Established in March 2016, the College Futures dual enrollment grant has supported the substantial growth of the dual enrollment program across five school districts. The Bakersfield College Dual Enrollment program is unique, in that it offers courses in UC/CSU transferrable and Career Technical Education with over 100 high school instructors providing college level instruction at 30 area high schools, reaching over 10,000 annual enrollment in 2018-19.

The mission of the Dual Enrollment program at Bakersfield College is to provide eligible high school students with a seamless pathway to post-secondary education that allows them to earn high school and college credit simultaneously in general and career and technical education opportunities. By using this model, students graduate high school with college credits already earned, advancing their college completion status. These credits give students throughout Kern County not only a head start on their college degree, but also the self confidence that college is something they can and will be successful with.

The program is ongoing and now serves 29-30 locations (depending on the term) from five districts and offers a variety of courses consisting of CTE and general education. Working in partnership with Kern High School District, one of the largest high school districts in the state, Bakersfield College dual enrollment courses were offered at 17 out of 18 comprehensive high schools in 2018-19. In addition, students at three of the alternative education schools, those participating in online learning (Kern Learn) and those attending the Regional Occupational Center (ROC) also had opportunities to participate in dual enrollment courses. Spread throughout Kern County as far south as Arvin and as far north as Delano, the Bakersfield College Dual Enrollment program includes all rural high school sites in Delano, McFarland, Wasco, Shafter, and Arvin. Ever growing, agreements are underway with two additional districts for the 2019-20 academic year.

Milestones
The Dual Enrollment Program at Bakersfield College began in fall 2013 as a component of a grant partnership with the Wonderful Company. The initial goal was to provide students the opportunity to complete an Associate of Science in Ag Business by the time the student completed their high school education. Since that time the College has developed partnerships with four local high school districts, including Kern High School District, Delano Joint Union High School District, McFarland Unified High School District, and Wasco High School District. Two additional partnerships with Frazier Mountain High School (El Tejon Unified School District) and Valley Oaks Charter (Kern County Superintendent of Schools) and additional KHSD schools (Liberty and Bakersfield High School) are under way and planned for 2019-20.
**Scale**

In fall 2013, the program served fewer than 100 students across four courses. By fall 2016, nearly 3,000 enrollments took place. Finally, seeing tremendous growth thanks to the leadership of President Sonya Christian and school superintendents, enrollment for the 2018-19 academic year exceeded 10,000. Based on enrollment size, it is estimated that the Bakersfield College Dual Enrollment Program serves the highest number of students among any such program within the state and within the California Community Colleges system.

![Census Enrollment by Academic Year](image)

**Infrastructure**

To accommodate the quickly growing needs of the dual enrollment program, BC leadership strategically developed a dual enrollment team across service areas. Like many campuses, dual enrollment was originally housed under the Career Technical Education umbrella and challenged with manual processes for admissions, enrollment and scheduling. The move from CTE to the Outreach team helped leverage their existing relationships with high school counselors to support the substantial burden of admissions and enrollment taking place at the high school sites. In addition, with the introduction of Guided Pathways and the Program Mapper, BC wished to go beyond offering enrollment support to ensuring students were making informed choices in clarifying and entering their career pathways. This work is meant to be supported by the education advisor and counselors hired specifically to support Early College brought on in the spring and summer of 2019.

- **2016**
  - CTE Dean
- **2017**
  - CTE Dean
  - Program Manager
- **2018**
  - Director of Outreach
  - Program Manager
  - Department Assistant
  - 2 A&R Technicians
  - Scheduling Technician
- **2019**
  - Executive Director of Outreach & Dual Enrollment
  - Two Program Managers
  - Department Assistant
  - 2 A&R Technicians
  - Scheduling Technician
  - Ed Advisor
  - 2 Counselors
Early College & Guided Pathways

Most importantly, 21 Wonderful College Prep Academy students earned their Associates degree in Agricultural Business in May 2018. Wasco High School students earned their degrees in Mechanized Agriculture or Agricultural Business in May 2019. Career pathway planning is taking place with two additional sites to offer a dual Associates degree and high school diploma simultaneously.

In fall 2019, Bakersfield College will launch a project to implement both dual and concurrent enrollment courses, organized into pathways, in Kern County high schools. The targets of the 2019 launch will consist of students in rural communities, home school students, and the students of high schools located in Southwest Bakersfield. By packaging courses into pathways that begin in the 9th grade, cohorts of students will have the opportunity to earn associate’s degrees and/or certificates by the time they walk across the stage at their high school graduation. Students who do not complete associate’s degrees or certificates will have the opportunity to earn credits towards degrees or certificates, and will be on pathway to complete them at BC after high school. Because the College and Career Indicator (CCI) encourages high schools to support more pathways completion by students, these efforts are seen as a win-win for both school districts and the community college.

An underlying component to this strategy is the opportunity for freshman high school students to engage in introspective work to better understand their goals and life style choices using the Get Focused Stay Focused curriculum. Students undertake this work in the STDV B3 course focused on college and career exploration. At many high schools, like Arvin, the course is taken by all entering students. At the recently offered dual enrollment symposium, all STDV B3 instructors were introduced to the Bakersfield College Program Mapper as a tool to help students visualize the courses they must take to complete a pathway.

Professional Development

Another crucial concern to building true and deep pathway connections between the high schools and the community college was providing professional development opportunities for the high school instructors to meet with their BC affiliated academic department. Establishing trusting relationships while “breaking bread” became a necessary component to ensuring a quality program. Initial meetings were brokered in larger convening, such as end of year celebration events and symposiums for full high school teams to ensure consistent messaging of key information. Stewardship of these relationships was also an important factor to being able to maintain ongoing pathways work.

Stewardship relied more heavily on small group interactions facilitated by faculty liaisons focusing on subject matter expertise. Initially the small group work began in our CTE departments who could leverage existing high school and industry partner relationships. These areas, like Welding for example, became the model for relationship building in the more traditional academic departments like English, Art or History. This work reflected the
mutual interest in the subject matter and a true concern for support of student success. KHSD established the Dual Enrollment Learning Team (DELT) to function as a collaborative group of college and high school English faculty. BC faculty would regularly communicate, helping craft syllabi, norm grades and share materials with site visits at both the BC and high school locations.

**Turning Challenges into Opportunities to Innovate**

Bakersfield College was able to greatly expand the number of courses offered when the adjunct load requirement was formally lifted by Kern Community College District (KCCD) in May 2018. After allowing instructors to expand from three (.67 load) to five courses (full time) a term, high school districts were still challenged to meet the demand due to the minimum qualifications required for teaching. Although the qualifications for teaching CTE courses have greater flexibility, someone with a Master’s Degree in the subject area can only teach traditional academic courses like English. Commonly, most high school instructors obtain a Master’s Degree in Education or are unable to obtain a subject specific Master’s Degree locally because it is not available.

In a partnership agreement with Kern High School District, Bakersfield College was able to install instructional television equipment at North High School to provide access to courses not available through dual enrollment. A music course was piloted in spring 2019 using an instructor who had not taught through ITV but who had been certified for online teaching. Although there were unique auditory issues through the first half of the course, the instructor indicates that teaching through ITV was a rewarding experience that helped him gain new perspectives on his classroom instructional methods. Because the home course was offered at BC main campus, we could provide access to additional students at the high school site without having to be concerned about canceling the course for under-enrollment. The Kern High School District is now exploring ways to connect North High School and Arvin High School (who has equipment installed but not yet piloted) for dual and concurrent enrollment opportunities.

**Access & Equity**

A number of programmatic strategies were implemented to ensure that dual enrollment was made available to all students. As a whole, dual enrollment has successfully enrolled a high proportion of Hispanic/Latinx students (sometimes representing up to 86% of enrollees). This has been particularly successful as much of the focus has been to serve rural communities whose access to educational opportunities is lower. We sought to imbed dual enrollment into other outreach areas and to cultivate relationships among those working with special populations. These activities included:

- Co-facilitated seminar on Culturally Responsive Teaching Methods in Delano with CSUB teacher education partners
- Presented on Dual and Concurrent Enrollment at the Southern San Joaquin Valley Cal-SOAP Trainings
- Presented on Dual Enrollment for High School Students for the African American Mentor Program Open House
- Dual Enrollment Presentation at Project BEST counselor meeting
BC has also sought to actively present dual enrollment as an equity strategy to the community. Dr. Laven and Trustee Romeo Agbalog have written opinion pieces for the local paper and the launch of Early College in McFarland and Shafter were well publicized.

**Outcomes**

The program cultivates a college going culture because students gain the confidence and skills needed to know they can be successful in higher education. It is well documented that the educational attainment in Bakersfield and the surrounding rural areas is low. See table below.

The below outcomes describe the substantial gains made to right the educational attainment levels in the community.

**Course Success Rates**

Students are able to do just as well, if not better, in their dual enrollment courses relative to traditionally aged main campus students. BC’s Institution-Set Standard for course completion is 69%, yet our high school students who enroll in dual and concurrent enrollment courses see course success rates as high as 92%.
With approximately 90% of all high school students enrolled in dual enrollment courses being students of color, the equity outcomes among early college students are notable. For traditional enrollees, African American students see an approximate 52% course success rate while Latinx students hover around 67%. Yet, their high school peers in dual and concurrent enrollment consistently demonstrate success rates as high as 91% and 92%, respectively. These success rates exceed the Institution-Set Standard while completely closing the equity gap when compared to white students who, on average, have experienced an 88.75% success rate in the same period.

The high rates of success for dual enrolled students and, in particular for Latinx students, serve to bolster academic and personal confidence.
Yield

Although preliminary data analysis of the 2015-16 cohort indicated that participants were twice or three times as likely to attend Bakersfield College as their non-participating peers, analysis for the 2018 graduating class did not find statistical significance for BC attendance. Because the analysis was only able to focus on Bakersfield College attendance, this result is limited. It is highly probable that students earning dual enrollment credit continue to attend college at higher rates, but are choosing to attend four-year institutions.

Impact Analysis of Dual Enrollment

After developing a robust data set, an impact analysis was performed and found statistical significance for dual enrolled students in their first year at BC in number of credits passed, cumulative GPA in the first year, and passing transfer level math in the first year, even after controlling for high school GPA. Hispanic students were most positively impacted, and in some cases, such as the passage of English in the first year, showed statistical significance for participation in dual enrollment when other students did not.

This analysis, more fully described below, sought to explore success in student achievement of milestones formulated around the Vision for Success and new Student Centered Funding Formula. These milestones include attempted 15 units in the first term, attempted 30 units in the first year, and passage of English, Math or both in the first year.

The development of a data set and the following analysis were performed by the Bakersfield College Office of Institutional Effectiveness under the supervision of Dr. Craig Hayward.

Method

This analysis used a sample of students who enrolled at Bakersfield College from local feeder high schools, some of whom had previously enrolled in college classes through BC’s dual enrollment program while others had not. The performance of these two groups of students—formerly dual enrolled (FDE) and never dual enrolled (NDE)—was compared on several leading metrics:

- Number of credits completed in the first year of college
- Passing transfer-level math in the first year of college
- Passing transfer-level English composition in the first year of college
- Cumulative GPA in the first year of college

Before comparing the FDE and NDE students on the leading college indicators, however, we evaluated whether the two groups were comparable in terms of their overall high school GPA. As shown in Table 1, the FDE student group had a higher average high school GPA than the NDE students (2.92 vs. 2.67, t = -8.750, p < .001).

Table 1. High school GPA of students entering BC in fall 2018 after graduating high school in the class of 2018

<table>
<thead>
<tr>
<th>DUAL ENROLLMENT</th>
<th>N</th>
<th>Mean HS GPA</th>
<th>Standard deviation</th>
<th>Standard Error of the Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDE</td>
<td>545</td>
<td>2.92</td>
<td>.6265</td>
<td>.0268</td>
</tr>
<tr>
<td>NDE</td>
<td>3,628</td>
<td>2.67</td>
<td>.6141</td>
<td>.0102</td>
</tr>
</tbody>
</table>
Because high school GPA is correlated with achievement in college, the existence of a significant difference in average high school GPA between formerly dual enrolled and non-dual enrolled BC post-secondary enrollees made it important to include and account for the influence of high school GPA in the analysis of leading performance indicators in college. To accomplish the statistical control or equalizing of high school GPA between the FDE and NDE, high school GPA was entered as a control variable in a multivariate ordinary least squares linear regression along with a flag for the independent variable of interest: participation in dual enrollment (i.e., FDE vs. NDE). With this analytical approach, we are able to assess the independent influence of dual enrollment participation and determine if the impact of that program was significant in its own right.

Results from a series of OLS linear regressions was run to examine the performance of the most recent and largest set of FDE students from the graduating high school class of 2018 are presented in the next section of this paper.

**Impact Analysis Findings**

Table 2 below shows that there is a statistically significant, positive impact of dual enrollment participation such that FDE students at BC complete on average about 1 additional credit in their first year relative to comparable NDE students, even after controlling for difference in high school GPA between the two groups (cf. Unstandardized Coefficients, column B).

### Table 2. Multivariate regression of HS GPA and DE status on the number of credits passed in the first year

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-7.300</td>
<td>.646</td>
<td>-11.300</td>
<td>.000</td>
</tr>
<tr>
<td>HS GPA</td>
<td>6.782</td>
<td>.235</td>
<td>410</td>
<td>28.868</td>
</tr>
<tr>
<td>DUAL ENROLLMENT FLAG</td>
<td>1.097</td>
<td>.433</td>
<td>.036</td>
<td>2.533</td>
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</tbody>
</table>

*Dependent Variable: YR_CREDITS_PASS_AG*

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R</th>
<th>Std. Error of</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.417&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.173</td>
<td>.173</td>
<td>9.3424</td>
</tr>
</tbody>
</table>

*Predictors: (Constant), DUAL ENROLLMENT FLAG, Combined_GPA_CPass_CCCApply*
Table 3 below shows that there is a statistically significant, positive impact of dual enrollment participation such that FDE students at BC complete have a cumulative first year college GPA about 0.145 grade points higher than comparable NDE students.

Table 3. Multivariate regression of HS GPA and DE status on cumulative college GPA in the first year

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
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<tr>
<td></td>
<td>HS GPA</td>
<td>.881</td>
</tr>
<tr>
<td></td>
<td>DUAL ENROLLMENT FLAG</td>
<td>.145</td>
</tr>
</tbody>
</table>

a. Dependent Variable: YR_CUM_GPA

Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R</th>
<th>Std. Error of Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.465</td>
<td>.216</td>
<td>.216</td>
<td>1.0609792</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), DUAL ENROLLMENT FLAG, Combined_GPA_CPASS_CCCApply

Table 4 below shows that there is a statistically significant, positive impact of dual enrollment participation such that FDE students at BC complete have a first-year completion rate of transfer-level math that is 6 percentage points higher than that of comparable NDE students.

Table 4. Multivariate regression of HS GPA and DE status on probability of passing transfer-level math in the first year

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-.369</td>
</tr>
<tr>
<td></td>
<td>HS GPA</td>
<td>.184</td>
</tr>
</tbody>
</table>
## Additional points

- The multivariate results were replicated with a larger sample of FDE students from the graduating classes of 2016, 2017, and 2018 (FDE n = 1,174; NDE n = 18,399).
- Disaggregation of OLS results showed that the impact of FDE was strongest among Hispanic students (FDE n = 838; NDE n = 13,022).
- Completion of transfer-level English in the first year was also evaluated and, overall, FDE were not found to have a statistically different rate of completion than NDE. However, among Hispanic students FDE students had first-year transfer-level English composition completion rate that was significantly higher (4.7 percentage points higher) than comparable NDE students, even after controlling for high school GPA.

These findings not only mirror national research that indicates the positive effect of dual enrollment on college success, but are a strong indication of the immense success and ripple effect the program will have on students, their families, and their communities in Kern County.

Participation in the Bakersfield College Dual Enrollment program predicts a range of positive outcomes in the first year of college.

### Case Study

Wanting to know more about the experiences of those who support, administer, teach and experience dual enrollment, Bakersfield College sought the assistance of the Career Ladders Project in helping to better understand and shape our story. With the tremendous growth over such a short period of time, understanding the “why” was recognized as a crucial component to helping other colleges get to scale as Bakersfield College has. The written narrative and video vignettes being developed are underway and will be completed at the end of summer 2019.

### Institutional and Community Impact

We estimate that Bakersfield College courses offered at no cost to dual enrollment students have saved families over $2,000,000 in educational expenses. In addition, students have the opportunity to explore their college and career goals while in high school, saving them time as well as money when they attend college. Students have the opportunity to complete a certificate, increasing their wage at job entry, or can even earn an Associate’s degree while in high school.
In addition to understanding the potential impact on a student’s long term financial health, the dual enrollment program also affords the opportunity for Bakersfield College to support the institution’s own financial health. Bakersfield College undertook the opportunity to participate in a three college Return on Investment (ROI) study with the RPK group. While financial modeling is being completed, it is estimated that the Bakersfield College Dual Enrollment program produces a net annual revenue of $4.3 million.

**Challenges**

Over time, it became clear that the substantial growth Bakersfield College dual enrollment program had experienced necessitated a refocus of objectives and to address challenges.

**Math**

Although the math department does not support offering dual enrollment courses at this time, the Dean of Instruction has refocused objectives to build positive collaborations between BC and KHSD math faculty in order to use those relationships as a foundation for trust and change. To that end, small discussion meetings, leveraging of grant funds, math instructional training and use of unique curriculum (e.g. Math Mindset) are contributing to a shift in pedagogy and curriculum alignment. Rather than focusing on offering high level math for AP and Honors students through dual enrollment, the focus has shifted to the alignment and collaboration needed to support the success of all students after AB 705 implementation.

**Textbook Cost**

The College Futures grant supported various classes to purchase Chromebooks, floral supplies, textbooks (English/Psychology/Art) and agriculture supplies. High Schools and their districts continue to experience challenges with the cost of textbooks and other instructional items. KHSD and other districts have been successful in receiving Strong Workforce and other grant funds to leverage continuing support for dual enrollment classes. In addition, Bakersfield College makes every effort to help negotiate for textbook selections that have five year lifecycles.

**Conclusion**

In conclusion, Bakersfield College is deeply grateful for the funds College Futures Foundation provided to support the dual enrollment program. What we were able to achieve went well beyond our expectations for the three year cycle of the grant. Not only did we become a leading dual enrollment program in the state, the grant funds supported the needed evaluation to be able to see the true achievement of the program... student success.