



Progress Scaling Texas Pathways

Pillar 1: Mapping Pathways to Student End Goals



Overview

The first pillar of the Texas Pathways strategy outlines the essential practices to map coherent pathways to student end goals. Most colleges began implementing guided pathways by identifying broad areas of study known as meta-majors and mapping programs within each meta-major. Program maps are used internally for student planning and externally to market program plans. Maps are customized with the student end goal in mind: transfer to a university or entry into the workforce. In this brief, we report the scale of implementation of Pillar 1 practices, examples of college practices, and recommendations for continued progress.

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Introduction

Texas community colleges are making huge strides implementing the essential practices in the first pillar of the Texas Pathways strategy. One of the first steps in implementing guided pathways is considering the end goal of students and reorganizing programs into pathways to meet those needs. To start, colleges are grouping programs into broad areas of study called meta-majors. This allows students room for exploration early in their educational journey by learning about program and career options in the meta-major and making a final program selection in the first year without losing any credit.

Information accessibility is improving in colleges across the state. Colleges are investing in website redesign to prominently display meta-majors and program maps, utilize student- and family-friendly navigation tools, language, and images; and increase multi-lingual information.

Program mapping is advancing in depth and sophistication across colleges. Program maps include a variety of relevant information for students: program-relevant math courses, semester-by-semester sequences or preferred sequences for courses, transfer university and career information, and critical and milestone courses. Some colleges are also developing maps from adult education and literacy (AEL), dual credit, and continuing education into credit-bearing programs.

Colleges have made the most progress aligning required math courses with the student's field of study. Nearly all colleges have aligned programs with the appropriate entry-level mathematics course to support the student's end goal. Developmental and co-requisite supports for entry-level mathematics are also customized; some colleges offer STEM and non-STEM support while others have developed four unique support courses for each of the entry-level math courses. Some colleges continue to work with university partners to educate them on pathways with the goal of further reducing the need for College Algebra based on transfer requirements.

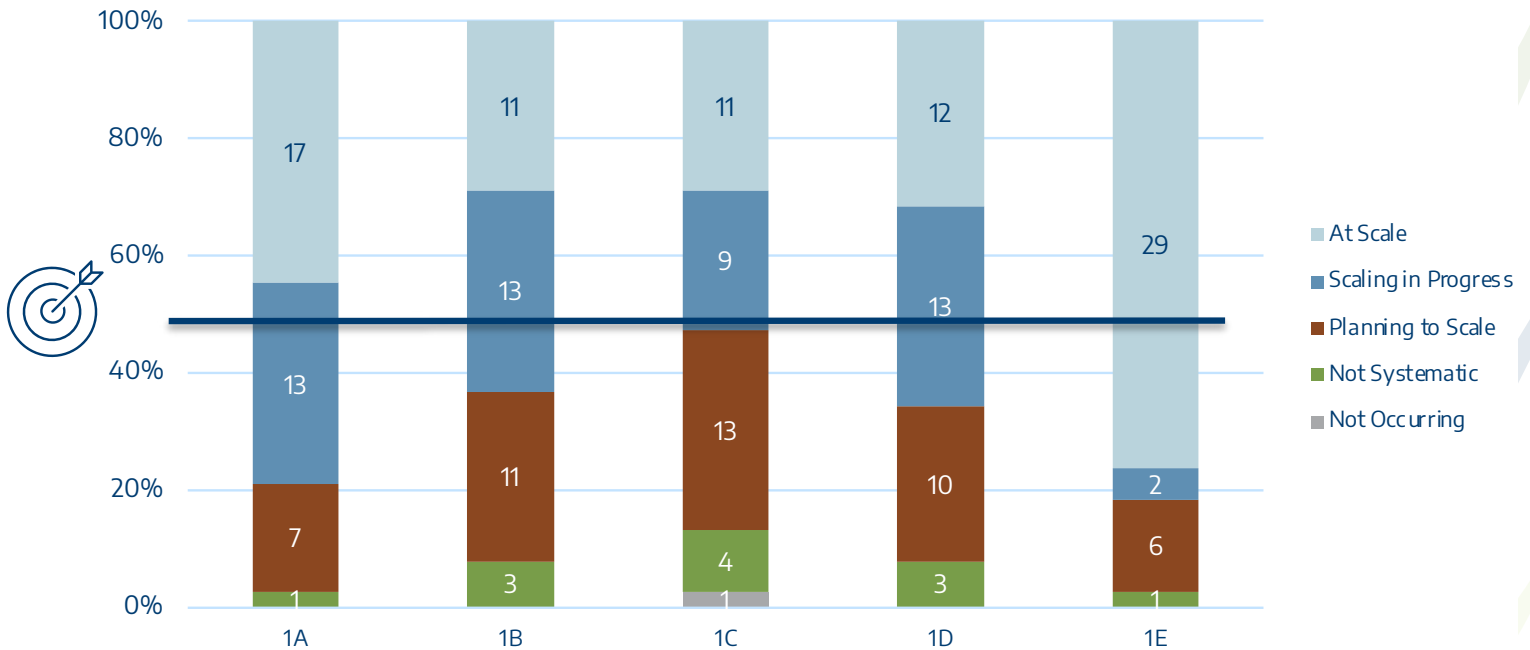
This research brief provides insights into Pillar 1 essential practices. Examples of implementation are provided for each practice to highlight various ways colleges are mapping pathways to student end goals.

Pillar 1: Essential Practices

- 1A.** Programs are organized and marketed in broad career-focused academic and communities or “meta-majors”.
- 1B.** Every program is well designed to guide and prepare students to enter employment and further education in fields of importance to the college's service area.
- 1C.** Detailed information is provided on the college's website on the employment and further education opportunities targeted by each program.
- 1D.** Programs are clearly mapped out for students. Students know which courses they should take and in what sequence. Courses critical for success in each program and other key progress milestones are clearly identified. All this information is easily accessible on the college's website.
- 1E.** Required math courses are appropriately aligned with the student's field of study.

Pillar 1: Mapping Pathways to Student End Goals

Figure 1. Number of Colleges at Each Level of Implementation



Note. The 2021 Texas Pathways Scale of Adoption Assessment (SOAA) was administered to 48 member colleges in Spring 2021. Forty-three colleges returned the SOAA and 38 colleges participated in validation interviews. (N = 38 colleges)

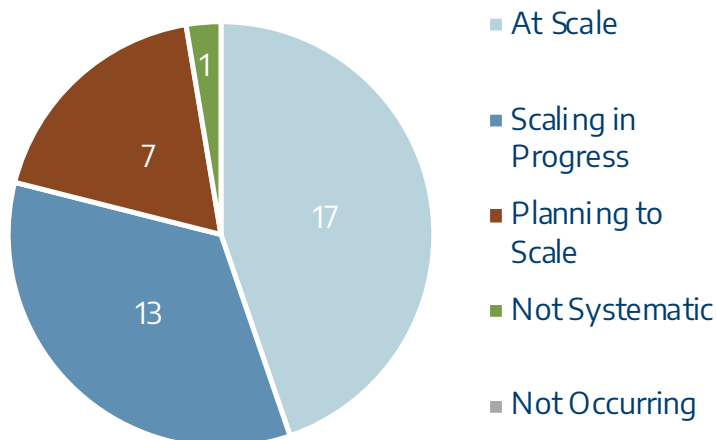
Colleges are making significant progress scaling the Pillar 1 essential practices (Figure 1). To be “at scale,” colleges must serve at least 80% of first-time-in-college (FTIC) students with the practice. “Scaling in progress” requires the practice to reach 50% of FTIC students.

The Texas Success Center goal of having at least half of colleges “at scale” or “scaling” was met for all Pillar 1 practices. At least half of the colleges have systematized program organization into meta-majors, development of coherent program maps, detailing information on college websites, sequencing courses and communicating course sequencing to students, and aligning appropriate math courses with each program of study. Colleges are moving into improvement cycles to continue to improve Pillar 1 practices by gathering student and faculty feedback.

Practice 1A: Programs are organized and marketed in broad career-focused academic and communities or “meta-majors.”

Meta-majors. Almost all colleges report having organized their programs into meta-majors. Many colleges have adopted terms for meta-majors that resonate with their local stakeholders, such as “pathways,” “areas of study,” “communities,” “institutes,” “schools,” “career pathways,” “career clusters,” and “divisions.” Colleges with more traditional program organization in divisions are focusing on commonalities in student end goals and program requirements to reorganize programs. Colleges are using meta-majors to embed career exploration opportunities for students.

Figure 2. Number of Colleges at Each Level of Implementation (Practice 1A)



- At **Alvin Community College**, students engage with faculty mentors from their meta-major and participate in career exploration in meta-major cohorts. The college uses surveys to collect information on meta-major activities to monitor student engagement and use the results to make adjustments to their meta-major activities.
- **Coastal Bend College** reorganized their transfer, general education, and Career and Technical Education (CTE) instructional units to align with career-focused meta-majors. Workforce programs are based on workplace skills using ONET information.
- At **College of the Mainland**, all students are placed into a meta-major and/or program at the start of college. No student is placed into an undecided category.
- **Grayson College** identified six pathways, embedded success coaches as advisors in each pathway, and teaches a unique “College Connection” course for each pathway.
- **Navarro College** edited the [ApplyTexas](#) form and recruitment forms to allow students to select a track rather than a degree. During onboarding, students work with an advisor to complete a career assessment and select a degree plan.
- The **Tyler College** Council for Academic and Student Affairs systematically reviews meta majors to ensure that programs align well with the guided pathways model.
- At **Weatherford College**, students are welcomed into an exploratory community where they meet with advisors and engage with resources, and then move into their program. Community Fairs allow students to engage with community-specific mentors and choose a program of study.

Marketing. Colleges are taking various approaches to marketing programs in meta-majors: (1) designing the website to highlight meta-majors, (2) holding events on- and off-campus with opportunities for students to engage with faculty and hands-on experiences by meta-major, and (3) advertisements with meta-major information in print, media, and social media.

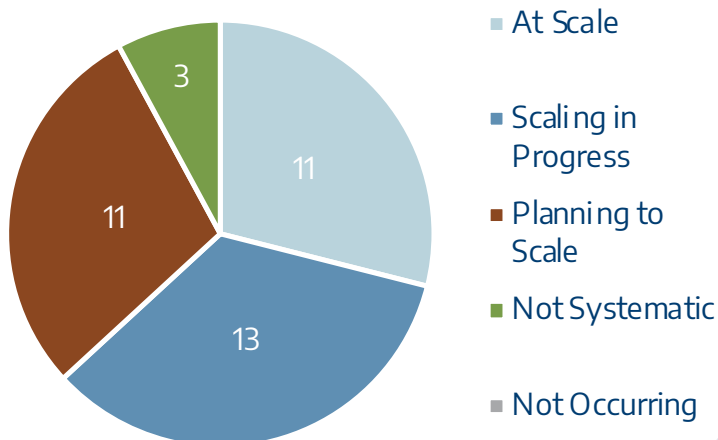
- The marketing team at **Central Texas College** uses Facebook Live to share program information and [records](#) area of study information sessions for others to use. The college website also has a family page for [Early College High School](#) students and [first-gen students](#).
- At **Dallas College**, organizing programs into the [same schools \(meta-majors\)](#) across 7 campuses has helped to effectively communicate options to students through marketing and branding. Additionally, Dallas College uses Microsoft teams centered around the pathways so faculty, instructional leaders, advisors, and pathways specialists can collaborate.
- Students can quickly find information about areas of study and programs from the homepage of **Houston Community College**'s website. Students can find information on courses by semester, return on investment (ROI), and career options.
- **Midland College** is implementing data-driven marketing strategies in collaboration with the Midland ISD Marketing department to promote [dual credit pathways](#). The college also has a process for ensuring the accuracy of the meta-majors and programs on the [website](#) and assigned a taskforce to oversee this process.
- Academic and CTE program pathways at **Panola College** are marketed in the College Catalog, on the [website](#), and in print resources available to students. Programs pages are standardized on the website to clearly present certificate/degree requirements.
- The **South Texas College** [“Academics” web page](#) has been completely redesigned by meta-majors.
- **Southwest Texas College** built a systematic marketing campaign based on South Texas College's.
- **Victoria College**'s [website](#) has each program page organized by meta-major which includes a one-page handout for student reference.
- Links to all college websites can be found [here](#).

Practice 1B: Every program is well designed to guide and prepare students to enter employment and further education in fields of importance to the college's service area.

Aligning programs with partner universities.

Most colleges have aligned program maps with university partners. Many colleges started with their top 3-5 transfer partners and mapped the top 5-10 transfer majors. Some colleges have advanced this work to map all programs to university programs. Several colleges joined consortiums such as the North Texas Community College Consortium and Houston GPS to work collaboratively towards university alignment. While colleges noted ongoing difficulty with certain partners, all colleges remain dedicated to accurately mapping programs for students.

Figure 3. Number of Colleges at Each Level of Implementation (Practice 1B)



- **Alamo Colleges** outlined all transfer programs and workforce degree plans in [Transfer Advising Guides](#) (TAGs) with semester-by-semester sequences, gatekeeper courses, trouble spots, university partner information, and potential scholarships.
- **Austin Community College** offers “Transfer 101” as a Blackboard extension available to students to help them understand the processes necessary to transfer to a partner university.
- **Cisco College** is building articulation agreements with four-year partners and designing maps with crosswalks for Cisco College and university courses for student use. Program maps include list of potential baccalaureate majors and career opportunities.
- **Houston Community College** engaged in Houston GPS to ensure all programs are mapped to partner universities with no loss of credit.

Aligning programs with the local job market. Colleges are examining labor market demands in their regions and aligning programs to meet those needs. Workforce programs utilize advisory boards to ensure programs teach relevant skills and lead to in-demand jobs. Academic programs are examining pre- and post-baccalaureate jobs to ensure that programs include marketable skills.

- **Midland College** partnered with an industry leadership group and the University of Texas at Austin Petroleum Extension program (PETEX) to align specific skills with changing industry needs in programs such as Energy Technology, Diesel, and Welding.
- **North Central Texas College** aligned programs with local industry opportunities and identified the transfer institutions that support higher degrees aligned with industry goals.
- **Ranger College** developed partnerships with local automotive, machining, salons, and welding industry members. Career placement opportunities are available on the website and students are advised towards careers with concise and focused degree plans.

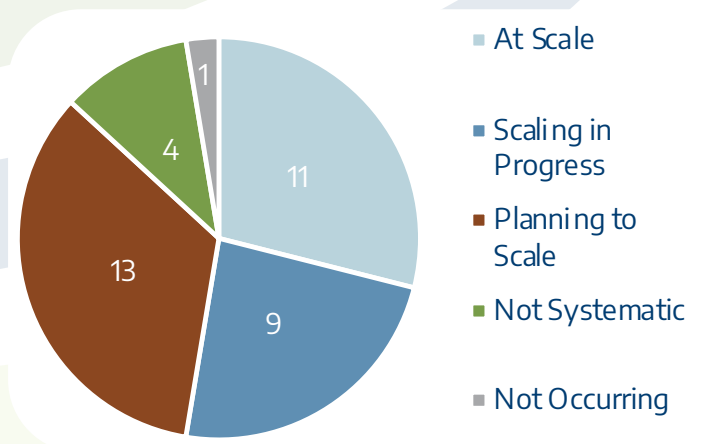
Aligning programs with high school, dual credit, and adult education. Many colleges are utilizing the program mapping process for high school and dual credit programs to ensure seamless transitions from high school to community colleges. Colleges are linking high school endorsements with college pathways and placing dual credit students on pathways. Some colleges are also mapping AEL programs to college programs; these colleges noted that they started this process by articulating credit from I-BEST and career pathways to college programs.

- **Alvin Community College** works with its partnering districts to create program maps for dual enrollment technical certificate programs and the AA in General Studies. Dual enrollment maps are available on the college’s online hub, the “[POD](#),” and the website for both transfer and CTE degrees.
- **Del Mar College** mapped each of its programs to high school endorsements to allow students to envision their pathway to enrollment at the college.
- **Houston Community College** is expanding the “Careers 4 U” program maps to allow more AEL students to earn Level-1 certificates.

Practice 1C: Detailed information is provided on the college’s website on the employment and further education opportunities targeted by each program.

Employment information. Many colleges provide information about the available careers associated with each program. Several colleges noted difficulty in providing up-to-date labor market information (LMI) specific to the region. Other colleges noted that using external LMI sources allowed students to access information. These external LMI resources allow colleges to include career, salary, and job information on program pages and on websites. The most common tool cited was EMSI’s “Career Coach,” which allows students to access real-time local job market data related to each program. The Department of Labor’s free ONET Career Exploration Tools and MyNextMove (Mi proximo paso) are also used by colleges to support career exploration for all students.

Figure 4. Number of Colleges at Each Level of Implementation (Practice 1C)



- All program maps on the **Austin Community College** [program webpages](#) include career and salary information. The college offers “Career Ready 101” as a Blackboard extension to help students understand the processes necessary to enter the local job market.
- At **Central Texas College**, each program area has an “[Explore Programs](#)” page with information on careers.

- **Dallas College** offers career information on their [program pages](#) using a tool the college developed for LMI specific to the Dallas/Fort Worth area.
- **El Paso Community College, Galveston College, Hill College, Houston Community College, Laredo College, South Texas College, Southwest Texas Junior College**, and others embedded “Career Coach” on their websites to provide career exploration and real-time labor market wages for each program of study.
- **Lee College** redesigned its [website](#) to help students “Find your pathway to success,” with links to each pathway and program on the main page. Once on the program page, students can find potential jobs through the “MyNextMove” button.
- **McLennan Community College** provides an “[ExpressPath to your Future](#)” webpage where students learn about opportunities for gaining job skills and training in under a year.
- **Victoria College** is using “[Handshake](#),” to connect students with jobs in the local area. The college is working to get more regional employers to join “Handshake” to link students to more internship and job opportunities.

Further education information. Most program maps and online catalogs provide links to partnering transfer institutions. Some college maps include university-specific course requirements or make direct note of any university-specific considerations.

- The [TAGs](#) on the **Alamo Colleges** website show the partner university’s degree plan and which courses colleges of the Alamo Colleges District offer. TAGs also provide valuable information about special requirements or considerations for transfer (e.g., grade requirements specific courses, when is the optimal time to transfer, etc.). Students are encouraged to review university requirements frequently.
- **Kilgore College** has made meta-majors and career pathways front-and-center [on their webpage](#). Students can easily find the path to completion using the career maps, which include links to universities and professional organizations.
- **Paris Junior College** provides students with information on “Transfer Paths” to ensure students are aware of any specific university requirements by program.

Career Exploration Tools

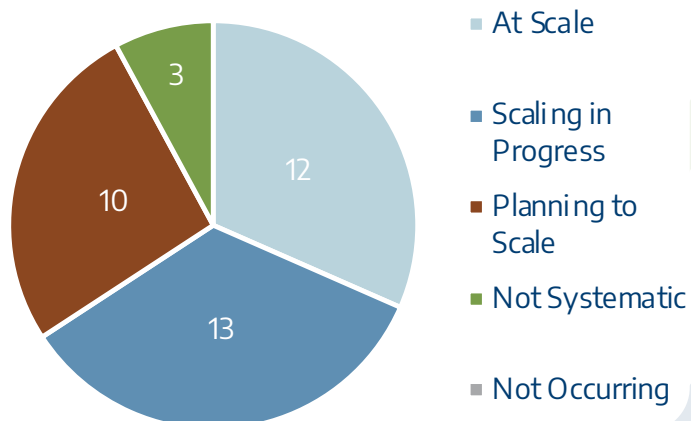
EMSI:	Career Coach
US Department of Labor:	ONET Career Exploration Tools
US Department of Labor:	MyNextMove (Mi proximo paso)
US Bureau of Labor Statistics:	Online Occupation Handbook
US Department of Labor:	CareerOneStop
US Census Bureau:	Post-Secondary Employment Outcomes Explorer

Practice 1D: Programs are clearly mapped out for students. Students know which courses they should take and in what sequence. Courses critical for success in each program and other key progress milestones are clearly identified. All this information is easily accessible on the college's website.

Program maps. All colleges noted the value of program maps, and many colleges declared the development of clear maps for students as the biggest achievement of the pathways process.

- **Alamo Colleges** outlined all transfer programs and workforce degree plans with semester-by-semester sequences, gatekeeper courses, trouble spots, and various requirements. Maps also contain university partner information, including potential scholarships.
- At **Amarillo College**, all programs are sequenced, and all students plan for a full academic year.
- **Austin Community College** is developing customized program maps for students based on part-time scheduling and core requirement completion.
- **El Paso Community College** has semester-by-semester sequences for full-time study, core courses, field of study courses, preferred courses, and “Things to Know” on [program maps](#).
- **Laredo College, South Texas College, and Trinity Valley Community College** include information on critical courses on program maps to inform students, faculty, and staff of the potential need for tutoring and resources at specific times in the educational plan.
- **Galveston College** has designed all workforce credentials to be stackable—the first four courses lead to a Level-1 certificate with a clear path to the next certificate and associate degree.
- Each degree path at **Grayson College** offers a program-specific course within first 15 hours of credit to allow all students to experience their first career course early in the program.
- **Houston Community College**'s program maps include: general and specific requirements, online program restrictions, field of study courses, program learning outcomes, and employment opportunities.
- After transitioning to 8-week semesters, **Kilgore College** updated program maps to include a recommended sequence of courses and milestones rather than a semester-by-semester plan.
- **McLennan Community College**'s program maps include high school endorsements, course sequences, math requirements, university partner programs, and job opportunities.
- **Panola College** uses one-page program maps to help potential students, high school counselors, and other stakeholders to understand the pathways available at the college.

Figure 5. Number of Colleges at Each Level of Implementation (Practice 1D)



- The program maps at **Ranger College** have semester-by-semester sequences, prerequisites, and program milestones.
- **Temple College** ensured that [critical courses](#) were at the front-end of the student experience and all programs have math and English sequenced for completion in the first year.

Program Map Components	
Semester-by-semester sequences	Most colleges developed semester-by-semester sequencing for workforce programs and high-demand academic programs, a practice that works well for full-time and cohort students. Colleges noted full-time maps were not as helpful to part-time students and students not meeting college-readiness standards. Some colleges have reworked program maps into sequences to help students choose courses to take in the correct order.
Program-relevant courses	Colleges that planned a program-relevant course in the first semester reported positive reactions among students. Noted challenges to implementing this practice at scale included: serving students required to take corequisite support, balancing program-relevant courses with completing English and math courses, and serving students enrolled in general or multidisciplinary studies.
Appropriate math courses	Almost all colleges have aligned math with student end goals on program maps. Many colleges noted that math courses were often listed as recommended to allow students to take alternative courses to satisfy a university transfer partner with unique requirements.
Critical courses	Very few colleges were aware of “critical courses,” those courses that are critical for students to pass to continue and complete a program, and only a few colleges noted having critical courses on their program maps. With clarification from the researchers, colleges noted anecdotally that most programs could identify critical courses and advise students on them, but that this practice was not systematized.
Milestone courses	Many colleges noted that workforce program maps contained milestone and capstone courses. However, these indicators are not yet found on most academic maps. A few colleges were considering milestone and capstone experiences for academic students.
University partnerships	Most colleges have worked with university partners to ensure that program maps contain relevant information about courses that both transfer and articulate. These program maps have courses relevant to community college programs and links to university catalogs.
Career information	Many colleges have utilized external resources to include career, salary, and job information on their websites and on program pages.

Program mapping processes. Colleges identified four types of groups tasked with designing and reviewing program maps: (1) program-specific faculty committees, (2) interdisciplinary faculty committees, (3) administrators, and (4) advising staff. Almost all colleges have completed at least one round of program mapping for academic and workforce programs, identifying mapping continuing education programs as an area of opportunity. Several colleges are in the continuous improvement phase, looking for insights from students, faculty, and staff to improve program mapping. All colleges recognized the heavy lift associated with program mapping—in time and resources to keep maps up-to-date and relevant—and several colleges are experimenting with systematization and automation for certain aspects of program mapping. The mapping process translated into scheduling processes at many colleges as well; clear program maps have allowed for one- and two-year-long schedules.

- **Dallas College** has dedicated teams that are continually responsive to employer and service area needs. LMI data is being used more systemically and intentionally to justify program continuation, sunset, or modification.
- **Grayson College** reviews course sequences on program maps on annual basis aligned with the curricular process to ensure all courses are updated if necessary.
- **South Texas College** had a data summit in Spring 2021 at which all programs used data to identify critical courses linked to student success.

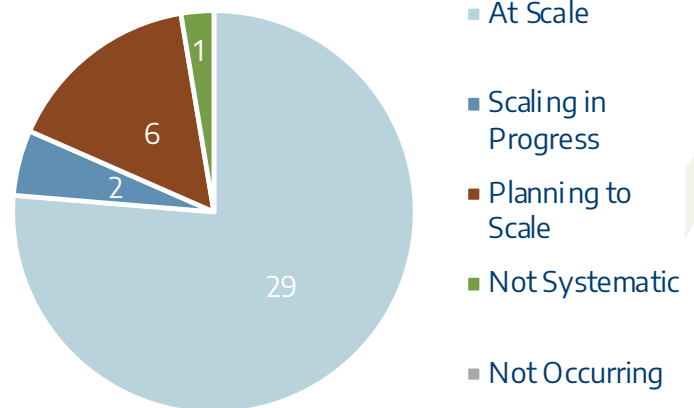
Equitable access to information. Most colleges are taking steps to improve the usability of their websites. Colleges noted changing from faculty- or staff-facing website design to student- and family-facing website designs. Some colleges are ensuring that communication strategies are equitable by providing information in multiple languages and using accessible language for first-time college-goers and their families.

- **Alamo Colleges** market their meta-majors on their website and through signature events in the community. The district is reviewing their marketing strategies to ensure equity in the approach to reaching all student populations.
- Students at **McLennan Community College** engage in three surveys to provide feedback on the college's website design and accessibility. College leaders use the results to improve the website.
- **North Central Texas College** includes a cost calculator from [College for All Texans](#) on the college's website so students can compute both on-campus and off-campus college costs.
- **San Jacinto College** publishes the course catalog in English and Spanish so students and families can understand the options available at the college. Some materials are also offered in Vietnamese. The college manages updates using "[Course Leaf](#)" so that when a change is made to the catalog, practice, or policy, it is updated on all college materials.
- After staff at **Texarkana College** experienced difficulty trying to navigate their website as students, the college hired a website designer to restructure the site to be student-friendly.
- **Trinity Valley Community College** and **Weatherford College** use surveys and focus groups to determine how to design the website to best serve students.
- **Victoria College** is redesigning the website with a focus on welcoming first-generation students with language that is understood by those without prior experience in higher education.

Practice 1E: Required math courses are appropriately aligned with the student's field of study.

Almost all colleges reported aligning the appropriate math course with meta-majors and programs. Most colleges have specified the specific math course, and some have used the STEM (algebraic) and non-STEM (non-algebraic) distinction to define math pathways. A few colleges have chosen to keep flexibility in math course selection due to challenges with partner universities but note that their advisors are aware of appropriate math courses for the associate degree.

Figure 6. Number of Colleges at Each Level of Implementation (Practice 1E)



- At **Austin Community College**, all programs are aligned with the appropriate math course. The math department continues to explore opportunities for improved alignment and the college is working with its top transfer partner to ensure alignment with the top 15 transfer majors.
- At **Howard College**, course offerings in Contemporary Math, Math for Business, and Statistics have grown to serve many enrolled students, while pre-engineering, dual credit, and athletics students remain enrolled in College Algebra.
- **Laredo College** implemented math pathways, offering an algebraic and non-algebraic path for students.
- **McLennan Community College** sequenced all math courses by pathways and degree/certificate. All advisors, faculty and students on degree/certificate plans have access to math requirements.
- **Panola College** modified corequisite courses to align with math pathways. ABE-level and developmental corequisite courses are available for gateway math courses.
- **San Jacinto College** aligns the appropriate math to each program of study and offers unique co-requisite support for each entry-level mathematics course.
- **Tyler College** is establishing two grant-funded mathematics labs to support student success and is revising corequisites to better serve students.
- At **Western Texas College**, students with athletic goals for transfer are helped to complete a math that aligns with their program to graduate and then student-athletes receive ongoing support to complete math that is aligned with NCAA rules.

Recommendations

Colleges are making significant progress in scaling the essential practices in Pillar 1. To continue this momentum to improve practices and scale efforts to serve all students, the Texas Success Center recommends colleges:

1. Develop meta-major program-mapping workgroups composed of faculty and student services staff. Determine and enact processes to align curricular review, program learning outcome assessment, and program mapping processes. Assign workgroup members with:
 - Maintaining relationships with university and workforce partners.
 - Defining and assessing program learning outcomes – what students should know and be able to do by the end of a program – for each program.
 - Identifying critical courses and milestones in programs to mark on program maps so students, faculty, advisors, and support staff are aware of times when students may require additional support (in critical courses) or kudos (for meeting a milestone).
 - Embedding support for critical courses and milestones, including in-semester academic supports, early alert systems, and in-semester proactive advising checkpoints.
 - Aligning dual credit, adult education, and continuing education with college programs.
 - Designing accessible program maps in print and on the website and ensuring continuity across program maps within and across meta-majors.
 - Collecting and reviewing student-level program data and feedback on program maps.

Recommendations

- 2.** Create multi-college transfer taskforces to develop regional university partnerships to share the lift required to map community college programs to four-year partner programs. Several examples exist as models, such as the [NTCCC](#) and [HoustonGPS](#).
- 3.** Embed web-based career exploration tools into program maps and college websites that allow students to explore careers and support informed meta-major decisions to reduce the burden of updating this information manually. Several free and proprietary career exploration tools are linked on page 8.
- 4.** Enhance full-time program maps with options for part-time students that help students determine the order in which to take the courses in the full-time plan. Part-time maps should:
 - Clarify the time to degree for part-time study.
 - Place critical courses early in the plan to ensure students are prepared with knowledge and skills necessary to progress through a program.
 - Include sequencing to ensure course load is even.
 - Identify course availability so students can plan appropriately.
- 5.** Use the information provided in pillar briefs to network with peer colleges to learn more about processes that could support the scaling of Pillar 1 practices at your college.

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Texas Success Center

The Texas Success Center supports the Texas Association of Community Colleges members' efforts to improve student success and directs Texas Pathways—a statewide strategy focused on building capacity for community colleges to design and implement structured academic and career pathways at scale, for all students. For more information, visit tacc.org/tsc.