

DRIVING THE DIRECTION OF TRANSFER PATHWAYS REFORM

HELPING MORE STUDENTS ACHIEVE THEIR BACCALAUREATE GOALS BY CREATING STRUCTURED TRANSFER PATHWAYS "WITH THE END IN MIND"

APRIL 2014

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Postsecondary
State Policy



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ACKNOWLEDGEMENTS

The authors would like to acknowledge the following individuals who aided in the research and writing of this report: Davis Jenkins, Senior Research Associate, Community College Research Center; Paula K. Compton, Associate Vice Chancellor for Articulation and Transfer, Ohio Board of Regents; Abbey Ivey, Director of Academic Affairs, Division of Florida Colleges; Wesley Beddard, Associate Vice President for Student Learning and Success, North Carolina Community College System; Jenna Cullinane, Research Scientist, Charles A. Dana Center, The University of Texas at Austin; Samuel Dosumu, Associate Vice Chancellor for Academic Affairs, Maricopa Community Colleges; Maria Hesse, Vice Provost for Academic Partnerships, Arizona State University; and Aynsley Diamond, Transfer and Articulation Policy Program Manager Connecticut Board of Regents for Higher Education/ Connecticut State Colleges and Universities.

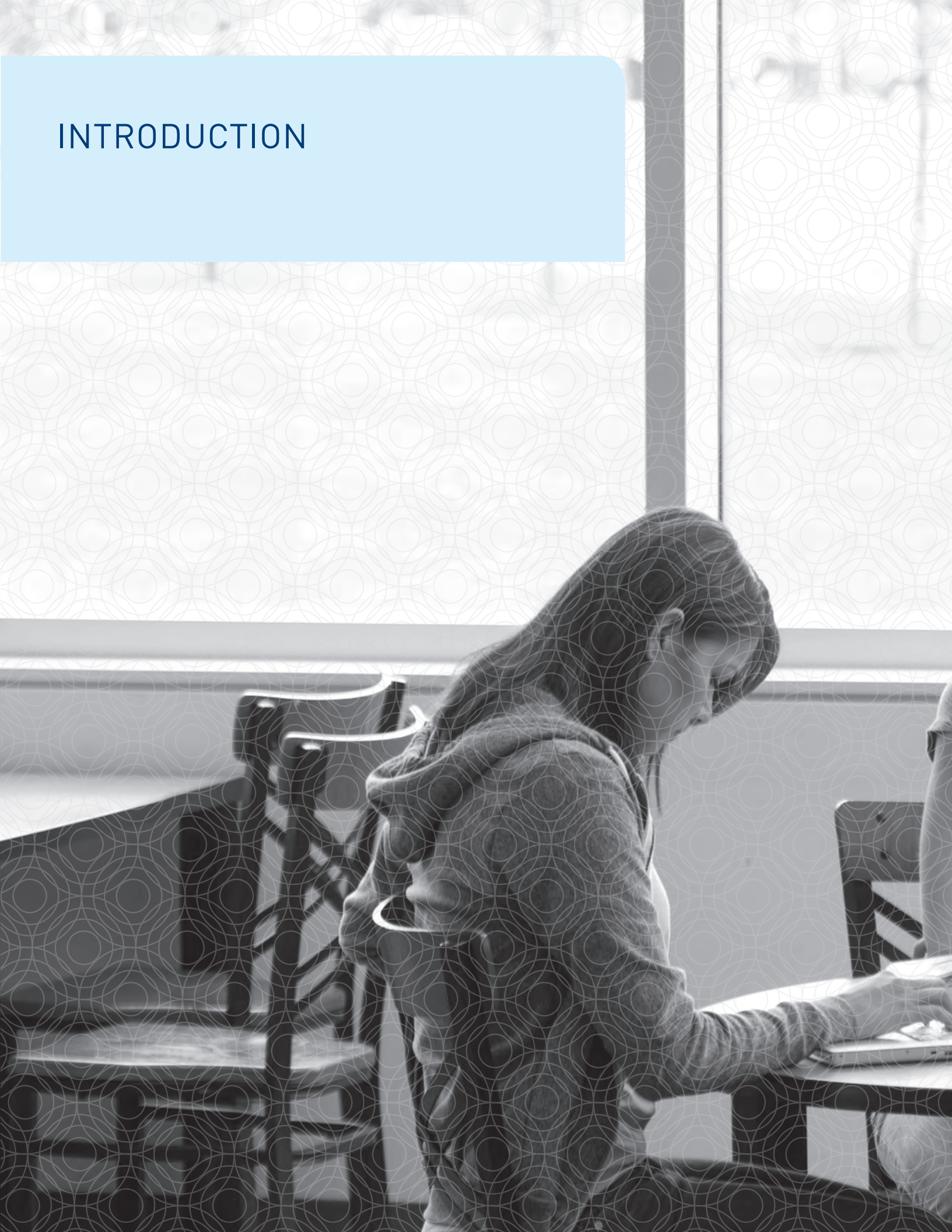
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INTRODUCTION



THE SCOPE OF THE TRANSFER PROBLEM

Despite the historic transfer mission of community colleges, the vast majority of two-year students do not continue their studies at baccalaureate-granting institutions.¹ Surveys of incoming community college students typically find that as many as four out of five want to transfer to a four-year college or university to earn at least a Bachelor's degree; however, only one in five enroll in baccalaureate-granting institutions within the first five years of their college careers.² Only one in ten of all community college students earns a Bachelor's degree within six years (see *"Figure 1. Leaky Pipeline from Community College to Bachelor's Degree"* on page 3).

Raising these dismally low transfer rates is imperative. Low-income students and students of color enroll disproportionately at community colleges, making improved transfer to four-year institutions a critical step for improving equity of educational outcomes. In addition, amidst pressure to improve the skills of our workforce, improving transfer represents one of the best opportunities for producing more Bachelor's degree holders.

In fact, the community college students who do persist and transfer comprise an important segment of the higher education pipeline in many states. Because of the large share of postsecondary students enrolled in community colleges, the relatively low transfer rate still translates into a sizable number of two-year students entering *and* graduating from four-year colleges and universities.³ Almost half (45 percent) of the nation's Bachelor's degree holders previously studied at a community college.⁴ This also remains true in high-demand STEM fields: 44 percent of college graduates with a Bachelor's or Master's degree in science, technology, engineering, and mathematics attended community college at some point in their careers.⁵

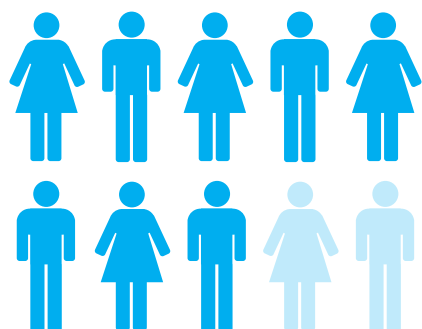
Yet, by attending a community college first, transfer students face some obstacles. They are less likely to earn a Bachelor's degree than students who begin their college careers at four-year institutions and achieve junior standing (so-called "rising juniors").⁶ Nearly 70 percent of rising juniors graduated with a Bachelor's degree within six years of entering college, compared to only 45 percent of students who had transferred from community colleges to pursue a Bachelor's degree.

GAPS IN THE EXISTING SYSTEM

Helping more community college students successfully transfer and earn a Bachelor's degree will require addressing the oft-opaque, barrier-laden pathway toward university matriculation.

To date, many states and institutions have worked hard to improve the articulation of two- and four-year curricula and programs so that transfer students can earn university credits for past community college coursework. And the number of states pursuing promising transfer policies has been increasing steadily (see *"Figure 2. States Pursuing Promising Transfer Policies"* on page 4). However, despite these efforts, many transfer students still face the costly and demoralizing reality of retaking similar undergraduate courses after they transfer. In fact, several research studies have found that the emergence of statewide articulation agreements and other transfer policies has yet to yield significant improvement in student mobility from two-year to four-year institutions.⁷

FIGURE 1.
LEAKY PIPELINE FROM COMMUNITY COLLEGE TO BACHELOR'S DEGREE



8 of every 10 first-time, two-year students say they want to go on to university.

81.4 percent of first-time students entering community college in the 2003-04 academic year set a goal of attaining a Bachelor's degree or higher (compared to 79.2 percent enrolled in 1995-96 and 70.9 percent in 1989-1990). Interest is high regardless of gender, race, income, and employment status of students. Older and part-time students hold somewhat lower aspirations to attain a Master's degree.



2 out every 10 students actually transfer.

21.1 percent of first-time students entering community college in the 2003-04 academic year transferred to a university within five years. Transfer rates were even lower for students who are black, Hispanic, older, enrolled part-time, or working full-time while attending school, as well as students whose parents were not college educated.

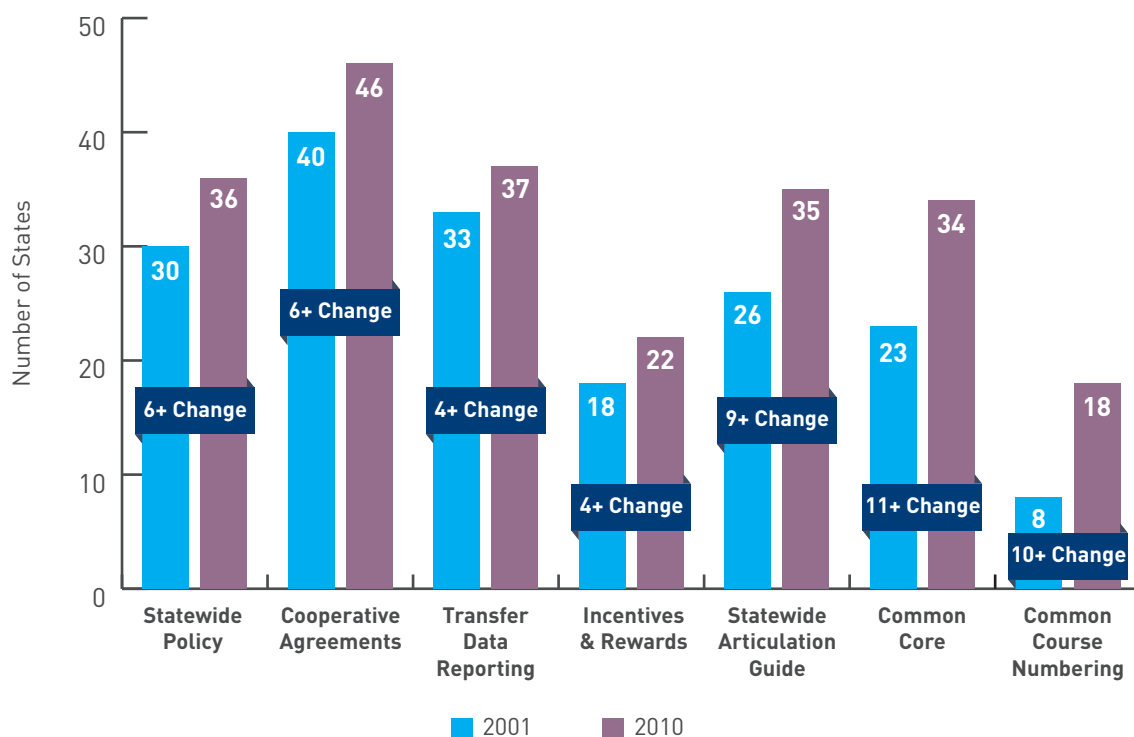


1 out of every 10 students earns a Bachelor's degree within six years.

11.6 percent of first-time students entering community college in the 2003-04 academic year graduated from a university with a baccalaureate within six years.

Source: Horn & Skomsvold (2011).

FIGURE 2.
NUMBER OF STATES WITH ARTICULATION AND TRANSFER POLICY ELEMENTS



Source: Mullin (2012) adapted from Smith (2010).

By and large, the onus is still on individual community college students to pick courses that fulfill university requirements and count toward a degree in a desired field of study, while also navigating the transfer process. In several recent studies, two-year students bemoaned the limited and unclear guidance they received in choosing a field and enrolling in appropriate courses.⁸ They noted that navigating the transfer process was complicated by inaccurate, inconsistent, or unavailable information on which courses universities would accept for credit, and whether these credits would apply toward Bachelor's degree and program requirements—or merely as electives.

Faced with too many choices and too little guidance, community college students often make uninformed decisions (or drift along making no decisions) that result in wasted credits, tuition money, and time attending courses that do not fulfill their educational goals. In the process, they lessen their chances of earning an Associate's degree, transferring to a four-year institution, or achieving their ultimate goal—a baccalaureate.

PRINCIPLES FOR TRANSFER IMPROVEMENTS: JFF'S RECOMMENDATIONS

Glossy marketing materials and a patchwork of articulation agreements promoting university transfer cannot overcome all the obstacles students face. To address this critical issue head on, Jobs for the Future recently convened higher education leaders and researchers to identify promising approaches for improving two-year student persistence, credential completion, and transfer. Building upon the sessions of the day-long event, this brief advocates a “three-legged stool” approach to undergirding transfer improvements that balances incentives, cross-institution convenings, and state-level activities and policies.



PRINCIPLE #1: EMPHASIZE INCENTIVES FOR BOTH STUDENTS AND INSTITUTIONS.

During transfer conversations, offering incentives to students and institutions is more conducive to creating improved transfer behaviors than narrow and restrictive policies. While there are smart ways to use policy levers to structure faculty conversations, streamline course requirements, and accelerate developmental education—as described later in this section—JFF encourages starting with state-level incentives as a guiding principle, to more easily facilitate and encourage students and institutions to take the first steps in improving transfer policies.

Transfer scholarships that incent students to transfer *after* completing the Associate's degree are a terrific example. The Virginia Community College System encourages students to complete the Associate's degree through its Two-Year College Transfer Grant. Students who complete the degree with a GPA of 3.0 or above receive \$1,000 per year for up to three years at any four-year institution in Virginia (an additional \$1,000 is awarded to students who study science, teaching, engineering, mathematics, or nursing). Two- and four-year institutions can also work out agreements to offer co-admitted and transfer students certain benefits such as preferred registration and housing at the four-year institution (see box, "Example: Student Incentives Offered by a Transfer Institution" on page 7).

States can also incent their four-year institutions to be supportive actors who accept community college credits, apply them to the major, encourage community college students to transfer at the right time, and offer co-admission benefits to students. Funding formulas and accountability structures can, for example, reward universities for enrolling transfer students with junior status *after* they have completed the Associate's degree.

PRINCIPLE #2: ENCOURAGE SERIOUS, DIRECTED CROSS-INSTITUTIONAL WORKING MEETINGS OF FACULTY AND STUDENT SERVICES STAFF TO IRON OUT TRANSFER DETAILS.

To dramatically increase transfer rates and maximize credit for courses taken in community college, two- and four-year institutions have to work together—with their state officials—to take bold action to remake the community college experience in ways that help make transfers and four-year completions become routine rather than exceptional. JFF strongly encourages states to plan and support cross-institutional convenings of faculty and student services personnel to work out, in person, the details needed for smooth transfer, such as curricular discussions that lead to alignment and transfer agreements, and solid student advising and information. These meetings should be carefully planned and facilitated to help participants develop trust and lasting relationships, hold serious and actionable conversations, and ultimately build coherent academic pathways that lead into the majors of the transfer institutions.

**THIS BRIEF
ADVOCATES A
THREE-LEGGED
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BALANCES INCENTIVES,
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CONVENINGS, AND STATE-
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AND POLICIES.**

States should create an infrastructure for these conversations so that participating colleges maintain them and keep them current (see box, "An Infrastructure for Faculty Engagement" on page 8). States can also keep an ear open for state-level actions and policies that bubble up out of those cross-institutional conversations.

PRINCIPLE #3: SUPPORT STRUCTURED TRANSFER PATHWAYS TO COMPLETION VIA STATE POLICY.

Based on its engagement with states and colleges implementing Completion by Design strategies, JFF advocates a set of state-level

EXAMPLE: STUDENT INCENTIVES OFFERED BY A TRANSFER INSTITUTION

“As a co-admitted student [at Portland State University], you can choose to register for all of your courses at PSU, all of your courses at the community college, or take courses concurrently at both schools. PSU serves more transfer students than any other university in Oregon. We value our relationships with our community college partners and work hard to streamline student pathways. . . . There are many services available to you through co-admission as you transition to PSU, a few are listed below.”⁹

SERVICE	PSU	COMMUNITY COLLEGE*
Academic Advising	Free	Free
Athletic events	Free	Free*
Email access	Free	Free
Library access	Free	Free
Multicultural Student Services	Free	Free
Student Activities - Clubs, etc.	Free	Free
Women’s Resource Center	Free	Free
Career Center	Must enroll in 1 credit at PSU	Free
Counseling Services	Must enroll in 5 credits at PSU	Free
Financial Aid	Must enroll in 6 credits at PSU	Must enroll in 6 credits
Health Insurance	Must enroll in 5 credits at PSU	Not Available
Recreation Center	Must enroll in 1 credit at PSU	Not Available at all CCs
Student Health Center	Must enroll in 5 credits at PSU	Not Available
Student Housing	Must enroll in 8 credits at PSU or CC	Not Available
Student Legal Services	Must enroll in 4 credits at PSU	Not Available
Tutoring	Must enroll in 1 credit at PSU	May require enrollment

*Check with your community college. Other services may be available and/or restrictions may apply.

activities that support colleges as they create structured, transparent, and efficient pathways through Associate’s degree programs and into upper-division coursework leading to Bachelor’s degrees.

As a first step, community colleges should “reverse engineer” their curricula to university standards and course sequences—a process that requires thoughtful collaboration across sectors, coupled with well-designed changes in institutional and state policies. By deliberately building pathways that align with the requirements of four-year institutions, community colleges can build strong and effective transfer pathways that “begin with the end in mind,” as advocated by Davis Jenkins, senior research associate with the Community College Research Center at Columbia University (see “Figure 3. Unstructured Pathways to Transfer” and “Figure 4. Structured Pathways to Transfer” on pages 10-11).

Further recommendations in this brief stem from a growing body of research and implementation evidence that community college students fare far better academically with fewer options and more structure, support, and guidance (see box, “Building Structured Pathways: Completion by Design Principles of Redesign,” on page 8).¹⁰

These state actions and policies fall into four “steps” for building transfer pathways, all of which are illustrated by examples of state efforts to help more students enroll early in broad program areas

AN INFRASTRUCTURE FOR FACULTY ENGAGEMENT

The Connecticut Board of Regents for Higher Education has created a thoughtful structure for meaningfully engaging faculty in the creation of its new Transfer and Articulation Policy. At the core is an Implementation and Review Committee made up of elected faculty members with equal representation from all 17 colleges in the system of Connecticut State Colleges and Universities. The Implementation and Review Committee will sign off on all pathways, which will be constructed and recommended to them by approximately 30 cross-college pathways workgroups. At the campus level, all 17 institutions will have a general education core committee that will be charged with implementing the pathways locally. A coordinating council made up of faculty and chief academic officers will plan and oversee all of the work.

Aynsley Diamond, Transfer and Articulation Policy program manager, is tasked with keeping all of these trains on their tracks, and ensuring that the faculty are meeting regularly and having deep conversations. Diamond's commitment to faculty leadership in this process is clear: "If you do not have a group of biology faculty sitting in one room hashing out what they perceive their major to be, you will have those without context making long-lasting decisions." To encourage deep engagement and a commitment to the process, the Board of Regents has proposed that upon completion, those involved would receive a \$2,500 stipend.

The Connecticut process embraces the conversation about building structured pathways. The goal is for the transfer pathways to be highly structured, with recommended courses and course-taking patterns. After the academic pathways are in place, the Board of Regents will turn to developing student supports that ensure students get the advising they need, map out their educational plans, and track their progress toward completion.

leading to a major, move efficiently to completion of their desired credential, and transfer into an aligned four-year degree program:¹¹

Step #1: Help students set their sights on the destination—ensure that learning outcomes of community college programs align with the specific major requirements of partner four-year institutions

Step #2: Map out straight and clear pathways to credentials and transfer requirements—define clear and efficient routes toward junior standing and on to baccalaureate completion in specific majors at partnership universities

Step #3: Build on-ramps for underprepared students—accelerate the acquisition of basic skills while guiding students into transfer programs of study

Step #4: Track each student's journey and enable students to know the consequences of their choices—monitor student progress, providing frequent feedback and support as needed

BUILDING STRUCTURED PATHWAYS: COMPLETION BY DESIGN PRINCIPLES OF REDESIGN¹²

Completion by Design works with community colleges and their state partners to significantly increase credential completion and graduation rates for low-income students. The initiative, funded by the Bill & Melinda Gates Foundation, takes a new approach to an old problem, aiming at comprehensive institutional transformation to create permanent improvement. The initiative's redesign principles are:

Principle 1: Accelerate entry into coherent programs of study

Principle 2: Minimize time required to get college-ready

Principle 3: Ensure students know the requirements to succeed

Principle 4: Customize and contextualize instruction

Principle 5: Integrate student support with instruction

Principle 6: Continually monitor student progress and proactively provide feedback

Principle 7: Reward behaviors that contribute to completion

Principle 8: Leverage technology to improve learning and program delivery

CASES PRESENTED IN THIS REPORT

At the JFF convening, several innovative initiatives that are, or can be, supported statewide were presented and discussed; they are summarized here.

North Carolina revised its Comprehensive Articulation Agreement in keeping with the national research and experience on structured pathways. The new agreement, a product of long engagement with faculty across the two- and four-year sectors, is a strong example of reverse engineering to ensure that the learning outcomes of the community colleges' transfer programs align directly with the specific major requirements of the transfer institutions.

Transfer Principles and Policy Steps Discussed:

- > **Principle #2:** Encourage serious, directed cross-institutional working meetings of faculty and student services staff to iron out transfer details.
- > **Principle #3:** Support structured transfer pathways to completion via state policy.
 - » **Step #1:** Help students set their sights on the destination—ensure that learning outcomes of community college programs align with the specific major requirements of partner four-year institutions.
 - » **Step #2:** Map out straight and clear pathways to credentials and transfer requirements—define clear and efficient routes toward junior standing and on to baccalaureate completion in specific majors at partnership universities.

Florida has enacted legislation requiring students to select “meta-majors” early in their careers so they are more likely to enroll in and complete a coherent program of study. Meta-majors do not necessarily need to be legislated—their creation can be incented or encouraged, for example. They do, however, represent a promising structure for creating a more transparent and efficient pathway for students between institutions.

Transfer Principles and Policy Steps Discussed:

- > **Principle #1:** Emphasize incentives for both students and institutions.
- > **Principle #3:** Support structured transfer pathways to completion via state policy.
 - » **Step #2:** Map out straight and clear pathways to credentials and transfer requirements—

define clear and efficient routes toward junior standing and on to baccalaureate completion in specific majors at partnership universities.

The New Mathways Project in **Texas** is replacing the conventional, one-size-fits-all math curriculum with a set of rigorous but differentiated math courses that integrate remedial and gateway math appropriate for different programs of study.

Transfer Principles and Policy Steps Discussed:

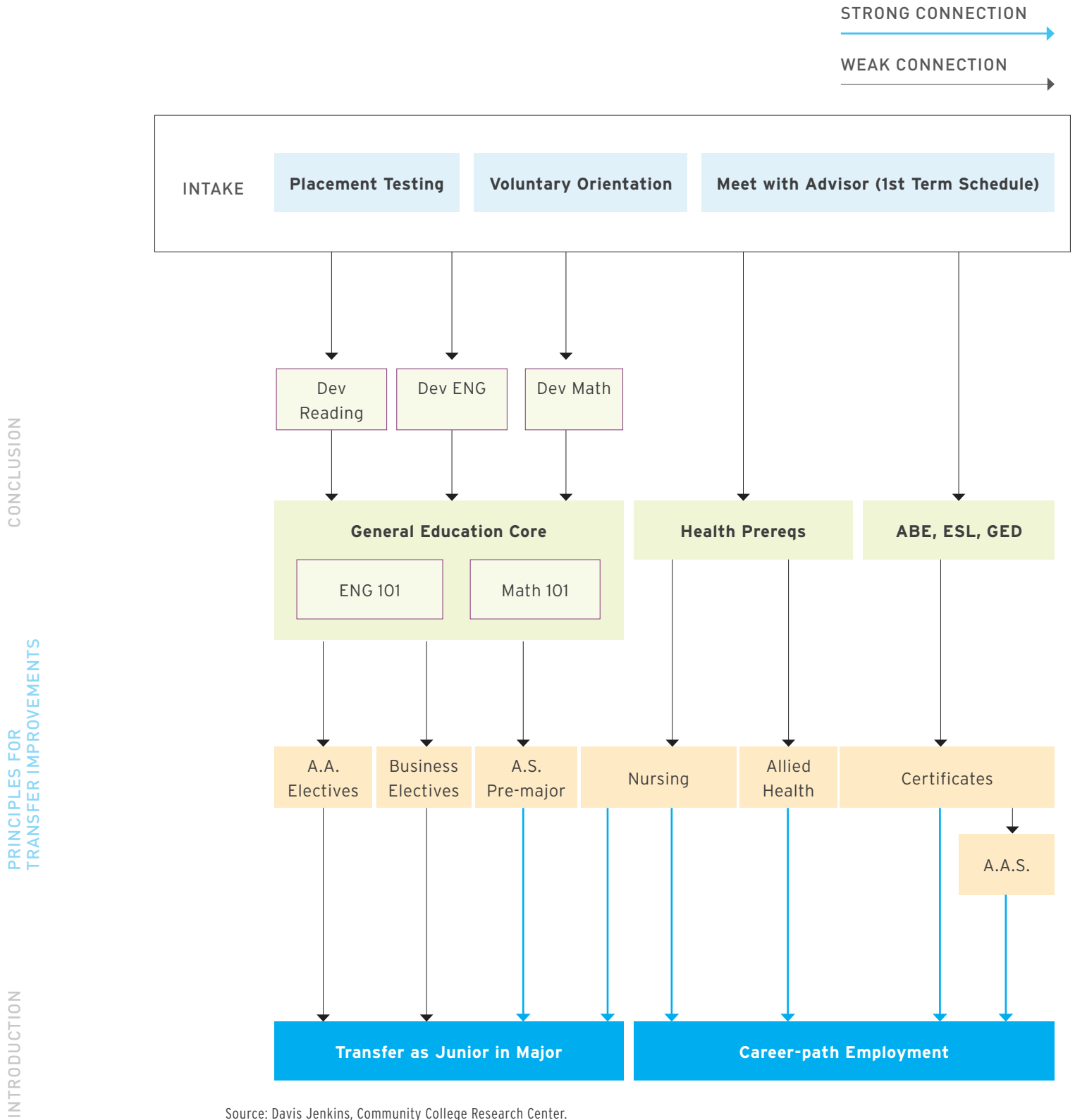
- > **Principle #2:** Encourage serious, directed cross-institutional working meetings of faculty and student services staff to iron out transfer details.
- > **Principle #3:** Support structured transfer pathways to completion via state policy.
 - » **Step #3:** Build on-ramps for underprepared students—accelerate the acquisition of basic skills while guiding students into transfer programs of study.

Arizona State University and Maricopa Community College teamed up to build the Maricopa-ASU Pathways Program (MAPP), which seeks to build deliberate transfer pathways from Maricopa into ASU, and is supported by a robust website to provide guidance to students. ASU plans to scale the pathways program to other community colleges in the state.

Transfer Principles and Policy Steps Discussed:

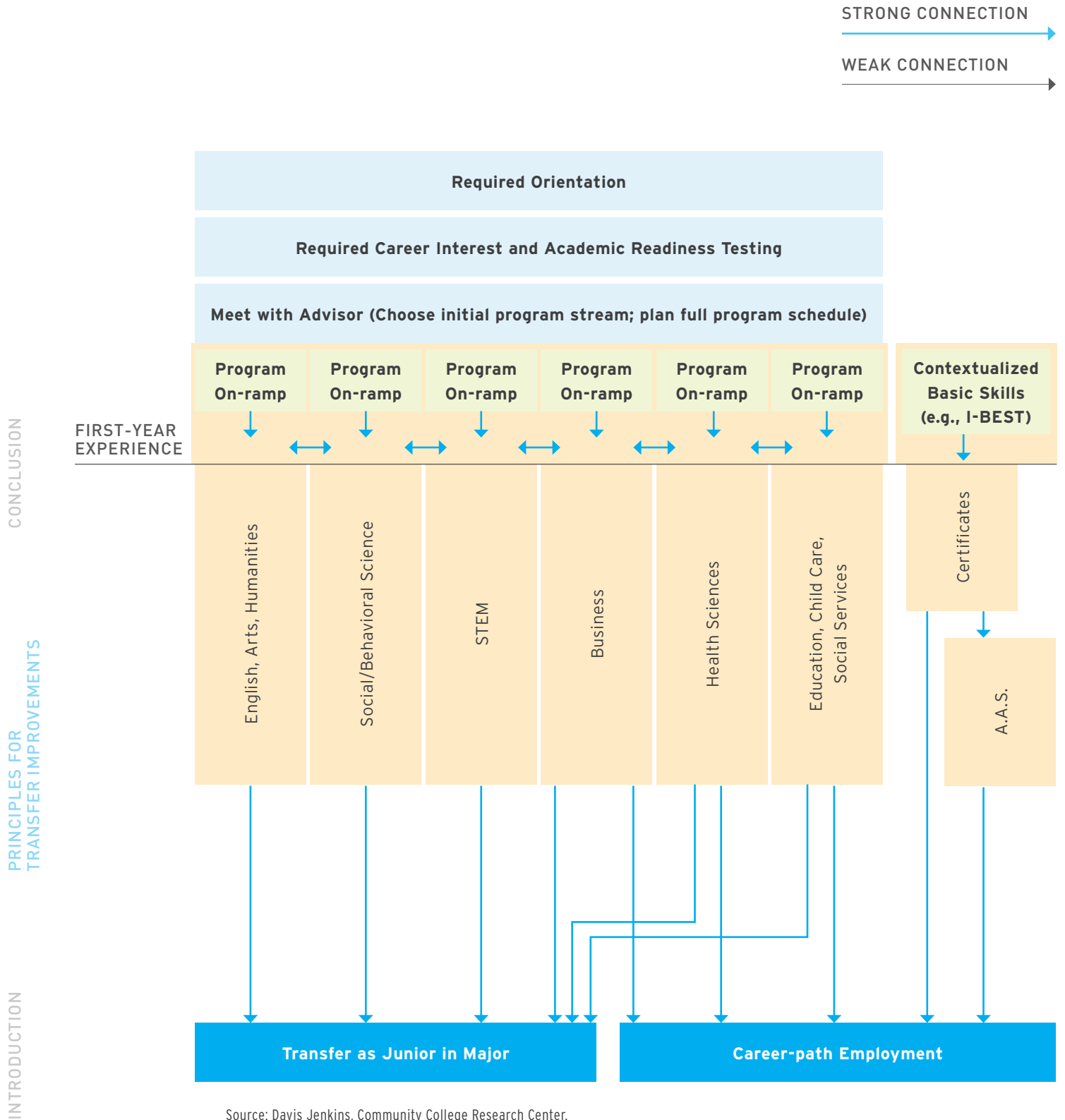
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 - » **Step #4:** Track each student's journey and enable students to know the consequences of their choices—monitor student progress, providing frequent feedback and support as needed.

FIGURE 3.
UNSTRUCTURED PATHWAYS TO TRANSFER



Source: Davis Jenkins, Community College Research Center.

FIGURE 4.
STRUCTURED PATHWAYS TO TRANSFER



WHY JFF RECOMMENDS ASSOCIATE'S DEGREE COMPLETION PRIOR TO UNIVERSITY TRANSFER

The proposed pathway to baccalaureate degrees is built on a growing body of evidence that two-year students should hold off transferring to colleges and universities until after earning their Associate's degree. Although two-thirds of community college students transfer to four-year institutions without completing their program of study, there are good reasons for students to wait until they complete the requirements for an Associate's degree.¹³

For starters, earning an Associate's degree prior to transfer increases the likelihood of earning a Bachelor's degree. According to nationwide data analyzed by the National Student Clearinghouse Research Center, about 71 percent of students who transferred after receiving an Associate's degree earned their Bachelor's degree within four years, compared to 55 percent of those who transferred without the Associate's.¹⁴ Some evidence suggests, however, that earning an Associate's degree increases a student's chances of attaining a Bachelor's degree only if clear incentives exist for finishing the Associate's first, such as Florida's policy that students with an Associate's degree are guaranteed admission with junior standing at a four-year state institution.¹⁵ Either way, the accumulation of community college credits also affects whether transfer students eventually attain a Bachelor's degree. Their chances of four-year degree completion improve steadily with gains of up to 60 credits—roughly the equivalent of an Associate's degree—before tapering off considerably with excess credits, a telltale sign of aimless course taking.¹⁶

Moreover, there is evidence of modest economic benefits to earning additional credits at a community college.¹⁷ These economic benefits are higher if students complete an Associate's degree before transferring.¹⁸

Finally, considering the risks of failing to graduate with a Bachelor's once they successfully transfer, transfer students would be wise to earn an Associate's degree, which, on average, delivers higher returns in the labor market than only completing some college courses.¹⁹

STEP #1: HELP STUDENTS SET THEIR SIGHTS ON THE DESTINATION

Ensure that learning outcomes of community college programs align with the specific major requirements of partner four-year institutions, which would minimize the loss of transfer credits, encourage persistence to Associate's degree completion and reduce time, credits, and tuition dollars toward baccalaureate attainment.

EVIDENCE OF WHY ALIGNING LEARNING OUTCOMES MATTERS FOR EARNING A BACHELOR'S DEGREE

A 2006 study finds that credit loss significantly lowers Bachelor's degree attainment by community college transfer students: the six-year graduation rate was 82 percent when universities awarded credit for all community college courses, compared to 42 percent when universities accepted only some credits.²⁰

There are many reasons why transfer credit is denied. There is little empirical evidence supporting claims of a systemic desire by four-year institutions to deny community college credit toward their degrees.²¹ However, on a case-by-case basis, experience suggests that four-year institutions reject two-year credit because faculty and administrators are unsure of how the content and pedagogy of community college courses align with their courses' standards and rigor.²²

CASE STUDY: TRANSFER IMPROVEMENTS IN NORTH CAROLINA

Transfer Principles and Policy Steps Discussed:

- > **Principle #2:** Encourage serious, directed cross-institutional working meetings of faculty and student services staff to iron out transfer details.
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 - » **Step #2:** Map out straight and clear pathways to credentials and transfer requirements—define clear and efficient routes toward junior standing and on to baccalaureate completion in specific majors at partnership universities.

The North Carolina Community College System and the University of North Carolina are wrapping up a multiyear effort to overhaul their Comprehensive Articulation Agreement, which promises to make it much easier for transfer students to earn university credit for their community college studies.²³ The existing joint agreement from 1997 guaranteed transfer credits only if two-year students completed the full 44-credit general education curriculum—a feat achieved by only 13 percent of transfer students.²⁴

The revised policy, adopted in February 2014, reflects much of the national research and experience with structured pathways. The policy narrows the transfer curriculum to 30 credits and guarantees transfer credits for each general education course completed whether or not students finish the entire group of courses, called the Universal General Education Transfer Component. Moreover, the new plan reduces the number of course offerings that can count toward general education requirements, in an effort to make course selection easier for students and their advisors. By guaranteeing junior status to transfer students with an Associate of Arts or Associate of Science degree in hand, the policy

encourages students to complete a degree before transfer.²⁵

In addition, the new Universal General Education Transfer Component includes a course designed to help students map out their educational plans. Community college students will select a transfer major and preferred transfer university before completing 30 semester hours of credit, with the intention of keeping students on a planned out pathway to completion.²⁶

The new agreement was “reverse engineered.” University and community college faculty and administrators met regularly to develop the new Comprehensive Articulation Agreement; in the end, hundreds had the chance to give input. Faculty and administrators vetted each of the general education courses to ensure that the learning outcomes of the community colleges’ transfer programs align directly with the specific major requirements of the transfer institutions.²⁷

The revised Comprehensive Articulation Agreement will be effective for new transfer students in fall 2014. NCCCS officials plan to track student outcomes data to measure the success of the new policy.

Many states have attempted to resolve this issue by establishing a general education core curriculum that is guaranteed to transfer as credit. In examining the course-taking habits and outcomes of community college students in two states with a general education core, researchers find that students who complete the core in full have higher rates of Associate's and Bachelor's degree attainment. However, relatively few students progressed through the entire core before transferring to universities (this research reinforces other research suggesting students who transfer with the Associate in Arts do better as well).²⁸ While guaranteeing junior year status could raise core completion rates, four-year institutions still often question whether transfer students receiving credits for core courses are adequately prepared for upper-division curricula.²⁹

The best efforts to resolve this conflict lie in simple human interaction—as emphasized earlier in the three-legged stool approach: two-year and four-year faculty need to meet more regularly to align the learning outcomes of community college programs of study with baccalaureate majors. This is time-consuming but necessary. North Carolina's efforts to revise its Comprehensive Articulation Agreement exemplify the benefits of cross-sector faculty collaboration to both two- and four-year degree-granting institutions.

STEP #2: MAP OUT STRAIGHT AND CLEAR PATHWAYS TO CREDENTIALS AND TRANSFER REQUIREMENTS

Define clear efficient routes toward junior standing and on to baccalaureate completion in specific majors at partnership universities, that would help students narrow their field of study early on, choose their courses from a more manageable and less open-ended set of offerings, and start accumulating credits toward an Associate's degree and matriculation into a four-year institution.

EVIDENCE OF WHY PROVIDING STUDENTS WITH MORE STRUCTURE MATTERS FOR IMPROVING TRANSFER RATES

Many community college students fail to select and commit to a particular academic field, severely limiting their chances of ever attaining an Associate's degree and/or transferring to a university. More than half of students who become program concentrators in their first year earn a credential or transfer to a university within five years, compared to only one-third of second-year concentrators and about 20 percent of third-year concentrators.³⁰ Despite these positive outcomes for students in programs, only about half of community college students have ever completed three courses in a defined program of study.³¹

THE BEST EFFORTS TO RESOLVE THIS CONFLICT LIE IN SIMPLE HUMAN INTERACTION: TWO-YEAR AND FOUR-YEAR FACULTY NEED TO MEET MORE REGULARLY TO ALIGN THE LEARNING OUTCOMES OF COMMUNITY COLLEGE PROGRAMS OF STUDY WITH BACCALAUREATE MAJORS.

Lack of structure and too many academic options are key impediments to students choosing an academic field and accumulating relevant credits in their first year.³² To counteract the effects of aimless course taking, community colleges are trying out new strategies to transform how students commence and progress through their community college studies and transfer to universities.³³ Through a combination of upfront intensive counseling, career exploration, and regular feedback and supports, these efforts seek to guide incoming students into one of a handful of broad-based areas of inquiry, such as business, health, STEM, or liberal arts, often referred to as "meta-majors." Once in meta-majors, students are part of a cohort of students, faculty, and advisors focused on similar academic and career goals that can, in a more focused fashion:

- > Provide intensive supports that keep students enrolled and progressing;

- > Encourage students to map out an educational plan with clear goals and timelines;
- > Provide advice to help students enroll in appropriate courses that will put them on a pathway to Associate's degree completion and transfer, with courses that count toward their major at a four-year institution;
- > Encourage students to declare a program and complete their coursework in a timely fashion;
- > Help students consider their transfer options and obtain needed information from transfer institutions; and
- > Complete their Associate's and transfer smoothly in a timely manner.

States can facilitate the creation of these routes to transfer by mapping existing programs to a set of meta-majors and requiring students to select a broad program of study early in their college career. In 2012, JFF, along with the Charles A. Dana Center, Education Commission of the States, and Complete College America, issued a vision document that promoted the concept of meta-majors.³⁴ In 2013, the Florida legislature passed a law requiring that incoming students enroll in one of a limited number of meta-majors within their first year of study. Meta-majors do not necessarily need to be legislated—their creation can be incented, for example; they do, however, represent a promising structure for creating a more transparent and efficient pathway for students between institutions.

STEP #3: BUILD ON-RAMPS FOR UNDERPREPARED STUDENTS

Treat developmental education as a streamlined, deliberate part of the transfer pathway that accelerates the acquisition of basic skills while guiding students into transfer programs of study, thereby bolstering their progress toward Associate's degree completion and four-year transfer, which would ensure that strategies to improve student success while in community college do not unintentionally introduce obstacles toward transfer and baccalaureate attainment.

EVIDENCE OF WHY STRONGER ON-RAMPS MATTER FOR IMPROVING TRANSFER RATES

Chances of four-year matriculation and graduation greatly improve for academically unprepared students entering community college if they successfully complete intermediate outcomes such as passing college-level math and writing courses, meeting specific credit thresholds, and earning an Associate's degree.³⁵ Studies find, however, that a significant share of academically unprepared students never attempts an intermediate outcome because they fail to progress through developmental education courses. College success is particularly elusive for students struggling with math: only 20 percent of students placed into remedial math courses ultimately complete the developmental sequence and pass a college-level gateway course such as college algebra, or in some states, statistics.³⁶ By definition, this means the other 80 percent cannot graduate or transfer to a four-year school. The stakes for repairing the remedial on-ramp are high: the majority—estimates ranging from 60 to 70 percent—of first-time students enter community college with weak math and/or English skills and are subsequently placed in at least one developmental course.³⁷

Based on a growing body of research pointing to the ineffectiveness of conventional developmental education sequences, community colleges are experimenting with new ways of accelerating underprepared students into transfer pathways.³⁸ There is emerging evidence that some strategies to reduce time in developmental education and move students more quickly into credit-bearing courses are improving student achievement, such as the Accelerated Learning Program at Community College of Baltimore County, and Statway™ and Quantway™ led by the Carnegie Foundation for the Advancement of Teaching.³⁹

CASE STUDY: FLORIDA REQUIRES SELECTION OF META-MAJOR

Transfer Principles and Policy Steps Discussed:

- > **Principle #1:** Emphasize incentives for both students and institutions.
- > **Principle #3:** Support structured transfer pathways to completion via state policy.
 - » **Step #2:** Map out straight and clear pathways to credentials and transfer requirements—define clear efficient routes toward junior standing and on to baccalaureate completion in specific majors at partnership universities.

In recent legislative sessions, Florida lawmakers have adopted a number of higher education reforms geared toward helping academically underprepared students enter, progress in, and complete Associate's degree programs and to make the transfer to four-year degree programs more seamless.⁴⁰ Prior to the reforms, Florida was already seen as a national leader, with statewide transfer policies in place such as common course numbering, general education core curriculum, and guaranteed admission and junior-year standing for students who attain an Associate in Arts degree prior to transfer.⁴¹ Nonetheless, underprepared students still struggled to accumulate relevant credits and progress toward transfer; they were having difficulty completing gateway courses, narrowing down their field of study, and taking courses that led efficiently to completion.⁴²

As a centerpiece of the new reforms, state legislators mandated that the Florida Board of Education develop a series of meta-majors and identify appropriate gateway courses in English and mathematics for each meta-major. In response, the board promulgated a new rule this past October specifying eight meta-major academic pathways and gateway courses associated with each meta-major. The Division of Florida Colleges developed a crosswalk to Associate's degrees as a guide for Florida College System institutions to use during implementation (see *"Figure 5. Sample CIP Code and Meta-Major Academic Pathways Crosswalk"* and *"Figure 6."* on page 17).⁴³

Upon enrolling in a Florida College System institution, students will choose a meta-major. Based on their scores on a common placement test,

high school transcripts, other documented student achievement, and meta-major selection, an advisor will recommend a set of courses, which may include developmental education. (Students who meet statutory exemption criteria are not required to take the common placement test or developmental education, though advisors can recommend these as options.) Students will enroll in English and math gateway courses and other introductory courses relevant to their particular meta-major. Associate in Arts students must identify a baccalaureate institution and program of interest after they accumulate 30 college credits. Once the student selects a college or university they hope to attend and the Bachelor's degree program they intend to pursue, the college will then inform the student of the lower-level course prerequisites for the program.

The meta-majors initiative and related reforms hold much promise in helping underprepared students overcome initial barriers to degree completion and four-year transfer. They provide far more encouragement, structure, and guidance than students previously encountered, and advise students to make quicker, but better-informed choices of programs and majors. Meta-major advising in conjunction with 30-hour advising are policies intended to help students select courses that get them to their intended degree efficiently, without unnecessary and extraneous coursework. The state education department will collect baccalaureate institution and program of interest for all Associate in Arts degree-seeking students; officials believe this information will become a critical component of local and statewide planning.

FIGURE 5.
SAMPLE CLASSIFICATION OF INSTRUCTIONAL PROGRAMS CODE AND META-MAJOR
ACADEMIC PATHWAYS CROSSWALK—THE FLORIDA COLLEGE SYSTEM

CIP	PROGRAM TITLE	TYPE	META MAJOR
1611080102	Digital Media / Multimedia Technology	AS	Arts, humanities, communication and design
1552030200	Accounting Technology	AS	Business
1419070800	Early Childhood Management	AS	Education
351060301	Dental Laboratory Technology and Management	AAS	Health sciences
646020106	Carpentry Management	AAS	Industry/manufacturing and construction
1743010600	Crime Scene Technology	AS	Public safety
1626120100	Biotechnology	AS	Science, technology, engineering, and mathematics
1351150400	Human Services	AS	Social and behavioral sciences and human services

FIGURE 6.

META-MAJOR	MATH GATEWAY COURSE	ENGLISH GATEWAY COURSE
1. Arts, humanities, communication, and design	College Algebra, Elementary Statistics, Liberal Arts Mathematics I, or Liberal Arts Mathematics II	English Composition 1
2. Business	College Algebra or Elementary Statistics	
3. Education	College Algebra, Elementary Statistics, Liberal Arts Mathematics I, or Liberal Arts Mathematics II	
4. Health services	College Algebra, Elementary Statistics, Liberal Arts Mathematics I, or Liberal Arts Mathematics II	
5. Industry/manufacturing and construction	College Algebra, Elementary Statistics, Liberal Arts Mathematics I, or Liberal Arts Mathematics II	
6. Public safety	College Algebra, Elementary Statistics, Liberal Arts Mathematics I, or Liberal Arts Mathematics II	
7. Science, technology, engineering, and mathematics	College Algebra	
8. Social and behavioral sciences and human services	College Algebra, Elementary Statistics, Liberal Arts Mathematics I, or Liberal Arts Mathematics II	

JFF has learned from experience that just improving developmental education does not translate into significantly improved student completion. Developmental education reform must be undertaken in the context of broader pathways reform, treating developmental education as an on-ramp that helps students enter into a transfer program of study. The underlying concept is that colleges should treat developmental education as a streamlined, connected, articulated, and deliberate part of the transfer pathway—not as a hurdle that students must clear before they ever consider declaring a program or planning for transfer.

In that vein, some community colleges have sought to address widespread failure in the traditional algebra curriculum by tailoring and reshaping developmental and gateway math requirements to the needs of specific academic fields often referred to as contextualizing the curriculum.⁴⁴ The Florida College System, for example, is tailoring remedial and gateway math requirements to the specific academic needs for each meta-major cluster, thereby eliminating the algebra prerequisite for non-STEM majors.

These non-algebra prerequisites have been found to improve student progression into degree-related coursework, and tailoring them to program requirements is an important step toward treating developmental education as an integrated, aligned step on a transfer pathway. Statewide implementation of the New Mathways Project in Texas is a terrific case in point. As the following case shows, this work is not easy. In Texas, questions remain about the suitability of the NMP courses for students interested in transferring to four-year institutions that traditionally require mastery of Algebra.⁴⁵ The NMP is paving the way for similar projects elsewhere.

STEP #4: TRACK EACH STUDENT'S JOURNEY AND ENABLE STUDENTS TO KNOW THE CONSEQUENCES OF THEIR CHOICES

Monitor student progress, providing frequent feedback and support as needed, which would ensure students get and stay on track to achieving their educational goals.

EVIDENCE OF WHY BETTER GUIDANCE AND INFORMATION MATTER FOR IMPROVING TRANSFER RATES

As already described, limited information and support on the transfer process are hamstringing student progression to four-year matriculation. A core principle of structured pathways reforms is ensuring that students have the regular guidance, wraparound supports, and frequent feedback necessary to guide them through to completion. Examples include:

- > Student orientation that includes integrated career and academic advising;
- > Technology platforms that enable students to map out their educational plans in the context of their career goals, expected timeline, and intended major;
- > Transfer advising when students reach 30 credit hours that helps students choose an intended transfer institution and program and ensure they are on a pathway toward their goals; and
- > Early alert systems and intrusive advising that monitor student progress and alert students, faculty, and staff when students get off track.

CASE STUDY: THE NEW MATHWAYS PROJECT IN TEXAS

Transfer Principles and Policy Steps Discussed:

- > **Principle #2:** Encourage serious, directed cross-institutional working meetings of faculty and student services staff to iron out transfer details.
- > **Principle #3:** Support structured transfer pathways to completion via state policy.
 - » **Step #3:** Build on-ramps for underprepared students—accelerate the acquisition of basic skills while guiding students into transfer programs of study.

Building upon earlier experiments in restructuring community college math curricula, Texas community colleges have reached consensus on replacing the conventional, one-size-fits-all math curriculum with a set of rigorous but differentiated math courses that integrate remedial and gateway math appropriate for different programs of study.⁴⁶ The Charles A. Dana Center at The University of Texas at Austin and the Texas Association of Community Colleges (TACC) have collaborated to create the New Mathways Project, which has developed three distinct routes that colleges can choose to implement (see “Figure 8. Transferability of the New Mathways Project Courses” on page 20).⁴⁷

In each route, students start by concurrently enrolling in a three-credit developmental course entitled Foundations for Mathematical Reasoning and another three-credit college success course entitled Frameworks for Mathematical and Collegiate Learning. Then, based on their intended major or field of study, students select one of three courses. The first route entails a one-term statistical reasoning course geared toward students in social sciences and allied health fields. The second route entails a one-term quantitative reasoning course open to liberal arts and fine arts students. The third route (still under development) entails an algebra-based course sequence open to students pursuing STEM fields that require calculus. TACC and the Dana Center explained their reasoning for the NMP model in this way:⁴⁸

The traditional developmental math sequence in most colleges is designed to prepare all students for calculus. However, there is increasing awareness that only students majoring in science, technology, engineering, and mathematics (STEM) require calculus. A vast majority of college students would be better prepared for their careers in business, nursing, teaching, and various liberal arts degrees by taking courses that prepare them to use and interpret data,

understand finances, and understand and use the quantitative information presented to citizens and consumers in today’s society.

As with other efforts to reform math curricula to accelerate student progression to and through college credit courses, the New Mathways Project has faced persistent questions about whether the non-algebra routes are appropriate for students intending to transfer to four-year institutions.⁴⁹ In response, the Dana Center and TACC officials have embarked on an outreach campaign, particularly targeted to state colleges and universities, to better explain the purposes, benefits, and academic relevancy of the quantitative reasoning and statistics pathways.⁵⁰

According to the Dana Center, the statistics and quantitative reasoning paths can in fact transfer as college credit and, notably, are equivalent to the learning outcomes of gateway course offerings that are approved options in the Texas core curriculum.⁵¹ Moreover, students completing a NMP route receive three credits, the same number of math-related credits that most non-STEM degrees require. Since many programs of study at four-year universities and a number of field of study agreements established in Texas do not require college algebra, NMP is focusing attention on ensuring smooth transfer in four popular programs that share this characteristic: communications, criminal justice, social work, and nursing.

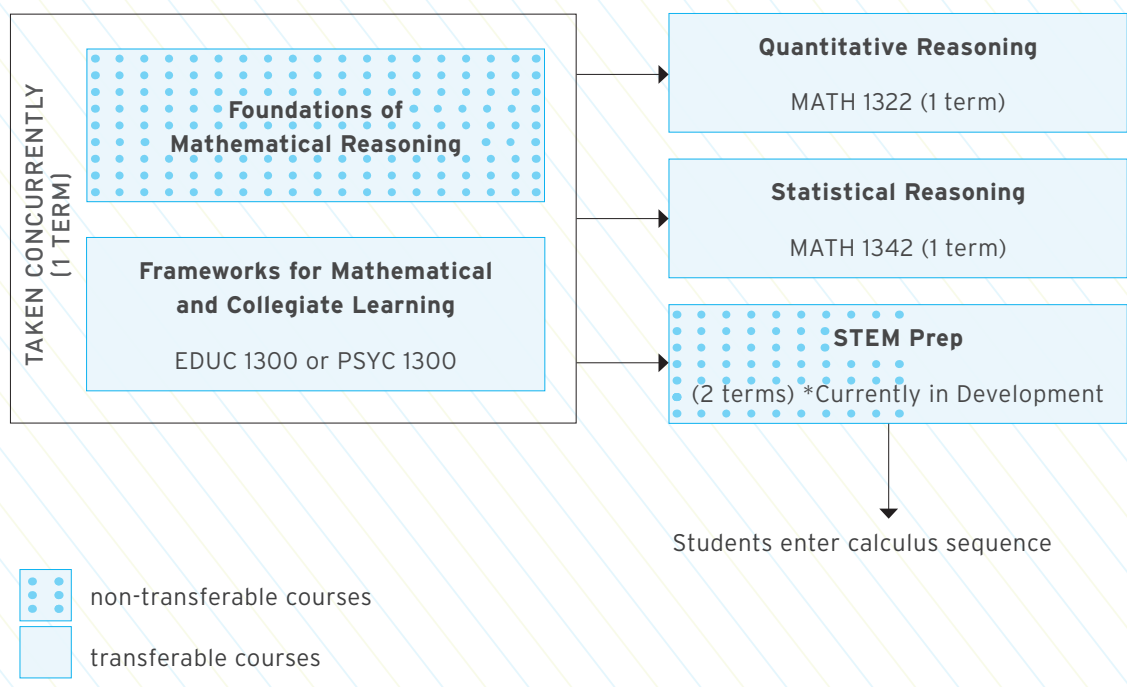
Nonetheless, four-year institutions in Texas have discretion to determine the mathematics courses required for different degree programs, and there is variability across four-year colleges and universities in the math course requirements for particular majors. Variability becomes problematic, for example, when a student who took a statistics pathway for a nursing major transfers to another institution that requires nurses to take a college

algebra course. This concern is not unique to the NMP courses. Alignment of course requirements for programs of study has been the subject of tuning and transfer/articulation policy for some time; however, particular lack of alignment in mathematics could undermine this ambitious statewide reform effort. To win support from four-year institutions in the state, the Dana Center highlighted examples from two institutions, Brazosport College and the University of North Texas, which permit multiple pathways to fulfill math requirements. In the case of Brazosport, the math department developed a statistics pathway that does not require algebra. The math department consulted with faculty members representing other academic fields to determine the appropriate pathways for students in those majors. Finally, math faculty informed college counselors about the changes and produced marketing materials to guide student decisions.⁵²

Through their public outreach campaign, the Dana Center and TACC hope that other four-year institutions will take similar steps to accept the multiple pathways approach of the New Mathways Project. In particular, the NMP leadership team is asking that university representatives 1) endorse the NMP model, 2) certify that NMP college-level courses are transferable for college credit and can be predictably applied to majors, 3) work to improve communication at the program level, and 4) work regionally with two-year colleges to align requirements with the recommendations of professional associations, particularly in the fields of nursing, communications, social work, and criminal justice.

The New Mathways Project is at the cutting edge of math reform, and while the NMP story shows that this work is hard, their efforts at outreach and coordination with four-year institutions can serve as a smart example for how to move forward with structured, meaningful, regular conversations between two- and four-year institutions.

FIGURE 8.
TRANSFERABILITY OF THE NEW MATHWAYS PROJECT COURSES



Source: Charles A. Dana Center.

Community colleges should carefully consider options for providing students with more supports, advice, and information. Due to budget constraints, community college advisors have high student caseloads, limiting their ability to provide intensive one-on-one counseling for all students in need.⁵³ Many colleges are experimenting with advising approaches that are more affordable than one-on-one sessions, such as group advising, peer advising, orientation sessions, student success courses, and technology platforms.

State policymakers have a role to play, including offering professional development for student services staff, ensuring that colleges know about innovations in student supports, and building policies that encourage or require college adoption of evidence-based reforms. Studies find that students who enroll in student success courses during the first semester of college, for example, are more likely to persist in college, attain a credential, and transfer to a university.⁵⁴ Although most community colleges offer student success courses and orientation sessions, relatively few make attendance mandatory for first-time students.⁵⁵ By and large, the onus is on students to know about these services, know how to access them, and then actually follow through in signing up.⁵⁶ When left to their own devices, significant numbers of students surveyed for a recent study said they were either unaware of or rarely accessed counseling or transfer assistance services.⁵⁷

Providing students with added guidance, advice, and monitoring is a critical next step. Resource constraints are real—few community colleges can afford to add enough new personnel. But community colleges and their state partners also cannot afford to ignore this issue. Serious conversations about cost reallocations and how to pay for needed student supports are growing; the decisions are not easy, but they are necessary.

States also could step in to identify, evaluate, and even fund technology-based solutions that can supplement in-person information sharing and enable students to track their own progress toward degree completion and transfer. Arizona State University and Maricopa Community College teamed up to build the Maricopa-ASU Pathways Program, which seeks to build deliberate transfer pathways from Maricopa into ASU, and is supported by a robust website to provide guidance to students. ASU plans to scale the pathways program to other community colleges in the state.⁵⁸

CASE STUDY: ARIZONA STATE UNIVERSITY AND MARICOPA COMMUNITY COLLEGE'S MAPP

Transfer Principles and Policy Steps Discussed:

- > **Principle #1:** Emphasize incentives for both students and institutions.
- > **Principle #2:** Encourage serious, directed cross-institutional working meetings of faculty and student services staff to iron out transfer details.
- > **Principle #3:** Support structured transfer pathways to completion via state policy.
 - » **Step #4:** Track each student's journey and enable students to know the consequences of their choices—monitor student progress, providing frequent feedback and support as needed

Arizona State University and Maricopa Community College have demonstrated exemplary cross-sector institutional collaboration. Like Florida, Arizona has a robust statewide policy infrastructure for transfer in place. On top of that infrastructure, ASU and Maricopa have built a relationship that is enabling them to offer students a far more organized and seamless transfer experience than is the norm.

Symbolic of their commitment, the two institutions refer to their transfer relationship as an “alliance.” At the heart of the alliance are regular, structured meetings between faculty and staff of the two institutions. The language on the website is illustrative:

The [Maricopa Community Colleges](#) and [Arizona State University](#) have a strong history of working together to support transfer student success. The Alliance partnership is designed to promote positive and seamless experiences for Maricopa students who transfer to ASU.

Maricopa and ASU are creating a student-centered “culture of transfer.” This includes using research-based strategies to increase the number of students who complete an Associate's degree and a Bachelor's degree.

A key component of the enhanced Alliance is the provision of meaningful incentives for students who complete a transfer certificate and Associate's degree through an articulated degree-to-degree transfer program called a MAPP.⁵⁹

Through the alliance, the two institutions offer students the Maricopa-ASU Pathways Program, which seeks to build deliberate pathways from Maricopa into ASU. Benefits to students include: guaranteed admission to ASU if all MAPP requirements are met; assurance that all courses will transfer and apply to an ASU degree; access to tools that allow students to track degree progress; and access to student supports and events.⁶⁰

To facilitate student transfer, the institutions created a far-reaching web portal. The website lists phone and email addresses for both ASU and Maricopa transfer staff who can assist students with the transfer process. Maricopa students can see online which two-year courses fulfill ASU's 100- and 200-level course requirements in their degree field. The Pathway Tracker allows students to track their progress toward completion and identify which courses they still need to finish, generated by live transcript data. The portal also outlines eligibility, provides information on financial aid, and gives students a checklist to help them evaluate their readiness.

Since 2007, a growing number of Maricopa students have participated in MAPP and transferred to ASU, and the Alliance has a bold goal of doubling the number of transfer students. While more research is needed to determine whether automated degree audits and online education plans improve student outcomes and are worth investment, MAPP is a strong example of institutional commitment and collaboration complemented by supportive structures for students.⁶¹

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I am

- transferring from a two-year school
- transferring from a four-year school
- admitted to asu
- currently attending asu

I am currently studying

- in arizona
- outside of arizona

I also need info for

- international students
- asu online students
- honors students
- military veterans

check all that apply

transfer to asu

Maricopa Community Colleges

Which community college are you attending?

- Chandler-Gilbert Community College
- Estrella Mountain Community College
- GateWay Community College
- Glendale Community College
- Mesa Community College
- Paradise Valley Community College
- Phoenix College
- Rio Salado College
- Scottsdale Community College
- South Mountain Community College

Pathway Programs

The [Maricopa Community Colleges](#) and Arizona State University have a strong history of working together to support transfer student success. Our partnership is designed to promote positive and seamless experiences for Maricopa students who transfer to ASU.

Choose your community college above and learn more about the paths available to earn your bachelor's degree.

The partnership goals are:

- Double the number of Maricopa students transferring to ASU over the next five years.
- Double the percentage of Maricopa students transferring to ASU with an associate degree.
- Increase the success rate of Maricopa transfer students at ASU in terms of earning a bachelor's.
- Ensure seamless transition of students between Maricopa and ASU.
- Expand opportunities for direct transfer to specified ASU degree programs.

The pathway programs are:

- Maricopa-ASU Pathways Program (MAPP)
- Maricopa-ASU Exploratory Pathway Program
- RN-BSN Pathway Program
- AAS to BAS Program

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transferring credits

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apply for admission

how to use the pathway tracker

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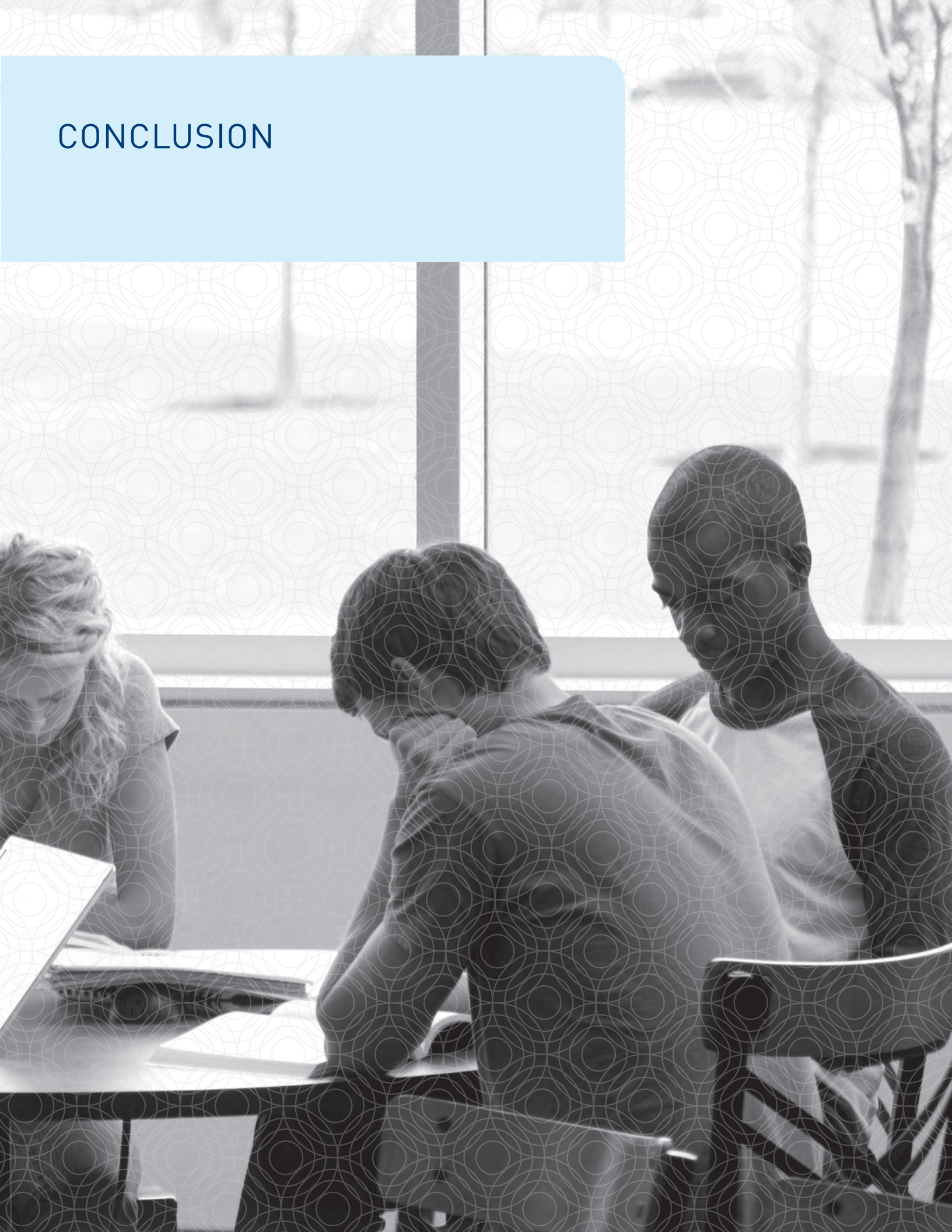
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CONCLUSION



Before implementing transfer policies, JFF advocates that states choose their route carefully—pause and consider the right balance, in light of local context, of incentives, convenings, and policies. Then, consider policies that help colleges create pathways through Associate's degree programs and into Bachelor's degrees that align learning outcomes; map clearly defined, efficient student routes; accelerate the acquisition of basic skills while guiding students into transfer programs; and monitor student progress and provide feedback and support.

Helping students overcome academic deficiencies, quickly enter a field of study, and efficiently accumulate credits toward an Associate's degree may repair “internal” barriers to success, but alone would fall short in improving students' chances in achieving their ultimate goal of a Bachelor's degree. State policymakers also need to mitigate external factors—namely, the propensity of baccalaureate-granting institutions to reject the course credits of two-year transfer students either outright or for anything but elective credit.

Doing so will require states to “reverse engineer” two-year curricula to four-year standards and course sequences. Only by restructuring community college with the end in mind will greater numbers of two-year students transfer to four-year institutions and successfully attain their Bachelor's degree. This is a heavy lift, but the weight of the solution is comparable to the weight of the problem.

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