grants, (2) offer a statewide tuition freeze or other financial incentives for transfer students to transfer efficiently (and to

colleges to help them do so), and (3) develop a public information campaign to build support for improved treatment of transfer students by community colleges and universities.

The Texas Student Success Council could help shape and oversee these efforts. Comprised of stakeholders from education (K-16), business, non-profits and philanthropy, and with the Chairs of the House and Senate Higher Education Committees, the Commissioner of Higher Education, and the Chairman of the Texas Workforce Commission serving as ex officio members, the Council has identified improved K-12 and postsecondary linkages and improved education and workforce alignment as key priorities for its policy agenda. Given its interests and membership, the Council could develop a program of research and advocacy to help promote changes in state policy—and perhaps also consumer attitudes—that will help create clearer transfer pathways to degrees and career advancement.

STRATEGIES FOR PROMOTING COLLABORATION AND DEVELOPMENT OF REGIONAL PARTNERSHIPS

As discussed, regional public universities in Texas and elsewhere face growing market incentives that are leading them to work actively with community colleges to recruit

students into baccalaureate programs and strengthen retention supports for these students.

Our analysis of National Student Clearinghouse data indicates that, in Texas as in many states, such institutions are the most common destination for community college transfer students. They are also more likely than the state flagship universities or private universities to enroll transfer students of color and those who are from low-income backgrounds. These institutions also tend to have poorer outcomes for transfer students than do more selective institutions, which not only enroll students who are much better prepared to succeed in college, but receive substantially more resources to do so. Thus, supporting these regional institutions provides an opportunity to have a big impact on educational and economic mobility for students from disadvantaged backgrounds.

Support regional career pathways partnerships led by regional public universities

The state and private philanthropy should consider supporting efforts led by regional Texas universities to work with community colleges and K-12 schools in their regions to create regional career pathways partnerships of the sort we are seeing develop in other parts of the country. The Houston Guided Pathways to Success project is a good example of a budding regional

partnership led by a public university. It is supported by Complete College America and funded by the Houston Endowment. The University of Houston and the four Houston-area community colleges collaborated on a planning effort designed to strengthen pathways to degree completion for students. A steering group with leaders from both the university and community colleges was established to oversee the effort along with joint task forces responsible for developing plans on key facets of pathways practice, including: co-requisite remediation, math alignment to majors, meta-majors and degree maps with critical path courses, proactive advising, structured scheduling, and technology. The effort produced a plan calling for changes that would lead to better alignment of curriculum and advising within and across institutions. These reforms will require new investment from all of



the project partners. The project leadership has applied for but not yet secured funding to implement the project.

There are other promising examples in Texas including the Texas Regional STEM Accelerator Initiative supported by Educate Texas, and the New Mathways Project facilitated by The Charles A. Dana Center at The University of Texas at Austin. The focus of new state and private investment should be on coordination, convening, and capacity building rather than program operations.

Explore statewide financial incentives for efficient transfer

As mentioned, while some universities offer scholarships for transfer students, these are relatively rare. In general, transfer students do not have the same level of access to financial aid as students who enter universities as freshmen. To our knowledge, there is no state financial aid tailored to transfer students. Texas might explore the potential for offering financial aid or other financial incentives for transfer students. Such aid or incentives should be designed to encourage positive behavior on the part of both students and colleges.

This past spring, Massachusetts launched the Commonwealth Commitment, which freezes tuition for students who start at a Massachusetts community college,

complete an associate degree within 2.5 years, transfer to a state university, and complete a bachelor's degree.⁵⁵ Students are also required to attend full-time and maintain a 3.0 GPA. Students in the program also get a reduction in tuition and mandatory fees: a 10 percent rebate off tuition and fees at the end of every successfully completed semester, and an additional "MassTransfer" tuition credit once the student enrolls in a bachelor's program. The Commonwealth Commitment is currently available in 14 popular majors at community colleges, state universities, and University of Massachusetts campuses, with another 10 becoming available in fall 2017.

In addition to encouraging behaviors in students that research indicates increase success rates, the policy is intended to signal to colleges and universities that if they want their students to receive such aid, they need to change their practices in ways that support positive transfer outcomes. These practices include helping students explore and choose a major early on, clearly mapping program pathways, and offering the courses students need when they need them so that they can make timely progress toward completion.

Texas might explore a similar policy. How to fund it will be an obvious question. In lieu of general appropriations funding, for which there is significant competition from other state demands, or categorical funding, which is subject to cuts in

economic downturns, Texas might explore alternative funding strategies. One worth considering is social impact bonds. Also known as "pay for success," these are contracts with public sector agencies in which a commitment is made for improved social outcomes that result from public sector savings.⁵⁶ Repayment to investors is contingent upon achievement of specific social outcomes. To our knowledge they have not been used in education, but it seems as though the use of these bonds might be a viable tool to improve completion. One challenge in general with social impact bonds is measuring outcomes. This would not be difficult were the funding used to provide reduced tuition or other financial aid to individual students. The return to both the individual and the public on students' earning college degrees is well established.⁵⁷ The return is especially high when the recipients are students from low-income families who are more likely to start at community colleges.

Support a public education campaign to help students and families make better decisions on transfer

Through this report we have described the many barriers and inefficiencies that plague transfer in Texas. We have also discussed how colleges and universities in Texas have traditionally not had strong incentives to work together to improve transfer outcomes.

Given these inefficiencies and often perverse incentives—and the costs incurred by students and taxpayers—it might be beneficial to support a public information campaign to educate students and their families to become better consumers of higher education. Such a campaign could encourage students and families to put pressure on educators to reform the existing system, which benefits institutions more than students. We



suggest developing a social media marketing campaign aimed at helping students and their families make better choices, and at pushing colleges and universities to create stronger transfer pathways to on-time degree completion. We know social media marketing is potentially expensive. But there may be constituencies such as student and civil rights advocacy groups that are frustrated with the status quo and are organized through social media. Chambers of Commerce or others with an interest in improving workforce outcomes might be willing to contribute to such an effort. The Texas Student Success Council is well positioned to assess whether such a campaign would be useful and if so how it might be accomplished.

Conclusions and Recommendations

Improving transfer is a growing priority for students, educators, policy makers, and taxpayers in Texas. Even though the large majority of entering Texas community college students indicate that they want a bachelor’s degree, only 15 percent actually transfer and complete one in six years. In the past, there have been few incentives for either two- or four-year colleges to work to improve transfer. This may be changing though, as there are growing market incentives for community colleges and at least some universities to work together to promote transfer and the success of transfer students.

These market incentives, however, are probably not sufficient by themselves to produce substantial improvements in transfer student outcomes. Such improvements also require state policy making to help capitalize on market incentives and promote positive behaviors on the part of institutions and students.

We argued that in a well-functioning transfer system in Texas, community college students would do the following:

- Take and ideally complete lower division general education requirements for a bachelor’s degree in the student’s chosen major.
- Begin to take lower division pre-major courses that will fully transfer and count toward the degree requirements of that major at the four-year college.
- Complete an associate degree of about 60 credits before transfer or, less ideally, if the student transfers before completing an associate degree, transfer their general education and pre-major coursework so that it would count toward the degree requirements of their intended major at the four-year college.
- Complete a bachelor’s degree of about 120 total credits including credits from both the community college and the four-year college.

The current “non-system” of transfer in Texas fails to help students at each one of these steps. To address these shortcomings, we have suggested that the Texas higher education system must do two things:

1 build stronger transfer pathways and

2 improve the services that help students choose and enter those pathways.

The following are policy recommendations suggested by our research. We divide them into three areas: (1) creating stronger transfer pathways, (2) helping students choose and stay on a transfer pathway, and (3) building momentum for regional community college–university collaboration to improve transfer outcomes.

CREATING STRONGER TRANSFER PATHWAYS

- 1. Provide clear guidance for students on which Texas general education courses to take for particular fields.** Students should be given clear guidance on which core courses to take in math and other foundation subject areas if they are interested in pursuing a program of study in particular broad fields or meta-majors that encompass the major fields offered by Texas colleges and universities. Texas may want to consider organizing meta-majors to correspond to the fields specified by the HB5 legislation: STEM, business, public service, education, arts and humanities, social science, and allied health.⁵⁸ The THECB could be asked to engage faculty from two- and four-year institutions across the state to identify requirements from the current core to recommend to students interested in pursuing a bachelor’s degree in a particular broad field. Both the THECB and the colleges should be required to post information about field-specific core requirements on their websites.
- 2. Expand and strengthen statewide field of study (FOS) curricula to the most popular majors.** These agreements would specify particular community college general education and pre-major courses that are critical to the given major and that all Texas public universities would accept toward a bachelor’s degree in that major. Ideally, the THECB would ensure that at least some FOS plans are developed for the most popular majors in each of the broad fields or meta-majors that encompass all of the majors offered by Texas colleges and universities. Community colleges and universities should be required to include up-to-date information on both the field-oriented general education core and FOS curriculum requirements on their websites.

HELPING STUDENTS CHOOSE AND ENTER A TRANSFER PATHWAY

- 3. Require community college students to choose a meta-major early on.** Students should be required to choose a major or meta-major by the time they reach 30 credits. This will encourage students to begin exploring their career and academic interests from the start and provide incentives for colleges to help them do so. This too will help ensure that they take general education courses that will be accepted toward a major in their field of interest. Colleges should be required to ensure that all students have an academic plan that lays out the courses they need to take to complete a program in their meta-major or major. The new multidisciplinary studies associate degree policy enacted by the legislature, which requires students to meet with an advisor before the beginning of the semester after they have completed 30 semester credits, develop a specific degree plan based on the student’s intended field of study, and choose a transfer institution, is a good step in this direction. We recommend expanding these requirements to students in all transfer-oriented associate degree programs. In general, colleges should be strongly encouraged and supported to strengthen advising aimed at helping students explore college and career options, choose a program of study, and once on it, stay on it until they complete.

- 4. *Strengthen high school dual credit regulations to ensure that college courses students take in high school will be applicable to a degree.*** Specifically, schools should advise dual credit students to take courses that will help expose them to college programs of study and enable them to earn credits that are not only transferable but applicable toward a degree in a major. One way to do this would be to require that colleges offer dual credit courses that apply to a degree program. Colleges could perhaps urge or require high school students who surpass a certain threshold of credits to take courses related to the HB5 “endorsement” they have chosen to help strengthen the alignment between high school and college programs. These types of requirements would help to ensure that the college courses students take in high school will be accepted for credit toward a degree in a major they might pursue in college. Colleges should be required to provide advising to dual enrollment students on college and career paths, to help them develop a plan that includes at least a tentative choice of field of interest or meta-major.

- 5. *Strengthen alignment between the HB5 endorsements and postsecondary pathways.*** One way to strengthen this alignment would be to require colleges to work with high schools to create a crosswalk of high school endorsements offered by the school districts to fields of study offered by colleges. Colleges should be required to create websites and other advising tools to (1) help clarify for high school students and their parents and counselors the requirements for college programs of study by field, and (2) indicate what courses students should be taking in high school to prepare to enter a field of interest when they enroll in college.

BUILDING MOMENTUM FOR COMMUNITY COLLEGE-UNIVERSITY COLLABORATION

- 6. *Support regional career pathways partnerships led by regional public universities.*** The state and private philanthropy should capitalize on growing market forces and consider supporting burgeoning efforts led by regional Texas universities to work with community colleges and K-12 schools to create regional career pathways partnerships of the sort we are seeing develop in other parts of the country. The focus of this support should be on coordination, convening, and capacity building rather than program operation. In lieu of general appropriations funding, for which significant competition exists from other state demands, or categorical funding, which is subject to cuts in economic downturns, Texas should explore alternative funding strategies. Given the well-documented high returns of college degrees to students and society, one strategy worth considering is social impact bonds.

- 7. *Explore statewide financial incentives for efficient transfer.*** Consider freezing tuition or providing other financial incentives for students who complete an associate degree in less than three years, transfer to a state university, and complete a bachelor’s degree in less than six years total. This would help to signal to colleges and universities that if they want their students to receive such incentives, they need to change their practices in ways that support positive transfer outcomes.

- 8. *Support a public education campaign.*** The state and private philanthropy should explore ways to help students and parents to become more informed consumers of higher education, so they are more likely to take efficient pathways to transferring and earning bachelor’s degrees and to put pressure on educators to offer clearer degree pathways and better support for transfer students.



POLICY BRIEF: **Policy Levers to Strengthen Community College Transfer Student Success in Texas**

There is no question that many obstacles stand in the way of these recommendations. However, there are two factors that lead us to believe that this may be a propitious time to promote this agenda. First, economic and demographic trends are strengthening incentives for two- and four-year colleges to improve supports for transfer students. Second, improved transfer is an integral element of the guided pathways movement, which is gaining strength in Texas and throughout the country. Building on the momentum for reform created by these developments, the state policy enhancements we recommend would, we believe, lead both to improved transfer and degree outcomes for students who start at a Texas community college and a higher return on investment for the state.



Endnotes

- ¹ In the 2013–14 academic year, 70 percent of all bachelor’s degree graduates in Texas previously enrolled in a community college—the highest of any state, including California and Florida. This does not mean that all of these students started at a community college, but rather that they took at least some community college courses. See National Student Clearinghouse, *Snapshot report: Contribution of two-year institutions to four-year completions*, 2015. Retrieved from: <https://nscresearchcenter.org/snapshotreporttwoyearcontributionfouryearcompletions17/>
- ² Davis Jenkins, *Texas would benefit by improving its community college to bachelor’s transfer system* (Policy Brief), Dallas, TX: Educate Texas, February 2013. Retrieved from: http://www.edtx.org/uploads/general/EDTX_CCRTPolicyBrief.pdf
- ³ Davis Jenkins and John Fink, *Tracking transfer: New measures of institutional and state effectiveness in helping community college students attain bachelor’s degrees*. New York, NY: Columbia University, Teachers College, Community College Research Center, National Student Clearinghouse, and Aspen Institute College Excellence Program, January 2016.
- ⁴ Complete College America, *Game changer state data: Texas*, 2013. Retrieved from: <http://completecollege.org/state-data-loader/?state=Texas&code=tx>
- ⁵ Jenkins, 2013.
- ⁶ Using National Student Clearinghouse data on the transfer outcomes of Texas two- and four-year public institutions (presented in an earlier memo to the foundation), we selected a set of community colleges and universities from which to recruit staff members for interviews regarding their work with transfer students (i.e., advisors, admissions staff, academic administrators, student services staff). The colleges we recruited from represented a range of performance on the transfer outcomes. In total, we conducted interviews with 25 staff members at 18 community colleges and 29 staff members at 18 universities during the spring of 2016. We also discussed transfer policy and related issues with Texas Higher Education Coordinating Board (THECB) staff members and with persons involved in regional efforts to strengthen transfer pathways between two- and four-year institutions.
- ⁷ A 2011 National Center for Education Statistics study based on a representative sample of students who started higher education for the first time in 2003–04 found that 81 percent of students who began at a community college indicated that they intended to earn a bachelor’s degree or higher. See Table I-A in Laura Horn and Paul Skomsvold, *Web tables: Community college student outcomes: 1994–2009* (NCES 2012-253), Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2011.
- ⁸ CCRC analysis of data on students in the five Texas community college systems involved in Texas Completes indicates that almost three-fourths (72 percent) were classified as being in transfer programs in liberal arts and science or business. In comparison, using the U.S. Department of Education, National Center for Education Statistics Beginning Postsecondary Student Survey of 2003–04, CCRC estimates that among first-time-in-college students nationally who entered higher education through a community college in 2003–04, about 25 percent declared a liberal arts and sciences or business major in their first year, 38 percent were in occupational programs, and 37 percent were undeclared.
- ⁹ The data in the remainder of this paragraph are from Jenkins and Fink, 2016.
- ¹⁰ Complete College America, 2013.
- ¹¹ Jennifer P. Cullinane, *The path to timely completion: Supply- and demand-side analyses of time to bachelor’s degree completion* (Doctoral dissertation), 2014. Retrieved from: <https://repositories.lib.utexas.edu/handle/2152/24932>
- ¹² Cindy Alvarado, *Transfer for student success* (Policy Brief), Bryan, TX: Greater Texas Foundation, February 2015.
- ¹³ Paul Attewell and David Monaghan, How many credits should an undergraduate take? *Research in Higher Education*, 57(6), 682–713, 2016. doi: 10.1007/s11162-015-9401-z
- ¹⁴ Personal communication from Celia Williamson, Denton, TX: University of North Texas.
- ¹⁵ Texas Higher Education Coordinating Board, *Transfer issues advisory committee report: Identifying and closing the gaps*, Austin, TX: THECB, 2001.
- ¹⁶ Jenkins and Fink, 2016.
- ¹⁷ A descriptive study from the National Student Clearinghouse found that students who transferred with a certificate or two-year degree were 16 percentage points more likely to earn a bachelor’s degree than students who transferred without one (72 percent versus 56 percent, Shapiro et al., 2013). Two studies using more rigorous methods—one of a university system (Crook, Chellman, & Holod, 2012) and one of an entire state (Crosta & Kopko, 2016)—also found that community college transfer students were more likely to earn a bachelor’s degree if they first earned an associate degree. See Peter M. Crosta and Elizabeth M. Kopko, Should community college students earn an associate degree before transferring to a four-year institution? *Research in Higher Education*, 57(2), 190–222, 2016; David Crook, Colin C. Chellman, and Aleksandra Holod, *Does earning an associate degree lead to better baccalaureate outcomes for transfer students?* New York, NY: City University of New York, Office of Policy Research, 2012; Doug Shapiro, Afet Dundar, Mary Ziskin, Yi-Chen Chiang, Jin Chen, Autumn Harrell, and Vasti Torres, *Baccalaureate attainment: A national view of the postsecondary outcomes of students who transfer from two-year to four-year institutions* (Signature Report No. 5), Herndon, VA: National Student Clearinghouse Research Center, 2013.
- ¹⁸ Jenkins and Fink, 2016, p. 39.
- ¹⁹ Jenkins and Fink, 2016, Table 5. In Texas 57 percent of transfer students did not earn a bachelor’s degree within six years of starting at the community college (nationally, 48 percent of transfer students did not graduate).
- ²⁰ In a study using data and educational and labor market outcomes of community college students in North Carolina, Clive Belfield found substantial economic benefits to students and taxpayers of students earning a community college credential before transferring. See Clive R. Belfield, *The economic benefits of attaining an associate degree before transfer: Evidence from North Carolina* (CCRC Working Paper No. 62), New York, NY: Columbia University, Teachers College, Community College Research Center, July 2013.

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- ²¹ Colleges can add learning objectives of their own.
- ²² Colleges can seek approval for courses not in the ACGM.
- ²³ Texas Higher Education Coordinating Board, *Academic performance of 2-year college transfer students at Texas public universities*. Retrieved from: http://www.txhighereddata.org/reports/performance/ctcttransfer/inst.cfm?inst=778899&report_type=2&report_yr=2014
- ²⁴ Michelle Hodara and Olga Rodriguez, *Tracking student progression through the core curriculum* (CCRC Analytics), New York, NY: Community College Research Center, Teachers College, Columbia University, April 2013.
- ²⁵ Texas Higher Education Coordinating Board, *Texas general academic institutions: Increasing successful community college transfer. A report to the Texas Legislature House Bill 1, 84th Texas Legislature*, p. 4, Fall 2015.
- ²⁶ Eduardo Padron, Understanding and overcoming common barriers to transfer, *The Evolllution*, July 18, 2016. Retrieved from: <http://evolllution.com/author/eduardo-padron/>
- ²⁷ Texas Higher Education Coordinating Board, *Increasing successful community college transfer*, p. 5, 2015.
- ²⁸ See Texas Higher Education Coordinating Board, *Transfer policies and resources*. Retrieved from: <http://www.theccb.state.tx.us/index.cfm?objectid=0BDF101B-0B61-7D8D-392A61E18CBC7093>
- ²⁹ It appears that the FOS agreements may expire without being updated. In this 2002 document, the THECB reported that there were 37 approved FOSs (Texas Higher Education Coordinating Board, 2002). If this is the case, adding more is not going to help without incentives to use them. See Texas Higher Education Coordinating Board, *Developing field of study curricula*, 2002. Retrieved from: <http://www.theccb.state.tx.us/reports/PDF/0526.pdf>
- ³⁰ Of the 35,518 new transfer students in fall 2014 arriving at public Texas universities from public Texas two-year colleges, 787 completed the FOS (2.2 percent). See page 2 of this statewide report on transfers from community colleges: http://www.txhighereddata.org/reports/performance/ctcttransfer/inst.cfm?inst=445566&report_type=4&report_yr=2014
- ³¹ See Texas Higher Education Coordinating Board, *Texas voluntary transfer compacts*. Retrieved from: <http://www.theccb.state.tx.us/index.cfm?objectid=C02EE263-D0D4-CB89-63334BECB85CB617>
- ³² Credit Transfer for Associate Degree, Texas Education Code § 61.833.
- ³³ Texas Higher Education Coordinating Board Undergraduate Education Advisory Committee, *Summary notes* (meeting notes), September 26, 2014. Retrieved from: <http://www.theccb.state.tx.us/reports/PDF/6892.PDF?CFID=45737446&CFTOKEN=55959990>
- ³⁴ Clive R. Belfield and Thomas R. Bailey, The benefits of attending community college: A review of the evidence, *Community College Review*, 39(1), 46–68, January 2011.
- ³⁵ Texas Higher Education Coordinating Board, *Summary of higher education legislation, 84th Texas Legislature*, p. 5, 2015. Retrieved from: <http://www.theccb.state.tx.us/reports/PDF/6793.PDF?CFID=47312717&CFTOKEN=85774768>
- ³⁶ J. Tow, M. Barnes, C. Deeds, M. Martinez Maher, J. Silva, and C. Wagner. *Texas core curriculum and field of study: Strengthening tools for transfer* (Practicum Report), Austin, TX: Texas Success Center, THECB, and Charles A. Dana Center at the University of Texas, May 4, 2015.
- ³⁷ Texas Higher Education Coordinating Board, 2015, p. 2.
- ³⁸ Nine (24 percent) of the universities ranked excess credit hours as the number one barrier to graduating and an additional six (16 percent) universities ranked it as the number two problem. See Texas Higher Education Coordinating Board, 2015, p. 6.
- ³⁹ Texas Higher Education Coordinating Board, 2015, p. 6.
- ⁴⁰ Clive R. Belfield, Davis Jenkins, and Hana Lahr, *Momentum: The academic and economic value of a 15-credit first-semester course load for college students in Tennessee* (CCRC Working Paper No. 88), New York, NY: Columbia University, Teachers College, Community College Research Center, June 2016.
- ⁴¹ For a fuller description of the “cafeteria” model of college organization compared to the “guided pathways” model, see Thomas R. Bailey, Shanna Smith Jaggars, and Davis Jenkins, *Redesigning America’s community colleges: A clearer path to student success*, Cambridge, MA: Harvard University Press, 2015.
- ⁴² Joshua Wyner, K. C. Deane, Davis Jenkins, and John Fink, *The transfer playbook: Essential practices for two- and four-year institutions*. New York, NY: Columbia University, Teachers College, Community College Research Center, and The Aspen Institute College Excellence Program, May 2016.
- ⁴³ *Arizona*: A 2007 study found that after the introduction of the Arizona transfer policies in the mid-1990s, transfer students completed bachelor’s degrees in nearly one semester fewer than students who transferred before the policy was implemented (Hezel Associates, 2007). Students transferring after completing the AGEC (with or without completing an associate degree) were more likely to graduate in a specified time period than students transferring with credits but not completing the AGEC, and those completing the AGEC graduated with fewer credits. A more recent analysis found that the number of students transferring from community colleges to universities in Arizona has increased every year since 2006, and the rate at which transfer students complete bachelor’s degrees also increased. See Hezel Associates. *Evaluation of Arizona’s transfer articulation system*, Syracuse, NY: Author, 2007; and Hezel Associates, *Evaluation of Arizona’s transfer system, Report to the Arizona Transfer Steering Committee*, Syracuse, NY: Author, 2013.
- Washington State*: A 2009 study by the Washington State Board for Community and Technical Colleges (SBCTC) found that the three-year graduation rate for students transferring to one of the state’s public universities increased from 63 percent in the late 1990s to 71 percent in 2006–07. The SBCTC researchers speculated that this increase could have been the result of the major-related pathways, although there was no way to say for sure. See Washington Higher Education Coordinating Board, *Transfer and articulation in higher education*, Olympia, WA: Author, February 2009.

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⁴⁴ Wyner, Dean, Jenkins, and Fink, 2016, p. 49.

⁵ These areas, with the exception of health, correspond to the “endorsement” fields specified by the HB5 legislation. We will discuss this in more detail on page 21.

⁴⁶ See Chapter 3 of Wyner, Dean, Jenkins, and Fink, 2016.

⁴⁷ Douglas L. Robertson and Martha Palaez, Behavior analytic concepts and change in a large metropolitan research university: The graduation success initiative, *Journal of Organizational Behavior Management*, 36(2–3), 2016. doi: 10.1080/016088061.2016.1200513

⁴⁸ Katherine Mangan, As dual enrollments swell, so do worries about academic rigor, *The Chronicle of Higher Education*, July 22, 2016.

⁴⁹ In a study using nationally representative data, An (2013) found positive effects of dual enrollment on college going and completion. Giani and Reyes (2014) found similar positive effects using data on dual enrollment students in Texas. Using data on dual enrollment students in Florida, Karp et al. (2007) found that lower socioeconomic status students, male students, and students with lower high school grades experienced greater gains in college-going and college grades compared to other dual enrollment participants; Taylor (2015) found smaller, but still positive, effects on college-going and degree completion among lower-income students and students of color in Illinois compared to other dual enrollment participants. See Brian P. An, The impact of dual enrollment on college degree attainment: Do low-SES students benefit? *Educational Evaluation and Policy Analysis*, 35(1), 57–75, 2013; Matthew Giani, Celeste Alexander, and Pedro Reyes, Exploring variation in the impact of dual-credit coursework on postsecondary outcomes: A quasi-experimental analysis of Texas students, *The High School Journal*, 97(4), 200–218, Summer 2014; Melinda Mechur Karp, Juan Carlos Calcagno, Katherine L. Hughes, Dong Wook Jeong, and Thomas R. Bailey, *The postsecondary achievement of participants in dual enrollment: An analysis of student outcomes in two states*, Saint Paul, MN: University of Minnesota, National Research Center for Career and Technical Education, 2007; Jason L. Taylor, Accelerating pathways to college: The (in)equitable effects of community college dual credit, *Community College Review*, 43(4), 355–379, 2015.

⁵⁰ Greater Texas Foundation, *GTF scholars: A scholarship program for Texas early college high school graduates*, October 2015. Retrieved from: http://media.cmgdigital.com/shared/news/documents/2016/04/19/GTFScholarsOverview_2.pdf

⁵¹ Thomas R. Bailey, Clive Belfield, Davis Jenkins, and Elizabeth Kopko, Matching talents to careers: From self-directed to guided pathways, in Andrew P. Kelly, Jessica S. Howell, and Carolyn Sattin-Bajaj, Eds., *Matching students to opportunity: Expanding college choice, access, and quality*. Cambridge, MA: Harvard Education Press, 2016.

⁵² This idea was suggested by Melissa Henderson of Educate Texas based on a proposed recommendation being considered by the Texas Student Success Council. It accords well with our analysis and other recommendations.

⁵³ Davis Jenkins, Alison Kadlec, and James Votruba, The business case for regional public universities to strengthen community college transfer pathways (with guidance on leading the process), *Maximizing resources for student success*. Washington, DC: HCM Strategists, July 2014.

⁵⁴ Wyner, Dean, Jenkins, and Fink, 2016, p. 40.

⁵⁵ For more information, see the program website at: <http://www.mass.edu/masstransfer/macomcom/home.asp>

⁵⁶ The Social Financial Global Network recently published a white paper on the state of the social impact bond market: Annie Dear, et al., *Social impact bonds: The early years*, 2016. Retrieved from: http://www.socialfinance.org.uk/wp-content/uploads/2016/07/SIBs-Early-Years_Social-Finance_2016_Final-003.pdf

⁵⁷ Belfield and Bailey, 2011.

⁵⁸ These areas, with the exception of health, correspond to the “endorsement” fields specified by the HB5 legislation. We will discuss this in more detail on page 21.

