INNOVATION AWARD TOOLKIT

PROGRAM PATHWAYS MAPPER

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INTRODUCTION

Pioneered through a collaboration between Bakersfield College and Concentric Sky, with support from the CCC Chancellor's Office (CCCCO), the **Program Pathways Mapper** (PPM) helps students visualize their programs in the context of expected employment outcomes. Featuring an interactive, pathway-based visualization of the traditional course catalog alongside easy-to-understand career data, the PPM improves on the traditional course catalog by providing students easy access to interactive program maps that provide a valid and vetted term-by-term set of coursework that take students from program entry to completion simply and with great clarity.

From its initial inception, the PPM was designed as a tool that would scale across all 115 colleges of the California Community College system, helping faculty and staff on campuses tackle the challenge of adopting the guided pathways mindset. The PPM helps staff understand the challenges of successfully navigating general education and core program course requirements as they are called upon to develop maps in which the focus is on completion of entire sequences and programs rather than the more traditional focus on success in individual classes. While the creation of these program maps has value in and of itself, when the maps are published via PPM, they immediately establish themselves as a beacon of clarity, attracting students, counselors, faculty, administrators to consult them for the clarity they provide. This high level of usage also allows for a near constant vetting and checking of the validity of the maps, ensuring that they stay up to date.

These clear benefits of the PPM have led to its adoption by 33 California community colleges since participation was first made available in October 2018. The PPM easily scales to handle the increased usage because it is based on a robust, cloud-based architecture. Part of what makes the PPM a robust, scalable platform is the built-in Data Cleanup Tool (DCT). The DCT can reconcile curricular data from multiple sources using an intuitive interface and rules-based analysis of close matches across data sets. As decisions are made the DCT records decisions and provides an audit report of data issues that have been resolved and any that remain. Once the final data file is cleaned and ready, map authoring can proceed in the Authoring Tool, where program maps can be created and published in mere minutes.

Given the centrality of transfer to the community college function, it was only natural that the PPM would expand to become an ***intersegmental pathway solution***. In addition to Innovation Award dollars, the College Futures Foundation contributed funding in September 2018 for the development of a PPM prototype for the California State University (CSU) system. The prototype is based on both intersegmental transfer pathways from Bakersfield College to CSU Bakersfield. With the success of that work, the CSU system increased its investment in the PPM by recruiting five more CSUs to launch their PPM efforts in spring 2020. Moreover, each CSU will move through the process in partnership with their closest community college.

In late spring 2020, Bakersfield College secured an additional $500,000 to develop a PPM Prototype for the UC system following interest from the University of California, Merced to enter into a partnership with both Merced College and BC. The focus of this partnership will be on increasing transfer from the community college to the UC, particularly in STEM fields. Finally, requirements gathering is beginning in Kern County to develop an integration of the PPM with high school curriculum. These intersegmental connections will elevate the scope of the PPM to a more general wayfinding solution for students at any level who are looking to clarify their path to completion.

Learn more about BC's innovation story online: www.bakersfieldcollege.edu/innovation-toolkit

PART I: ASPIRE: BAKERSFIELD COLLEGE'S VISION

Our Vision for Our Community
Addressing Educational Attainment, Unemployment, and Poverty
as a Social & Economic Imperative for our Community

Low educational attainment rates, high unemployment, poverty, and high youth disengagement paralyze social and economic mobility across Kern County, affecting the health of the communities we serve.

As of May 2018, individuals with at least some post-secondary education held 37.8% of jobs in California, according to the U.S. Bureau of Labor Statistics (BLS). The BLS has also noted a long-term trend in which jobs requiring education beyond high school increased by 5.3 million from 2007 to 2016 while over that same time period occupations that typically require a high school diploma or the equivalent for entry lost 1.3 million jobs. Reinforcing the importance of this trend in California, the Georgetown Center for Education in the Workforce estimates that 60% of new jobs created in California will require at least some education beyond high school.

The Public Policy Institute of California has estimated that the state will have a shortfall of 1.1 million workers with bachelor's degrees by 2030[1]. Yet, California ranks among the bottom 30% of all states in college-going rates directly from high school, lagging several points behind the overall national rate of 62.6%. According to data reported by the California Department of Education, Kern County's baccalaureate attainment rates are of significant concern at roughly half the statewide rate.
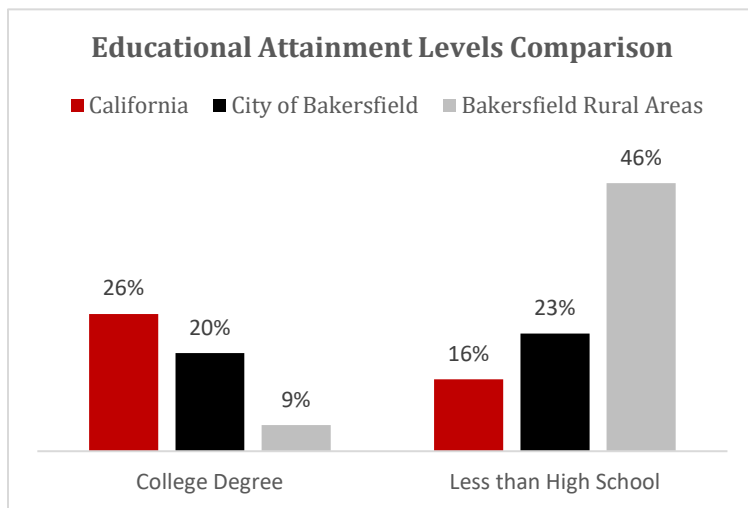
Attainment of a college degree or credentials is critical to the economic advancement of individuals across the state and this is certainly true of those in the communities served by BC. For the city of Bakersfield, attainment of a college degree is lower than the average for California (20% and 26%, respectively). Rural service areas suffer baccalaureate attainment rates as low as 2.1%.

Latinx residents currently constitute about 52% of Kern County's population and 48% of Bakersfield's population (ACS, 2019). By 2030, 65% of California's population will be people of color. In 2030, 60% of jobs in California will require some form of postsecondary credential, at which point only 35% of the population will be White. The only way to meet industry demand is to increase the number of people of color with postsecondary education. CCCs are best positioned to advance equitable baccalaureate attainment, currently serving **70% of all Latinx college-goers and 72% of all Black college-goers** in California.

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[1] Public Policy Institute of California: Will California Run Out of College Graduates?

Our Vision for Our Students
Creating the Conditions for Equitable Student Access, Success, Completion, and Transfer

Bakersfield College is committed to serving the diverse economic, cultural, and educational backgrounds within our community. Students enroll in Bakersfield College with hopes and dreams to pursue their goals in life, and BC's annual unduplicated headcount continues to increase.

Bakersfield College serves approximately 5,000 square miles and over 38,000 students annually, representing approximately 75% of the district-wide Full-Time Equivalent Student (FTES) count.
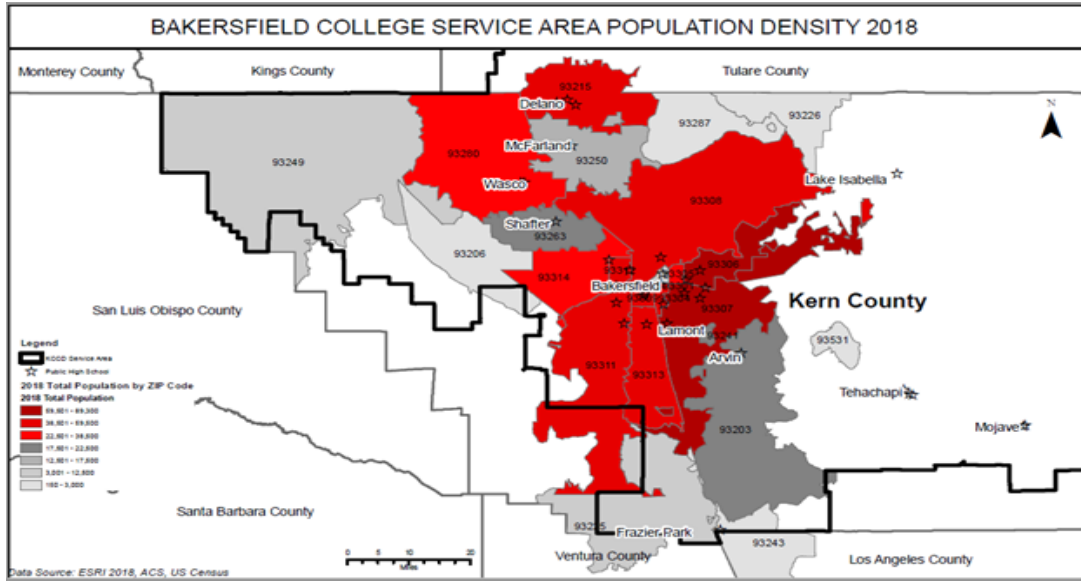
Bakersfield College's population represents the diverse communities we serve, with Hispanic/Latinx students representing the majority of students enrolling at the college. Hispanic/Latinx student enrollment has been increasing steadily from 59% to 68% over the past five years. In that time, the college has opened several centers and established multiple agreements with high schools in rural communities. BC has also been officially designated as a Hispanic-Serving Institution by the federal government.
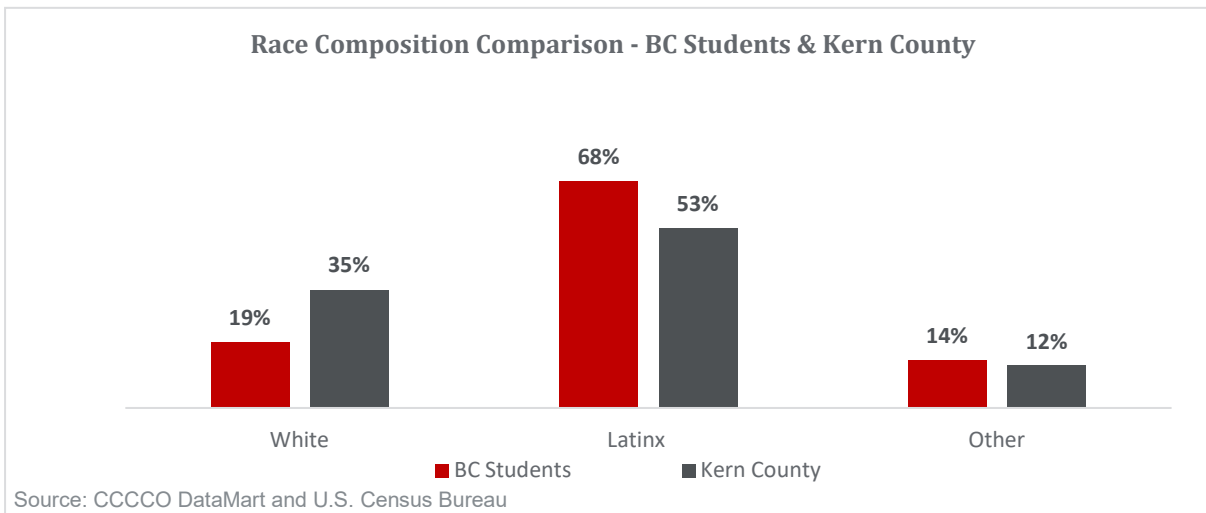
The majority of BC students are low-income, first generation students who rely on financial aid. This is reflected in how household incomes in BC's service area compare to California (see figure below). One quarter of households in BC's service area have an income of $25,000 or less; a large portion of those in Bakersfield College's service area live below the poverty line. In 2019-20, over 80% of BC students received financial aid.

The work of clarifying student pathways through college matters because it ***facilitates the path to transfer and degree completion for college students, particularly those who are first-generation college students with little social capital or "college knowledge."*** Additionally, clarifying the path helps college and university personnel to be more effective and intentional in their support of student completion goals.

Program Pathways Mapper is a critical and necessary systems solution which, when implemented across all community colleges, will immediately allow the over 2.1 million students to identify their educational plan using the shortest path. Having students start on their path with this step is the single investment which will change the trajectory to their completion, resulting in a massive increase in the outcomes identified in Vision for Success. The Mapper tool presents to us systems-based solutions to the barriers that have plagued many college leaders as they wrestle with the most complex and pressing issues of our time. Only intentional efforts to clarify the path, get students on the path, and keep them there will result in the outcomes we seek.

How Our Vision Took Shape at BC

We operationalized our vision over the course of five years, catalyzed by our shared reading of Redesigning America's Community Colleges (Bailey, Jaggers, and Jenkins, 2015), and our participation in the American Association for California Community Colleges (AACC) Guided Pathways Project.

Through this deep institutional analysis of the ways in which our college structures, processes, and behaviors perpetuated poor outcomes for students, our faculty, staff, and administration acknowledged the moral imperative to provide opportunities for social mobility for our students and our community.

For the next several years, Bakersfield College worked to intentionally design a student success architecture through which multiple partners have aligned to remove systemic barriers and create clarity in the pathways to baccalaureate attainment for students in Kern County. A few of strategies helped us to communicate, advance, and scale our vision of a college in which students are able to enter the path, stay on the path, and complete on time and without excess units include:

Broad BC Engagement	Intersegmental Alignment	Statewide Engagement
•AACC Pathways Project •BCGP Institutes •Leading from the Middle	•Workgroup to Advance Regional Baccalaureate Attainment •Kern Promise Transfer Mapping •Program Pathways Mapper Launch and Scale	•CA GP Project •Educational Systems & Intersegmental Pathways Task Force •Statewide Summits

Broad BC Engagement

AACC Pathways Project: Bakersfield College applied and was accepted to participate in the AACC Pathways Project in 2015. Through a series of 6 institutes, teams of 7 individuals from BC engaged in a review of existing processes and the redesign of key elements of the student experience, including onboarding, advising, placement, academic supports, and transfer.

Spring 2015

Redesigning America's Community Colleges published	BC GP Institute #1: Exploring our Why with Data

Fall 2015

Faculty, Staff, and Student Book Panel Discussions on *Redesigning*	Accepted to AACC Pathways Project

Spring 2016

BC GP Institute #2 Meta-Majors	Began AACC Pathways Project Institutes	Hosted GP Summit in Bakersfield for CCCs

Summer-Fall 2016

Launched CA Guided Pathways Task Force	BC GP Institute #3: Program Mapping

Spring 2017

Expansion of the Institutional Effectiveness Office; Launched Starfish Implementation	Hosted GP Leadership Matters Statewide Summit

Fall 2017

Launched Completion Coaching Communities	GP Institutes, Leading from the Middle

Spring 2018

Transfer Mapping Project with CSU Bakersfield (27 ADTS)	Soft Launch of the PPM for BC Transfer pathways

Fall 2018

Released Solicitation of Interest to scale the Program Pathways Mapper to CCs	Convened the statewide Educational Systems & Intersegmental Pathways (ESIP) Task Force

Wave 1 Community Colleges Program Pathways Mapper Colleges Onboarding Began

Spring 2019

Secured Funding to Transfer Pathways & PPM to CSU System	January 1, 2019 Full Launch of the BC PPM

Wave 2 CC PPM Onboarding Began

Fall 2019

Development work on UC Transfer Pathways interface	Intersegmental digital transfer planning tool in development with BC and CSUB

Spring 2020

Secured funding to build out UC Transfer Pathways Maps	Wave 3 CC + CSU PPM Onboarding Began

Campus-Wide Guided Pathways Institutes: Between AACC Pathways Institutes, BC engaged the broader campus through a series of campus-based Guided Pathways Institutes designed to communicate progress, solicit input and engagement from a broad base of faculty, classified staff, management, and students, and develop a culture and mindset around guided pathways. With over 100 attendees per institute, BC developed our meta-majors, Completion Coaching Community structure, and more. We held the institutes three times per year and paid faculty to attend, resulting in significant attendance among classified and long-time faculty alike.

Intersegmental Alignment

Workgroup to Advance Regional Baccalaureate Attainment: BC's Transfer Task Force: To strengthen and advance work specifically focused on issues of transfer misalignment, BC established a transfer task force: The Workgroup to Advance Regional Baccalaureate Attainment (WARBA). Through WARBA, faculty leaders from BC and CSU Bakersfield developed a joint Memorandum of Understanding MOU with our primary transfer partner, CSU Bakersfield - to clarify pathways from the community college to the four-year university.

High-Touch Transfer Mapping: Through the project's development, dozens of BC and CSUB faculty organized through in person meetings to identify issues of misalignment across the transfer pathways program-by-program. Through our collaboration, faculty identified course articulation and/or ADT modifications to develop 27 fully-transferable, sequenced semester roadmaps which align coursework from the BC Associate Degree for Transfer through to the CSU Bakersfield baccalaureate. This work created the initial data source for the Program Pathways Mapper Tool.

The Kern Promise: The Kern Promise's Finish in 4 project advances baccalaureate completion within in 60 semester units at BC and 60 units at CSUB over four years. Through the MOU with CSU Bakersfield, BC students are then guaranteed admission to CSUB in a similar major and junior-level standing.

Statewide Engagement

California Guided Pathways Task Force: The California Guided Pathways Advisory Committee brought together national and state educational leaders to support the integration of the guided pathways framework into the California Community College (CCC) system. This Advisory Committee supported the early statewide demonstration project which engaged 20 CCCs in guided pathways implementation.

Educational Systems & Intersegmental Pathways (ESIP) Task Force: The ESIP task force focused on clarifying intersegmental pathways, helping students navigate the transition from K-12 to community college and from community college to the CSU or UC.

Statewide Summits: To communicate our work and build momentum for statewide innovation and scale of the Program Pathways Mapper tool, BC has hosted a series of statewide summits and professional development opportunities. Since 2016, they include: Redesigning Community Colleges Guided Pathways Summit (February 2016), Leadership Matters (May 2017), AB705 Workshop (May 2018), Intersegmental Pathways Symposium (November 2019).

Collectively, these strategies positioned BC to effectively scale the Program Pathways Mapper innovation locally at our college, across the California Community College system, and intersegmentally to the CSU and UC systems.

Analyzing the Challenges and Opportunities

As Bakersfield College set out to create a high-tech, high-touch student success infrastructure, we analyzed our institutional capacity for transformation as a part of the American Association for Community Colleges Guided Pathways Project. In our Scale of Adoption, we identified internal and external barriers. Our internal barriers included: 1) data sharing inaccuracy and inefficiency, and 2) intersegmental misalignment.

Bakersfield College's biggest external barrier was a lack of funding to seed innovation. Relying on categorical funding and the aggressive pursuit of grant and philanthropic dollars, we have extremely limited resources and were unable to buy out time for people to focus on scalable and sustainable transformation. As a Central Valley college, our team understood the need to actively pursue grant and award dollars while influencing policy to secure the resources necessary to implement large-scale, transformational change.

Implementing Solutions & Charging Forward

To address our structural, process, and system barriers, Bakersfield College engaged in a multi-pronged strategy to build solutions to create a guided pathways culture to advance our vision. These strategies include:
- Designed Complete Clarity & Shared Responsibility for Desired Outcomes
- Grew Data Coaching to Ensure Accessibility & Action
- Launched Completion Coaching Communities
- Introduced High-Tech Tools to Complement High-Touch Strategies
- Established an Office of Institutional Effectiveness

Designed Complete Clarity & Shared Responsibility for Desired Outcomes: Bakersfield College identified four, research-based, campus-wide performance indicators. The advancement of these indicators is jointly supported by many funding sources and personnel.

> ***BC's Momentum Points***
> Attempt 15+ units in the first term
> Complete transfer-level math and English in the first year
> Attempt 30+ units in the first year
> Complete 9 core pathway units in the first year

Grew Data Coaching to Ensure Accessibility & Action:
Despite clarity in our desired outcomes, BC lacked capacity for in-depth use of the data to drive timely and meaningful interventions to advance our student success work. To address this, BC recruited and trained a cadre of 30+ Data Coaches to utilize data across our momentum points to improve our integrated planning and activities. Data Coaches are faculty, classified staff, and administrators who participate in ongoing training, support campus-wide data projects, and directly support Completion Coaching Communities in their use of cohort-based data to illuminate the needs of students in each pathway.

Bakersfield College's data strategy is to ***ensure data are accessible and actionable*** so that the result improves student outcomes. That is, data are readily available to faculty, staff, and other constituent groups but more importantly the data facilitate solutions to persistent barriers at the institution.

The Data Coaches were instrumental in the early development of the Program Pathways Mapper. They utilized outcomes data to enhance the tool with job outlook and salary information relevant to each meta-major and program of study in a true visual integration of student affairs and instructional outcomes. Further, BC faculty and staff Data Coaches also helped to identify a need for the development of the Data Cleanup Tool. As designed, Data Coaches translate student need into innovative systems solutions.

Using this improved data analysis and sharing capacity, BC has addressed our efforts around intersegmental alignment to create clarity in educational pathways using a high-touch guided pathways framework. Data Coaches have proved instrumental in campus-wide reforms that have created clarity in the student experience.

Launched Completion Coaching Communities: BC has intentionally designed an innovative, formal structure through which cross-functional teams of faculty and staff are responsible for advancing the momentum points.
- Completion Coaching Communities by meta-majors (9) and affinity groups (8)

Individual Coaches have specific responsibilities for advancing the outcomes:

Coach	Role/Responisbility
Counselor/Ed Advisors	Educational planning, transfer decisions, intrusive tracking
Dean	Strategic planning, enrollment management, focus on outcomes
Data Coach	Finding and interpreting cohort data; translating for team
Discipline Faculty	Discipline-specific coursework, transfer, and career
Financial Aid Expert	Tracking financial aid information and follow-up
Student Support Expert	Intrusive guidance for support in academic pathway

Introduced High-Tech Tools to Complement High-Touch Strategies: To address inadequate staffing and information technology capacity, Data Coaches utilize high-tech tools, including CCCApply, Banner, Cognos, AccuSQL, Starfish, Canvas, and more to improve our understanding of the student experience. High-tech innovations have complemented and expanded our high-touch strategies to create clarity and efficiency for students, faculty, and staff alike.

Clarify the Path	Enter the Path	Stay on the Path	Ensure Learning
Program Pathways Mapper / eLumen	CCCApply / Program Pathways Mapper	Starfish by HOBSONS / AccuSQL	canvas / eLumen

Data Informed	ellucian. Student Information System (SIS)	tableau SOFTWARE	COGNOS

Established an Office of Institutional Effectiveness: As a result of our enrollment growth led largely by our presence in the high schools, and improvement in student outcomes through our Completion Coaching Community model and use of Data Coach expertise, BC formally established an Office of Institutional Effectiveness staffed by six full-time staff members.

Commitment to Strong Partnerships & Broad Engagement

Bakersfield College's innovation redesign work is a whole-college effort, engaging discipline faculty in partnering with student affairs units like advising and financial aid. Bakersfield College's intentionally designed annual processes, like Program Review and Strategic Directions reporting, ensure every department utilizes data to improve practice. However, specific offices and committees have engaged deeply with our innovation award project to scale the Program Pathways Mapper institutionally and statewide:

1. *President's Office*: sets strategic direction and focus for redesign work; secures resources and elevates dialogue statewide.
2. *Office of Institutional Effectiveness*: provides regular reports to key individuals and offices; automates multiple measures of assessment application; trains Data Coaches to analyze data and apply it within Completion Coaching Communities; leads the Program Pathways Mapper project.
3. *Office of Outreach & School Relations*: responsible for all feeder high school and community organization outreach and communication, including recruitment, registration, educational planning delivery, dual/concurrent enrollment, and Early College. Utilizes the Program Pathways Mapper in student advising and onboarding activities.
4. *Counseling Department*: responsible for educational planning and tracking of student momentum point progression within Completion Coaching Communities. Utilizes the Program Pathways Mapper in student advising and onboarding activities.
5. *Office of Student Success & Equity*: responsible for securing and providing funding support of major campus initiatives; ensures alignment with guided pathways framework.
6. *Curriculum Committee:* Responsible for ensuring accuracy of all curriculum and tracking changes to program maps. Facilitates map updates annually.
7. *Guided Pathways Implementation Team*: Serves as a point of contact for all meta-majors regarding changes to program maps and communicates value of PPM tool internally across BC's governance and committee structure.
8. *Discipline Faculty*: responsible for the development of maps for all programs of study; partners with discipline faculty at transfer institutions in the development of transfer maps

Bakersfield College Curriculum Committee, 2019-20

Systematically Influencing Policy to Advance Student Outcomes

BC's business model ensures efficiency in reaching our 38,000 students at scale to the benefit of the student while positioning the institution.

- Innovate through grants and sustain through state Chancellor's Office and policy
- Smartly repurposing resources to align with the priorities of a guided pathways college
- BC's structure requires that each individual is responsible for coaching students to completion, as BC's student to counselor ratio is over 1:1,400
- Improving equitable success of the momentum points and certificate/degree completion positions the institution for fiscal stability as California transitions to the Student-Centered Funding Formula which includes performance and equity-based funding measures

Bakersfield College's interest in engaging with state and federal higher education data policy stems from our institutional propensity for innovation and proven track record in development and sustainability of these initiatives.

Bakersfield College relies on policy at the state level in order to implement system changes to scale practices that improve student learning and achievement. As a college, ***BC recognizes policy as the single most influential factor in student success*** at a systems level. As such, BC has been on the move as identified previously to scale local, research-driven practices to policy. Examples include:

- BC's early and successful implementation of multiple measures of assessment framed AB 705 legislation, which addressed direct placement in transfer-level English and math
- BC's creation and leadership of the CA Guided Pathways Advisory Committee
- BC's leadership of the Educational Systems & Intersegmental Pathways Task Force

California Guided Pathways Task Force, 2016

Bakersfield College's engagement in policy issues is critical to our success as a college, but more importantly to the success of thousands of students across the Central Valley. Bakersfield College is not a wealthy college with a large endowment; we rely on the support of public funds to deliver the quality services we offer to our over 38,000 students annually – the majority of students representing a high-need population with many hailing from surrounding rural communities.

PART IV: ACT: AGILITY IN INSTITUTIONAL TRANSFORMATION
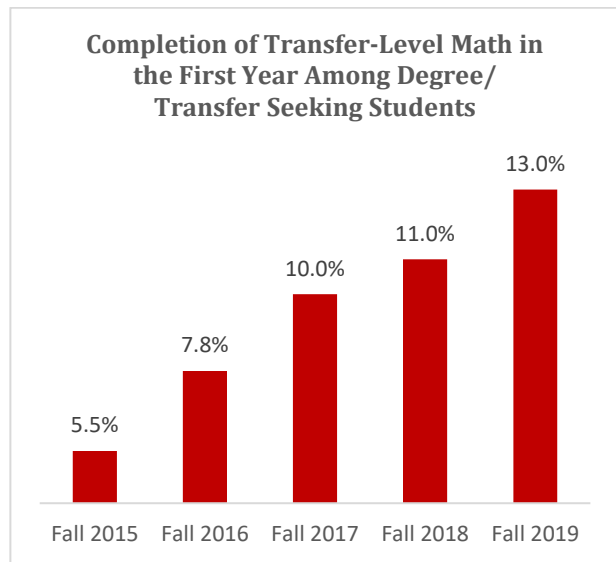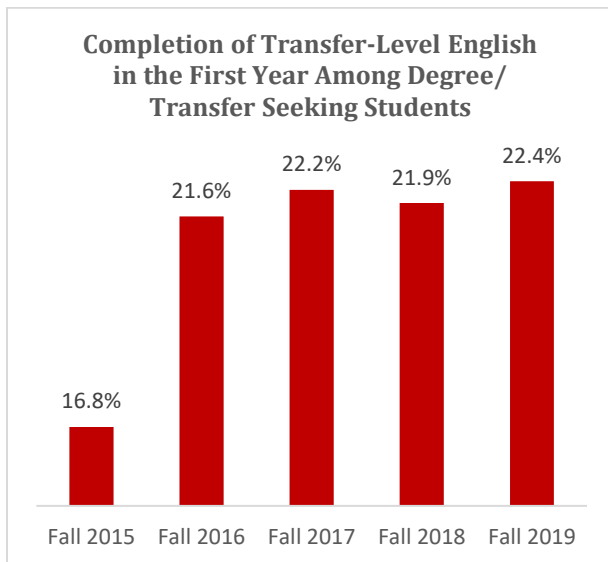
Maintaining Momentum

Despite years of grueling, detailed work to redesign our college using the Guided Pathways framework, Bakersfield College has maintained steady momentum and energy to innovate. However, this is no accident or phenomenon unique to Bakersfield College; this is by design. To ensure constant forward movement, BC has deployed the following strategies:

|		
Communicate student outcome wins early and often	Foster ownership by engaging diverse, cross-functional teams	Embrace iteration and reject perfection paralysis

Communicate Student Outcome Wins Early & Often: Through a commitment to transparency with institutional performance data on student success and equity measures make clear the urgency for redesign and sets the context for each individual's role in dismantling barriers to support students to completion. Examples include: Campus-based Guided Pathways institutes, regular presentations to shared governance committees, the publicly accessible Renegade Scorecard, the widely-used and publicly accessible Tableau Dashboard, and prevalence of Data Coaching.

Completion of Transfer-Level English in the First Year Among Degree/Transfer Seeking Students

Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
16.8%	21.6%	22.2%	21.9%	22.4%

Completion of Transfer-Level Math in the First Year Among Degree/Transfer Seeking Students

Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019
5.5%	7.8%	10.0%	11.0%	13.0%

By ensuring student momentum point data is widely accessible and communicated frequently, all members of the institution understand how our work moves the dial.

Foster Ownership by Engaging Diverse, Cross-Functional Teams: BC's redesign work engages all levels of faculty and staff across campus, from the front-line staff interfacing directly with students to the executive team. By embracing this ***distributed leadership model,*** Bakersfield College moves decision-making closer to the student, illuminating barriers more quickly and resulting in swift response and implementation of solutions that cut through bureaucratic barriers. For example, BC's design of Completion Community Structure came from input from those closest to the students.

Centralized	Decentralized	Distributed
50	1225	1,125,899,906,842,573
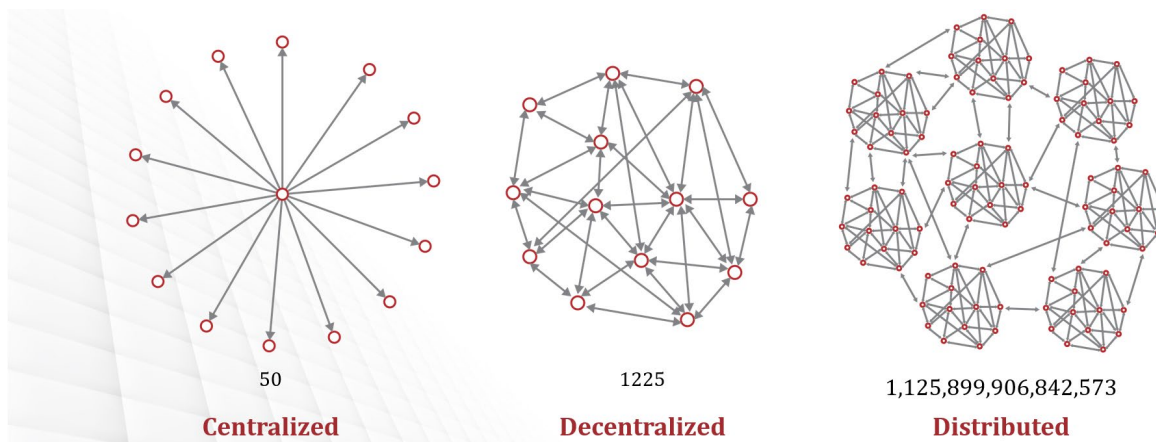
Source: Nipun Mehta's Presentation at California State University Bakersfield, October 2019

Additional examples of distributed leadership in the development and momentum of our Program Pathways Mapper include:

- Discipline faculty, particularly department chairs, identify and correct inaccuracies in curriculum across multiple systems using the Program Pathways Mapper Data Cleanup Tool
- Discipline faculty and counseling faculty together in the interest of identifying the most efficient educational pathways for students to transfer and career
- Counselors and advisors integrate career and salary outlook data in partnership with job placement specialists and discipline faculty

Program Pathways Mapper printouts adorn the transfer pathways tent at Bakersfield College Pi Day, hosted by BC's STEM Completion Coaching Community

Embrace Iteration and Reject Perfection Paralysis: Change in practices and procedures at BC happens through iteration. Change is fluid, inclusive, data-informed, and outcomes-oriented. Bakersfield College commits to fostering agile-mindsets and a willingness to navigate ambiguity has been essential in institutional redesign. For example, BC has had tried on several versions of its meta-majors and Completion Coaching Communities in the past five years. In addition, BC leadership does not stifle momentum by following a one-size-fits-all guide to change. By identifying areas of excitement and energy and building upon that foundation, institutional leaders support innovation with an expectation of iterative improvement and refinement.

The BC Way: Entrepreneurial Leadership

The BC Way of innovation relies on three foundational tenets borne of the college's core values.   The foundational tenets are about great people ushering a grand, shared vision, through daily, epic acts:

Culture	Execution	Sustainability
Flexibility and Precision by Design	*Fostering Talent, Team, and Trust*	*Scaling through Policy & Legislative Solutions*
Agility & Iteration	Talent-Based not Title-Based	Secure Resources
Autonomy & Ownership	Distributed Leadership	Seed Innovation
Speed & Creativity	Power of Networks	Create Visibility
Clarity of Purpose	Transparent	Convene Influencers
Strategy & Precision	Relational not Transactional	Shape Policy

Culture

Clarity of Project Mission, Purpose, and Goal: Working with the destination in mind, team members begin every project by co-creating the vision. At the outset, the project must align with the college's mission and strategic directions related to student learning, student progression and completion, facilities and technology, and leadership and engagement.

Ownership from Start to Finish: Team members lend particular strengths to the project visioning, planning and execution. Members identify key project elements that they will own and on which they will take the lead. Within this structure, sub-teams may develop to tackle difficult or complicated tasks to bring the project to fruition.

Genuine human connectedness and a depth of respect for and trust in the other: Jet pilots are known for their *esprit de corps* as well as their trust commitment to their comrades in arms. Similarly, community is a value at the core of BC. As such, BC employees commit to the wellbeing of all members. A trust relationship powers the BC process and provides a safe environment for launching ideas and achieving goals.

Execution

Talent: The varied make-up of team participants, based on skill rather than organizational position, generates a positive tension toward the concept that anything can be achieved and any obstacle conquered in the project because the right people are at the table. While some organizations select project team members based on their titles and job descriptions, BC eschews this system in favor of a more synergistic modality. Selected team members represent key skill sets needed to complete a project.

Team: Using a distributed leadership model, BC has nourished an environment that encourages individuals in all roles to bring forward ideas for institutional improvement. This model decentralizes expertise and empowers agile teams in local nodes of expertise to innovate and execute swiftly and with precision. Distributed leadership works because the college community trusts its members to create innovations from the same core values.

Trust: At BC, trust is not transactional, but relational. Our culture of transparency in vision, actions, and outcomes supports trust across teams to expedite movement and facilitate execution with precision. Bakersfield College faculty and staff did a shared reading of Stephen Covey's The Speed of Trust book as a part of our guided pathways engagement.
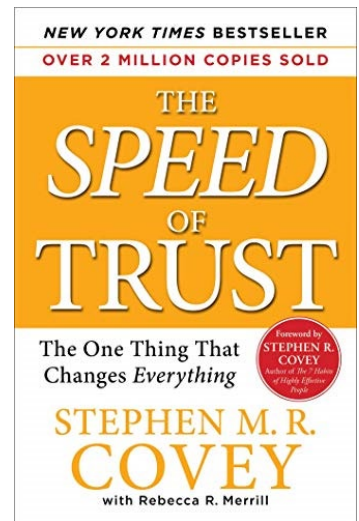
Sustainability

Policy & Legislative Solutions: Renegades are innovators. At BC, Renegades stand unfettered by the status quo, refusing to be constrained by boundaries that were never designed to facilitate, but instead to limit. It is in this spirit that BC has earned local, statewide, and national recognition for our leadership, our engagement, and our innovation. These awards demonstrate BC's rich history of leveraging categorical and grant dollars to seed innovations and commit boldly to using those dollars to develop and implement solutions to the pressing issues we experience day in and day out around student progression and completion. The ESIP Task Force is one mechanism Bakersfield College has leveraged to scale and sustain the Program Pathways Mapper intersegmentally.

Educational Systems & Intersegmental Pathways (ESIP) Task Force, 2019

Expanding Capacity Through Professional Development

Bakersfield College's peer-based, self-directed learning is complemented by the support of organizations like Achieving the Dream, Leading from the Middle, The RP Group, IEPI, AACC, USC Racial Equity Institutes, and more. Through partnership with these organizations, BC is able to inject real-time best practices and up-to-date research on what works for students into the development and scale of our innovations. Specific professional development opportunities BC has pursued to advance our capacity for innovation around the Program Pathways Mapper work since earning the Innovation Award include:

2018-19
- Achieving the Dream Data Analytics Summit – Washington, D.C.
- Hobson's Starfish Institute – Indianapolis, IN
- ASCCC Curriculum Institute – Riverside, CA
- RP Group Strengthening Student Success Conference – Anaheim, CA

2019-20
- Curriculum Institute – San Francisco, CA
- Hobson's Starfish Summer Institute – Marco Island, FL
- Institute for Higher Education Policy Summit – Minneapolis, MN
- RP Group Leading from the Middle Conference – Pomona, CA
- RP Group Strengthening Student Success Conference – Burlingame, CA
- National Institute for the Study of Transfer Students Conference – Atlanta, GA
- Strategic Enrollment Management Convening – Sacramento, CA
- Chief Information Systems Officers Association Technology Summit – Monterey, CA

Bakersfield College Curriculum Committee Members at the 2019 Curriculum Institute in Burlingame, CA. Vice President Billie Jo Rice and Curriculum Chair Jennifer Johnson presented on the Program Pathways Mapper.

Operational Changes

To take the Program Pathways Mapper to scale in a way that directly supports equitable student access, momentum, and completion, BC has initiated a series of operational changes. They include:
- The Office of Outreach & School Relations, Summer Bridge, and Counseling department all use the PPM to help students understand BC's programs and to develop educational plans as a part of the onboarding and orientation processes
- The PPM team developed and institutionalized a process to ensure maps are up-to-date through our annual Program Review process
- All program maps published in the PPM have been integrated into the eLumen online catalog, approved by BC's Curriculum Committee

Evidence of Success

Our formative metrics evaluate usage and adoption. Evidence of the effectiveness of the PPM innovation can be found in the swift increase in the use of PPM both by colleges and students. At the student level, utilization rates and other web usage metrics indicate that the PPM has been highly effective at reaching students and other end users. Since BC's launch of the Mapper in January 2019 through June 2020, 56,450 users have visited the site for 114,499 sessions.

The image below shows the pattern in site visits to the PPM for the same period. Of note, BC's mapper saw a significant increase in first-time users in April 2020, directly aligned with our high school early registration work. This demonstrates the utility of the tool in facilitating advising and registration at scale.
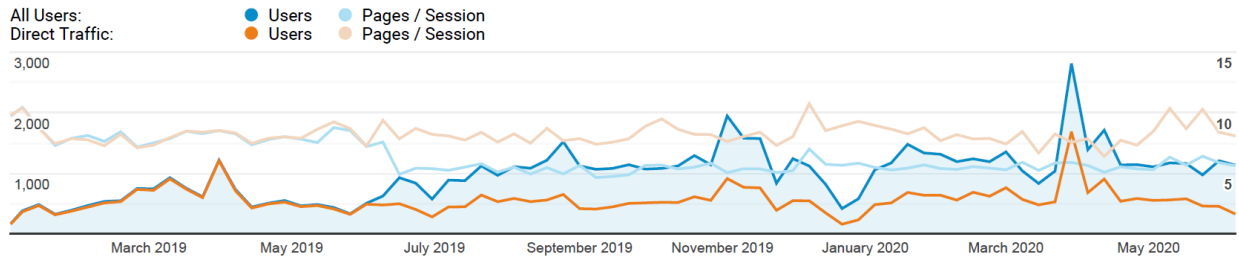
In addition, Bakersfield College commissioned a summative student outcomes evaluation to measure the impact of clarifying the path via the PPM. The evaluation has two components: 1) a within-college pre-mapper/post-mapper evaluation of the number of units students have accumulated at time of degree completion and/or transfer; and b) an across-college comparison of the number of units students have accumulated at the time of degree completion and/or transfer at colleges that have implemented the PPM relative to those who have not.

Reducing Unit Accumulation at Time of Degree Completion: Today, BC graduates are completing their degrees with fewer units - on average, 6.9 units less that just four short years ago. Our ADT students graduate with even fewer excess units - 76.4 units - a stark contrast to the 91.1 units AA/AS students were graduating with in 2016-17.
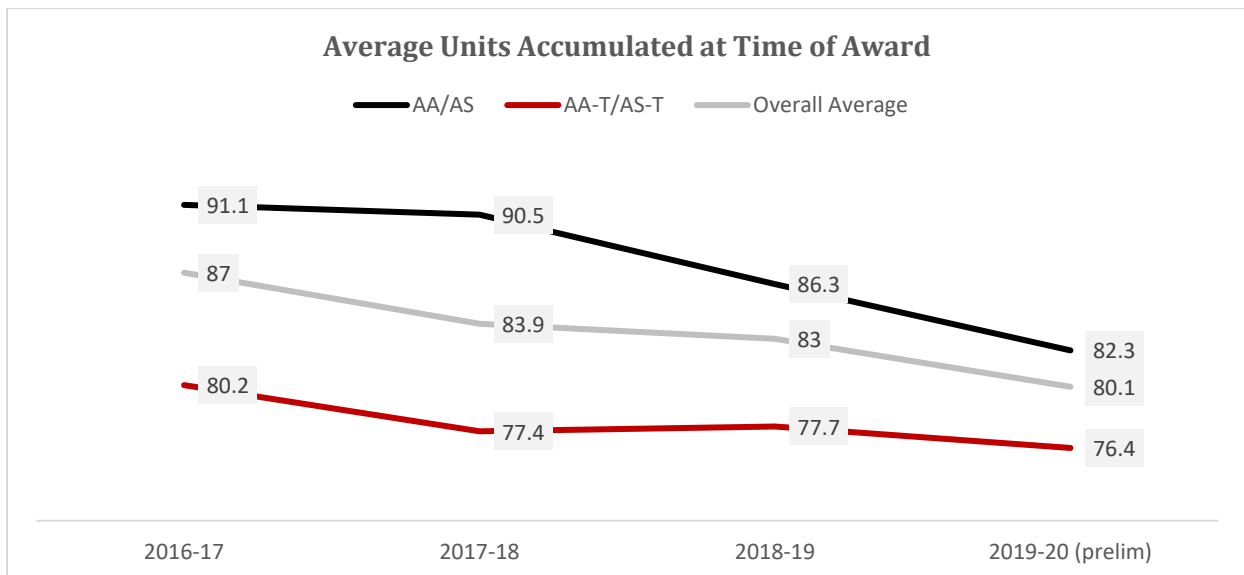
Not only does this reduction in unit accumulation advance our progress toward the CCCCO's Vision for Success, it results in less time and money to degree completion.

At $46/unit, the average cost to AA/AS completion was $4,160.60 in enrollment fees alone in 2016-17. Since 2016, we have significantly scaled our ADT offerings, which now represent BC's primary awards to graduates. This shift in focus, combined with a more clear, direct path to completion, graduates today pay an average of $3,513.40 for an Associate Degree for Transfer. This is a $647.50 savings to the student. With approximately 1,500 ADT graduates, this represents a $971,250 savings to taxpayers.

Increasing On-Path Percentage: Bakersfield College's recent research shows that as students use program maps their course-taking becomes more focused. This increased focus is measured by the increasing on-path percentage shown below. The on-path percentage statistic is calculated by comparing the specific coursework described in the PPM student experience to actual student course-taking of a series of first-time student cohorts.
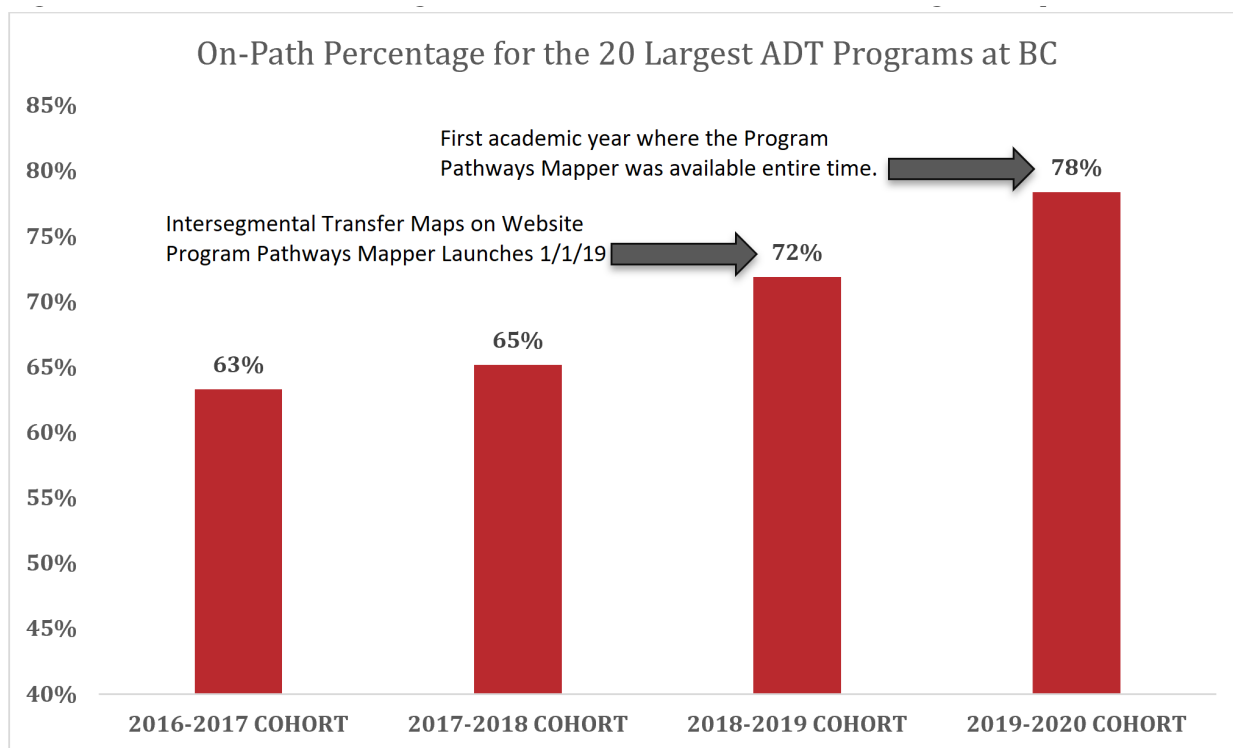
Excerpted from "Program Pathways Mapper Opportunity Validation Response" by Sonya Christian and Craig Hayward.

PART VI: GEOMETRIC SCALING

After establishing local success and securing the Innovation Award, Bakersfield College partnered with several organizations to scale the mapper. To convene these partners, BC established the Educational Systems & Intersegmental Pathways Task Force with a defined goal to create space for a 24-month intersegmental conversation about clarifying 9-16 pathways and increasing degree attainment.

In a series of successive waves, BC's geometric scale of the PPM - first at the community college system, and more recently intersegmentally to the CSU and UC systems – has led to improved clarity for students, faculty, and staff alike.

Scale to the Community College System

As of September 2020, 33 California community colleges have adopted the Program Pathways Mapper since BC solicited interest in October 2018. Through three waves, BC rolled supported

Wave 1: 12 Community Colleges	→	**Wave 2**: 15 Community Colleges	→	**Wave 3**: 6 Community Colleges 7 Universities

While the total number of institutions in Wave 3 is smaller than in Wave 2 (13 vs. 15), it represents a huge leap into a wider form of scaling to the CSU and UC systems – and that leap was very energy and resource-intensive.

Scale to the CSU System

Following our successful development of the Program Pathways Mapper tool with CSU Bakersfield, BC students' primary transfer destination, we pursued funding to scale the PPM to additional CSUs. In September 2018, the College Futures Foundation invested in the development of a PPM prototype for the California State University (CSU) system.

Following early success, the CSU system increased its investment in the PPM by recruiting five more CSUs to launch their PPM efforts in spring 2020. Moreover, each CSU will move through the process in partnership with their closest community college with leadership from Bakersfield College faculty member and core team member Jennifer Johnson.

Scale to the UC System

In spring 2020, Bakersfield College secured additional funding develop a PPM Prototype for the UC system following interest from the University of California, Merced to enter into a partnership with both Merced College and BC.

Long-Term Sustainability

Looking forward to Wave 4, BC intends to again to partner with the Chancellor's Office on a solicitation of interest to the field. With the support of the CCCCO, BC expects Wave 4 to be the largest yet with 20+ colleges onboarding.

With growing interest in the Program Pathways Mapper statewide and nationally, Bakersfield College is working with the with the Foundation for California Community Colleges to create a strategic partnership that would allow us to license the PPM to colleges, universities, and other entities.

Aspire Artifacts

Our Vision for Change
- [2020-23 Educational Master Plan](#)
- [2018-21 Strategic Directions Document](#)
- [2020-23 Technology Plan](#)
- [Office of Institutional Effectiveness Website](#)
  - [Renegade Scorecard Website](#)
  - [2014 CCSSE Key Findings](#)
  - [Data Coaching Website](#)
- [2018 Institutional Self Evaluation Report Data Prelude](#)

Broad BC Engagement
- [AACC Guided Pathways Project Website](#)
  - [Project Application](#)
  - Book Panel Discussions
    - [Student Panel](#) (Video) and [Faculty/Staff Panel](#) (Video)
  - Student Focus Groups (Videos)
    - [Clarify the Path](#), [Enter the Path](#), [Stay on the Path](#), and [Ensure Learning](#)
- [Guided Pathways Implementation Team](#)
  - [2017-18 GPIT Accomplishments](#)
  - [2018-19 GPIT Work Plan](#)

Intersegmental Alignment
- [Kern Promise: Finish-in-4 Website](#)
  - [2017 Kern Promise Launch Brochure](#)
  - [2019 John W. Rice Award](#)
  - [Fall 2018 State of Transfer Pathways](#)
  - [2018 Chancellor's Student Success Award – High-Touch, High-Tech Transfer Pathways](#)
  - [2017 College Promise Innovation Grant](#)
- [Program Pathways Mapper](#)
  - [September 10, 2018 Solicitation of Interest](#)

Statewide Engagement:
- [California Guided Pathways Project Task Force Website](#)
  - [$104,000 Planning Grant Award Letter, College Futures Foundation](#)
- [Bakersfield College Conferences Website](#)
- [Educational Systems and Intersegmental Pathways (ESIP) Task Force Website](#)
  - [ESIP Task Force Charge](#)
  - [ESIP First Convening Agenda](#): November 29, 2018
  - [ESIP Presentation](#): March 21, 2019

Assess Artifacts

Designed Complete Clarity & Shared Responsibility for Desired Outcomes
- [Guided Pathways Momentum Point Dashboard](#)

Grew Data Coaching to Ensure Accessibility & Action:
- [Data Coaching Website](#)
- [History of Data Coaches at BC](#) (2017)

Launched Completion Coaching Communities
- [Public Safety Completion Coaching Community](#)
- [Meta-Major Learning & Career Pathways](#)
- [Affinity Group Completion Coaching Communities](#)

Established an Office of Institutional Effectiveness:
- [Office of Institutional Effectiveness Website](#)

Introduced High-Tech Tools to Complement High-Touch Strategies:
- [Guided Pathways Tech Stack](#)

Architect Artifacts

Commitment to Strong Partnerships & Broad Engagement
- [Agenda, Guided Pathways Showcase for the San Diego Region](#) – October 18, 2019
- [California Guided Pathways Project Task Force Website](#)
- [Bringing a Higher Resolution image to the Program Mapper](#), Dr. Bill Moseley, Dean of Academic Technology – March 1, 2020

Systematically influencing policy to advance student outcomes
- [ESIP Task Force Webpage](#)
  - 1st meeting [agenda](#) and [presentation](#) at LAX Marriot
  - 2nd meeting [agenda](#) and [presentation](#) at CSU CO
  - Final meeting [presentation](#) at CCCCO
  - Create visibility
- ["New 'Pathways Mapper' Lets Students Visualize, Streamline Their Degree Progress"](#) - CCCCO, March, 2018
- Statewide presentations
  - [Transfer Pathways Mapper](#), President Sonya Christian Presentation for the Program Mapper CSU-CCC Transfer Kick-off Event (Virtual), March 26, 2020
  - [Presentation for 2018 eLumenation Conference](#), President Sonya Christian Presentation for the 2018 Annual User Conference, June 21, 2018

Act Artifacts

Maintaining momentum
- Communicating Success
  - [2019 State of the College Report](#)

- o [2019 State of the Office of Institutional Effectiveness](#)
  - o [2018 State of the College Report](#)
  - o [2018 State of the Office of Institutional Effectiveness](#)
- Communicating change
  - o Guided Pathways Trailblazers
    - [Trailblazer Newsletter - December 20, 2019](#)
    - [Trailblazer Newsletter - November 27, 2018](#)
    - [Trailblazer Newsletter - September 13, 2018](#)
    - [Trailblazer Newsletter - May 18, 2018](#)
  - o [Bakersfield College Conferences Website](#)
    - [Dr. Craig Hayward on Intersegmental Curricular Data Sharing](#) (Video)
    - [Samantha Pulido, Bakersfield College Student Government Association President on the Program Pathways Mapper](#) (Video)
- Distributed leadership
  - o 2018 Institutional Self-Evaluation Report, [Standard IV: Decision-Making Roles and Processes](#)

Advance Artifacts

Leadership
- [Leadership Matters Summit Website](#)
  - o [Leadership Matters Video Segments](#)
  - o [Leadership Matters Presentation](#)
  - o [Leadership Matters Summary of Themes](#)

Operational Changes
- [Program Pathways Mapper Create/Update Process Document](#)

Evidence of Success
- [Reducing Excess Unit Accumulation at Bakersfield College: Saving Students Time & Money Along the Most Efficient Paths to Completion](#), Dr. Craig Hayward, Dean of Institutional Effectiveness and Lesley Bonds, Director of Student Success & Equity – March 3, 2020
- [Program Mapper Timeline](#)
- [August 2020 State of Student progression and Completion](#)

Scaling Artifacts

- [College Futures Foundation Grant Agreement to develop a CSU Bakersfield Mapper Tool](#) – August 1,2 019-July 31, 2020
  - o [Contract with Concentric Sky to develop a CSU Bakersfield Prototype](#), funded by the College Futures Foundation Grant – December 15, 2019-June 30, 2020
- [Contract with Concentric Sky to develop the Data Cleanup and Authoring Tools](#) – October 2018
- [Contract with Concentric Sky to design and Develop the Mapper](#) – July 2018
- [2019-20 MOU with the Foundation for California Community Colleges](#)
- [Program Pathways Mapper Presentation to the KCCD Board of Trustees](#) – May 7, 2019
- [Governor's Office of Planning & Research Grant to Develop a UC Mapper Prototype](#) – June 30, 2020-Juy 31, 2022

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Professor, Sociology

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Dean, Academic Technology