



Show Me the Way:

Recommendations for Antelope Valley College's Guided Pathways Implementation

A report submitted in partial fulfillment of the requirements for
CSUN Nazarian Master of Business Administration Consulting Project

By:

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December 6, 2018

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Any opinions, findings and conclusions or recommendations expressed in this publication are those of the authors and do not necessarily reflect the views of California State University, Northridge, the David Nazarian College of Business and Economics or the faculty thereof.

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Executive Summary

Antelope Valley College (AVC) is the recipient of \$1.8 million in funding as part of the State of California's Guided Pathways Award Program. The purpose of the grant is to assist the college with the implementation of the Guided Pathways framework, a higher education reform aimed at making college simpler to navigate for students and ultimately to increase the rate at which they graduate and enter the workforce with a degree. Our purpose is to provide AVC with informed recommendations for how they can implement the framework within five years with their allotted budget.

To formulate our recommendations, we begin with an examination of AVC's strategic position, for which we conducted PESTEL, Porter's Five Forces, and SWOT analyses. We also engaged in primary research with the following research questions in mind:

- RQ1. What major challenges does AVC face in clarifying the path for their students?
- RQ2. What major challenges do AVC students face in entering and staying on the path?
- RQ3. What are major obstacles to student success at AVC?
- RQ4. What do AVC students, faculty, and staff think of Guided Pathways?

To answer these questions, we conducted student focus groups and distributed survey questionnaires to students, instructional faculty, and employees belonging to the college's Student Services division.

The key findings from our primary research are as follows:

- Students are overconfident about their familiarity with their program requirements.
- Students find selecting their major and scheduling their courses challenging.
- Students are academically underprepared for college-level coursework.
- Students receive inconsistent recommendations from advisors, who typically lack specialization in their program of study.

- Students learn about campus resources haphazardly and do not find the college website helpful due to unavailable or poorly-placed links.
- Student Services personnel are more likely to be familiar with and feel positively about Guided Pathways than instructors.
- Students are excited and have positive feelings about Guided Pathways.

Our recommendations are based on the findings from this study, as well as data from the secondary research on the major pillars of the Guided Pathways framework and successful implementations of Guided Pathways at several pilot colleges:

- Refine transfer pathways and develop meta-majors for undecided students.
- Optimize class schedule around major pathways and expand distance education.
- Remedy student academic underpreparedness.
- Promote academic and career advising, and other underutilized student services.
- Promote and build awareness of Guided Pathways.
- Strengthen technological support structures.

To implement these recommendations, we propose the following initiatives, which should only cost AVC roughly 60% of their Guided Pathways budget:

- Provide stipends to faculty to encourage professional development, develop meta-majors and pathways curriculum, and/or serve as members of completion coaching communities for students.
- Rebrand full-time attendance and pilot a pathways program mapper visualization tool.
- Incorporate degree maps, meta-majors, and financial aid into high school outreach.
- Develop and mandate an interactive college orientation video and “Choosing a Major” workshop.
- License and pilot Starfish early alert system module.
- Integrate basic skills learning outcomes into gatekeeper courses.

- Implement eLumen at scale and mandate student learning outcome reporting.

We conclude that Guided Pathways will help AVC make strides toward achieving their institutional goals.

Table of Contents

Executive Summary	iii
I. Introduction	1
1.1 History, Products, Customers, and Organizational Structure of AVC.....	1
1.2 Key Strategic Issues	3
1.2.1 Enrollment.....	3
1.2.2 Student Success.....	3
1.2.3 Student Engagement	4
1.3 Guided Pathways Framework	5
1.3.1 The Evidence for Guided Pathways.....	6
1.4 Purpose of Project	8
II. Company and Industry Analysis	9
2.1 Position within the Industry	9
2.1.1 Internal Competitors in the Community College Industry	9
2.1.2 External Competitors	10
2.1.3 Distinctive Competence and Competitive Advantage	11
2.2 External Environment: A PESTEL Analysis	12
2.2.1 Political Analysis	12
2.2.2 Economic Analysis	13
2.2.3 Social Analysis.....	14
2.2.4 Technological Analysis.....	15
2.2.5 Environmental Analysis.....	18
2.2.6 Legal Analysis	18
2.3 Industry Analysis: Porter’s Five Forces.....	19
2.3.1 Threats of New Entry	19
2.3.2 Bargaining Supplier Power	21
2.3.3 Bargaining Buyer Power.....	22
2.3.4 Rivalry.....	22
2.3.5 Threat of Substitute Products or Services.....	24
2.4 SWOT Analysis	25
2.4.1 Strengths	26
2.4.2 Weaknesses	28
2.4.3 Opportunities.....	31
2.4.4 Threats.....	33
III. Method	35

3.1 Overview	35
3.2 Rationale	36
3.3 Data Collection and Benchmarking	37
3.4 Key Measures.....	37
3.5 Sample.....	38
3.6 Analysis Approach.....	40
3.7 Limitations	40
IV. Results.....	41
4.1 Overview	41
4.2 RQ1: What major challenges does AVC face in clarifying the path for their students?	42
4.2.1 Selecting a Major and Courses	42
4.2.2 Development of an Academic Plan.....	43
4.2.3 Familiarity with Program Requirements.....	44
4.3 RQ2. What major challenges do AVC students face in entering and staying on the path?	45
4.3.1 College Orientation.....	45
4.3.2 Student Services.....	47
4.3.3 Importance of Advising	52
4.4 RQ3: What are major obstacles to student success at AVC?.....	55
4.5 RQ4: What do AVC students, faculty, and staff think of Guided Pathways?	58
4.5.1 Familiarity with Guided Pathways.....	58
4.5.2 Student Opinions about Guided Pathways.....	59
4.5.3 Instructor and Student Services Employee Opinions about Guided Pathways.....	59
4.6 Key Findings	61
4.6.1 Major Challenges to the “Clarify the Path,” “Enter the Path,” and “Stay on the Path” Pillars	61
4.6.2 Major Obstacles to Student Success	62
4.6.3 Guided Pathways	62
V. Recommendations	63
5.1 Overview	63
5.2 Clarify the Path	63
5.2.1 Develop Meta-majors.....	63
5.2.2 Refine Transfer Pathways.....	64
5.2.3 Build Awareness of Guided Pathways.....	65
5.3 Enter the Path	66
5.3.1 Enable Student Matriculation in Local High Schools.....	66
5.3.2 Improve Student Orientation.....	66

5.3.3 Promote Academic and Career Advising.....	67
5.4 Stay on the Path.....	68
5.4.1 Optimize Course Scheduling and Online Programs	68
5.4.2 Remedy Student Academic Underpreparedness	68
5.5 Ensure Learning	69
5.5.1 Strengthen Technological Support Structures	69
VI. Implementation Plan	70
6.1 Overview	70
6.2 Year One: Spring 2018 - Summer 2019 (Engagement; High-level Planning).....	72
6.2.1 Develop Meta-major Programs for Undecided Students	73
6.2.2 Rebrand “Full-time” Attendance	74
6.2.3 Promote Guided Pathways Professional Development Opportunities.....	74
6.2.4 Develop and Mandate Interactive Orientation Video	75
6.2.5 Integrate Basic Skills Learning Outcomes into Gatekeeper Courses	75
6.3 Year Two: Fall 2019 - Summer 2020 (In-depth Planning; Initial Implementation).....	76
6.3.1 Expand Distance Ed Program to Include Fully Online Degree Programs.....	76
6.3.2 Build Completion Coaching Communities	77
6.3.3 Pilot Scale Implementation of eLumen Curriculum and Assessment Management Software	78
6.4 Year Three: Fall 2020 - Summer 2021 (Initial Scale Implementation)	79
6.4.1 Pilot Pathways Program Mapper Visualization Tool.....	79
6.4.2 License and Pilot Starfish Early Alert System.....	80
6.4.3 Offer Predictable Scheduling.....	81
6.4.4 Develop “Choosing a Major” Workshop.....	82
6.4.5 Incorporate Degree Maps, Meta-majors, and Financial Aid into High School Outreach....	83
6.5 Year Four: Fall 2021 - Summer 2022 (Improved Scale Implementation).....	83
6.5.1 Revise Academic and Advising Policy	83
6.5.2 External Evaluator	84
6.6 Year Five: Fall 2022 - Summer 2023 (Evaluation).....	84
VII. Conclusion	84
Appendix A	96
Appendix B	111
Appendix C	121
Appendix D	123
Appendix E.....	128

List of Figures

1. A National Movement: Colleges Implementing Guided Pathways	96
2. Four Pillars of Guided Pathways	97
3. California Community Colleges Guided Pathways Self-Assessment Overall Rating	97
4. Summary of PESTEL Analysis	98
5. Summary of SWOT Analysis	98
6. Summary of Porter’s Five Forces	99
7. Development of Academic Plan (AVC and 2017 CCSSE)	44
8. Familiarity with Program Requirements from a Student and Student Services Perspective	45
9. Participation in Annual Student Orientation	46
10. Mean Levels of Referrals to Student Services from a Student Perspective	48
11. Mean Levels of Importance of Student Services from a Student Perspective	49
12. Mean Levels of Referrals to Student Services from an Instructor Perspective	50
13. Mean Levels of Importance of Student Services from an Instructor Perspective	50
14. Mean Levels of Referrals to Student Services from a Student Services Perspective	51
15. Mean Levels of Importance of Student Services from a Student Services Perspective	52
16. Importance of Advising from a Student Perspective (AVC and 2017 CCSSE)	53
17. Importance of Advising from an Instructor Perspective (AVC and 2017 CCFSSSE)	54
18. Ability to Meet Advisor at Convenient Time	54
19. Obstacles to Student Success at AVC from a Student Perspective	56
20. Obstacles to Student Success at AVC from an Instructor Perspective	57
21. Obstacles to Student Success from a Student Services Perspective	58
22. Familiarity of Instructors and Student Services with Guided Pathways	59
23. Instructor and Student Services Opinions about the Guided Pathways	60

List of Tables

1. Summary of Completed Online Survey and Focus Group Respondents	39
2. Demographic Breakdown of Focus Group Student Participants	100
3. Demographic Break-down of Participating Students in Online Survey	102
4. Demographic Break-down of Instructors Participating in Online Survey	104
5. Demographic Break-down of Student Services Employees Participating in Online Survey ..	105
6. Instructor Opinions about Effectiveness of Guided Pathways	106
7. Student Services Opinions about Effectiveness of Guided Pathways	106
8. Link between RQs, Key Findings, Recommendations, and Implementation Plan	107
9. Budget Recommendations	70
10. Implementaiton Plan	109

I. Introduction

1.1 History, Products, Customers, and Organizational Structure of AVC

Antelope Valley College held their first class in 1929 as an extension of the Antelope Valley Joint Union High school. The college was established with the goal of giving high school graduates access to the first two years of college education in a rural area. In 1957, Dr. Lowell Baker was hired as the college's first president, and in 1959 a new 110-acre college campus was designed to accommodate 1,500 students. As the college and the surrounding community continued to grow, new buildings were added to the college campus resulting in a need for expansion to about 135 acres by the 1990s (Antelope Valley Community College District, 2016). Today, AVC has grown to serve an area of 1,945 square miles to include the Antelope Valley and surrounding areas. AVC is part of the 112-campus California Community College and is responsible for providing coursework to approximately 18,000 part-time and full-time students yearly and employs 850 individuals.

AVC's mission is to provide "*a quality, comprehensive education to a diverse population of learners*" by "offering value and opportunity, in service to our community" (Antelope Valley College, 2016). The college's mission statement affirms its commitment to student success, which is measured through completion of the needed coursework to satisfy desired certifications and degrees, or to successfully transfer to a four-year university. AVC operates within the higher education industry, competing for student enrollments and funding allocations from the State with other community colleges and universities. The college also competes with local employers whose employment opportunities severely limit potential students' time and inclination to attend college. The success of institutions in this industry is defined by producing graduates. The strategic goals outlined in AVC's Education Master Plan (EMP) include "commitment to strengthening institutional effectiveness measures and practices," increasing "efficient and effective use of all resources," using "proven instructional strategies that will foster transferrable intellectual skills," preparing students for college-level coursework, and aligning academic programs with the skills demanded by the regional labor market (Antelope Valley Community College District, 2016).

The college offers students the opportunity to earn two-year college degrees, trainings, and certifications that will help advance their careers. These degrees are offered in the areas of Business, Computer Studies, and Economic Development; Health Sciences; Language Arts; Math, Science, and Engineering; Kinesiology, Athletics, and Dance; Social and Behavioral Sciences; Technical Education; and Visual and Performing Arts (Antelope Valley College, 2018a). Alternatively, students seeking gainful employment may wish to enroll in career and technical education (CTE) programs, which offer essential vocational instruction for joining the workforce. The courses in these programs offer a time-efficient route to acquiring skills and certificates that may afford students opportunities for career advancement. AVC offers CTE certificate programs in the areas of Accounting, Business, Computer Design, Drafting, and Real Estate, among others.

The target customer demographic for AVC consists of students between the ages of 19-29 years, which make up about 83% of enrollments. This group of individuals includes recent high school graduates in the community, future transfer students, as well as adults looking to advance their career.

The administration of AVC consists of the President's Office and three major divisions: Academic Affairs, Student Services, and Administrative Services. These divisions are jointly responsible for ensuring student success, some more directly than others. Academic Affairs focus on pedagogy and provides support in establishing quality academic programs, curriculum, scheduling, and other instructional support activities. Student Services is more directly responsible for student access, equity, and success by providing them with campus resources such as academic planning, counseling, and financial aid. Lastly, Administrative Services brings together all of the tools and communications needed for the college to function as a unit in the form of information technology and facilities support, campus security, retail operations, and business services. Together, these divisions offer students a comprehensive package of tools needed for success.

1.2 Key Strategic Issues

AVC faces a number of challenges as it examines its strategic positioning and looks to the future. The relevant issues to be considered for this project pertain to enrollment management and growth, improvement to student success, and the creation of a campus culture through increased student engagement.

1.2.1 Enrollment

California Community Colleges have been experiencing declines in enrollment for six consecutive years now as they compete for students' time against increasing job prospects from the rebounding economy (Fain, 2017). AVC has not been insulated from this trend, though it did experience brief enrollment growth in fiscal year 2013-2014. Enrollment has flattened since, both with respect to headcount and full-time equivalent students (FTES) (Goel & Jones, 2017). This is problematic as enrollments are a determinant of tuition revenue and, more importantly, the college's apportionment of tax revenue from the State. This is a financial concern as AVC's running deficit is projected to increase to \$30.8 million in fiscal year 2018-2019 (Knudson & Keelen, 2018).

Effective enrollment management is just as critical to AVC's financial well-being as achieving enrollment growth. By offering relevant, high-demand classes at times they are likely to fill, the college can meet its goal of delivering student-friendly programs and improve its operational efficiency. Course offerings with low enrollments are subject to cancellation and some affected students may not enroll in other classes, likely delaying the achievement of their educational goals as a consequence. Class cancellations are a necessary, but not ideal enrollment management mechanism for this very reason.

1.2.2 Student Success

Declining enrollments and poor enrollment management are both at odds with AVC's mission to increase student achievement, which is informed by state and federal initiatives. To meet the goals imposed by President Obama's American Graduation Initiative (AGI), which aims to improve America's workforce by challenging the nation's community college and public university systems to increase the percentage of Americans with postsecondary degrees and certificates from the current rate of 39 percent

to 60 percent by 2025, AVC would have to achieve a 5.2% annual increase in completions through 2025 (Antelope Valley Community College District, 2016). The college is less likely to meet this goal without significant enrollment growth and clear student success initiatives.

The strategic challenges posed by declining or stagnating enrollments, and poorly optimized scheduling, are exacerbated by the fact that students are taking an exceptionally long time to meet their educational objectives. Currently, only 40% of community college students in California manage to earn a degree, certificate, or transfer within six years (Dow, 2017). This trend is largely attributable to the course load of the typical community college student. At AVC, part-time students outnumber full-time students two-to-one (Antelope Valley Community College District, 2016). Not only are fewer members of the community enrolling in college, but those that do enroll are reluctant or unable to attend college on a full-time basis.

Incidentally, even full-time students struggle to attain their educational objectives in a timely manner at AVC. Most associate degree programs at the college require a minimum of 60 units, with some, such as Radiologic Technology, requiring as many as 101 units. With full-time status defined as a semesterly course load of 12 units or more, even a full-time student cannot be expected to transfer or earn a degree in fewer than five semesters, or 2.5 years, without taking summer or winter courses. This problem is exacerbated by the fact that many college students attend college as a matter of course, without having formulated their educational objectives. Roughly forty percent of AVC's first-year students are undecided majors (Antelope Valley Community College District, 2016). Consequently, these students end up taking redundant or irrelevant classes that do not count toward their eventual degree or certificate program. Of course, students who declare and later change their major face similar challenges of potentially accumulating unnecessary units, further delaying the achievement of their educational objectives and, by extension, the strategic objectives of the college.

1.2.3 Student Engagement

Low enrollments and the prominence of part-time students both serve to frustrate AVC's goal to foster a campus culture with a strong sense of community and

commitment to academic excellence. Student engagement with the college's academic and support services varies significantly depending on the nature of the service. Surveys reveal that over sixty percent of AVC students reported that they used or were aware of the financial support services "quite a bit or very much." However, just over ten percent of AVC students are likely to consult or work with instructors outside the classroom, and fewer than 26% are likely to use the college's work or family support services "quite a bit or very much" (Community College Survey of Student Engagement, 2016).

Improving student engagement with the college's support services and campus culture is a strategic challenge for AVC to meet its enrollment and student success objectives. Engaged students who are aware of and take advantage of support programs, such as tutoring or counseling services, are presumably more likely to formulate their education goals and succeed in the classroom. Additionally, a stronger campus culture could provide greater socialization for students who, without such interpersonal support, might become more cynical and less likely to pursue their educational objectives.

1.3 Guided Pathways Framework

Guided Pathways is a new framework for higher education that aims to improve the student experience and student success by giving students the option to plan their education with *fewer* choices. Historically, students have picked courses a la carte with or without the input of an academic or career counselor. With the Guided Pathways framework, students instead pick a singular pathway: a prescriptive succession of courses designed to help the student transfer or attain a degree as efficiently as possible. Additionally, the Guided Pathways program involves the development of meta-majors with broader areas of concentration for undecided majors. As shown in Figure 1, as of 2017, more than 250 colleges in the states of Arkansas, California, Massachusetts, Michigan, New Jersey, Ohio, Tennessee, Texas, Virginia, and Washington have implemented the Guided Pathways framework (Bailey, 2017). As shown in Figure 3, 76% of those colleges are in early adoption stage, 20% are in progress, and 4% are in pre-adoption.

1.3.1 The Evidence for Guided Pathways

Extensive research on the effectiveness of Guided Pathways in higher education is still in its early stage. However, preliminary results are encouraging, with colleges and universities that have implemented Guided Pathways at scale experiencing improved student outcomes. Florida State University began implementing academic program maps and proactive advising in the early 2000s. The university considers this implementation a major factor in the improvement of the year-to-year retention rate from 86% to 92% and the increase of the four-year graduation rate from 44% to 61% in 2009. Moreover, a number of students graduating with “excess credits” dropped from 30% to 5% between 2000 and 2009 (Abele, 2017). The results of Guided Pathways reforms at Cleveland State Community College have been impressive too as the percentage of first-time-in-college students completing college-level math in their first year increased from 16% in the 2012-2013 academic year to 30% in the 2015-2016 academic year (Denley, 2016). Additionally, Queensborough Community College has reported a graduation rate increase from 12% to 16 % in three years since the implementation of Guided Pathways (Jenkins, 2013).

The Guided Pathways framework is a new philosophy for navigating students through higher education comprised of four major pillars: “Clarify the Path,” “Enter the Path,” “Stay on the Path,” and “Ensure Learning” (Figure 2). The first pillar involves mapping pathways to student end goals. Specifically, colleges create clear pathways (maps) by organizing programs into broad career-focused fields (meta-majors). The maps must include lists of courses necessary to complete a program or transfer into a related program at a four-year university, the unit requirements of said program, and the employment opportunities afforded by completion of the program. The second pillar involves helping students choose and enter a program pathway by narrowing their options and developing complete academic plans early on. The third pillar involves keeping students on their path by mitigating attrition. Similar to a navigation system, Guided Pathways allow students and advisors to track their progress and allow for intervention as necessary. The final pillar involves ensuring that students are learning. Colleges are supposed to track learning outcomes to further improve teaching if necessary.

These pillars and the overall framework philosophy are supported by studies in a variety of fields. In the field of organization science, Kezar (2011) suggests that large improvements in student outcomes require systemic reforms. Such reforms include redesigning college policies, programs, and services at large institute-wide scale. Research on organizational effectiveness has also shown that high-performing community colleges use measurement to improve processes and better align them with organizational goals (Jenkins, 2011). In the field of behavioral science, multiple research studies suggest that too many choices can lead to indecision, procrastination, self-doubt, and decision paralysis (Thaler, 2008). Applied to community colleges, a simplified set of options of college procedures and majors would help students make more optimal decisions. Research from behavioral economics indicates that reminders, assistance, and feedback can help increase desired behaviors (Cass, 2013). Finally, in the area of cognitive science, studies on the psychology of learning have demonstrated that clear goals improve learning. According to Scrivener (2013), providing college students with the “big picture” overview of key topics within a specific college course and how they fit together, improves their retention. Another study conducted by Shute (2008) suggests that appropriate feedback improves student learning. In particular, students should receive feedback in time to be willing and able to use this feedback optimally.

With so much supporting research and a growing number of success stories, Guided Pathways is quickly becoming a new standard for higher education. To promote the development and implementation of the Guided Pathways framework across California Community Colleges campuses, the State of California approved and provided \$150 million for its Guided Pathways Award Program, which consists of one-time grants to be allocated over the course of five years to participating community colleges. Interested in participating, AVC submitted a self-assessment and action plan proposal for the program and successfully received a grant of nearly \$1.8 million, beginning with a \$445,256 allocation during its first year (Antelope Valley College, 2017). With this funding, AVC aims to identify and invest in the most optimal initiatives that will allow the college to meet student success goals while ensuring objective alignment with the college’s EMP.

1.4 Purpose of Project

AVC has been presented with an opportunity to improve student success and meet its strategic objectives through its participation in the Guided Pathways Award Program. The purpose of this study is to research and analyze the Guided Pathways framework and, in so doing, determine how AVC can best utilize their participation in this grant to address strategic issues pertaining to student success and enrollment management. Specifically, we shall consider AVC's declining enrollments and student success rates and assess whether their proposed Action Plan for their Guided Pathways program will help them to make improvements in these areas. We will also consider the key strategic issues facing the college as it implements its Guided Pathways program, including myriad obstacles to student success and a lack of general awareness of and support for the initiative. This will ideally help AVC to anticipate and avoid potential problems; to reduce skepticism and resistance from faculty, shared governance committees, the community, and other constituent groups for the development of meta-majors and streamlining of existing pathways; and to better market their programs and services under the Guided Pathways framework.

To this end, we formulate and attempt to answer the following research questions:

- RQ1. What major challenges does AVC face in clarifying the path for their students?
- RQ2. What major challenges do AVC students face in entering and staying on the path?
- RQ3. What are major obstacles to student success at AVC?
- RQ4. What do AVC students, faculty, and staff think of Guided Pathways?

Ideally, answers to these questions will allow us to achieve our goal of giving AVC a better understanding of what their students need, of the factors that frustrate their success, and of the general awareness of and reception to the Guided Pathways framework. The project scope, as delineated in our letter of engagement (Appendix D), encompasses primary and secondary research into these questions, along with our key findings; a company and industry analysis including PESTEL, Porter's Five Forces, and

SWOT analyses; recommendations based on our analyses and key research findings, and an implementation plan based on our recommendations.

In the next section, we will perform company and industry analysis to better understand AVC's position within the industry and the macro-environment in which it operates with emphasis on political, economic, social, technological, environmental, and legal factors. We also conduct a Porter's Five Forces and SWOT analysis.

II. Company and Industry Analysis

2.1 Position within the Industry

AVC operates within the higher education industry. While subsidized by state and federal governments, the higher education industry is still very competitive with rival colleges and universities competing for student enrollments—a determinant of tuition revenue and, for public institutions, tax revenue apportioned by the state. These rivalries have only intensified as enrollments continue to decline, particularly among two-year community colleges, which have endured this industry-wide trend for six consecutive years (Fain, 2017).

2.1.1 Internal Competitors in the Community College Industry

Based on their location, the three main community colleges that compete with AVC are College of the Canyons in Santa Clarita, Victor Valley College in Victorville, and Los Angeles Mission College in Sylmar. All four of the community colleges charge \$46 per unit for California residents. For Spring 2018, College of the Canyons had the largest amount of student enrollment with 20,181 students, followed by AVC (13,680), Victor Valley College (11,337), and Los Angeles Mission College (8,217) (California Community College Chancellor's Office, 2018).

AVC has many competitors offering similar degrees and certifications at nearly identical prices. Apart from offering degrees, community colleges also offer certifications and non-degree programs, which make up 28.7% of the products and services in the community college industry (Guattery, 2018). The nearby colleges to AVC that offer

similar associates and certifications in Airframe Technology are Orange Coast College and West Los Angeles College.

2.1.2 External Competitors

AVC's main external competitors include other four-year universities (public and for-profit), vocational schools, and online programs offered by various online colleges. The most salient competitive advantage enjoyed by community colleges, particularly when stacked against four-year universities, are their cost leadership position. Two-year community colleges charge significantly lower tuition fees than public universities, let alone private universities. As such, they command a great deal more enrollments than enjoyed by four-year universities.

Juxtaposing AVC and its competitors, one can see the cost benefits of AVC. The approximate cost for the 2018-2019 academic school year for full-time undergraduate California residents attending AVC is \$46 per unit or \$1,100 annually (Antelope Valley College, 2018i). AVC also offers a bachelor degree in Airframe Manufacturing Technology that costs approximately \$11,000 in tuition fees (Antelope Valley College, 2018c). In contrast, the estimated cost to attend a UC for the 2018-2019 academic school year is \$13,900 (University of California, 2018), while the estimated annual tuition for students attending a CSU is \$5,742 (California State University, 2018). There are a plethora of private universities, vocational schools, and online programs that also pose competition, but their prices vary.

Community colleges compete with other community colleges and four-year universities to claim a larger portion of potential and returning students. In California, the community college system is the largest system of higher education in the United States, serving 2.1 million students across 114 colleges (California Community Colleges Chancellor's Office, 2018). By comparison, the UC and CSU public university systems serve 248,000 students across ten campuses and 394,000 students across 23 campuses, respectively (Taylor, 2017, p. 3). These statistics suggest that California's student population is highly responsive to price and campus availability.

2.1.3 Distinctive Competence and Competitive Advantage

AVC's competitive advantage lies in its isolated location and unique Airframe Manufacturing Technology program (AFMT). The remote location of AVC serves to its advantage as it helps the college keep a much narrower focus compared to most of its competition by offering associate degree programs, CTE programs, and transfer/GE courses that appeal to the surrounding community. As the dominant industry in the Antelope Valley changed from agriculture to aviation in the late 1950s, this was reflected in AVC's educational offerings. AVC has strong ties with local aerospace employers located in the greater Antelope Valley, such as Boeing, Lockheed Martin, Northrop Grumman, and Edwards Airforce Base. These companies reach out to AVC and provide input on its curriculum by serving on relevant advisory committees (Diachun, 2016).

AVC's AFMT program offers an Airframe Manufacturing Technology bachelor's degree of science, which is a rarity among community colleges. Consequently, many AVC students who major in Airframe Manufacturing Technology get employment from those companies (Antelope Valley College, 2018b). Moreover, AVC has created an intense eight-week certificate program with immediate employment in the aerospace industry (Antelope Valley College, 2018c). Based on reliable government sources, student surveys, college graduate interviews, and editorial reviews, the 2018 rankings for the best Airframe Mechanics and Aircraft Maintenance Technology/Technician degrees in California had Orange Coast College at #4 and AVC at #7 out of 20 schools (Universities.com, 2018). Although there are many colleges to choose from, AVC is recognized for its stellar program and also has a lack of competition in the immediate surrounding area.

Being the closest community college in the Palmdale and Lancaster area (and having a campus in each city), with the next closest locations being approximately fifty miles away, AVC has the competitive advantage to heavily recruit students from local high schools. AVC has an Information/Welcome Center (Outreach) that serves the purpose of recruiting and retaining students (Antelope Valley College, 2018e).

2.2 External Environment: A PESTEL Analysis

AVC is highly influenced by a number of external factors in the macro-environment in which it operates. A PESTEL analysis recognizes this macro-environment as an intersection of political, economic, social, technological, environmental, and legal factors. Each of these factors poses AVC with unique threats and opportunities. Key takeaways from this PESTEL analysis are summarized and presented in Figure 4 (Appendix A).

2.2.1 Political Analysis

Antelope Valley Community College District operates within the California Community Colleges system of higher education, which is governed by the State Chancellor's Office in Sacramento. As an entity of the state, most of AVC's revenue comes from the apportionment of tax revenue. In fact, over 85% of AVC's general fund revenue for the 2018-2019 fiscal year is from its base allocation from the State of California, along with state-funded grants. A remaining 3% and 12% come from federal and local funding sources, respectively (Knudson & Keelen, 2018).

Currently, a new "Student Centered Funding Formula" is being considered by the State, with plans to phase it in over the next three years. The purpose of the new formula is to address achievement gaps and other student success issues impacting college districts across the State. It is but one component of the State's recently developed *Vision for Success* initiative, which is a response to former President Obama's American Graduation Initiative (AGI). Historically, the formula has centered on enrollments, specifically, FTES. Under the new formula, FTES will be only one of three considerations factoring into a college district's overall allocation, serving as the basis for the base allocation. A supplemental allocation is to be based on the college district's demographics and the extent to which it serves underserved or underrepresented populations, specifically low-income students who are recipients of a Pell Grant or other forms of financial assistance. Finally, a "Student Success Allocation" will be issued on the basis of the college district's student success metrics, such as transfer and completion rates (California Community Colleges Chancellor's Office, 2018).

While AVC is expressly committed to student success, this incentive places even more pressure on the college to meet its goals in this area. The State's *Vision for Success* initiative requires AVC to seriously consider both its enrollments and student success rates as both are now equally weighted determinants of its largest source of revenue. Promoting higher enrollments and student success are critical to ensuring its financial and political survival.

2.2.2 Economic Analysis

The state of the economy is a significant factor for AVC as it has a fairly direct impact on state revenues and enrollments. The California State Budget, from which the AVC's base and supplemental allocations are apportioned, is largely based on revenues from licenses and income, sales, and property taxes. An economic downswing can cause unemployment to rise and consumer spending to fall, resulting in a significant decline in tax and licensing revenues. This could lead to cuts to the California Community Colleges, and by extension, AVC.

Fortunately, the economy has been healthy since rebounding from the 2008 financial crisis and ensuing recession. Consequently, unemployment is low, though this presents AVC with other challenges. Enrollment at community colleges is negatively correlated with the health of the economy: enrollments of students 24 years old or older decline significantly as job prospects improve during economic upswings and increase significantly as they diminish during economic downturns (Smith, 2015). This inverse relationship suggests not only that demand for community college is highly elastic, but that the degree and certificate programs they offer are inferior goods since the quantity demanded decreases as consumer income increases. This makes sense as many prospective college students would rather devote their time to working and earning income than go to school. Individuals are typically more motivated to go to college and improve their knowledge, skills, and marketability when employment opportunities are few and far between, making the job market much more competitive. Given the considerations above and the recent health of the economy, it should not be surprising that California Community Colleges have been experiencing declines in enrollment for six consecutive years now (Fain, 2017).

2.2.3 Social Analysis

AVC services the Antelope Valley region, the population of which is predominantly Hispanic (46.9%) and white (31.1%). While the Hispanic demographic is well-represented at 51.5% of AVC's student population, white students only account for 21.4 % of the college's total enrollment (Goel & Jones, 2017). This may be because the region's white population is more affluent and better situated to pursue higher education at a four-year university, such as nearby California State University, Northridge (CSUN) or University of California, Los Angeles (UCLA). This supposition is based on the overrepresentation of the region's low-income population. Whereas only 19.8% of the local population is considered low-income, 50.4% of AVC's total enrollment are classified as low-income students (Goel & Jones, 2017). AVC's services are demonstrably much more appealing to the local community's low-income residents than to middle- or upper-class residents.

Curiously, AVC's services are much more appealing to the community's female demographic than male. Whereas men account for 49.1% of the local population, male students only account for 40.2% of AVC's total enrollment (Goel & Jones, 2017). This dovetails with studies finding that young men in low-income regions often experience "economic despair" and are more likely to opt for work opportunities and trade schools that they feel will pay dividends faster (Marcus, 2017). Work opportunities are plentiful due to the strength of the economy, which may explain why so many young men from low-income households in the Antelope Valley region are inclined to pursue employment in low-skill jobs rather than go to college in the hope of eventually qualifying for higher-paying work. Additionally, many of these males would be first-generation students, meaning that their parents never obtained a postsecondary degree. The lack of family support or understanding may explain why the high school dropout rate among low-income and Hispanic males is relatively high, despite recent improvements (Krogstad, 2016). These dropout rates coincide with the pursuit of gainful employment.

While low-income males suffering from economic despair may account for the minority status of male students at AVC, an intersectional analysis reveals that most underrepresented student at AVC is the middle- to upper-class white male. At first, this may seem curious as white male students have historically been overrepresented in

institutions of higher education. However, it is because white males have historically had access to more employment and educational opportunities that this demographic has less need for the low-cost services provided by AVC.

In stark contrast to white males, intersectional analysis reveals that Hispanic women are the most overrepresented and typical of AVC's student population. This is to be expected as education is highly valued among Hispanics, who are more likely than any other ethnic group to attend community college for their education (nearly half of all Hispanic students begin their education at a two-year college as opposed to only 30% of white students) (Krogstad, 2016). This demographic may explain the most commonly declared major among AVC students is Registered Nursing, a high-paying field typically dominated by women. Registered Nursing accounts for 13.84% of declared majors, with the next most popular major, Biological Science, accounting for only 4.94% of major declarations (Goel & Jones, 2017). It is reasonable to assume the popularity of the major is indicative of the interests and career ambitions of AVC's most prominent demographic.

2.2.4 Technological Analysis

2.2.4.1 Information Technology

Technology has a tremendous power to impact the quality and perception of the products and services offered at AVC. A number of recent technological advancements have already changed how colleges like AVC do business. Perhaps the biggest technological trend impacting AVC's services and strategy is the proliferation and ubiquity of portable computing devices, such as laptops, tablets, and smartphones. Today's student is less likely to take notes by hand, and more likely to do so on their laptop or phone, and may be inclined to use these devices to access the Internet and look up supplemental information related to lecture or coursework.

With the proliferation and ubiquity of portable computing devices comes an expectation of connection. Unsurprisingly, it has been repeatedly identified as one of the most important services valued by its constituents. Despite AVC's commitment to implementing and sustaining far-reaching and effective wireless services for its students and faculty, this was historically hampered by limited fiscal resources before special

funding was used to bolster the college's wireless initiative in 2014 (Antelope Valley College, 2014). The college recognized that wireless infrastructure was becoming critical not only for students to access the Internet, but also Ellucian Go, its mobile application for the delivery of student services such as class registration, grades, and various business services. Similarly, AVC recognized that wireless technology and mobile devices could be used as a means of supporting mass communication services for students in the form of informational texts and emails.

Of course, the prominence of the mobile devices and the Internet have also pressured AVC to enhance its web presence, both with its own robust website and student portal and through social media. As many of the college's students have limited resources, it has become critical for AVC to offer many of its services online, which has required its website and student information system to evolve from a barebones site into a robust platform consisting of multiple sub-domains. Of course, all web pages, portals, and services must also be mobile-friendly to accommodate students who may not have access to desktop computers.

While wireless and online infrastructure have opened up new avenues for AVC and made it more accessible to its students, they have also made it more vulnerable to any number of security threats. Information security must be a high priority in today's connected world. Recently, neighboring Los Angeles Valley College was the victim of a malicious cyber-attack in which the hackers hijacked the campus email server and information systems, forcing the college to pay a ransom of \$28,000 to avoid losing millions of dollars of data (Rocha, 2017). Such threats require colleges like AVC to invest in information security measures and adequate training and staffing for its information technology department.

2.2.4.2 Educational Technology

Undoubtedly, having robust wireless infrastructure and an intuitive and responsive website and student information system are critical for AVC to remain competitive as an institution of higher learning. Great technological achievements have also been made in the field of education delivery. Smart classroom technology is a means of integrating the classroom's computer, projector, electronic devices, and other

components with an audio-visual control system that allows faculty to seamlessly transition from lecture to video and web projection. Efforts to standardize the smart classroom technology campus-wide would have the benefit of making it easier for faculty to use the technology without having to relearn new systems every time they teach in a new classroom. Unfortunately, despite its commitment to implementing smart classroom technology, over a third of the college's labs contain technology that is five years or older (Antelope Valley College, 2014).

Of course, a development even more profound than bringing the web into the classroom is bringing the classroom onto the web. Distance education is the delivery of instruction and testing via online classroom modules. Online classes can typically be completed at the student's leisure, allowing students with busy work schedules and limited resources to have the opportunity to access coursework and materials when time permits. As the name suggests, it also allows geographically dispersed students to attend and access courses offered by AVC. Not surprisingly, distance education is growing in demand among students, with enrollment growth increasing by roughly 3.9% each year (Allen & Seaman, 2017). Offering and providing a stable, reliable online platform for distance education is critical for AVC to maintain a competitive edge and better support younger students who are more comfortable in a virtual classroom environment.

2.2.4.3 Workforce Development

Technological trends not only have a profound impact on the value of a college's delivery of education and student services, but also its curriculum. AVC is in the business of offering up-to-date, relevant curriculum that prepares students for the workforce. Vocational programs are valuable to the extent that they prepare students for cutting-edge technology, making technological growth a highly disruptive factor. This requires investment in the professional development of faculty to keep them current on technology trends. It also requires getting input from members of industry to determine what kind of familiarity with technology is expected by employers from college graduates.

2.2.5 Environmental Analysis

AVC operates in the southwestern portion of the arid Mojave Desert and is spread out across 120 acres consisting of areas with natural turf, artificial turf, shrub beds, athletics fields, and parking lots. Recent droughts and reliance on limited groundwater have made water conservation a serious concern for the region. Consequently, AVC has had to be conscious of its environmental impact and committed to sustainable maintenance of its grounds and facilities. In 2015, the college succeeded in significantly limiting its water usage to 48,421 gallons per acre, a 32% reduction from the previous year (Antelope Valley College, 2018j). This mitigated the fiscal impact of increased water costs and conservation fees from the regional water utility.

Unfortunately, severe weather conditions resulting from climate change may promise even more protracted droughts for the region in the future. With less precipitation to recharge Antelope Valley's natural groundwater deposits, water conservation is expected to remain a significant environmental challenge for its residents. Commendably, AVC continues to work toward reducing the usage of irrigation water by investing in drought tolerant landscaping projects involving the replacement of lawn areas with drought tolerant plant material, rock and granite materials, and more effective sprinkler systems. These efforts have scaled with budget availability (Antelope Valley College, 2018j).

2.2.6 Legal Analysis

A recent development with the power to impact AVC's student success metrics and, by extension, its strategic position, is the passage of Assembly Bill (AB) 705. This legislation addresses remediation issues, requiring community colleges to use high school performance, rather than assessment tests, to determine course placement for math and English classes. Historically, more than 75% of community college students are placed into pre-college level, or remedial, math and English courses every year (Dow, 2017). This is because assessment tests administered by the colleges often determine that California's high school graduates are underprepared for college-level coursework in these subjects. Consequently, only 40% of community college students manage to earn a degree, certificate, or transfer in six years. The purpose of AB 705 is to expedite the

attainment of degrees, certificates, and transfers by allowing more first-year college students to place into college-level math and English courses (Dow, 2017).

Whether AB 705 will aid or hinder AVC's aspirations to improve student success metrics is uncertain. The idea of the legislation is to enable students to succeed in college faster by not slowing down their progress toward a degree or transfer with remedial classes. The assumption is that the placement tests administered by the community colleges do not accurately represent preparedness for college-level math and English coursework. Of course, if this assumption is wrong, students may be placed into advanced courses that they are not prepared for and possibly fail. Should this occur, student success metrics will worsen, as AVC would have lower passing rates and students would still take years to attain degrees or transfer. Arguably, AB 705 has the potential to burden AVC with lower success rates.

2.3 Industry Analysis: Porter's Five Forces

To better understand how AVC can reshape or neutralize the forces that influence the industry's profitability in its favor, we analyze the community college industry applying Porter's Five Forces framework. If done successfully, the analysis will help AVC strengthen its strategic position in the long-term with respect to the higher education industry. The Porter's Five Forces analysis detailed below is summarized and presented in Figure 6 (Appendix A).

2.3.1 Threats of New Entry

Porter (2008) argues that the threat of new entry depends on the height of entry barriers. These barriers have seven major sources. Five among those sources will be analyzed in the context of community colleges industry below.

2.3.1.1 Supply-side Economies of Scale

Supply-side economies of scale can be translated into existing colleges' ability to enjoy cost advantages by producing at larger volumes and spreading costs over more units. For instance, adding more seats in a lecture hall can presumably lead to offering the same product (education) at lower costs (tuition fees). In addition, utilization of more

efficient technology and better terms from numerous suppliers like bookstores, food services are available for incumbents. Thereby, supply-side economies of scale discourage new players to enter the industry by signaling about potential cost disadvantages new players have to accept due to their size and maturity stage.

2.3.1.2 Demand-side Benefits of Scale

Porter (2008) defines demand-side benefits of scale as network effects resulted from the increase in the individuals' likeliness to purchase a product and the increased number of individuals likely to buy it. In AVC's case, the increasing number of enrolled students signal about higher prestige and better reputation of the college. Students trust larger colleges more because they value of network with a larger number of fellow students and faculty. Thus, demand-side benefits of scale deter new entrants by limiting the willingness of students to attend new institutions due to absence of this perceived network of a large base of students and faculty.

2.3.1.3 Capital Requirements

Capital requirements place high barriers for new players as well. The costs involved in establishing a new community college are high. Capital costs in the form of land, construction, and infrastructure, the costs of acquiring equipment (computers, desks, and other technology items), the costs of hiring employees (experienced professors, faculty, and administrators) are considered are highly prohibitive. For instance, the median cost for the construction of a new academic building containing 55,800 square feet has a cost of \$20.25 million (Abramson, 2015).

2.3.1.4 Incumbency Advantages Independent of Size

Porter (2008) argues that incumbents enjoy cost or quality advantages that are not usually available to new entrants. In the higher education industry, these advantages stem from sources such as established reputation, established customers (students) and suppliers (faculty, administration, and high schools), and cumulative experience. All these advantages allow incumbents to operate more efficiently. Contrarily, these advantages are not available to new entrants and deter new entrants to enter the market.

2.3.1.5 Restrictive Government Policy

Intensive regulation and dependency on funding from federal, state, and local governments place another barrier for new entrants into the higher education industry. State and local governments provide a substantial share of government funding. Federal government provides a number of grants and financial aid. However, to qualify for federal financial aid, new entrants are required to be accredited by one of six regional accrediting organizations in the United States. Regardless, the process of accreditation is lengthy and costly. Moreover, most states maintain some control over tuition prices and employees' compensation benefits at community colleges.

2.3.2 *Bargaining Supplier Power*

The power of suppliers in the higher education industry is medium to strong. Faculty members, instructors, researchers, and administrators are major suppliers for community colleges who provide information, knowledge, and research output that allow colleges to produce their educational services. Consequently, decreasing number of major suppliers may have a strong impact on the services community colleges provide. One of the main reasons is that academics serve as a major determinant of education quality at community colleges. According to Porter (2008), the absence of substitutes strengthens supplier power. Thus, as there is no substitute for supplies (namely, knowledge and research) that academics provide to colleges and the number of colleges increases, academics maintain a strong degree of bargaining supplier power. State and federal governments are another group of suppliers who provide physical resources and subsidies to community colleges. Governments have a strong supplier power because community colleges are highly dependent on state funding.

Bookstores, food services, and health clinics constitute another group of suppliers who provide physical resources, such as books, stationery, foods, drinks, and health services, respectively. This group seems to have a weaker supplier power over community colleges as there are many substitutes for what this supplier group provides.

2.3.3 Bargaining Buyer Power

Bargaining power of buyers is low to medium. In the higher education industry, the key buyers are students. Trends among these groups make an impact on the demand for education services, and must be monitored. The more options the student has to choose from, the more power the student has. As the number of substitutes increases, students gain additional bargaining power. However, students do not have the power to force down prices for education at community colleges as tuition prices are mostly regulated by state governments.

In addition to direct customers, there are intermediate customers who purchase products or services but are not the end users (Porter, 2008). The bargaining power of intermediate customers strengthens with increased influence on purchasing decisions of direct customers. In the context of the higher education industry, intermediate customers are parents of students and employers, where applicable. Parents maintain a low to medium degree of bargaining power because some parents may make decisions about the career paths and education of their children, thereby exerting some moderate influence on their children's education decisions. In addition, some parents pay tuition fees. Employers can be considered as intermediate customers as well because some employers help their employees pursue higher education by providing tuition reimbursement and motivating them to improve their skills. As intermediate customers, parents and employers have a low degree of bargaining buyer power when accounting for their degree of influence on the purchasing decisions of direct customers (students).

2.3.4 Rivalry

Per Porter (2008), the intensity and basis of competition determines the degree to which competition erodes an industry's profitability.

2.3.4.1 Internal Rivalry

The concentration and competition within the industry is low, and the industry is expected to grow 1.5% annually between 2018 and 2023 (Guattery, 2018). The number of colleges is estimated to grow at an annualized rate of 0.2% to 745 institutions by 2023 (Guattery, 2018). The degree of seller concentration within the industry is low, as the

four largest institutions captured less than five percent of total industry revenue in 2018. California Community Colleges' 114 schools account for 2.9 percent of total industry revenue and State University of New York's 64 colleges account for 1.5 percent of market share, making them the largest players in the industry. The degree of intensity on which community colleges compete with each other is low because most of colleges operate in local markets.

According to Porter (2008), rivalry based on dimensions other than price increases customer value. Thus, such rivalry is less likely to drive down an industry's profitability. Even though internal competition in community colleges industry is low, competition is expected to increase (Guattery, 2018). Some reasons include the status of the economy, an increase in the amount of community colleges, and an increase in the availability of online classes. With the current strong economy, there are fewer people willing to go to community college because they prefer to focus on their career. This causes the colleges to compete for a limited pool of students. When there is a weak economy and there are more students willing to increase their education, colleges compete for an abundance of students. The growing increase in the amount of community colleges also creates rivalry because students have more options and colleges need to convince them that they are the better choice. Finally, the increase in online classes gives students easy access to virtually any college or university regardless of distance. This relatively new and potentially enormous market makes colleges compete to capture the bigger haul by promoting their online classes.

2.3.4.2 External Rivalry

External competition of community colleges with other education industries experiences low to medium level of competition. The degree of intensity on which community colleges compete with four-year universities, trade and technical schools, and distance education schools, is medium. In this case, institutions compete on a regional or national basis. In addition to geographic basis, competitors compete based on price, convenience, course content, and reputation. Community colleges have remained price competitive in education industries for many years by offering accredited programs at lower prices. Additionally, growth of baccalaureate programs offered by community

colleges starting in the early 1990s strengthens cost advantage of community colleges over four-year universities that much more.

Moving forward, the increased growth of distance education has intensified external rivalry by diminishing regional constraints. Specifically, community colleges are expected to further lower costs and compete with four-year universities by implementing more online education programs. Potentially, increased number of online education programs will help community colleges to attract new customer groups. All considered, the level of external competition is likely to increase.

To summarize, as the rate of industry growth is expected to be slow, degree of seller concentration to remain almost same, and number of customers (students) to increase at a slow rate as well, the force of rivalry will likely remain low to medium over the next five years.

2.3.5 Threat of Substitute Products or Services

The threat of substitution is medium to high and is expected to increase. From the perspective of the community colleges, substitutes to college education programs would be alternative education programs such as four-year bachelor degrees, online programs, and vocational education via trade schools. While vocational education presents characteristics of being substitutes for community college education, four-year bachelor degrees and online programs serve both substitute and complementary roles to one another.

One of the major substitutes for two-year college education are four-year bachelor programs offered by universities. While completion of a four-year bachelor program can lead to higher earnings for a student, such programs also require higher tuition fees and may not be available locally, which may necessitate moving and housing costs. It is important to note that four-year bachelor degrees also play complementary role for community colleges as they offer IGETC (UC) and CSU transfer programs for students to transfer to universities and complete bachelor programs at those universities. Even though some community colleges have started offering uniquely specialized bachelor degree programs at lower costs, unlike universities, these community colleges typically lack prestige.

Another substitute for college education classroom lessons are completely online programs. According to Woodyard & Larson (2017), during 2014-2016 there were 576 completely online distance education programs offered by 48 colleges. Even though community colleges attempt to implement more online courses, online initiatives like Coursera, edX, and Udacity expand their online education services at a faster pace (Guattery, 2018). These alternative institutions present a threat for community colleges as they offer courses from leading four-year institutions at lower costs or even for free (Guattery, 2018).

Next, programs offered by trade, vocational, or technical schools pose another threat of substitutes to the community colleges industry. Even though trade, vocational, and technical schools tend to serve academically and economically disadvantaged students in comparison with college and university students, these schools appear to be attractive to many potential community college students. Similar to demand for community college, demand for technical and vocational school drops as unemployment rate declines because further education becomes less required to finding employment. However, the industry for trade and technical schools is estimated to grow at an annualized 1.2 percent over the next five years (O'Hollaren, 2018). One of the major drivers of expected industry growth is a greater use of technology in various trades, such as the automotive industry, that has increased demand for vocational education (O'Hollaren, 2018). While trade and vocational schools have been criticized for not leading to associate or bachelor degrees, they still offer programs acceptable for employment, thereby posing the threat of substitution to community college education over the next five years.

To summarize, the analysis demonstrates that the threat of substitutes represents the strongest impact on the industry's profitability. To neutralize the threat of substitutes, Porter (2008) recommends organizations offer better value through providing superior products and accessibility.

2.4 SWOT Analysis

To evaluate strengths, weaknesses, opportunities, and threats for AVC based on findings from our PESTEL analysis, we also provide a SWOT analysis. This is used to

identify and prioritize AVC's business goals in respect to identified potential and existing problems and opportunities, and further develop a strategy from achieving those goals. Our SWOT findings are summarized and presented in Figure 5 (Appendix A).

2.4.1 Strengths

2.4.1.1 Affordable Tuition

AVC, like all community colleges, is exponentially more affordable than a traditional four-year university. The 2018-2019 school year is only \$46 per unit or approximately \$1,100 annually (Antelope Valley College, 2018i). The bachelor's degree they offer in Airframe Manufacturing Technology is also significantly cheaper than going the traditional route, costing roughly \$11,000 (Antelope Valley College, 2018c).

2.4.1.2 Location

AVC has the advantage of being the closest community college in the Lancaster and Palmdale area. The next closest community colleges to AVC would be Los Angeles Mission College in Sylmar and College of the Canyons in Santa Clarita, both located approximately fifty miles away. AVC has one campus in Lancaster and another in Palmdale, which makes it more convenient for students in the Antelope Valley to attend their school. This gives them superior access to high school students who reside in the Lancaster and Palmdale area and choose to go to college locally.

2.4.1.3 Collaborations

AVC collaborates with CSU Long Beach (CSULB), CSU Bakersfield (CSUB), Azusa Pacific University (APU), and Brandman University. The accessibility of local CSU campuses can be all the difference for many low-income students in determining whether they can pursue higher education. With the average cost of housing between \$5,000 to \$8,000 per semester for CSUB and CSULB students, the ability to take courses and even earn a degree at AVC from these universities is an incredibly enticing and quite possibly determining factor (California State University Bakersfield, 2018b). CSUB at AVC offers six undergraduate degrees and six master's degrees to students (California State University Bakersfield, 2018a). Additionally, CSULB has a campus in the

Lancaster University Center that provides students with the opportunity to get a bachelor's degree in Electrical and Mechanical Engineering. These programs are meant for students that have already completed their lower level classes, which can be taken at AVC (California State University Long Beach, 2018). As a community college, AVC offers lower tuition fees than traditional four-year universities, and with its collaboration with CSUB and CSULB, there is even the opportunity to earn a bachelor's or master's degree without having to travel to the university.

Their partnership with APU allows students to take general education and some lower-division courses at AVC that have already been predetermined by APU to be transferable to their university for some major or minor programs (Antelope Valley College, 2018k). Lastly, Brandman University has an Early Advantage Program through AVC that expedites their bachelor's degree programs (Antelope Valley College, 2018k). These are tremendous strengths that are used to encourage local students to enroll into AVC.

2.4.1.4 Programs

AVC has many programs, including an early recruitment program called Students on the Academic Rise (SOAR), a one of a kind Airframe Manufacturing Technology program, and a preparatory Law School program. The Antelope Valley SOAR High School, is an Early College High School located on AVC grounds (Antelope Valley College, 2018e). It is part of the Antelope Valley Joint Union High School District that has teamed up with AVC to help students expedite the academic process. This specialized school offers students college courses integrated into their curriculum and guarantees both a high school diploma and an associate's degree after completion of a five-year program (Antelope Valley College, 2018e). This specialized partnership serves to promote AVC and help it acquire a larger number of students.

As mentioned above, AVC offers a unique Airframe Manufacturing Technology program and bachelor's degree by the same name. Additionally, their strong ties to local business in the aerospace industry (such as Lockheed Martin and Northrop Grumman) make AVC's certificates and degrees desirable to students. These two factors working in conjunction add appeal to AVC and encourage student enrollment.

Additionally, AVC has implemented a Law Scholars program to prepare prospective law students. The Law Scholars program offers “financial aid counseling, academic advising, LSAT prep, exposure to the legal profession,” and other aspects to increase interest in law (Antelope Valley College, 2018f). This program helps students in the local area who aspire to go to law school prepare for the future by giving them the proper tools for success.

2.4.1.5 Enrollment Process

Enrolling into AVC is a simple process that the college describes as “apply, plan, and pay,” which can be done on campus or online (Antelope Valley College, 2018d). Students can also easily do an orientation online, as well as enroll in classes and pay fees (Antelope Valley College, 2018d). Additionally, students have the ability to take their assessments on campus. The process is much simpler than traditional four-year universities that require a lengthier application, submission of SAT scores (if not transferring), essays, letters of recommendation, etc.

2.4.1.6 Name Recognition in the Community

AVC has garnered recognition from the community by being a great community college with a wide range of programs and connections. AVC has attracted the attention of many lucrative businesses (especially in the aerospace division) and has created strong ties with them that it extends to its students. Being a fairly isolated college, AVC is a highlight for higher education in the surrounding area.

2.4.2 *Weaknesses*

2.4.2.1 Low Pedigree of Community Colleges

There is a misconception that going to AVC and all community colleges is the inferior route to going directly to a traditional four-year university. There are multiple reasons for transferring from a community college, including costs and location. It is significantly cheaper to attend a community college while taking general education courses that are equivalent to those offered at four-year universities. The higher education industry has made transferring easy by ensuring that two-year associate’s degrees meet

the general education requirements of most universities (Education Corner, 2018). The curriculum is on par with universities, because professors are required to have a master's degree or higher to teach at a community college, and community colleges also seek to hire professionals that are engaged in their respective field and can offer real world experience to students (Education Corner, 2018). A community college may also be located closer to home avoiding living costs or inconvenient day to day travel. Nonetheless, despite being comparable in quality, AVC has the weakness of low pedigree relative to four-year universities.

2.4.2.2 Low Student Engagement

Community college students typically drive to school, go to class, and then go home. This ritual could potentially cause students to miss out on the opportunity to establish a support network to help with their success at school. Connections that are made with peers and professors at universities are often unheard of in community colleges, like AVC, where students primarily go to class and leave. These connections can be extremely valuable when looking for work or in getting a letter of recommendation. A robust student life and integration in learning communities has been linked to positive student academic achievement. Studies have also shown that freshman and seniors in a learning community are more involved in their academics, interact with faculty more, participate in more activities, and take classes that promote a higher order of thinking (Zhao & Kuh, 2004). The culture of being part of a learning community and not just going to class and leaving campus has an incredibly positive impact on students, and is usually missing in a community college setting like AVC.

2.4.2.3 Declining Enrollment

Community colleges in the United States are seeing decreased enrollment and tighter budgets (Guattery, 2018). Many students drop out their first year, fewer than 40% graduate, and of those that do, only 14% go on to pursue and obtain a bachelor's degree within six years (Sanburn, 2017). Although there are many benefits to community colleges, they still struggle to recruit, maintain, and see the successful graduation of the majority of their students.

A stronger economy with lower rates of unemployment has also led to fewer enrollments in community colleges as many individuals choose to pursue their jobs in full-time employment rather than continuing their education (Guattery, 2018). During the last five years, students in the age group of thirty and older have seen a notable decline in enrollment because of the economy (Guattery, 2018). AVC has seen a significant decline in attendance in particular, with 14,530 students attending in the Fall 2015 semester, but only 13,680 students attending in Spring 2018 (California Community College Chancellor's Office, 2018).

2.4.2.4 Low Advising and Counseling Support

Support services are vital for students' academic success, and our primary and secondary research has shown it to be beneficial for community college students. Unfortunately, due to budget cuts, many of these services have dissolved throughout the community college industry during the past five years (Guattery, 2018). Making sure that these services abound in the future could determine how likely students will be to enroll and succeed in community colleges.

Academic advising is of paramount importance, as many new students have academic deficiencies that are detrimental to their success in college-level classes (Cooper, n.d.). Creating an individualized education plan that fits students' strengths can make the difference between putting a student on the path to successful completion or to possible failure and dropping out of college. AVC offers traditional counseling methods as well as live chat counseling on the internet. Although AVC has gone to great lengths to implement online counseling to reach out to students, they only have allotted eight hours per week to this service (Antelope Valley College, 2018h). Knowing how crucial counseling is for students, and adding to the fact that community college students are less likely to use resources available on campus (as they typically go to class and go home), unfortunately, AVC does not have enough online counseling hours. Counseling is a powerful tool and colleges should seek ways to make it more accessible to students.

2.4.3 Opportunities

2.4.3.1 Government Funding

As government funding constitutes the primary source of income for most community colleges in the U.S., expected increases of government funding over the next five years represents a potential opportunity for the industry. As the overall U.S. economy is expected to grow, state tax revenue continues to improve. This will help alleviate state budget deficits. In addition, projections of increased federal government aid to students over the next five years will likely raise demand for education services at community colleges. Overall, government funding is forecasted to increase at an annualized rate of 1.1% to \$167.5 billion over the next five years (Guattery, 2018).

2.4.3.2 Number of College Students

Another opportunity may arise from this projected increase in the number of college students. As their numbers increase, community colleges revenues generated primarily from tuition and academic fees will increase. According to National Center for Education Statistics (2018), the number of students projected to attend American colleges and universities in Fall 2018 is 19.9 million. Total enrollment is expected to increase to 20.5 million in the next 10 years. Moreover, high school retention rates are expected to increase in 2018 (Guattery, 2018). As the number of high school graduates is positively correlated with the number of college freshmen, an increased number of high school graduates will result in a higher enrollment rate and greater revenue from tuition and student fees, and state apportionments.

2.4.3.3 Guided Pathways

Successful implementation of the Guided Pathways framework represents one of the major opportunities for U.S. community colleges to improve their performance. Although the Guided Pathways model is still in its early stage, its implementation at several colleges has yielded promising results. Among state community college systems, Tennessee Board of Regents' thirteen community colleges are probably the furthest along in implementing Guided Pathways reforms (Jenkins, 2018). Lorain Community College

in Ohio has reached an increase of 48 percent in associate degrees over the last five years (CC Daily, 2017). Implementation of guided pathways at Guttman Community College in New York helped Guttman College achieve a three-year goal of sustaining a graduation rate of 35 percent (Jenkins, 2014). Per the Integrated Postsecondary Education Data System, the median three-year graduation rate for community colleges in large cities was 12.9 percent. Although these measures do not represent a complete evaluation of a Guided Pathways program, the preliminary data is promising.

2.4.3.4 Distance Education

Distance education programs present additional opportunities for community colleges in the US. According to Woodyard & Larson (2017), the number of students taking distance education classes has been steadily increasing over the last ten years. As of the 2016-2017 academic year, students who enroll in distance education courses have accounted for nearly one third of all California Community Colleges students. Student headcounts in online classes more than doubled from 2005-06 to 2010-2011, and nearly tripled by the 2016-17 academic year. According to Guattery (2018), community colleges in the U.S. are expected to increase their number of distance education classes to lower operating costs. Such increases in the number of online classes may enable community colleges to attract more new customers such as students living in remote areas, working students, and low-income students. Moreover, projections of online services growth at an annualized rate of 7.2% over the next five years demonstrates that the demand for online services is strong and rising among U.S. consumers (Guatterez, 2018).

2.4.3.5 Rising Demand for Skilled Professions

The rising demand for skilled professions represents another opportunity for the industry. Employment Projections staff (2013) projects that skilled professions, such as registered nurses and electricians, will be in greater demand over the five years. As a consequence, increased demand for skilled professions will likely lead to higher enrollment rates in technical and vocational programs offered by community colleges. Moreover, as the economy is expected to shift toward a service-based economy, the demand for associate degrees is forecasted to increase as well. Overall, demand for

community college education is expected to increase as a result of labor market changes over the next five years.

2.4.3.6 Community College Baccalaureate Programs

Select California Community Colleges have been granted permission to offer bachelor's degrees as part of the national agenda to improve degree completion. Under Chapter 747 of Senate Bill (SB) 850, state law authorized the California Community Colleges to offer bachelor's degrees on a pilot basis at fifteen community colleges (LAO Report, 2017). Several new bachelor's degree programs started during the 2017-2018 academic year. Although it is too soon to evaluate new programs outcomes, it seems that the presented opportunity grants competitive advantage for community colleges over other educational institutions.

2.4.4 *Threats*

2.4.4.1 National Unemployment Rate

In the education market, the decline of national unemployment translates into more job opportunities and higher demand to pursue education at four-year universities. Specifically, many potential community college students are afforded new opportunities for employment or to continue their education at a four-year university in pursuit of bachelor's degrees. Consequently, declines in the unemployment rate during the last five years resulted in total enrollment decline in community colleges for most of the last five years (NCES, 2017). As national unemployment is forecasted to decrease over the next five years, community colleges will likely continue to face enrollment challenges.

2.4.4.2 International Students

A projected decline in enrollments from international students may signal a potential threat to community colleges as well. According to a survey by the Institute of International Education (2017), 68 percent of respondents to the survey institutions cited that the anti-immigration rhetoric and policies of President Donald Trump as directly contributing to this decline. The decline in international students' enrollments has translated into decreased tuition revenues for community colleges. According to NAFSA

(2017), 96,472 international students studying at U.S. community colleges made a valuable contribution of \$2.6 billion in tuition revenues during the 2016-2017 academic year. It should be emphasized that this 6.9 percent decline in the number of international students translates to a significantly higher decline in revenue from tuition fees for community colleges. After all, international students pay \$297 per unit, over five times higher than the \$46 per unit rate paid by residents.

2.4.4.3 New Competition

The increasingly crowded higher-education landscape presents community colleges with yet another threat, specifically, four-year universities and for-profit institutions, such as coding boot camps, that are targeting high school graduates. For instance, Arizona State University has launched Global Freshman Academy that offers an alternative option for students to complete their first-year course online at lower costs. These online courses are open to any students and can be paid after students pass those courses. Even though community colleges attempt to offer more online classes, competing with institutions that offer fully-online programs may be challenging in the future as institutions have more opportunities to invest in new online infrastructure.

2.4.4.4 Unprepared High School Graduates

The large number of unprepared high schoolers represents another threat to the community college industry. According to Allensworth & Easton (2007), only 25 percent of high school graduates meet all of ACT tests' benchmarks for college preparedness. Some efforts have been done to solve the problem of underprepared students. For example, Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP), is a federal program designed to support small project to address college-readiness problem as early as middle school. Clearly, a lot of work is to be done to closing the gap between high schools and colleges. Until then, a large number of unprepared students places a threat to the community college industry.

In the next section, we present our research questions and design, as well as our rationale for how our research methods will help us to make appropriate recommendations for AVC to use the Guided Pathways framework to improve student

success. We will review the results of our primary research, consisting of focus groups administered to AVC students and questionnaires distributed to AVC students, faculty, and staff.

III. Method

3.1 Overview

Our recommendations and implementation plan for AVC are based on secondary data from other colleges where the Guided Pathways framework has been successfully implemented as well as quantitative information pertaining to the institutional effectiveness of the college, particularly student success rates, completions, transfers, and attrition. They are also heavily informed by qualitative and quantitative information in the form of student and employee feedback. This data has been directly obtained through student focus groups as well as survey questionnaires administered to AVC students, faculty, and staff. Once again, our research was driven by a series of research questions:

- RQ1. What major challenges does AVC face in clarifying the path for their students?
- RQ2. What major challenges do AVC students face in entering and staying on the path?
- RQ3. What are major obstacles to student success at AVC?
- RQ4. What do AVC students, faculty, and staff think of Guided Pathways?

To answer the research questions posed above, we selected a mixed methods research design. This method involved two data collection methods.

The first method was quantitative. We developed three types of questionnaires:

- Students - designed to collect basic demographic data on the students, their college experience, and their needs to succeed.
- Instructional faculty - designed to understand students' needs from their perspective and ascertain any reasons for resistance to the implementation of Guided Pathways.

- Student Services staff - designed to understand students' needs from a counseling and staff perspective and to ascertain any deficiencies in the Student Services areas.

The idea was to understand various stakeholders' perspectives as they relate to the cornerstones and barriers to successful implementation of the Guided Pathways framework at AVC. Conjointly, the questionnaires were designed to reveal whether the each stakeholder group's perceptions of student needs were in alignment.

All three types of questionnaires included structured close-ended questions (multiple choice and Likert scale questions) and an open-ended question. The questions were originated from CCSSE surveys (2017) and were tailored based on feedback from AVC's Guided Pathways Committee. For a detailed list of our questions please see Appendix B. Open-ended questions were added by our team to gather more insights from each stakeholder group. We conducted questionnaires using Survey Monkey, an online survey platform. Questionnaires were sent out to AVC students, instructors, and Student Services employees. All three questionnaires were held open for seven days. We used SPSS version 24.X to analyze the survey data.

The second method used was qualitative. We conducted two focus groups with a total of eleven AVC students from various majors and backgrounds. To provide support with the focus groups event, AVC appointed a Guided Pathways Committee member and some counselors to recruit participants. Two focus groups were run in parallel by our team of four. Students were assured that their comments would remain confidential and would not be attributed to them in our report. Focus groups were video-recorded and transcribed. Sandwiches, bags, fidget spinners, pens, and headphones were used as incentives for student participation.

3.2 Rationale

We opted to use mixed methods research design to supplement the quantified data collected from three questionnaires with stories emerged through the focus groups. The mix of these two methods has increased the validity of data and allowed us to reveal deeper meaning and insights into the collected data.

The questionnaires helped to increase generalizability of results by allowing data collection from a larger number of respondents and allow utilization of statistical analysis that unveiled trends and patterns in responses from a larger number of students. Moreover, questionnaires require less time and fewer resources compared to focus groups.

However, due to questionnaires' limitations in obtaining in-depth responses, we determined focus groups to be the best tool to collect creative ideas, thoughts, and opinions from students. The students shared their college experiences, academic needs, and opinions about Guided Pathways. Focus groups were intended to complement questionnaires and other data obtained through secondary research, providing the college with a more complete picture of the student experience on campus.

3.3 Data Collection and Benchmarking

We collected secondary data about student success rates (completion, transfers, and attrition), enrollments, and other factors pertaining to institutional effectiveness at AVC and other community colleges that have implemented Guided Pathways. We used data provided directly by AVC, field research, industry reports, newspapers, search engines, and databases.

We collected primary data using questionnaires and focus groups. Primary data will be compared with Community College Survey of Student Engagement (CCSSE) and Community College Faculty Survey of Student Engagement (CCFSSE) benchmarks (see Appendix A). To clarify, CCSSE and CCFSSE results are used as national benchmarks to compare each institution's performance to that of similar institutions based on a specific CCSSE cohort (CCSSE, 2018). The Community College Faculty Survey of Student Engagement (CCFSSE) is an online survey offered as a companion to the CCSSE (CCSSE, 2018).

3.4 Key Measures

Our study involved measurement of both independent and dependent variables. More specifically, our analyses will include variable specific information such as descriptives, frequencies, and group comparisons.

We collected information on the following *independent variables*:

- age
- gender
- racial identity
- enrollment status
- number of years of working experience at AVC
- employment type

We also collected information on the following *dependent variables*:

- participation in orientation
- development of academic plan
- familiarity with program requirements
- importance of student services
- frequency of referral to student services
- importance of advising
- major obstacles to student success
- familiarity with Guided Pathways
- opinions about Guided Pathways

The analysis of these variables helped us to interpret data from questionnaires and indicate the areas for improvement and importance at AVC.

3.5 Sample

Online surveys were sent out via email blast to all students, instructors, and Student Services employees. We initially received 390 responses from students, 54 responses from instructional faculty, and 21 responses from counselors and Student Services staff. We performed raw survey data cleaning techniques to eliminate respondents who skipped more than four questions or surveys where a gaming pattern was observed.

In Table 1 (below), we summarize the number of completed usable questionnaires we received for each online survey and focus groups.

Table 1. Summary of Completed Online Survey and Focus Group Respondents

	Students	Instructors	Student Services
Online survey	260	53	21
Focus groups	11	n/a	n/a

Focus groups. In Table 2 (Appendix A), we summarize the demographic characteristics of focus group participants. Of the 11 students that participated in the focus groups, 81.82% were female. The majority of participants (54.55%) were 18-21 years old and participants ages 22-29 made up 27.27%. Latino/Hispanic participants made up 27.27% of the students surveyed, and 63.64% were Black/African-American. Of the participants, 81.82% said that they were not married. 72.73% of the participants said that AVC was their first college attended and 72.73% of the student's highest academic credential earned was a high school diploma. Students that were taking 12 or more units made up 54.55% of the group, and interestingly 45.45 % of participants stated that they were employed. Of the employed participants, 60% stated that they work 20 hours or fewer. Finally, 81.82% marked that they were eligible for and have received financial aid.

Online questionnaires. A summary of the demographic characteristics of students is presented in Table 3 (Appendix A). The majority of participating students were female (71.6%). Ethnically, the majority of participating students were Hispanic (46.7%). More than 55% of respondents have not yet obtained a college degree, and 70% of respondents had been enrolled in more than one academic term at AVC. Almost 30% of participating students are taking 9-12 units and more than 78% of participating students began college at AVC.

Instructor questionnaires. A summary of instructor demographics is presented in Table 4 (Appendix A). The majority of the participating instructors possessed 10 to 19 years of teaching experience at AVC (43%), and the majority were part-time employees (55%). Forty-one percent of instructors responded that 20-29 students were enrolled in each course they taught.

Student services questionnaires. A summary of Student Services demographics is presented in Table 5 (Appendix A). The majority of participating Students Services employees (43%) are counseling faculty. All participating Student Services employees are employed full-time with the majority of respondents possessing 10-19 years of experience working in the Student Services area at AVC.

3.6 Analysis Approach

We used cross-sectional analysis that involved data analyses at a specific point in time. We analyzed the results of questionnaires and focus groups separately. First, we ran a frequency test and an outliers test for each online survey results. This helped us identify any possible missing data, response patterns, and outliers to get accurate results from the surveys conducted. For the analysis of the data, we used descriptive statistics and ANOVA group comparisons. Next, responses to open-ended questions were coded, grouped by categories, and analyzed separately. Finally, focus group responses were transcribed and grouped using terms such as *most*, *few*, and *the majority*. Our analysis of focus group data is based on generalization of findings in terms of the group terms.

Where possible, we then linked all results together. These results are then used to generate our recommendations and an implementation plan.

3.7 Limitations

- *Focus Group*
 - Limited generalizability: The focus group sample size was fairly small with eleven student participants that may not represent the general student population.
 - Participant selection: The participants were selected by AVC staff and were members of college organizations. This leads us to believe that these students are actively engaged in their academic careers and with on-campus activities. The experiences and perspectives of this group may not be representative of the general student population.
 - Self-selection bias: The participants of the focus group may have agreed to voice their opinions because they are more interested in improving their

college experience compared to the students that opted not to be a part of the focus groups.

- Time constraints: Two focus groups were conducted on a specific day and time. The time constraint limited the participants to those who were able to be on campus on that day and time.
- *Online Questionnaires*
 - Limited generalizability: Due to the number of respondents compared to the total number of enrolled students, the results may not be indicative of what the general AVC populace would have established if we had a larger sample size.
 - Self-selection bias: Students who choose to be part of the survey may have seen the value that their opinions and experiences would have on future changes on campus, as opposed to the participants who opted not to participate because they may not have viewed the value in doing so.
 - Time constraints: Questionnaires were only available for one week, and only one reminder was sent to all recipients one day before the survey was set to end.
 - Ability to acquire additional data: The surveys provided multiple choice answers which limited us from gathering further information to understand the in-depth story from each respondent. This passive method of collecting information provides no direct engagement with the respondents and no future opportunity to follow-up with them regarding their responses.

IV. Results

4.1 Overview

Below, we present results from three questionnaires (students, instructors, and Student Services) and student focus groups as they relate to each research question. We also present results of group comparisons such as students, instructors, and Student Services employees. To answer each research question, we linked data from the student, instructor, and Student Services questionnaires, along with data from the student focus groups. We then performed complementary examination.

4.2 RQ1: What major challenges does AVC face in clarifying the path for their students?

As mentioned above, “Clarify the Path,” “Enter the Path,” “Stay on the Path”, and “Ensure Learning” are four pillars of the Guided Pathways framework. These practices are essential for students to successfully navigate college and get a head-start toward success in the workforce.

To identify the major challenges in implementing the “Clarify the Path” practice at AVC, we assessed the challenges related to student selection of a major and courses, development of an academic plan, and familiarity with program requirements.

4.2.1 Selecting a Major and Courses

Selecting a major and courses is an essential step of clarifying the path. We asked focus group participants if selecting a major and courses has been challenging and, if so, why.

Student focus groups. The general consensus of student participants in the focus groups was that choosing a major was challenging. They attributed this challenge to selecting a major before they felt ready and informed about it, narrowing their interests to a major, and pressure from their parents. A distressed student commented, “I’m interested in a lot of things so finding which one I could see myself doing for the rest of my life is difficult.” Some of the participants explained that their families had raised them with expectations of going into a prestigious and lucrative field like medicine. However, students realized they did not want to be on that path once they began taking courses in that major. Most students expressed interest in having workshops that would help them select a major. The workshops would expose them to information on majors provided by the college and careers to assist students with narrowing down their field of study. AVC faces the challenge of helping students become informed about and selecting a major.

The majority of participants stated that deciding which courses to take was challenging due to the unpredictable class schedule, the lack of class availability, not knowing which classes are required for their major, and misguidance from counselors. Some students had to go to many counselors for advice to try and determine which classes they should take. One student recounted their sister’s experience: “*My sister got*

the run around for her program until she got to one specific counselor who gave her a more guided path. When it comes to counseling, I think it's subpar.” Students generally did not find the counselor’s help useful and had to decide on their own which classes to take. Although the majority of the students in the focus groups had trouble picking courses and determining a major, due to sample size limitation, we cannot be certain that this is an issue with the larger populace of AVC.

4.2.2 Development of an Academic Plan

Developing an academic plan early on is important for clarifying the path. We asked AVC students whether an advisor helped them develop an academic plan and compared the results with Community College Survey of Student Engagement (CCSSE) benchmark to assess whether there was a gap between AVC students and other colleges students nationwide with respect to academic plan development.

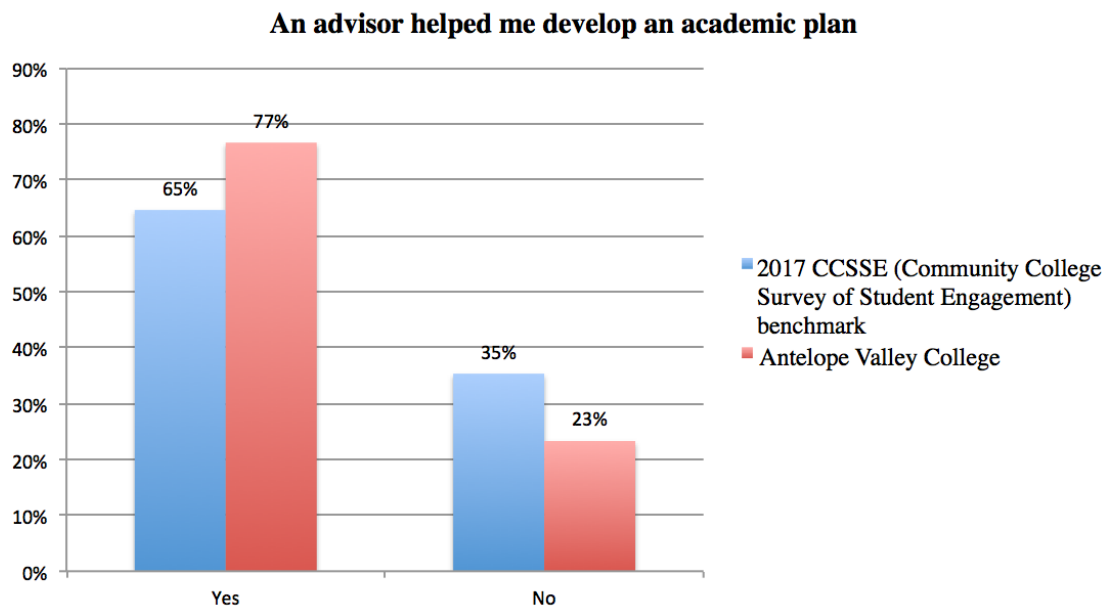
Student focus groups. The majority of focus group students shared that developing an academic plan has been challenging. Staying on track with the chosen plan has been even more challenging. The major problems that students say are prevalent among counselors is their lack of personalized guidance for individual students, and that counseling recommendations are not consistent between counselors. The lack of uniform counseling is confusing and makes things even more turbulent for students. Students typically meet with many counselors until they find one that provides them with a clear understanding of the path they should take to meet their academic goals. Students expressed the need to have knowledgeable counselors for their individual majors that provide advice on the most beneficial and efficient courses, and counselors that provide them with honest feedback about balancing school and personal life. A student sharing his experience stated, “I’ve gone to a few different counselors here, and the first few I went to told me to take as many classes as I can to obviously finish my degree faster; as the result of that, I did not get good grades.”

Focus group participants also expressed a desire for a comprehensive list of all classes they need for their major to avoid taking unnecessary classes. Students want to be able to prioritize which classes they should take by being informed about when classes will be offered. This will allow them to formulate long-term schedule plans and avoid

taking unnecessary classes in order to meet their full-time academic status requirements for financial aid.

Student questionnaire. Figure 7 below compares responses of AVC students to the CCSSE benchmark established among their 2017 nationwide cohort. The results indicate that the percentage of AVC students who seek advisor help to develop their education plans (77%) is higher than the national average (65%). However, for the 23% of students who did not develop an academic plan, this presents a challenge for students in clarifying their path. A limitation to this result is the limited generalizability.

Figure 7. Development of Academic Plan (AVC and 2017 CCSSE)



4.2.3 Familiarity with Program Requirements

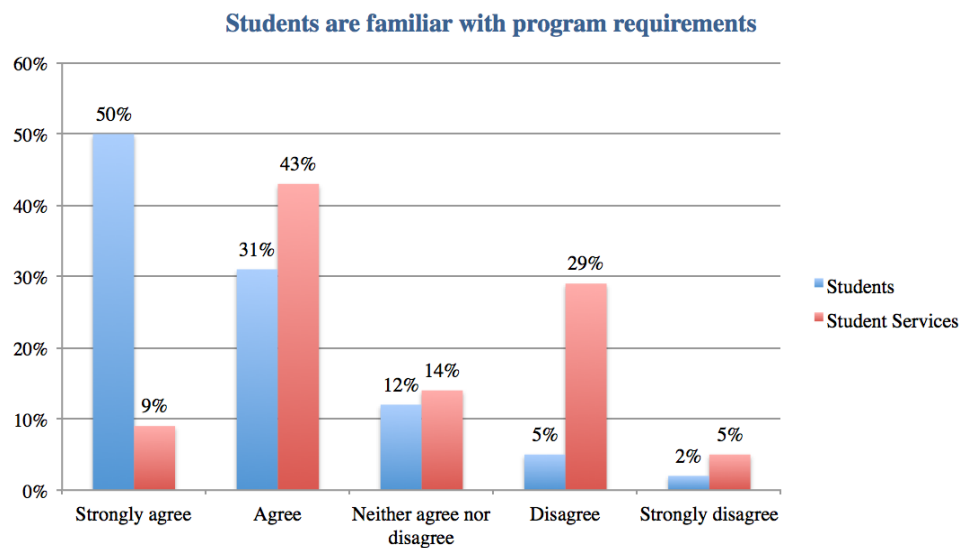
Even though the majority of AVC students (77%) have developed an academic plan, that does not guarantee that the same percentage of AVC students are familiar with program requirements. In a similar vein, to assess the alignment of students' self-perception with the perception of Student Services employees with regard to the former's familiarity with program requirements, we asked both groups how familiar they felt students were with program requirements. The results are presented in Figure 8.

Student questionnaire. Eighty one percent of students agreed that they were familiar with program requirements. A limitation to this question was our inability to ask

follow up questions to determine which resources these students used to comprehend their program requirements in contrast to the students who did not. We cannot advise which resources are helpful for students based on the results of this question.

Interestingly, while 50% of students strongly agreed that they were familiar with program requirements, only 9% of Student Services employees strongly agreed that students were familiar with program requirements.

Figure 8. Familiarity with Program Requirements from a Student and Student Services Perspective



4.3 RQ2. What major challenges do AVC students face in entering and staying on the path?

To identify major challenges to implement initiatives pertaining to the “Enter the Path” and “Stay on the Path” framework pillars at AVC, we assessed the college’s orientation process, the importance of student services, referral trends to student services, the availability of advising support, and the importance of advising.

4.3.1 College Orientation

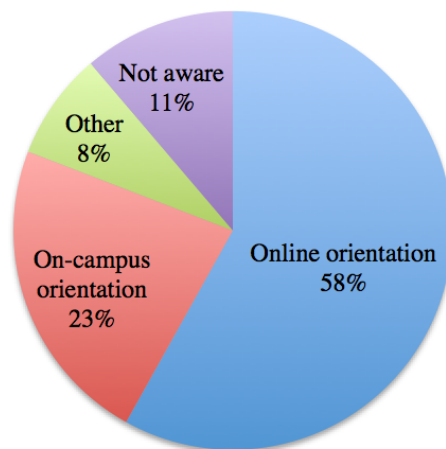
College orientations have extraordinary potential to provide students with the vital tools they need to enter and stay on the path. Consequently, we posed questions to students to gauge the awareness and effectiveness of AVC’s orientation.

Student focus groups. Participants expressed that orientation was not too helpful, and one student stated that “*online orientation did not help [them] at all.*” Students suggested adding a section on how to search classes. Another student commented that registering for classes was not intuitive. Orientation did not educate students on resources available on campus and they had to learn about these services from their peers. When students met with counselors, they would not talk to students about the resources available directly, but would instead respond that information regarding these resources was available on the website. The consensus in the focus groups was that having these issues addressed in orientation would be extremely helpful to getting on the path early on.

Student questionnaire. To identify what percentage of AVC students participated in orientation and what type of orientation AVC should focus on to help students to get on a path, we asked students about the type of orientation they undertook. The majority of students (58%) participated in AVC’s online orientation module and 23% participated in on-campus orientation (Figure 9). Sadly, 11% of students are still unaware of orientation. A limitation to this result was that we were unable to get more information as to whether orientation was effective for these students and what could be done to improve the orientation process to better guide students on their path.

Figure 9. Participation in Annual Student Orientation

What type of orientation did students participate?



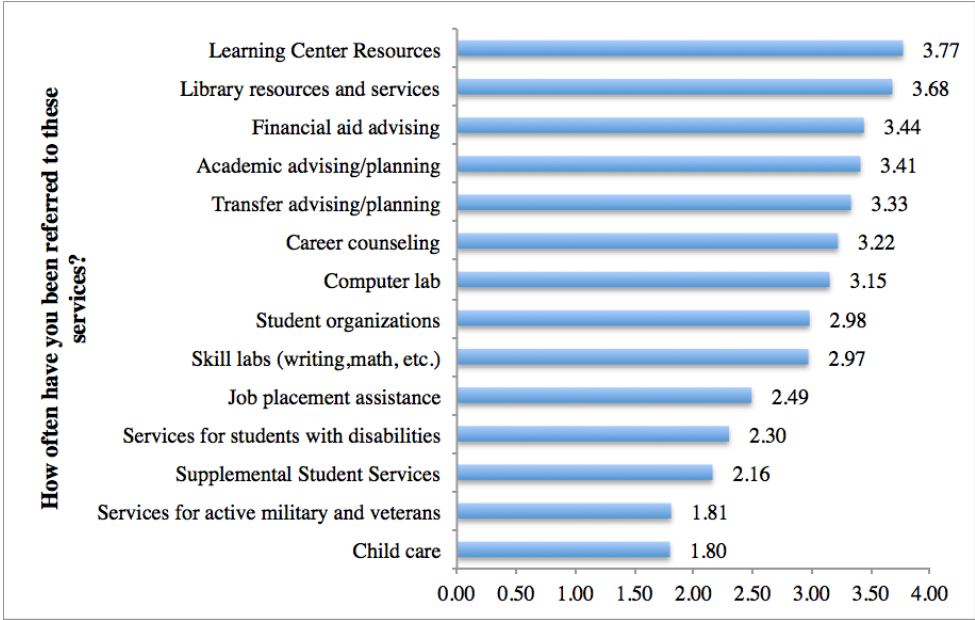
4.3.2 Student Services

Acknowledging the importance of support from the Student Services division for implementing reforms pertaining to the “Enter the Path” and “Stay on the Path” pillars of the Guided Pathways frameworks, we assessed the importance of various campus resources to AVC students. We also asked all three groups of participants about the frequency of referral to these services. We then compared all results to assess whether students had been referred the most frequently to those student services they considered the most important.

Student focus groups. During the focus groups, many students expressed their gratitude for the variety of student services on campus like EOPS, Student Equity, and UMOJA. The students’ main complaint was that the services were not overtly advertised and it took them a while to discover them. Once aware, the students seem to embrace the programs, with one exclaiming, “I do so much better in school as far as being happier to be on campus and feeling more welcomed.” Some feel that the programs offer a much-needed support system that treats them like extended family.

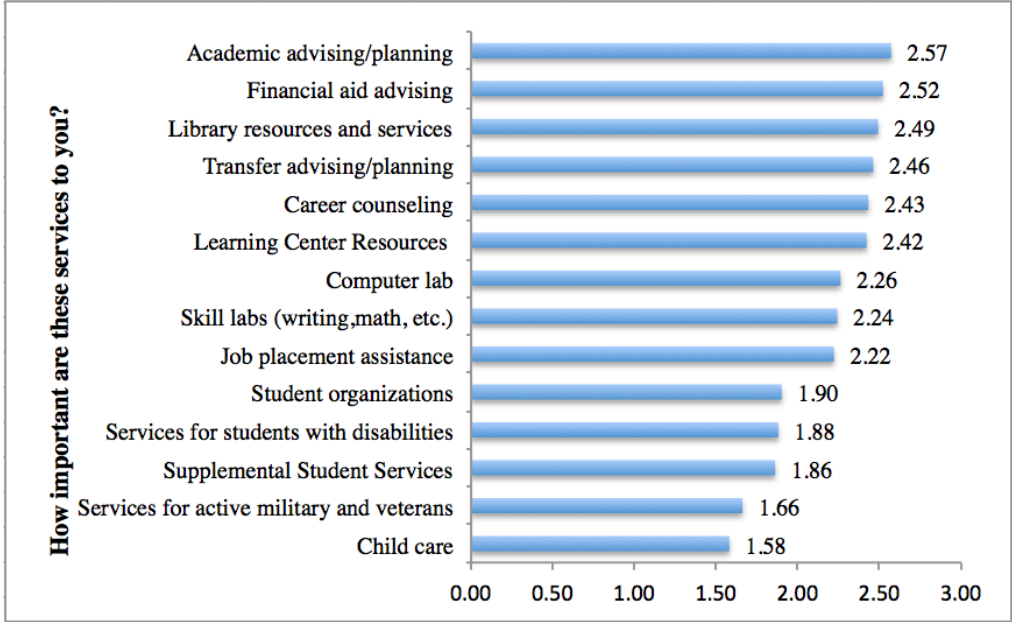
Student questionnaire. We asked students about frequency of referral to student services. The results are summarized in Figure 10. All items were rated on a five-point Likert scale. This scale was rated on a scale of 1-5 ranging with a 1 indicating “not at all” and 5 indicating “often.” The majority of students responded that they were most often referred to learning center resources (3.77), library resources (3.68), and financial aid advising (3.44).

Figure 10. Mean Levels of Referrals to Student Services from a Student Perspective



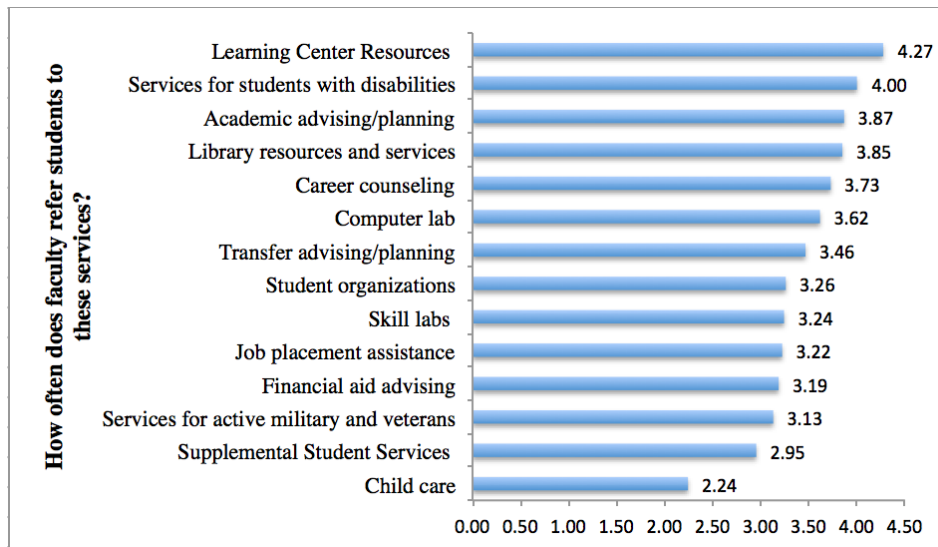
We also asked students about the importance of student services. We summarized the results in Figure 11 below. All items were rated on a three-point scale. This scale was rated from 1, or “not at all,” to 3, or “very.” The majority of participating students consider academic advising services (2.57), financial aid advising (2.52), and library resources (2.49) and services the most important. A limitation to this result was that we were not able to see which services and organizations the students were actually a part of and the true benefit that they brought to their academic success.

Figure 11. Mean Levels of Importance of Student Services from a Student Perspective



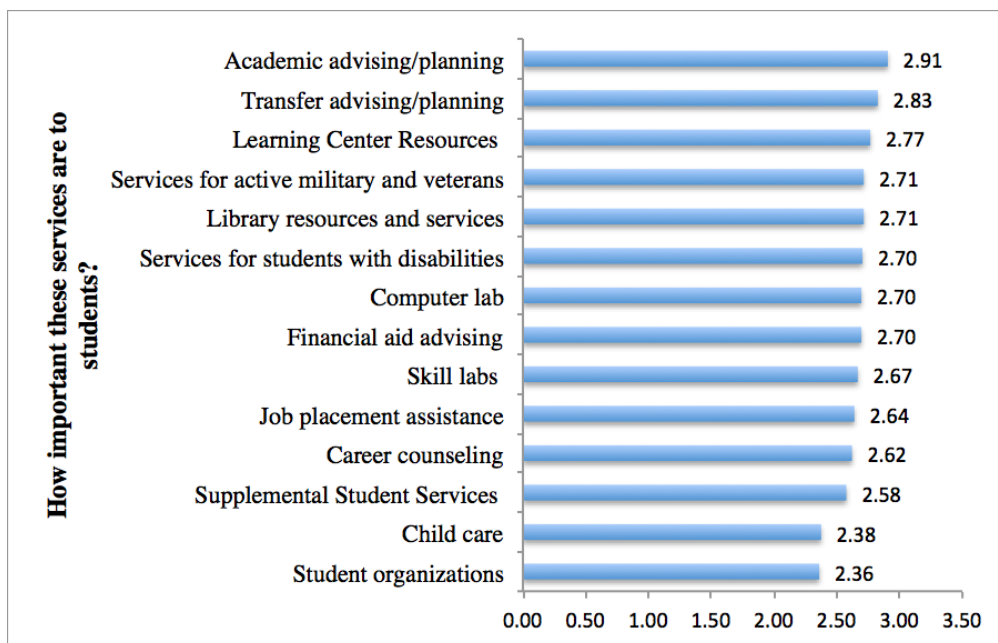
Instructor questionnaire. To assess whether there were different perceptions of student values and referral frequency with respect to student services, we also asked instructional faculty and Student Services employees similar questions about the importance of and frequency of referral to student services, as well as student awareness. Faculty instructors were asked about how often they referred students to a variety of student services. The results are reported in Figure 12 below. All items were rated on a Likert scale, with a 1 indicating “not at all” and a 5 indicating “often.” Instructor responses indicate that they mostly refer students to learning center resources (4.27), services for students with disabilities (4.00), and academic advising (3.87).

Figure 12. Mean Levels of Referrals to Student Services from an Instructor Perspective



The importance of student services from an instructor perspective was also rated on a scale of 1, or “not at all,” to 3, or “very.” Faculty instructors consider academic advising (2.91), transfer advising (2.83), and AVC’s learning center (2.77) to be the most important services to students. The results are summarized in Figure 13 below.

Figure 13. Mean Levels of Importance of Student Services from an Instructor Perspective



Student Services questionnaire. Frequency of referral and importance of student services from the perspective of Student Services employees are summarized in Figure 14 and Figure 15 below. Student Services employees refer students most frequently to the transfer advising (4.33), financial aid advising (4.29), and learning center (4.29). However, results summarized in Figure 15 suggest that Student Services employees consider academic advising (3.00), transfer advising (3.00), and supplemental student services (2.95) the most important services for student success at AVC.

Figure 14. Mean Levels of Referrals to Student Services from a Student Services Perspective

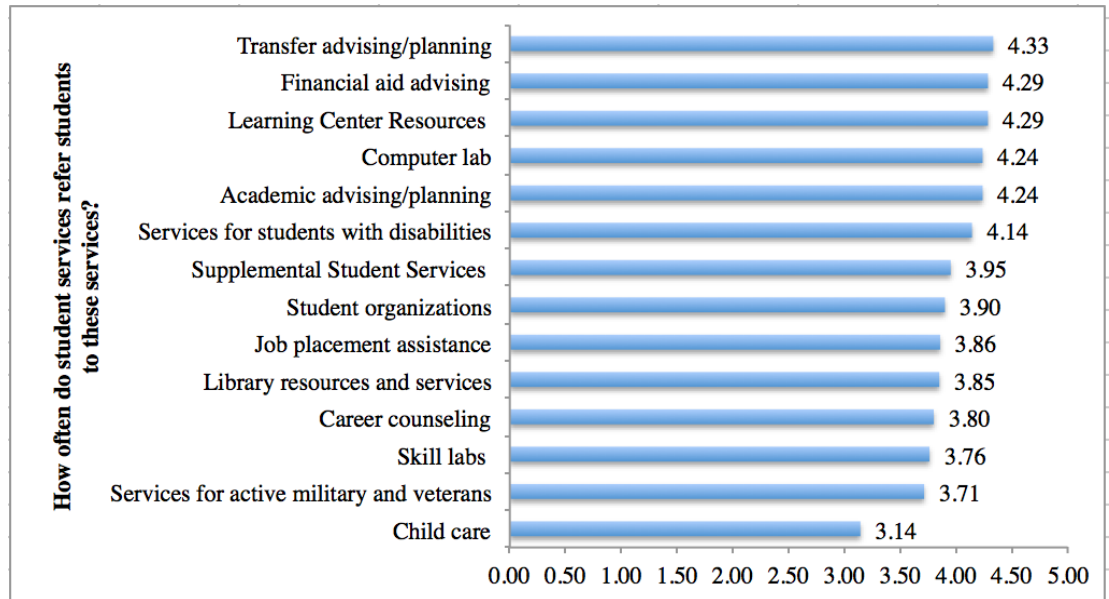
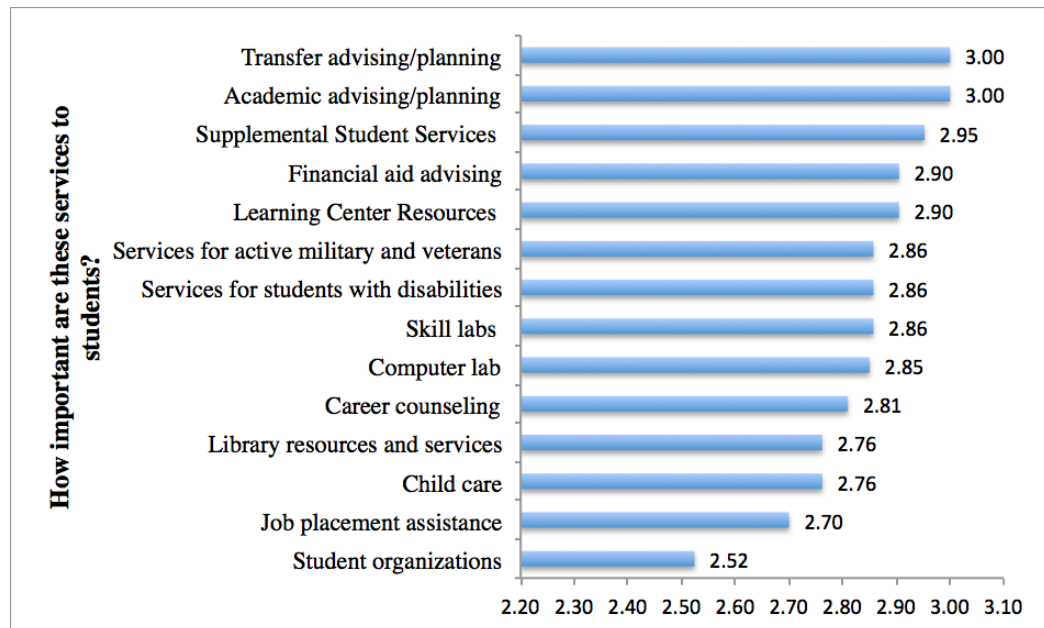


Figure 15. Mean Levels of Importance of Student Services from a Student Services Perspective



To summarize, the results about frequency of referral to students services and importance of student services demonstrate that all three groups consider academic and transfer advising the most important resources on campus. However, students have been referred to different student services (learning center, library, financial aid advising) more often than to academic and transfer advising services. This may suggest that inadequate referrals to student services are one of the major reasons behind underutilization of available campus resources. This poses another challenge for AVC pertaining to the “Enter the Path” and “Stay on the Path” pillars of the Guided Pathways framework.

4.3.3 Importance of Advising

The “Stay on the Path” pillar of Guided Pathways requires rethinking academic advising. To assess challenges for AVC to help students stay on the path, we first asked students and instructors whether they consider advising important. Next, to assess the availability of advising support at AVC, we asked whether students were able to meet advisors at a convenient time.

With respect to importance of advising, we compared responses of AVC students and faculty instructors with the 2017 CCSSE benchmark. The results are reported in

Figure 16 and Figure 17 below. As seen in Figure 16, 68% of AVC students consider advising very important, slightly higher than the 64% of community college students who responded similarly from around the nation in 2017. The results summarized in Figure 17 indicate an overwhelming majority (91%) of AVC faculty believe that advising is very important, which aligns with 90% of community colleges instructors belonging to the 2017 CCFSSSE nationwide cohort.

This suggests that the major benefits of advising student services are well communicated at AVC. However, 36% of students and 9% of instructors consider advising somewhat or not at all important, which can pose a challenge for AVC to help students stay on the path.

Figure 16. Importance of Advising from a Student Perspective (AVC and 2017 CCSSE)

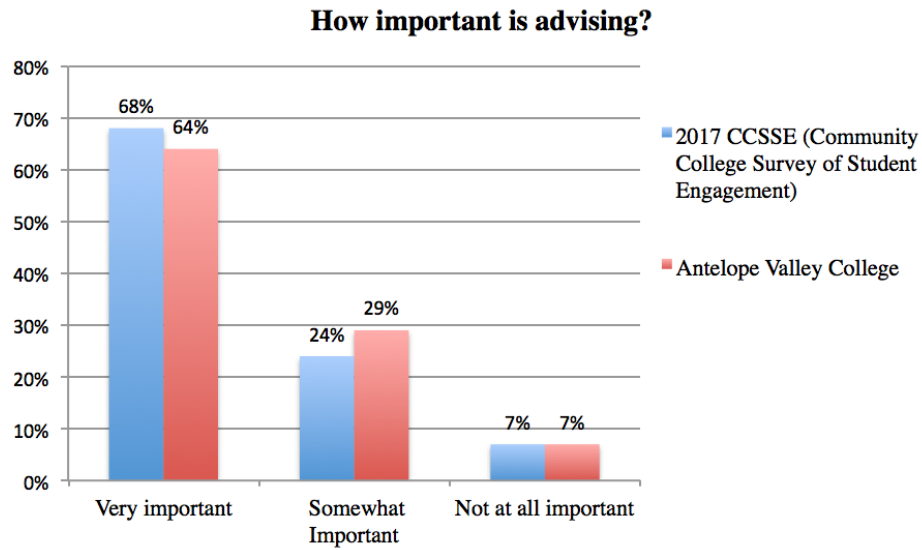
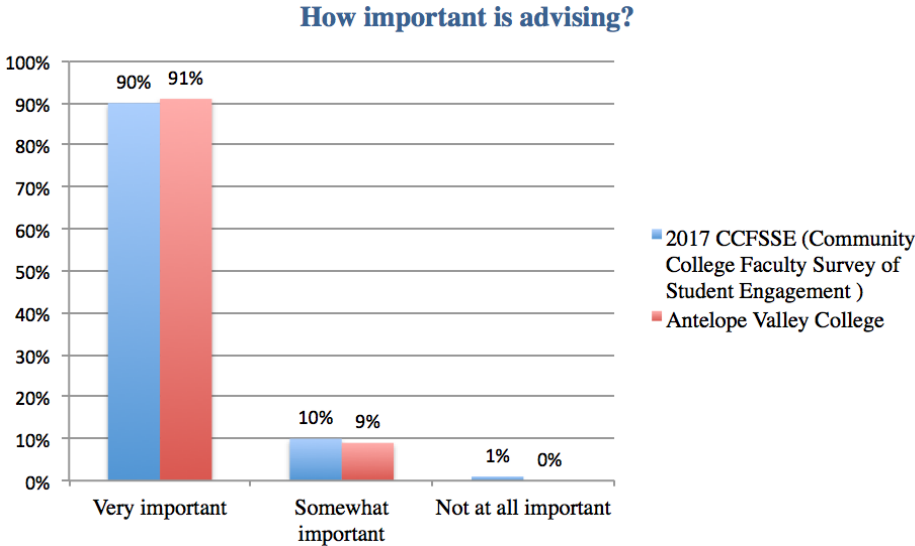
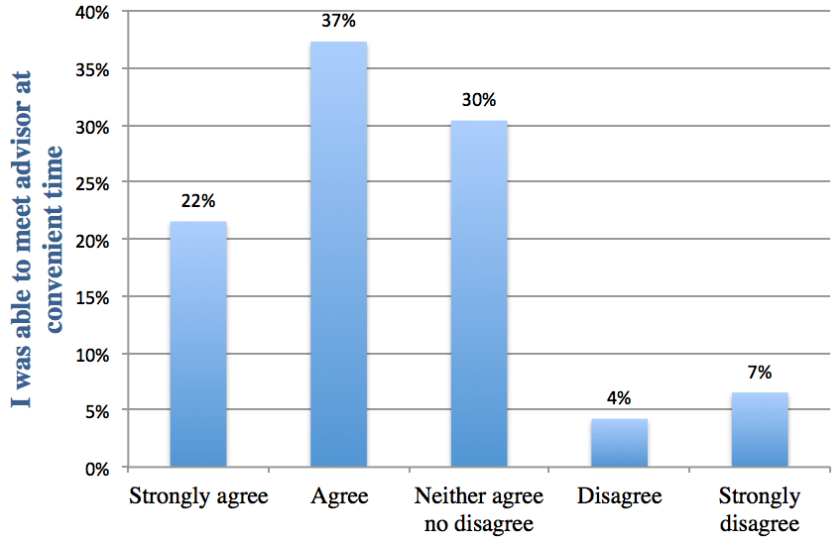


Figure 17. Importance of Advising from an Instructor Perspective (AVC and 2017 CCFSSSE)



To assess the availability of advising support, we asked students whether they were able to meet with an academic advisor at convenient times. Only 59% of participating students were able to meet an advisor at a time convenient to them, as shown in Figure 18 below. This suggests the availability of advising support may be limited. This poses another challenge for AVC pertaining to the “Stay on the Path” pillar of the Guided Pathways framework.

Figure 18. Ability to Meet Advisor at Convenient Time



4.4 RQ3: What are major obstacles to student success at AVC?

We asked student focus groups about major obstacles to their success at AVC and also included this question as an open-ended question in the online questionnaires for students, instructors, and Student Services employees.

Student focus groups. Focus group participants expressed encountering a plethora of obstacles hindering their success at AVC, including their transition from high school to college, their struggle to balance personal life with school, limited class availability and the cancellation of classes due to low registration, large class sizes making it difficult to meet one-on-one with professors, and professors not informing struggling students of the resources available through AVC. One focus group participant suggested that getting acclimated to college life would contribute to student success. The student suggested having a program where seasoned students that have experienced and overcome their struggles at AVC serve as mentors and provide advice to incoming students. The mentors would share a similar major to provide specialized guidance. Additionally, they complained that links for resources are easily missed and perhaps they should be visually apparent on the canvas portal because students use it more than the main website.

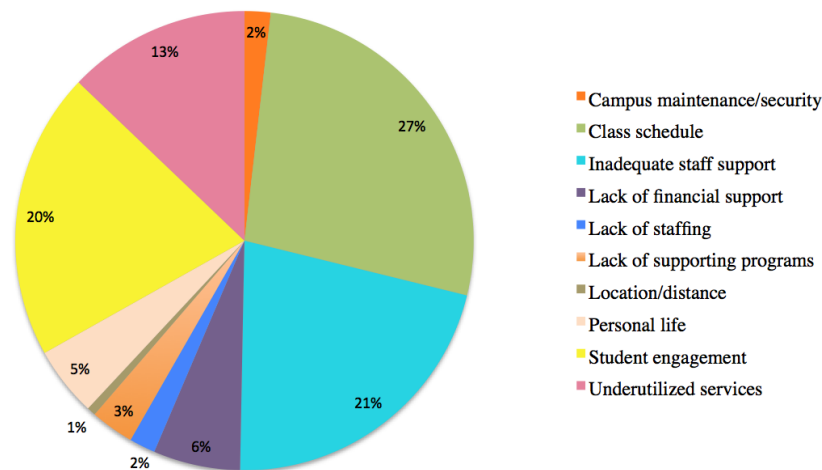
Student questionnaire. These complaints align with the open-ended student questionnaire responses pertaining to obstacles to their success at AVC, the results of which are summarized in Figure 19 below. Class scheduling was a major problem among students, with 27% of respondents citing it as an obstacle. The main complaint was that there were not enough classes available for high demand courses in certain fields of study. Classes are either too small and do not accommodate the large number of students wanting to take the course, or the classes are only available certain semesters that students find difficult to predict. Early registration also proved to be an obstacle as students who did not have it often missed out on being able to enroll in these specialized courses. Also, the time availability for the classes offered sometimes conflicted with their personal schedules. The students also complained about a lack of online courses being offered and suggested an increase in online classes.

Twenty-one percent of students felt that support provided by teachers and staff was inadequate. Students have difficulty navigating through the best path needed to

complete their academic goals and seeking out professors and counselors for assistance. Students expressed that teachers were not providing enough support for them outside of the classroom. They also felt misguided by the recommendations provided by counselors, including recommendations to take classes that do not provide credit towards their program of study. Additionally, counselors did not provide them with up-to-date information on changes to the requirements of their major and at times lacked the knowledge needed to advise students on the proper path to complete their academic goals. Faculty and staff also did not advise students on services provided on campus that could be useful for their academic success.

Another obstacle that 20% of students found detrimental to their success was their inability to remain engaged. They found it difficult to stay focused on their studies, make enough time to study, and stay motivated and disciplined. Students also struggled to seek help when needed and with being prepared for classes and tests. Students admitted that their own inability to set goals to further their education was an obstacle for their success.

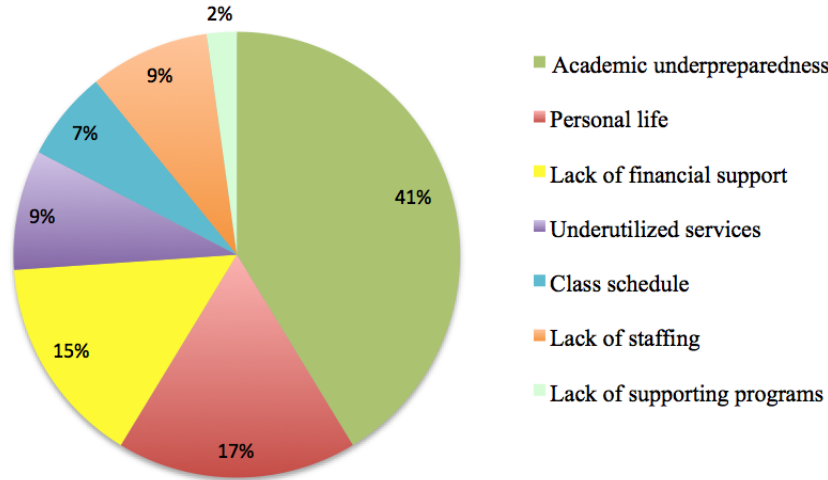
Figure 19. Obstacles to Student Success at AVC from a Student Perspective



To answer this question, we evaluated responses to an open-ended question from the instructor questionnaire. We coded responses to the open-ended question and summarize the results in Figure 20 below. The majority of instructors (41%) responded that academic underpreparedness of AVC students poses the major obstacle to student success. They mentioned that AVC students often lack basic skills for college-level

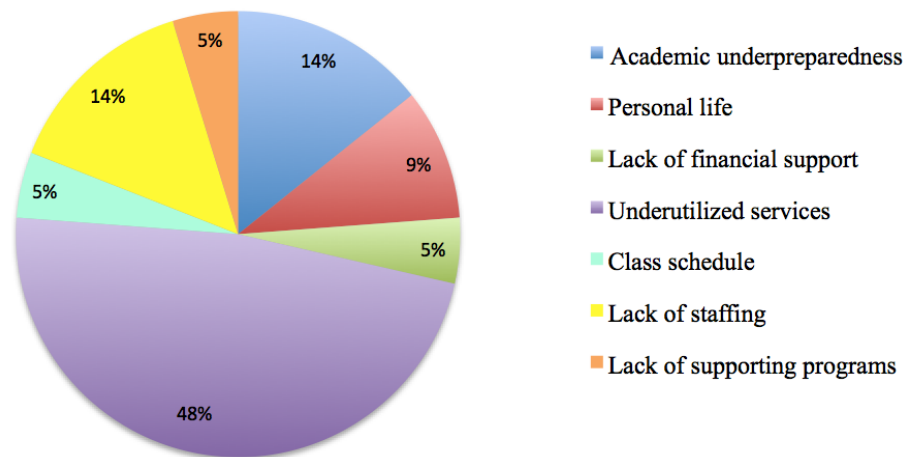
course work. They also acknowledged other major obstacles to student success, such as their students' personal lives (17%), and lack of financial support (15%).

Figure 20. Obstacles to Student Success at AVC from an Instructor Perspective



To answer this question, we examined responses from the open-ended question included in the Student Services questionnaire. We coded Student Services employees' responses to the open-ended question. The summary of responses is presented in Figure 21 below. The majority of Student Services employees (48%) responded that underutilization of student services represented a major obstacle to student success at AVC. Students miss the opportunity to receive academic advisement and are not aware of available services and resources, which leads to not having a personalized educational plan and an overall lack of support.

Figure 21. Obstacles to Student Success from a Student Services Perspective



4.5 RQ4: What do AVC students, faculty, and staff think of Guided Pathways?

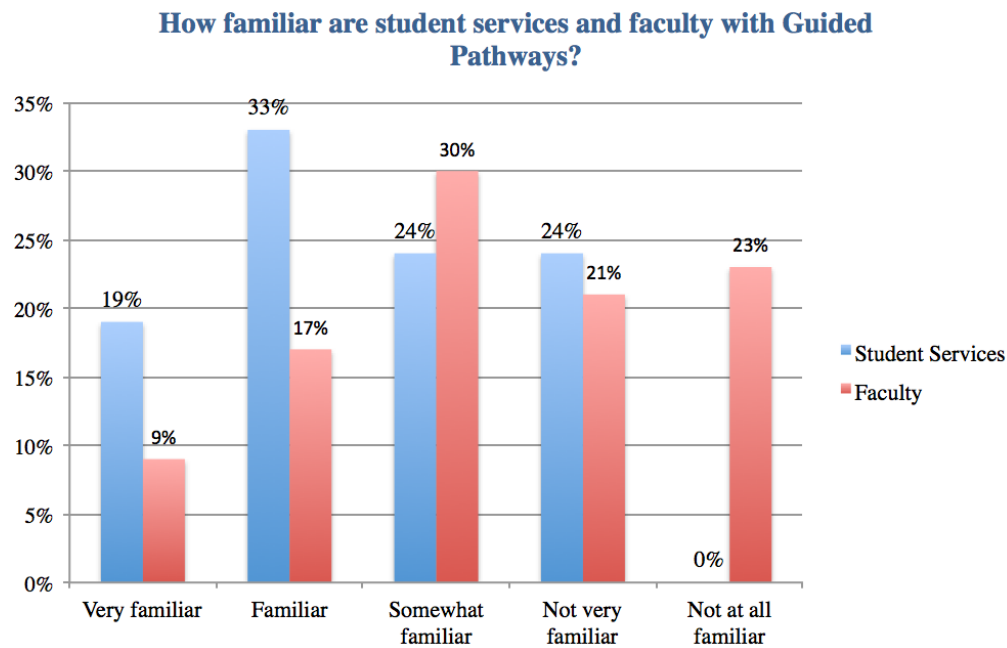
To answer this question, we examined familiarity with and opinions about Guided Pathways using data from the instructional faculty and Student Services questionnaires, as well as from the student focus groups.

4.5.1 Familiarity with Guided Pathways

Instructor and Student Services questionnaires. We asked the same question to both faculty and Student Services staff about how familiar they were with Guided Pathways. The results are summarized in Figure 22.

While 52% of Student Services employees were familiar and very familiar with Guided Pathways, only 16% of faculty reported feeling familiar and very familiar with the initiative, respectively.

Figure 22. Familiarity of Instructors and Student Services with Guided Pathways



4.5.2 Student Opinions about Guided Pathways

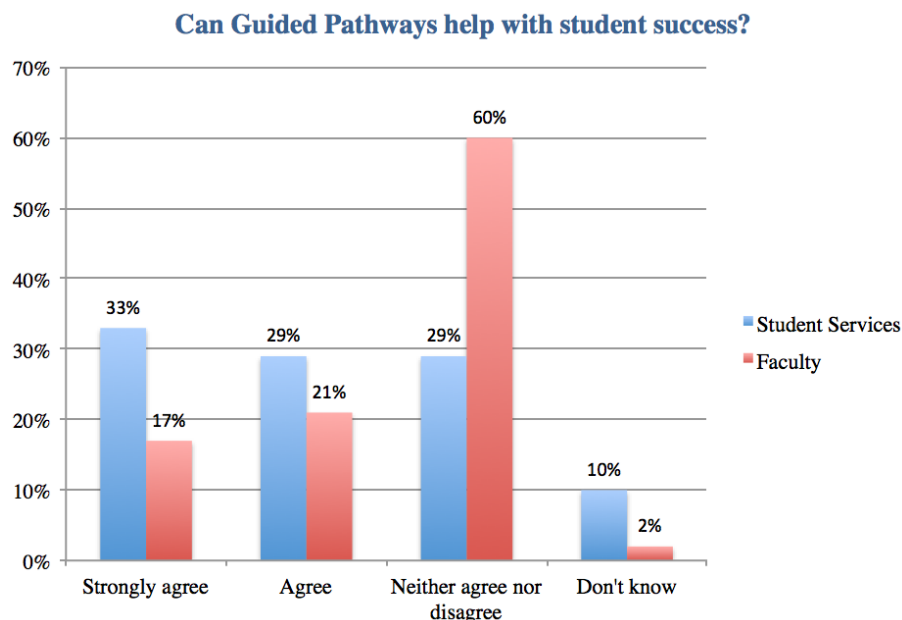
Students seem eager and excited to embrace Guided Pathways and all it has to offer. They hope that Guided Pathways offers them a portal to track their progress, a list of courses that have been defined as necessary for their major, and a fixed and knowledgeable counselor of their major that is with them throughout their stay at AVC.

Students recommend adding information on Guided Pathways to AVC’s orientation process. One student expressed interest in having financial aid tracking on their Guided Pathways portal. They would also like to see links to AVC resources easily accessible on this portal. They recommend making students aware of Guided Pathways by sending out multiple emails to avoid missing any critical messages, by increasing visual awareness of the program through on-campus advertising and through Canvas, and by asking professors to actively spread the message.

4.5.3 Instructor and Student Services Employee Opinions about Guided Pathways

To examine potential barriers to successful implementation of Guided Pathways, we asked both faculty instructors and Student Services employees whether they think the framework could help with student success (Figure 23).

Figure 23. Instructor and Student Services Opinions about the Guided Pathways



While more than 60% of instructors neither agree nor disagree that Guided Pathways could help, only 17% strongly agreed and 21% agreed that it could help. We also assessed what percentage of instructors who were familiar with Guided Pathways believed the framework would help with student success. The results summarized in Table 6 (Appendix A) indicate that among instructors who are very familiar with Guided Pathways, 40% strongly agreed and another 40% agreed that Guided Pathways could help with student success.

Opinions regarding Guided Pathways among Student Services employees significantly differed from instructor responses. While only 29% of Student Services employees neither agree nor disagree, over 60% believed that Guided Pathways could help with student success. This data is concerning because over 60% of instructors neither agree nor disagree that Guided Pathways would be useful to students, or simply expressed that they did not know. Their inability to agree that Guided Pathways would be useful to students poses an issue when getting all of faculty on board with the implementation of the program.

We also assessed what percentage of Student Services employees who were very familiar with Guided Pathways believed the framework would help with student success. The results summarized in Table 7 (Appendix A) indicated that among Student Services

employees who were very familiar, 75% strongly believed that Guided Pathways could help with student success.

4.6 Key Findings

By using the results above to formulate answers to our research questions, we believe our recommendations will be better informed to address some of the strategic challenges facing AVC, particularly, the college's limited student feedback. By taking student voices into account, the college can better implement Guided Pathways to meet its broader strategic objectives to improve enrollment management and increase student success and engagement. With this in mind, primary takeaways from our quantitative and qualitative research are summarized below:

4.6.1 Major Challenges to the "Clarify the Path," "Enter the Path," and "Stay on the Path" Pillars

- Students found selecting a major to be a challenging experience. They felt pressured by their parents and college staff to select a major before they were ready and informed.
- Students found deciding what course to take to be challenging because of unpredictable class scheduling, lack of class availability, not knowing which classes are required for their major, and misguidance from counselors.
- 23% of students did not get help from an advisor when developing an academic plan. Students found developing an academic plan challenging due to lack of guidance, inconsistent recommendations between advisors, and lack of knowledgeable counselors for certain majors.
- While 50% of students strongly agreed that they were familiar with program requirements, only 9% of Student Services employees strongly agreed that students were familiar with program requirements.
- 11% of students are unaware of college orientation. Focus group participants did not find orientation helpful. Orientation and advisors did not educate students on resources available on campus.

- Students, instructors, and Student Services employees consider academic advising/planning to be the most important service for student success; however, our results show that rather than academic advising/planning, students were frequently referred to other services (learning center, library).
- 36% of students and 9% of faculty instructors consider advising somewhat or not at all important.

4.6.2 Major Obstacles to Student Success

- Students find class scheduling (27%), inadequate staff support (21%), and lack of student engagement (20%) to be major obstacles to their success at AVC.
- Instructors consider academic underpreparedness (41%), personal life (17%), and lack of financial support (15%) to be major obstacles to student success at AVC.
- Student Services personnel consider underutilized services (48%), academic underpreparedness (14%), and lack of staffing (14%) to be major obstacles to student success at AVC.
- Students find AVC website not helpful because links are not visually-apparent or unavailable.
- Clubs, organizations, and other student resources are not well promoted on campus and it took a while for students to discover them.
- Focus groups indicated their main obstacles were transitioning from high school to college, struggling to balance personal life with school, limited class availability, cancellation of classes due to low registration, large class sizes making it difficult to meet one-on-one with professors, and professors not informing struggling students about the resources available through AVC.

4.6.3 Guided Pathways

- Student Services personnel are more likely to be familiar with and positive about Guided Pathways than instructors.

- Students and Student Services personnel familiar with Guided Pathways are more likely than instructors to believe that the framework can help with student success.
- Instructors are less familiar with Guided Pathways and the majority express neutral opinions about the framework’s ability to help with student success.
- All focus group participants believe that Guided Pathways can help students succeed.

In the next section, we will present recommendations and a detailed plan for their implementation based on the research findings detailed above. The links between the recommendations, implementation plan, and the research questions above are presented in Table 8 (Appendix A).

V. Recommendations

5.1 Overview

Based on our primary research assessing challenges AVC faces implementing Guided Pathways, as well as extensive secondary research on the Guided Pathways framework as implemented at a number of pilot colleges throughout the nation, we conclude that the framework would benefit the students at AVC. We commend the college’s decision to participate in this reform and suggest the recommendations below be implemented and evaluated over the course of the next five years.

Given the strategic challenges AVC faces with respect to enrollment management, student success, and student engagement, as well as the foundational pillars of the Guided Pathways framework, our recommendations can be summarized as follows:

5.2 Clarify the Path

5.2.1 Develop Meta-majors

We recommend that AVC prioritize developing an outline of meta-majors to implement. The purpose of a meta-major is to allow students to dip their toes into the field they want to study. A student has the option of selecting a major defined within the meta-major with low risk of taking excess units. Based on Bakersfield College’s success

on implementing 10 meta-majors (Bakersfield College, 2017b), we recommend implementing 8 to 10 meta-majors. AVC should be especially mindful to focus on drafting a list of meta-majors organized by career fields that are in regional demand. The meta-majors at AVC should be chosen on criteria that directly impact students as prospective members of the workforce, such as the increasing prospects in the region's health sector and aerospace industries.

This recommendation addresses *key strategic issues* with student success and student engagement by allowing students to have a clearly defined path early in their academic career and having the fluidity of selecting a major. Key stakeholders include administrators, counselors, and instructors.

5.2.2 Refine Transfer Pathways

AVC can aid students in completing their educational careers more efficiently by creating more partnerships with four-year universities, by redefining what a full-time student is, and by mandating that students declare a field of study early in their academic career. To ensure that students successfully transfer to a four-year university, we recommend the college establish more partnerships with traditional four-year universities to define and better visualize the unit and course requirements for transfer programs. Clear transfer requirements will deter students from taking frivolous classes and will allow students to accurately plan their time at AVC, which is a concern given the discrepancies in perceptions of student familiarity with program requirements described above.

In addition to being given a clear pathway to success, students should also be encouraged to take more units to expedite their time at AVC. Financial aid policy requires students to take twelve units or more to be considered "full-time" and qualify for financial assistance, which may explain why many students opt for the minimum full-time course load. Students may falsely come to believe they are on track to graduate in two years because they are enrolled full-time by financial aid standards. Assuming a student passes all of their courses and incurs no unnecessary units, taking only twelve units per semester will take a student two and a half years to attain most transfer degrees offered at AVC, which typically require the completion of sixty units of coursework. For

most of these degrees, students must take a minimum of fifteen units per semester in order to graduate within the standard two-year target.

To encourage students to take more units, AVC should consider a marketing campaign with the sole aim of rebranding full-time status as fifteen unit loads or more per semester. Requiring students to declare their field of study is another way to keep them focused on a clear academic pathway from the beginning. This will push students to think about their academic goals early on and, if needed, seek out resources on campus to help them narrow down their options.

These recommendations address the key strategic issue of student success (outlined in the introduction) by helping students gain much needed clarity on transfer pathways and helping them to get on a pathway early and finish within the targeted two-year time frame. They have the benefit of also aligning with the “Enter the Path” pillar of the Guided Pathways framework, which is natural given the holistic nature of the framework. Key stakeholders include administrators, counselors, and students.

5.2.3 Build Awareness of Guided Pathways

For the Guided Pathways initiative to be successful, it is recommended that AVC gains buy-in from all campus resources, inclusive of instructors, counselors, and staff. These constituent groups will play a crucial role in the successful implementation, marketing, and continued success of the program. According to surveys, 48% of Student Services personnel and 74% of instructional faculty were not familiar or only somewhat familiar with the Guided Pathways framework. Additionally, of instructors who were familiar with Guided Pathways, the majority expressed neutral feelings about its effectiveness to improve student success. This brings to light a knowledge gap that can be tackled through promotion of professional development opportunities related to Guided Pathways. This would help communicate the need for change and a new vision for Guided Pathways.

The *key strategic issues* addressed in this recommendation pertain to student success, because increasing awareness of the Guided Pathways program will lead to greater stakeholder involvement. It has the benefit of also aligning with the “Stay on the

Path” pillar of the Guided Pathways framework. Key stakeholders include Students Services staff, counselors, administrators, and instructors.

5.3 Enter the Path

5.3.1 Enable Student Matriculation in Local High Schools

Our focus groups informed us about the obstacles high school students face when transitioning to college. These obstacles can include financial hardship, family obligations, and a lack of information regarding continued education. We recommend AVC ease high school students’ matriculation by informing them of barriers they may face in their transition. By educating students during these pivotal moments in their lives, colleges can change the future of those potential students. As mentioned in the SWOT analysis, the number of high school graduates is expected to increase in the next five years. Removing potential barriers to enrollment for high school students at AVC will likely result in a higher enrollment rate.

The *key strategic issues* addressed in this recommendation pertain to enrollment, student success, and student engagement. Early development of education plans, well-defined educational goals, and awareness of available resources such financial aid would help potential students to get on the path to success. Key stakeholders include student outreach staff, counselors, and administrators.

5.3.2 Improve Student Orientation

As we noted in the student focus group results, students felt that the college’s orientation was not helpful to guiding and providing them with the resources needed to establish a successful foundation. Our focus groups noted that they had to discover the resources on their own, but once students did, the resources vastly improved their school lives. To remedy the lack of guidance and overt resources available to them through orientation, we recommend revamping the orientation process. The orientation should serve to familiarize students with organizations and resources on campus designed to aid in their success. We recommend producing an interactive online video experience for students that grabs their attention and leaves a lasting impact.

Additionally, instructors and Student Services personnel should be vocal about the student resources available on campus. Struggling students should be directed to resources that suit their specific needs. Instructors should be especially mindful to engage and actively encourage students to take advantage of the campus resources available to them.

These recommendations address *key strategic issues* related to student success and student engagement by better marketing the support systems and resources available to them. Key stakeholders include student services, counselors, administrators, and faculty.

5.3.3 Promote Academic and Career Advising

As we noted in the key findings of the student, instructor, and Student Services questionnaires, all three groups consider advising the most critical service to student success. However, like most colleges, counselors are highly outnumbered by students at AVC. This makes it difficult to provide personalized advisement to students. Focus group participants expressed having positive experiences with counselors with whom they had met multiple times, noting how counselors had gotten to know them and were comfortable offering personalized suggestions about their education plans. In a perfect world, AVC would hire significantly more counselors to provide this kind of personalized case management to all of its students. Unfortunately, such a solution is unobtainable given budgetary constraints.

Given this constraint, AVC must creatively use their resources to be able to help more students, as it is still necessary that AVC focus on providing adequate support for students to guide them on their academic future. We recommend that counselors actively encourage student involvement in networking events and supportive communities. In these events, students would learn from one another with counselors present for refined guidance. In tandem with these networking events, we recommend developing a workshop for large groups of students to get their questions answered about selecting a major. Having a group setting will allow counselors to answer student queries at a large scale in an efficient manner.

These recommendations address *key strategic issues* with student success and student engagement by encouraging students to be actively involved in academic communities and building a strong support system. They also have the benefit of aligning with the “Clarify the Path” and “Stay on the Path” pillars of the Guided Pathways framework, given the holistic nature of the initiative. Key stakeholders include administrators, counselors, and other Student Services staff.

5.4 Stay on the Path

5.4.1 Optimize Course Scheduling and Online Programs

Our research shows that 28% of AVC students consider class scheduling a major obstacle to their success due to the unpredictability of the course schedule and cancellations. To address this issue, we recommend that AVC take advantage of the aforementioned technological support structures to provide students with up-to-date news and changes to the course schedule. The new pathways mapper and portal should also show semesterly availability for the student’s required courses to allow them to efficiently plan their schedule. In the meantime, while these systems are phased in, we recommend that AVC find alternatives to actively inform students of class changes. To provide students with more flexibility, we also recommend that AVC expand its complement of distance education programs.

These recommendations address *key strategic issues* with enrollment and student success by helping existing students and reaching out to more students nationwide. Key stakeholders include counselors, administrators, and instructors.

5.4.2 Remedy Student Academic Underpreparedness

Due to the passage of AB 705, the assessment process for college-level math and English courses has changed completely. High school graduates will be permitted to enroll in college-level math and English courses based on their high school transcripts, even though they may have otherwise assessed into remedial courses under the old system. This could potentially be an issue as survey questionnaires reveal that both instructors and Student Services employees were likely to find academic underpreparedness to be a major obstacle to student success.

A report based on CCRC’s research on the 30 colleges suggests that colleges need to shift away from the traditional practice of separating college-ready and not-college-ready students. Instead, colleges should act according to the idea that all students need help developing skills and habits to thrive in college (Jenkins, 2017). We recommend AVC integrate academic support and basic skills curriculum into all courses that are critical gateways to college programs of study, which would help more students to get on the college-level program paths and graduate on time.

This recommendation addresses *key strategic issues* with student success and student engagement by providing necessary tools to remain actively engaged and aware of the material being taught in their classes. It also has the benefit of aligning with the “Ensure Learning” pillar of the Guided Pathways framework. Key stakeholders include counselors, administrators, and instructors.

5.5 Ensure Learning

5.5.1 Strengthen Technological Support Structures

As we noted in the questionnaires results, more than 77% of students developed an academic plan. However, only 50% of responding students are strongly familiar with the course and unit requirements of the program they wish to complete. Students complain that choosing classes is challenging because college website resources and college catalogues are not user-friendly or visually apparent.

To address these issues, we recommend AVC strengthen technological support structures. This would help students better understand their pathway, its relation to the meta-major, and courses related to their meta-major. Particularly, AVC should refine, integrate, and launch multiple technologies geared toward providing students the support needed to efficiently complete their academic goals. The technologies would be beneficial when it comes to outcomes assessment, program review, curriculum development, mapping pathways to AVC’s catalog, and early alert notifications.

These recommendations address *key strategic issues* with student success and student engagement by providing students and faculty with the technological resources needed to track student success and enhance institutional effectiveness overall. They also have the benefit of aligning with the “Clarify the Path” and “Stay on the Path” pillars of

the Guided Pathways framework, given the holistic nature of the pillars and the recommendation. Key stakeholders include IT support services, counselors, administrators, and instructors.

In the next section, we present our implementation plan, which is informed by these recommendations and AVC’s proposed action plan. The initiatives proposed in this section are also presented in Table 10 (Appendix A).

VI. Implementation Plan

6.1 Overview

Given the recommendations outlined above, we present an implementation plan below that could be carried out within the next five years well within the budget of AVC’s Guided Pathways grant award (Table 9). Based on our research, estimates, and assumptions, AVC should only incur \$1,083,800 of expenditures implementing our recommendations--just over 60% of AVC’s total award of \$1,781,026. Assumptions include approximate hourly rates for stipends that would provide an adequate incentive for participation (\$75 per hour for faculty; \$25 per hour for staff or student workers) and the actual numbers of hours of work we estimate may be necessary for each recommended initiative. Our decidedly smaller budget leaves the college with some leeway for insufficient estimates on our end, discretionary measures, indirect costs, or fringe benefits as appropriate.

Table 9. Budget Recommendations

Budget Recommendation for AVC Guided Pathways Implementation					
	First Year	Second Year	Third Year	Fourth Year	Fifth Year
Academic Year	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Objective	Engagement; High Level Planning	In-depth Planning; Initial Implementation	Initial Scale Implementation	Improved Scale Implementation	Evaluation

GP Award Income	First Year	Second Year	Third Year	Fourth Year	Fifth Year
Allocation	\$445,256	\$534,308	\$445,256	\$178,103	\$178,103
Actuals (estimate)	\$15,000	\$0	\$0	\$0	\$0
Carryforward (projected)	\$0	\$192,256	\$548,564	\$814,820	\$748,523
Available	\$430,256	\$726,564	\$993,820	\$992,923	\$926,626
Recommended Expenditures	First Year	Second Year	Third Year	Fourth Year	Fifth Year
Printing and Promo Materials	\$1,000	\$2,000	\$4,000	\$4,000	\$4,000
Online and Digital Marketing	\$2,000	\$6,000	\$6,000	\$6,000	\$6,000
Video Production for Student Services Orientation	\$40,000	\$0	\$0	\$0	\$0
Professional Development on Guided Pathways	\$25,000	\$50,000	\$50,000	\$50,000	\$50,000
Professional Development for Distance Education	\$10,000	\$20,000	\$20,000	\$20,000	\$20,000
Stipends for Curriculum Development	\$15,000	\$30,000	\$0	\$0	\$0
Stipends for eLumen Curriculum Consultant(s)	\$5,000	\$10,000	\$0	\$0	\$0
Software Licensing for eLumen Platform	\$90,000	\$0	\$0	\$35,000	\$35,000
Participation in Program Mapper Pilot Program (if selected)	\$50,000	\$0	\$0	\$0	\$0

Web Development and Maintenance of Pathways Program Mapper	\$0	\$10,000	\$4,000	\$4,000	\$4,000
Software Licensing for Starfish Platform	\$0	\$45,000	\$30,000	\$30,000	\$30,000
Stipends for eLumen Data Stewards	\$0	\$3,000	\$3,000	\$3,000	\$3,000
Stipends for Choosing Your Major Workshops	\$0	\$2,000	\$1,200	\$1,200	\$1,200
Stipends for Completion Coaching Community Members	\$0	\$0	\$60,000	\$60,000	\$60,000
Student Focus Groups	\$0	\$0	\$1,200	\$1,200	\$1,200
External Evaluator	\$0	\$0	\$30,000	\$30,000	\$30,000
Total	\$238,000	\$178,000	\$179,000	\$244,400	\$244,400
Residual Budget	\$192,256	\$548,564	\$814,820	\$748,523	\$682,226

6.2 Year One: Spring 2018 - Summer 2019 (Engagement; High-level Planning)

Per AVC's Guided Pathways action plan (Appendix C) and general best practices for Guided Pathways framework implementation as established by the Community College Research Center (CCRC), colleges in Year One of the implementation timeline should be establishing Guided Pathways committees and work groups composed of the various constituencies impacted by the framework. We applaud AVC for having already established a Guided Pathways Committee and making headway toward securing the participation of its various constituent groups. The college's Guided Pathways program has been budgeted \$445,256 for this initial extended year, consisting of Spring 2018 through Summer 2019. In addition to the cross-functional inquiry, shared metrics, and

integrated planning proposed in AVC's action plan, the following recommendations could also be implemented fairly early in the timeline:

6.2.1 Develop Meta-major Programs for Undecided Students

A core tenet of the Guided Pathways framework is helping students to identify, enter, and stay on a degree or transfer pathway. As our research has shown, this is easier said than done. Many students find settling on a major quite difficult. As such, developing broad meta-majors for undecided students has been a successful strategy at colleges that have already implemented Guided Pathways. By assessing students' interests and strengths, they can be advised to begin doing coursework within the looser area of concentration established by a meta-major. This will reduce the chance that the student completes coursework and earns units that do not count toward whichever program of study they finally settle on.

AVC should turn to its existing academic divisions as a starting point for meta-major development. Based on the college's current program offerings, and the ten meta-majors currently being piloted at Bakersfield College, AVC may want to start by developing meta-majors pertaining to the Arts, Humanities, Business, Industrial Technology, Health and Safety, STEM, and Social and Behavioral Sciences. Fortunately, similar meta-majors have been developed at other colleges so much of the groundwork is already done.

This recommendation aligns with the "Clarify the Path" and "Enter the Path" pillars of the Guided Pathways framework. It also aligns with the "Guided Major and Career Exploration" element of AVC's proposed action plan. The college may wish to consider budgeting \$15,000 per semester in stipends for faculty and administration to review and develop curriculum as appropriate to develop meta-major pathways. This estimate is based on the assumption of \$75 per hour stipends for twenty faculty members (two for each of ten presumed meta-majors) for a total of 200 hours of curriculum development per semester during Years One and Two.

6.2.2 Rebrand “Full-time” Attendance

To encourage students to undertake more units, AVC should consider a marketing campaign with the sole aim of rebranding full-time status as fifteen unit loads or higher per semester. “15 to finish” has been championed by a number of colleges as a catchphrase to remind students of the true unit requirement needed to graduate from college in four years. AVC’s public relations department would be well-advised to promote the “15 to finish” message in student emails and with posters and literature around the campus. Additionally, financial aid personnel should be encouraged to distribute “15 to finish” branded literature along with financial aid documents.

This communications policy recommendation aligns with the “Clarify the Path” pillar of the Guided Pathways framework, as it serves to clarify the unit requirements of timely completion of pathways. It also aligns with the “Clear Program Requirements” element of AVC’s proposed action plan. The printing and digital marketing budgets presented in Table 9 should suffice to include production of “15 to finish” materials and digital ads. Success of the marketing campaign can later be gauged by an analysis of average course loads by the Office of Institutional Effectiveness.

6.2.3 Promote Guided Pathways Professional Development Opportunities

To build awareness of the importance of Guided Pathways, we recommend that AVC offers their campus resources the opportunity for professional development with Guided Pathways experts or mentors that can introduce them to the program while also developing members into points of contact for students seeking to further understand the program. These Guided Pathways experts can be leveraged for the establishment of completion coaching communities, more on which below.

This recommendation aligns with the “Clarify the Path” pillar of the Guided Pathways framework, and the “Strategic Professional Development” of AVC’s proposed action plan. We suggest that AVC budget \$25,000 each semester for travel and conference attendance expenditures pertaining to Guided Pathways-related professional development opportunities for key instructors, administrators, and staff. This estimate is based on the assumption that AVC develops ten meta-major areas, provides \$2,000 in

professional development funding for at least two individuals representing each pathway, and an additional \$10,000 per year for administrators and general support staff.

6.2.4 Develop and Mandate Interactive Orientation Video

To provide better guidance on resources to new students, we recommend creating an online orientation video. This video would be required viewing for new students registering for classes. Ideally, this video will be no longer than forty minutes. The video will address student resources such as financial aid, child care, and tutoring to inform students of these valuable forms of assistance. It will also introduce students to the various student organizations that are meant to help them stay on track and promote student success. The video should be colorful, cheerful, informative, and upbeat with several interactive questions in between to ensure student engagement. Upon completion of the new video orientation, every student enrolled at AVC should be mandated to watch it. This will ensure that both new and established students become aware of the resources that are available to them.

Although the video could be outsourced to a third party, it would be a great opportunity for AVC to challenge their students to create the video. It can be created with the assistance of staff members and students eager to showcase their talents. AVC could provide an award to the winning student or group of students.

This recommendation corresponds with the “Stay on the Path” pillar of the Guided Pathways framework as it promotes services that help students succeed. It also aligns with the “Proactive and Integrated Student Supports” element of AVC’s proposed action plan. The college should consider budgeting \$40,000 for the production of the orientation video, based on the standard industry estimate of \$1,000 budget per minute for informational video production.

6.2.5 Integrate Basic Skills Learning Outcomes into Gatekeeper Courses

To mitigate academic underpreparedness, the college should consider integrating basic skills pertaining to academic preparedness into common gatekeeper courses such as English 101. AVC should leverage eLumen curriculum and assessment management software to manage learning outcomes so that basic skills are included in all associate’s

degree and transfer programs. The college may wish to leverage its budget for stipends and time and effort toward meta-major and curriculum development to also ensure basic skills learning outcomes are an early requirement for all meta-majors and programs.

This recommendation aligns with the “Ensure Learning” pillar of the Guided Pathways framework and the “Improved Basic Skills,” “Aligned Learning Outcomes,” “Assessing and Documenting Learning,” and “Applied Learning Outcomes” elements of AVC’s proposed action plan.

6.3 Year Two: Fall 2019 - Summer 2020 (In-depth Planning; Initial Implementation)

Per AVC’s Guided Pathways action plan and the general best practices for Guided Pathways framework implementation as established by the Community College Research Center (CCRC), by Year Two, colleges should already have begun developing their programs and degree maps in consultation with instructional faculty and advisors. To this end, AVC may wish to utilize the Guided Pathways grant to fund stipends to incentivize participation in pathways and degree road map workgroups.

These goals correspond to the “Clarify the Path” pillar of the Guided Pathways framework. Additionally, AVC should aim to leverage its \$534,308 Guided Pathways Year Two budget and residual budget carryforward from Year One to achieve the following by its second year of implementation:

6.3.1 Expand Distance Ed Program to Include Fully Online Degree Programs

Community colleges have the ability to offer flexible schedules to a wide variety of students. We recommend that AVC expands their impact footprint by including full online degree programs to students nationwide. This will allow AVC to differentiate itself from competitors, attract more students, and create a larger alumni pool. By offering courses to students who are unable to attend traditional class settings, AVC can become part of the Online Education Initiative (OEI), which will add to the college’s attractiveness.

To start this process, we recommend that AVC bring together project teams to develop or transition existing programs into fully-online degree programs. Like

Bakersfield College, AVC should set a goal of developing one online program per semester, or ten programs over the next five years. Achieving this goal will require the college to certify more and more instructors to use Canvas for online instruction, and to design more and more course modules so that entire programs can be taken online.

This recommendation aligns with the “Ensure Learning” pillar of the Guided Pathways framework and the “Integrated Technology Infrastructure,” “Assessing and Documenting Learning,” and “Applied Learning Outcomes” elements of AVC’s proposed action plan. We suggest a budget of \$10,000 in stipends per semester for the professional development of Canvas-certified instructors and IT staff for supporting the expansion of distance education at AVC. Ideally, educating instructors about the benefits of distance education and familiarizing them with Canvas through the certification process will help them become more amenable to this initiative.

6.3.2 Build Completion Coaching Communities

To better leverage its small number of faculty and staff, Bakersfield College built what it called “completion coaching communities”—a support team of advisors, counselors, Student Services staff, and instructors—for each of the meta-majors identified and developed by AVC’s Guided Pathways committees and workgroups. Like embedded counselors, these communities have the benefit of being specialized in the specific needs and issues affecting their supported meta-major. Such specialization would need to be supported not only by the interaction of counselors, advisors, and staff with instructional faculty, student tutors, and mentors in relevant majors, but also with the support of professional development opportunities.

This recommendation aligns with the “Stay on the Path” pillar of the Guided Pathways framework as it serves to clarify the unit requirements of timely completion of pathways. It also aligns with the “Guided Major and Career Exploration,” “Proactive and Integrated Student Support,” and “Strategic Professional Development” elements of AVC’s proposed action plan. The college is advised to budget \$60,000 annually in stipends for the counselors, advisors, faculty, administrators, staff, and student tutors/mentors who comprise these coaching communities when they go live in Year Three. This figure is based on the assumption that there will be ten communities

consisting of at least four individuals each working for roughly ten hours per semester at a rate of roughly \$75 per hour. Professional development support is budgeted above.

6.3.3 Pilot Scale Implementation of eLumen Curriculum and Assessment Management Software

AVC is currently in the process of deploying eLumen, a curriculum and assessment management system featuring modules for outcomes assessment, program review, and curriculum development—all of which can be used to support the development and streamlining of guided pathways. By monitoring student learning outcomes (SLOs), and mapping course outcomes to program outcomes, the college can better assess the effectiveness of its programs and eliminate bloat. It will also be in a better position to revise curriculum to incorporate more basic skills learning into gateway courses.

By allowing faculty and staff to report on SLOs and program learning outcomes, respectively, the software can be used as a source of data on institutional effectiveness. The record of a student's meeting or failure to meet individual learning outcomes, in addition to their overall course grade, can provide the college with more detailed analytics on student success that could potentially be integrated with a program mapper and early alert systems. As such, the sooner AVC implements such a system, the more beneficial it will be. Of course, AVC should continue to leverage any student or program analytics collected on previously licensed curriculum and assessment management software.

To mitigate resistance from instructors, AVC may wish to consider SLO reporting using only a small handful of courses to start. However, the college's Outcomes Committee should consider recommending mandating SLO reporting for all courses for each Fall and Spring term within a year of the pilot program. While reporting SLOs is ultimately more time-consuming than merely reporting course grades, this data will help the college to better improve programs and pathways, student success, and overall institutional effectiveness. Keeping instructors informed about these benefits during opening or convocation days and their related faculty orientations and breakout sessions will be instrumental to ensuring their support.

This policy and technology recommendation aligns with the “Ensure Learning” pillar of the Guided Pathways framework and the “Integrated Technology Infrastructure,” “Aligned Learning Outcomes,” and “Assessing and Documenting Learning” elements of AVC’s proposed action plan. Based on eLumen contracts with colleges with similar FTES, we estimate that the initial three-year software license for eLumen will cost AVC roughly \$85,000, including implementation, training, and support. As an innovative initiative, this should be an allowable expense for their Guided Pathways grant award for at least the grant period. Based on comparable community colleges, renewing this eLumen software license should cost roughly \$30,000. After the expiration of the grant, renewed licensing contracts with eLumen will have to be institutionalized.

Additionally, the college may wish to consider budgeting \$15,000 in stipends (based on estimate of approximately \$75 per hour for a minimum of 60 hours per semester for Spring 2019 through Spring 2020 semesters) for faculty to serve as curriculum consulting specialist(s) to ensure that SLOs and program maps are correctly integrated into the eLumen system during implementation. An additional annual \$3,000 in stipends should be made available to staff member(s) to serve as data stewards to support faculty as they submit SLOs and for sustained monitoring of SLOs for alignment with the course catalog. This estimate is based on the assumption that the staff member earn a \$25 per hour stipend for 120 hours each year.

6.4 Year Three: Fall 2020 - Summer 2021 (Initial Scale Implementation)

By the third year, it is suggested that colleges begin to implement the Guided Pathways framework at scale, with degree maps and new advising systems going live. During this period, AVC should consider leveraging its \$445,256 Guided Pathways Year Three budget and residual budget carryforward from Years One and Two to implement the following:

6.4.1 Pilot Pathways Program Mapper Visualization Tool

We recommend mapping pathways to AVC’s catalog using a web-based visualization tool. Bakersfield College piloted its own Pathways Program mapper tool that allows students to visualize semester-by-semester maps of required courses from

program entry to program completion. The mapper also shows occupational data associated with each program, such as job prospects and expected salaries. Other colleges are now beginning to implement this mapping tool on their own mobile-friendly websites. Ideally, the software should also allow students to input how many units they are willing to take each session, which academic sessions they want to attend, a projected year of graduation, and map out their schedules accordingly.

We understand AVC is currently implementing the EduNav degree auditing platform. However, we suggest that AVC also consider implementing its own version of a pathways program mapper in consultation with Bakersfield College, which has been accepting letters of interest to assist other colleges with a scale implementation of the tool on their websites. While the deadline to respond to Bakersfield College's initial request for proposals recently passed, there will hopefully be similar opportunities in the future as more colleges pilot this amazing tool.

This recommendation aligns with the "Guided Pathways and Career Exploration," "Clear Program Requirements," and "Integrated Technology Infrastructure" elements of AVC's proposed action plan. AVC should consider budgeting \$50,000 should it have the chance to participate in Bakersfield College's pilot program, which provides guidance for integrating catalog, SLO, and other curriculum information into the mapper.

6.4.2 License and Pilot Starfish Early Alert System

Currently, AVC uses their BIT/CARE platform for faculty and staff to report student misconduct, academic dishonesty, or crises into an online reporting module. However, the Academic Senate for California Community Colleges have endorsed the use of Hobsons's Starfish success software platform for its early alert and case management modules, resulting in its inclusion in 34 Guided Pathways proposals in California alone (Starfish, 2017). Unlike BIT/CARE, Starfish's early alert module can be integrated with other technologies and uses data mining to automatically "identify at-risk students in real-time, pinpoint areas of concern, and connect students with valuable services" (Starfish, 2017). It also has the potential to provide the college with valuable analytics on the effectiveness of these services.

This recommendation aligns with the “Stay on the Path” pillar of the Guided Pathways framework as it will help AVC to identify and intervene with struggling students through an automated process. It also aligns with the “Proactive and Integrated Student Supports” and “Integrated Technology Infrastructure” elements of AVC’s proposed action plan. Quotes from similar implementation plans indicate AVC will need to budget roughly \$15,000 for one-time implementation and training fees for StarFish, as well as for an annual software license not to exceed \$30,000 per year.

6.4.3 Offer Predictable Scheduling

The program mapper visualization tool described above should tell students when classes will be offered so that they may plan accordingly. While the new portal is being prepared to launch, there are measures that AVC can take to help students better navigate schedules of classes. AVC could create an unofficial list of commonly offered classes and post them on Canvas or their current student portal to better inform the students. Professors should also be encouraged to let students know which classes will only be available during certain semesters. For example, instructors that teach a prerequisite for an advanced course should advise students as to when it will be offered next semester. Although quite laborious to disseminate, flyers posted around campus would allow students to plan accordingly for classes that will only be available during certain semesters or specific times.

We recommend that AVC’s schedulers get involved in the implementation of the pathways program mapper and Starfish student tracking and early alert systems to ensure that the correct courses are being used to populate degree road maps and are being mined for early alert issues. Additionally, schedulers should leverage these technology platforms and plan courses on the basis of student’s degree plans. In theory, the technology could be used to reference degree plans in the mapper to predict how many students need to take a particular course during a given semester. This would allow the college to better predict and avoid low-enrolled courses, reducing the number of class cancellations. All these factors working together should allow students to plan their future schedules well ahead of time.

This recommendation aligns with the “Stay on the Path” pillar of the Guided Pathways framework and the “Integrated Technology Infrastructure” element of AVC’s proposed action plan. In and of itself, predictable scheduling should not incur additional costs to AVC and should theoretically improve the college’s use of human resources and facilities by scheduling fewer cancelled classes.

6.4.4 Develop “Choosing a Major” Workshop

The challenge of a low counselor-to-student ratio can be addressed by developing and offering “choosing a major” workshops. These workshops can be offered by counselors at the beginning of each semester. By partnering up with professors and allowing students the time to attend these workshops, counselors can target multiple students in one session and offer them the guidance needed to be successful during their time at AVC. The workshops are an opportunity to answer student questions in person, receive feedback, and gain more insight into the student experience. This acquired knowledge can help streamline the student enrollment, counseling, and goal setting processes. Additionally, the workshop communicates to students that faculty members are invested in their future beyond the classroom.

AVC should also consider using these workshops as an opportunity to promote their Human Development courses to students that need the additional guidance with career and academic planning. These brief, 1.5 unit courses are a powerful tool for educating students on the principles of college success and career planning. Of course, they should be promoted by counselors and high school outreach staff outside of the workshop as well, though workshop attendees are an optimal target audience.

This recommendation aligns with the “Enter the Path” pillar of the Guided Pathways framework and the “Guided Major and Career Exploration” and “Proactive and Integrated Student Supports” elements of AVC’s proposed action plan. The college may wish to consider budgeting \$2,000 in stipends for faculty and counselors to develop the proposed workshop, as well as an additional \$1,200 in stipends per year for faculty and counselors to conduct several such workshops each semester.

6.4.5 Incorporate Degree Maps, Meta-majors, and Financial Aid into High School Outreach

To lower barriers to high school student enrollment, we recommend that AVC incorporate degree maps, meta-majors, and financial aid information into their high school outreach program. Advertising the Guided Pathways initiative as a user friendly, student-focused, inclusive program can really resonate with students who are faced with the daunting decision of selecting a course of study. This will communicate to students that AVC is their best option and that the instructors and staff have their success in mind, as well as reassure them that there are many other students just like them who have found the support they need to overcome obstacles through the programs offered at the college.

This recommendation aligns with the “Enter the Path” pillar of the Guided Pathways framework and the “Guided Major and Career Exploration” and “Proactive and Integrated Student Supports” elements of AVC’s proposed action plan. As high school outreach is an ongoing activity, this recommendation should incur no additional costs to the college.

6.5 Year Four: Fall 2021 - Summer 2022 (Improved Scale Implementation)

By the fourth year, AVC should be refining and expanding its scale implementation of the Guided Pathways framework. During this period, AVC should consider leveraging its \$178,103 Guided Pathways Year Four budget and residual budget carryforward from Years One through Three to sustain the initiatives described above and implement the following:

6.5.1 Revise Academic and Advising Policy

Academic policy can set the tone for the program by identifying non-negotiables across all campus departments as well as for students. It is recommended that AVC adds standards to the academic policy to set and communicate expectations early in the implementation of Guided Pathways. We have identified two academic policy opportunities that AVC could benefit from: (1) requiring major or meta-major declarations for first year students and (2) requiring in-person counselor advising for “off-map” majors. These policies will be communicated to students early in their

application process as well as during their educational career as needed. By requiring meta-major declaration, AVC can ensure students are aware of the needed courses for their success. According to our student survey, 50% of students felt they knew the required courses for their graduation while only 41% of faculty agreed that students knew their graduation or success requirements. Increasing student success rates means communicating expectations early and offering the tools needed to meet those goals.

This recommendation aligns with the “Enter the Path” pillar of the Guided Pathways framework and the “Guided Major and Career Exploration” element of AVC’s proposed action plan. This recommendation should incur no additional costs to the college.

6.5.2 External Evaluator

Having completed a scale implementation of the Guided Pathways framework in Year Three, we advise that AVC consider contracting an experienced external evaluator to evaluate the effectiveness of the various initiatives outlined above. The results of an evaluator's recommendations will undoubtedly give the college insight on how to refine, sustain, and institutionalize Guided Pathways reforms after the grant period has ended.

6.6 Year Five: Fall 2022 - Summer 2023 (Evaluation)

By the final year, AVC should continue refining its scale implementation of the Guided Pathways framework and begin using its integrated technologies and surveys to evaluate the effectiveness of its initiatives. During this period, AVC should consider leveraging its \$178,103 Guided Pathways Year Five budget and residual budget carryforward from Years One through Four to continue supporting software licenses, professional development, and evaluation-related activities.

VII. Conclusion

AVC has to be commended in its initiative to accomplish the goals set forth by the American Graduation Initiative and Vision for Success initiatives established by the former Obama administration and the California Community College Chancellor’s Office. By taking the first steps toward its participation in the Guided Pathways Award

Program, AVC has demonstrated its commitment to student success and enriching the American workforce with college graduates. In so doing, the college also seems poised to mitigate strategic issues affecting enrollment management and student engagement.

It is our honor and privilege to advise AVC and provide recommendations for implementing the Guided Pathways framework at their campus. We did not take this consulting opportunity lightly. Our recommendations were informed by evaluating the college's strategic position using PESTEL, Porter's Five Forces, and SWOT analyses. We then did extensive secondary research into Guided Pathways, as well as colleges that had successfully piloted the framework. Finally, we engaged in primary research, using student focus groups and survey questionnaires distributed to students, instructional faculty, and employees belonging to the college's Student Services division.

While the key findings from these endeavors helped shape our recommendations, time and budgetary constraints shaped the resulting implementation plan. We hope, at the very least, that the implementation plan might serve as a guide or starting point for AVC as the Guided Pathways Committee plans and recommends initiatives for the next four-and-a-half years. Ultimately, we are confident from our research that the framework will help AVC make strides toward achieving their institutional goals.

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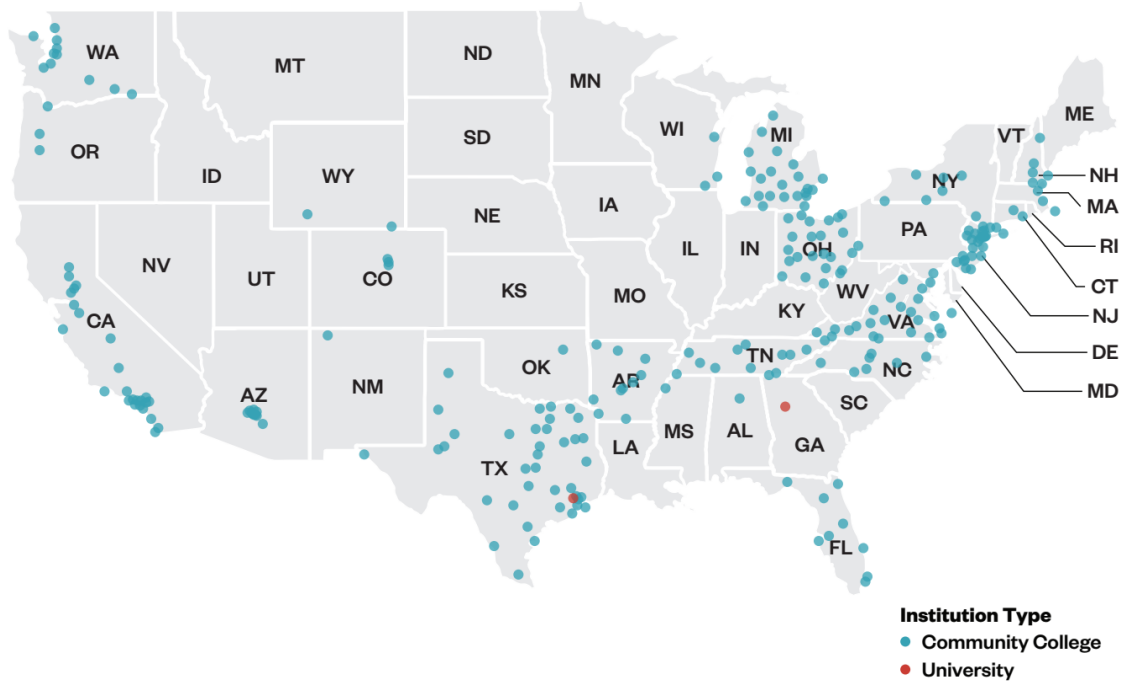
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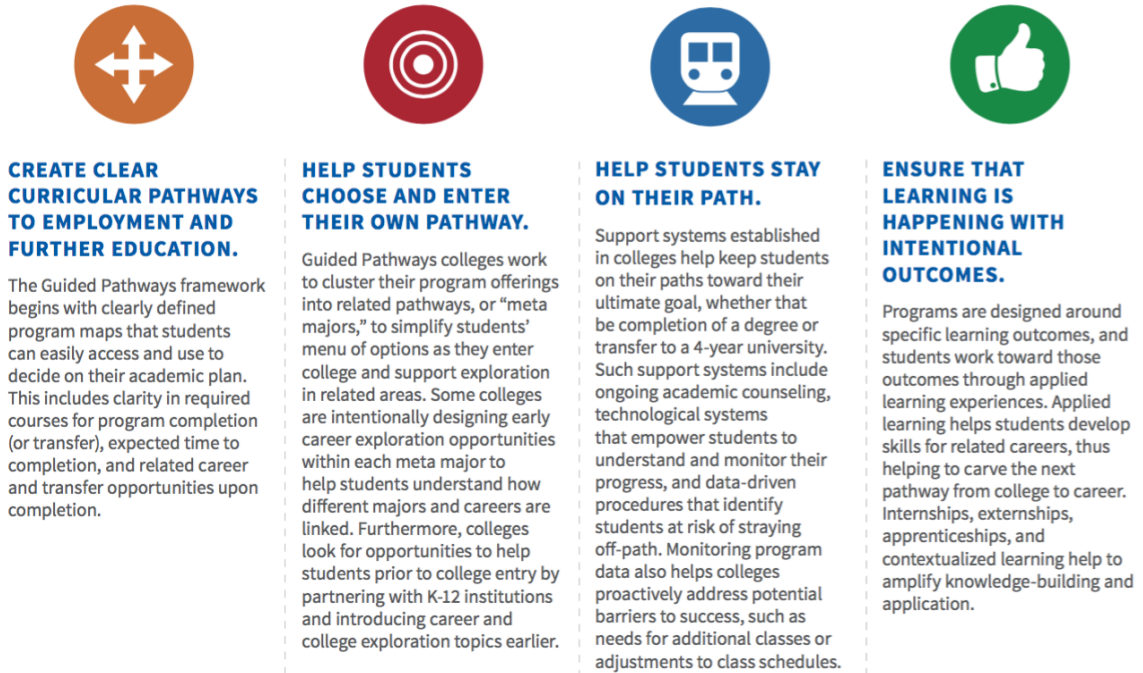
Appendix A

Figure 1. A National Movement: Colleges Implementing Guided Pathways



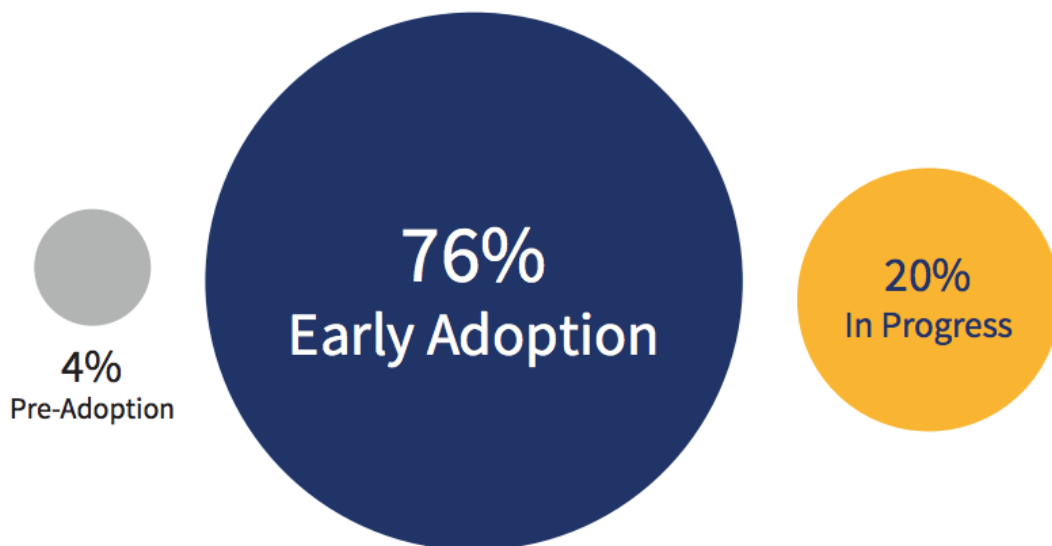
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Figure 2. Four Pillars of Guided Pathways



Source: http://cccgp.cccco.edu/Portals/0/GP_2017-18LegReport_ADA2.pdf

Figure 3. California Community Colleges Guided Pathways Self-Assessment Overall Rating



Source: http://cccgp.cccco.edu/Portals/0/GP_2017-18LegReport_ADA2.pdf

Figure 4. Summary of PESTEL Analysis

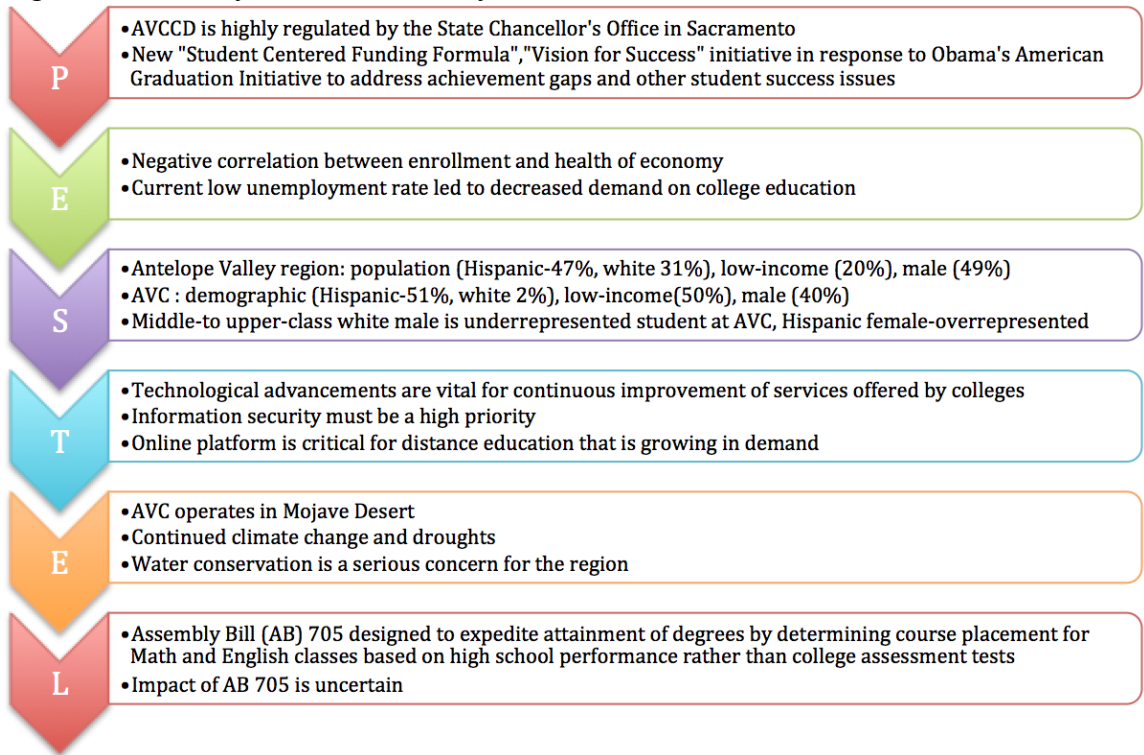


Figure 5. Summary of SWOT Analysis

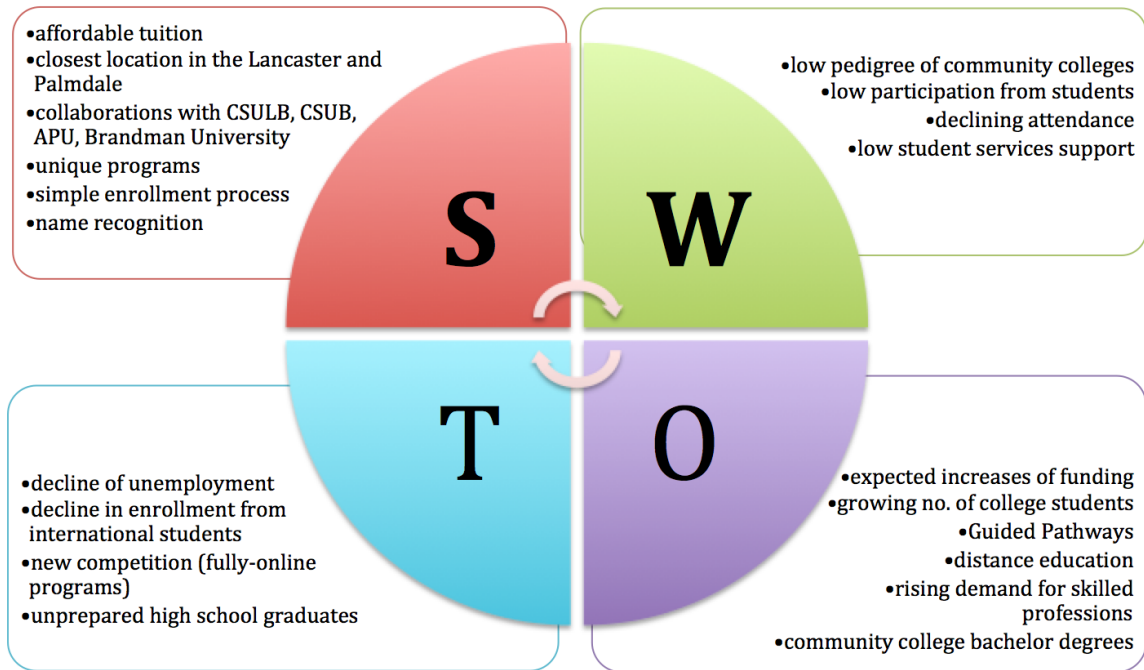


Figure 6. Summary of Porter's Five Forces



Table 2. Demographic Breakdown of Focus Group Student Participants

Demographic	Number of Students	Percentage
1. Gender <ul style="list-style-type: none"> • Male • Female 	2 9	18.18% 81.82%
2. Age <ul style="list-style-type: none"> • 18-21 • 22-29 • 30 and older 	6 3 2	54.55% 27.27% 18.18%
3. Highest academic credential earned <ul style="list-style-type: none"> • None • Associate Degree • Vocational/Technical • High School Diploma 	1 1 1 8	9.09% 9.09% 9.09% 72.73%
4. Enrollment status <ul style="list-style-type: none"> • Full-time • Less than full-time 	6 5	54.55% 45.45%
5. Is this the first college you have attended or did you begin college elsewhere? <ul style="list-style-type: none"> • Started here • Started elsewhere 	8 3	72.73% 27.27%
6. Are you eligible for Financial Aid? <ul style="list-style-type: none"> • I have received Financial Aid • I applied, but have not received it 	9 2	81.82% 18.18%
7. Are you married? <ul style="list-style-type: none"> • Yes • No 	2 9	18.18% 81.82%
8. Are you employed? <ul style="list-style-type: none"> • Yes • No 	5 6	45.45% 54.55%

<p>9. If yes, how many hours do you work each week?</p> <ul style="list-style-type: none"> ● 1-5 hours ● 6-10 hours ● 11-20 hours ● 21-30 hours ● More than 30 	<p>1 2 1 1</p>	<p>20.00% 40.00% 20.00% 20.00%</p>
<p>10. Racial identification</p> <ul style="list-style-type: none"> ● Hispanic, Latino ● African American ● Other: <u>Native American and White, Non-Hispanic</u> 	<p>3 7 1</p>	<p>27.27% 63.64% 63.9.09%</p>

Table 3. Demographic Break-down of Participating Students in Online Survey

Demographic	N	Percentage
1) Age <ul style="list-style-type: none"> • 18-19 • 20-21 • 22-24 • 25-29 • 30-39 • 40 or older 	67 38 37 40 35 44	25.7 14.6 14.2 15.3 13.4 16.9
2) Gender <ul style="list-style-type: none"> • Female • Male • Decline to say 	187 66 8	71.6 25.3 3.1
3) Racial ethnicity <ul style="list-style-type: none"> • Asian • Black/African American • Hispanic or Latino • American Indian/Alaskan Native • Native Hawaiian/Pacific Islander • White, Non-Hispanic • Other • None of the above, specify 	16 40 122 10 4 89 19 13	6.1 15.3 46.7 3.8 1.5 34.1 7.3 5
4) Highest level of education <ul style="list-style-type: none"> • Less than high school degree • High school degree or equivalent • Some college but no degree • Associate degree • Bachelor degree • Graduate degree 	0 71 145 30 8 6	0 27.3 55.8 11.5 3.1 2.3
5) First academic term <ul style="list-style-type: none"> • Yes • No 	78 182	30 70
6) Began college at AVC or elsewhere <ul style="list-style-type: none"> • Started here • Started somewhere 	206 55	78.9 21.1
7) Enrollment <ul style="list-style-type: none"> • Full-time • Part-time 	138 122	53.1 46.9
8) Number of units <ul style="list-style-type: none"> • 0-3 units • 4-6 units • 7-9 units • 9-12 units 	21 51 43 78	8 19.5 16.5 29.9

• 13-15 units	44	16.9
• 16-18 units	19	7.3
• More than 18	5	1.9

Table 4. Demographic Break-down of Instructors Participating in Online Survey

Demographic	N	Percentage
1) No. of years of teaching at AVC		
• 40 years or more	2	3.8
• 30 to 39 years	3	5.7
• 20 to 29 years	6	11.3
• 10 to 19 years	23	43.4
• 5 to 9 years	6	11.3
• 1 to 4 years	7	13.2
• First-year instruction	6	11.3
2) Form of employment		
• Full-time	24	45.3
• Part-time	29	54.7
3) No. of students enrolled in faculty's each course		
	0	0
• Fewer than 10	8	15.1
• 10-19	22	41.5
• 20-29	20	37.7
• 30-39	3	5.7
• 40 or more		

Table 5. Demographic Break-down of Student Services Employees Participating in Online Surveys

Demographic	N	Percentage
1) Area of Student Services the respondent is employed with <ul style="list-style-type: none"> • Admissions & Records • Counseling-Matriculation • Student Life & Services • Enrollment Services • Financial Aid • Other (please specify) 	0 9 4 4 1 3	0 42.9 19.05 19.05 4.7 14.3
2) Form of employment <ul style="list-style-type: none"> • Full-time • Part-time 	21 0	100 0
3) No. of years of experience working in students services at AVC <ul style="list-style-type: none"> • 40 years or more • 30 to 39 years • 20 to 29 years • 10 to 19 years • 5 to 9 years • 0 to 4 years 	1 0 1 9 4 6	4.75 0 4.75 42.9 19 28.6

Table 6. Instructor Opinions about Effectiveness of Guided Pathways

		I believe the Guided Pathways can help with student success				
		Strongly agree	Agree	Neither agree nor disagree	Disagree	Total
How familiar are you with the Guided Pathways?	Very familiar	2	2	1	0	5
	Familiar	3	2	3	1	9
	Somewhat familiar	4	4	8	0	16
	Not very familiar	0	2	9	0	11
	Not at all familiar	0	1	11	0	12
Total		9	11	32	1	53

Table 7. Student Services Opinions about Effectiveness of Guided Pathways

		I believe the Guided Pathways can help with student success				
		Strongly agree	Agree	Neither agree nor disagree	Don't know/ not sure	Total
How familiar are you with the Guided Pathways?	Very familiar	3	0	1	0	4
	Familiar	3	3	1	0	7
	Somewhat familiar	1	1	3	0	5
	Not very familiar	0	2	1	2	5
Total		7	6	6	2	21

Table 8. Link between Research Questions, Key Findings, Recommendations, and Implementation Plan

Research Questions	Findings	Recommendations WHAT	Implementation Plan HOW
RQ1: What major challenges does AVC face in clarifying the path for their students?	<ul style="list-style-type: none"> - Students find choosing a major and courses, and developing an academic plan challenging. - The majority of students are not familiar with program requirements. 	5.2.1 Develop meta-majors	6.2.1 Develop Meta-major Programs for Undecided Students 6.3.2 Build “Completion Coaching Communities”
		5.2.2 Refine transfer pathways	6.2.2 Rebrand “full-time” attendance 6.4.4 Develop and mandate “Choosing a Major” workshop
RQ2: What major challenges do AVC students face in entering and staying on the path?	- Transition from high school to college has been challenging for high school students.	5.2.5 Enable student matriculation in the local high schools	6.4.5 Incorporate degree maps, meta-majors, and financial aid into high school outreach
	<ul style="list-style-type: none"> - Student services are underutilized. - Orientation is not helpful. 	5.3.2 Improve student orientation 5.3.3 Promote academic and career advising	6.2.3 Develop and mandate interactive orientation video 6.5.1 Revise academic and advising policy
RQ3: What are the major obstacles to student success?	- Unpredictable schedule is one of the major obstacles from student perspective	5.4.1 Optimize course scheduling and online programs	6.4.3 Offer predictable scheduling 6.3.1 Expand distance ed program to include fully online degree programs
	- Academic underpreparedness is one of the major obstacles from faculty perspective	5.4.2 Remedy student academic underpreparedness	6.2.5 Integrate Basic skills learning outcomes into gatekeeper courses

RQ4: What do AVC students, faculty, and staff think of Guided Pathways?	- Student service employees are somewhat familiar with Guided Pathways, instructors are less familiar	5.2.3 Build awareness of the importance of Guided Pathways	6.2.3 Promote Guided Pathways Professional Development opportunities
RQ1, RQ2, RQ3, RQ4	Canvas and website are not helpful	5.5.1 Strengthen technological support structures	6.3.3 Pilot scale implementation of eLumen curriculum and assessment management software 6.4.1 Pilot pathways program mapper visualization tool 6.4.2 License and pilot Starfish early alert system

Table 10. Implementation Plan

Key Elements	Recommended expenditures	Spring 2018-Summer 2019	Fall 2019-Summer 2020	Fall 2020-Summer 2021	Fall 2021-Summer 2022
CLARIFY THE PATH					
Develop meta-majors		High-level planning/Engagement			
Rebrand “Full-time” attendance	\$29,000.00	High-level planning/Engagement			
Promote Guided Pathways professional development	\$225,000.00	High-level planning/Engagement			
Pilot pathways program mapper visualization tool	\$50,000.00			Initial scale implementation	
ENTER THE PATH					
Develop and mandate “Choosing a Major” workshop	\$5,600.00			Initial scale implementation	
Incorporate degree maps, meta-majors, and financial aid into high school outreach	-			Initial scale implementation	
Revise academic and advising policy	-				Improved scale implementation
STAY ON THE PATH					
Develop and mandate college orientation	\$5,000.00	Engagement			
Build Completion Coaching	\$180,000.00		In-depth planning	Initial implementation	

Communities					
License and pilot Starfish Early Alert System	\$135,000.00			Initial implementation	
Predictable scheduling	\$22,000.00			Initial implementation	
ENSURE LEARNING					
Integrate basic skills learning outcomes into gatekeeper courses	\$120,000.00	High-level planning	Engagement		
Expand distance ed program to include fully online degree programs	\$80,000.00	High-level planning	Engagement		
Pilot scale implementation of eLumen curriculum and assessment management software	\$187,000.00		In-depth planning	Initial implementation	

Appendix B

Survey Questions

AVC Student Survey

- 1) What is your age?
 - a) Under 18
 - b) 18-19
 - c) 20-21
 - d) 22-24
 - e) 25-29
 - f) 30-39
 - g) 40 or older
- 2) What is your gender?
 - a) Female
 - b) Male
 - c) Decline to say
- 3) What is your racial or ethnic identity? (Select all that apply.)
 - a) Asian
 - b) Black/African American
 - c) Hispanic or Latino
 - d) American Indian/Alaskan Native
 - e) Native Hawaiian/Pacific Islander
 - f) White, Non-Hispanic
 - g) Other
 - h) None of the above, please specify
- 4) What is the highest level of school you have completed or highest degree you have received?
 - a) Less than high school degree
 - b) High school degree or GED
 - c) Some college but no degree
 - d) Associate degree
 - e) Bachelor Degree
 - f) Graduate Degree
- 5) Is this your first academic term at this college?
 - a) Yes
 - b) No (if no, how many years have you been attending AVC)
- 6) Did you begin college at AVC or elsewhere?

- a) Started here
 - b) Started elsewhere (Please tell us where)
- 7) Thinking about the current academic term, how would you characterize your enrollment at AVC?
- a) Full-time
 - b) Part-time
- 8) How many units are you currently taking at AVC?
- a) 0-3 units
 - b) 3-6 units
 - c) 7-9 unites
 - d) 9-12 units
 - e) 13-15 units
 - f) 16-18 units
 - g) More than 18
- 9) Indicate which of the following are your reasons/goals for attending AVC?
(Select all that apply)
- a) Complete a certificate program
 - b) Obtain an Associate Degree
 - c) Transfer to a 4-year college or University
 - d) Obtain or update job-related skills
 - e) Change careers
 - f) Self-improvement/personal enjoyment
 - g) None of the above, please specify
- 10) Did you participate in orientation when your first came to AVC?(Check all that apply):
- a) I took part in an online orientation prior to beginning of classes
 - b) I attended an on-campus orientation prior to the beginning of classes
 - c) I enrollment in an orientation course as part of my course schedule during my first academic term
 - d) I had a one on one orientation
 - e) I was unable to participate in orientation due to scheduling or other issues
 - f) I was not aware of a college orientation
- 11) How often have you been referred to the following services? (Never - Often)
- a) Academic advising/planning
 - b) Career counseling
 - c) Job placement assistance
 - d) Learning Center Resources (such as peer tutoring)
 - e) Skill labs (writing, math, etc.)
 - f) Child care
 - g) Financial aid advising

- h) Computer lab
 - i) Student organizations
 - j) Transfer advising/planning
 - k) Library resources and services
 - l) Services for students with disabilities
 - m) Services for active military and veterans
 - n) Supplemental student services (homeless assistance services, food and security, etc.)
- 12) How important are these services to you as an AVC student? (Not at all - Very)
- a) Academic advising/planning
 - b) Career counseling
 - c) Job placement assistance
 - d) Learning Center Resources (such as peer tutoring)
 - e) Skill labs (writing, math, etc.)
 - f) Child care
 - g) Financial aid advising
 - h) Computer lab
 - i) Student organizations
 - j) Transfer advising/planning
 - k) Library resources and services
 - l) Services for students with disabilities
 - m) Services for active military and veterans
 - n) Supplemental Student Services (homeless assistance services, food and security, etc.)
- 13) Before the end of my first academic term at AVC, an advisor helped me develop an education plan (a personalized plan with a defined sequence for completing a college certificate or degree an/or for transferring to a 4-year college or university)
- a) Yes
 - b) No
 - c) I am still in my first academic term and I haven't yet developed an education plan
- 14) Someone at AVC contacts me if I am struggling with my studies to help me get the assistance and resources I need.
- a) Yes
 - b) No
 - c) Not applicable
- 15) During the current academic year at AVC, I have participated in supplemental instruction/learning (extra class sessions with the instructor or an experienced student) More than 4 times a week
- a) 3-4 times a week
 - b) 1-2 times a week
 - c) A few times during the academic year

d) Never

16) I was able to meet an academic advisor at times that were convenient for me.

- a) Strongly Agree
- b) Agree
- c) Neither agree nor disagree
- d) Disagree
- e) Strongly disagree

17) I was able to meet an academic advisor at times that were convenient for me.

- a) In-person
- b) Over the phone
- c) Online
- d) Via e-mail
- e) Not at all

18) I am familiar with the course and unit requirements of the program I want to complete

- a) Strongly Agree
- b) Agree
- c) Neither agree nor disagree
- d) Disagree
- e) Strongly disagree

19) What social networking tools would you like for faculty & staff to use to keep you updated regarding the events on campus?

- a) None at this time
- b) Instagram
- c) Snapchat
- d) Facebook
- e) Twitter
- f) LinkedIn
- g) College website/home page

20) How often do you meet with an advisor during an academic year?

- a) None
- b) 1-2 times
- c) 3-4 times
- d) More than 4 times

21) What are the major obstacles to student success at AVC? (Open Ended)

AVC Faculty Survey

- 1) How many years have you been teaching at AVC?
 - a) 40 years or more
 - b) 30 to 39 years
 - c) 20 to 29 years
 - d) 10 to 19 years
 - e) 5 to 9 years
 - f) 1 to 4 years
 - g) First-year instructor

- 2) During this academic term, does your institution consider you to be employed full-time or part-time?
 - a) Full-time
 - b) Part-time

- 3) On average, how many students enroll in each of your course sections?
 - a) Fewer than 10
 - b) 10-19
 - c) 20-29
 - d) 30-39
 - e) 40 or more

- 4) How often do you refer students to the following services? (Never - Often)
 - a) Academic advising/planning
 - b) Career counseling
 - c) Job placement assistance
 - d) Learning Center Resources (such as peer tutoring)
 - e) Skill labs (writing, math, etc.)
 - f) Child care
 - g) Financial aid advising
 - h) Computer lab
 - i) Student organizations
 - j) Transfer advising/planning
 - k) Library resources and services
 - l) Services for students with disabilities
 - m) Services for active military and veterans
 - n) Supplemental student services (homeless assistance services, food and security, etc.)

- 5) How important do you believe these services are to student at AVC? (Not at all - Very)
 - a) Academic advising/planning
 - b) Career counseling
 - c) Job placement assistance
 - d) Learning Center Resources (such as peer tutoring)

- e) Skill labs (writing, math, etc.)
 - f) Child care
 - g) Financial aid advising
 - h) Computer lab
 - i) Student organizations
 - j) Transfer advising/planning
 - k) Library resources and services
 - l) Services for students with disabilities
 - m) Services for active military and veterans
 - n) Supplemental Student Services (homeless assistance services, food and security, etc.)
- 6) During the current academic year, which of the following are part of your teaching role at this college? (Mark all that apply)
- a) Accelerated developmental education
 - b) Capstone course (culminating a program or integrating a series of courses)
 - c) Clinical or other field supervision of student work
 - d) College orientation
 - e) Community-based projects (service learning activities) incorporated into course(s)
 - f) Distance learning course
 - g) First-year experience program
 - h) Independent study
 - i) Faculty learning community (two or more courses that a group of students take together)
 - j) Student success course (a course that teaches the skills needed to succeed in college)
 - k) Supplemental instruction
 - l) Team teaching
 - m) Tutoring
- 7) During the first week of the current academic term in your selected course section did you administer an in-class assessment to determine your students' preparedness to succeed in the course?
- a) Yes
 - b) No
- 8) Which of the following statements best describe action you have taken regarding students who have been struggling academically in your classes (Mark all that apply)
- a) I have communicated with students during class
 - b) I have communicated with students outside of class
 - c) I have referred students to academic counseling services
 - d) I have contacted someone else in the college who then contacts students as part of intervention process

- e) I have required that students participate in college tutoring services
 - f) I have referred (not required) students to college tutoring services
 - g) Other
- 9) How familiar are you with the Guided Pathways initiative?
- a) Very familiar
 - b) Familiar
 - c) Somewhat familiar
 - d) Not very familiar
 - e) Not at all familiar
- 10) I believe the Guided Pathways initiative can help with student success
- a) Strongly agree
 - b) Agree
 - c) Neither agree nor disagree
 - d) Disagree
 - e) Strongly disagree
- 11) Are you familiar with any professional development related to Guided Pathways Program?
- a) Yes
 - b) No
- 12) I believe students are familiar with the course and unit requirements of their programs
- a) Strongly agree
 - b) Agree
 - c) Neither agree nor disagree
 - d) Disagree
 - e) Strongly disagree
 - f) Other (please specify)
- 13) During the current academic year at AVC, I have participated in supplemental instruction/learning (extra class session with students who need additional help)
- a) More than 4 times a week
 - b) 3-4 times a week
 - c) 1-2 times a week
 - d) A few times during the academic year
 - e) Never
- 14) What social networking tools do you use to communicate to students? (Mark all that apply)

- a) None at this time
- b) Instagram
- c) Snapchat
- d) Facebook
- e) Twitter
- f) LinkedIn
- g) College website/home page
- h) Other (please specify)

15) What are the major obstacles to student success at AVC? (Open Ended)

AVC Student Services Survey

- 1) What area(s) of Student Services are you currently employed with?
 - a) Admissions & Records
 - b) Counseling-Matriculation
 - c) Student Life & Services
 - d) Enrollment Services
 - e) Financial Aid
 - f) Other (please specify)
- 2) During this academic term, does your institution consider you to be employed full-time or part-time?
 - a) Full-time
 - b) Part-time
- 3) How many years of experience do you have working in Student Services at AVC?
 - a) 40 years or more
 - b) 30 to 39 years
 - c) 20 to 29 years
 - d) 10 to 19 years
 - e) 5 to 9 years
 - f) 1 to 4 years
 - g) First-year instructor
- 4) How familiar are you with the Guided Pathways initiative?
 - a) Very familiar
 - b) Familiar
 - c) Somewhat familiar
 - d) Not very familiar
 - e) Not at all familiar
- 5) Are you familiar with any professional development related to Guided Pathways Initiative?

- a) Yes
 - b) No
- 6) I believe the Guided Pathways initiative can help with student success
- a) Strongly agree
 - b) Agree
 - c) Neither agree nor disagree
 - d) Disagree
 - e) Strongly disagree
- 7) I believe students are familiar with the course and unit requirements of their programs
- a) Strongly agree
 - b) Agree
 - c) Neither agree nor disagree
 - d) Disagree
 - e) Strongly disagree
 - f) Other (please specify)
- 8) I believe students have a clear sense of their educational goals
- a) Strongly agree
 - b) Agree
 - c) Neither agree nor disagree
 - d) Disagree
 - e) Strongly disagree
- 9) I believe students have a clear sense of their career goals
- a) Strongly agree
 - b) Agree
 - c) Neither agree nor disagree
 - d) Disagree
 - e) Strongly disagree
- 10) What social networking tools do you use to communicate to students? (Mark all that apply)
- a) None at this time
 - b) Instagram
 - c) Snapchat
 - d) Facebook
 - e) Twitter
 - f) LinkedIn
 - g) College website/home page
 - h) Other (please specify)

11) How often do you refer students to the following services? (Never - Often)

- a) Academic advising/planning
- b) Career counseling
- c) Job placement assistance
- d) Learning Center Resources (such as peer tutoring)
- e) Skill labs (writing, math, etc.)
- f) Child care
- g) Financial aid advising
- h) Computer lab
- i) Student organizations
- j) Transfer advising/planning
- k) Library resources and services
- l) Services for students with disabilities
- m) Services for active military and veterans
- n) Supplemental student services (homeless assistance services, food and security, etc.)

12) How important do you believe these services are to student at AVC? (Not at all - Very)

- a) Academic advising/planning
- b) Career counseling
- c) Job placement assistance
- d) Learning Center Resources (such as peer tutoring)
- e) Skill labs (writing, math, etc.)
- f) Child care
- g) Financial aid advising
- h) Computer lab
- i) Student organizations
- j) Transfer advising/planning
- k) Library resources and services
- l) Services for students with disabilities
- m) Services for active military and veterans
- n) Supplemental Student Services (homeless assistance services, food and security, etc.)

13) What are the major obstacles to student success at AVC? (Open Ended)

Appendix C

Focus Group Protocols

Introduction

As students came in, we gave out 2 forms to fill out.

“Hello everyone. We are CSUN MBA students who are working on a research project together with AVC. Today we wanted to talk to you about your student experience at AVC and your opinion about a new framework. Everything you say will remain confidential. We are not evaluating you. Your participation is voluntary and if you don’t want to respond to a question, you don’t have to. Just remember that your voices can shape your college, thus your college experience.

“We prepared a short presentation to tell you about a new program called Guided Pathways. AVC as many other community colleges face the following problems: Low graduation rates – even fewer graduate on time. As you can see, on average, only 34% of bachelors graduate on time (within 4 year), only 10% of associate degree students graduate on time (within 2 year) Why does this happen? Mostly because students earn unnecessary credits by taking classes not related to their major. The results of many researches indicate that students need more guidance. Because these problems became nationwide, states decided to help colleges to lessen these problems. Here is the program that many colleges in many states have already started to implement. The name of this program is Guided Pathways. Again, this program is designed to help student to graduate on time, not to earn unnecessary credits, and to have clear career and education path. Here is what GPS [Guided Pathways Services] will bring to you: structured onboarding processes, academic maps, proactive academic and career advising, early alert systems, instructional support and co-curricular activities. So GPS just like navigation system GPS will guide you and take you to the right place!

“Here is how your individual college page – your dashboard can look like. Each of you will have an assigned advisor, who will pick for you all the necessary classes you need based on your selected major, create a balanced schedule for each semester. All you will have to do is log in, check your schedule, check your progress. All this will help you to graduate on time.

“Again, this is a new program for AVC that is in its early stages of implementation. However, the colleges that have implemented this program demonstrate good results of a significant increase in the rate of students’ graduation.”

Focus group questions

- 1) What do you think is the most challenging part in selecting a major or a plan of study?
- 2) Why do you think deciding which courses to take is challenging (if so)?
- 3) How can GPS help new and existing students with selecting their major/setting educational goals?
- 4) What were the most useful ways AVC has supported you as a student?
- 5) What do you feel have been your biggest hurdles to achieving success while attending AVC?
- 6) Do you feel that online orientation gave you better guidance regarding class registration and class selection?
- 7) What services or advice do you think should be included in a student orientation? (online/offline, alumni/faculty)
- 8) What do you think of GPS program maps, educational plans, and tracking features?
- 9) How many of you think that GPS will help the majority of students?
- 10) What are the best ways to gain attention for GPS among students?


“Thank you for participating in this focus group and for sharing your thoughts and experiences. We appreciate your feedback. Feel free to contact me if you would like to share any additional information.”

Appendix D

NOVA Action Plan

3/26/2018

NOVA: Invest & Plan for Student Success


Help ?

PLAN, INVEST, TRACK.
Fund: Guided Pathways, Year: Spring 2018-Summer 2019 Produced: Mar 26, 2018, 1:50 PM PDT

Antelope Valley College - Guided Pathways

Description

COLLEGE: Antelope Valley College
PLAN TIMEFRAME: Spring 2018-Summer 2019
READ DEADLINES AND THE GUIDED PATHWAYS DOCUMENTATION AND GOALS: Yes

Project Contacts

Point of Contact	Alternate Point of Contact
Duane Rumsey Dean of Arts & Humanities drumsey@avc.edu 661-722-6322	Bonnie Suderman Vice President of Academic Affairs bsuderman@avc.edu 6617069806

Certifying Contacts

Chancellor/President	President, Academic Senate
Edward Knudson eknudson@avc.edu	Van Rider Academic Senate President vrider@avc.edu 6617226707

Timeline

KEY ELEMENTS	SPRING 2018 - SUMMER 2019	FALL 2019 - SUMMER 2020	FALL 2020 - SUMMER 2021	FALL 2021 - SUMMER 2022
INQUIRY (1 - 3)				
1. Cross Functional Inquiry	✓			
2. Shared Metrics	✓			
3. Integrated Planning	✓			
DESIGN (4 - 8)				
4. Inclusive Decision-Making Structures	✓			
5. Intersegmental Alignment		✓	✓	✓
6. Guided Major and Career Exploration		✓	✓	
7. Improved Basic Skills	✓			
8. Clear Program Requirements		✓	✓	✓
IMPLEMENTATION (9 - 14)				
9. Proactive and Integrated Student Supports	✓			
10. Integrated Technology Infrastructure			✓	✓
11. Strategic Professional Development		✓	✓	✓
12. Aligned Learning Outcomes			✓	✓
13. Assessing and Documenting Learning			✓	✓
14. Applied Learning Outcomes		✓	✓	✓

Inquiry

1. CROSS FUNCTIONAL INQUIRY

https://nova.cccco.edu/#/gp/preview/2649 1/5

College constituents (including staff, faculty across disciplines and counselors, administrators, and students) examine research and local data on student success and discuss overarching strategies to improve student success.

College engages in broad, deep and inclusive discussion and inquiry about the Guided Pathways approach, framework and evidence.

CURRENT SCALE OF ADOPTION: Early Adoption

ANTICIPATED CHANGE IN SCALE OF ADOPTION DURING TIMEFRAME: Scaling in Progress

MAJOR ACTIVITIES: 1. Work on the development of input gathering instruments that will capture information from the constituent groups. 2. Integrate the data into current processes, plans, and/or goals. 3. Provide mechanisms to pull and share data on a regular basis.

EXISTING EFFORTS: Communicate updates regarding Guided Pathways at activities and events that may include, but are not limited to: All College Planning Retreat, Fall Opening Day, Adjunct Orientation, Student Focus Groups.

MAJOR OUTCOMES: 1. Baseline data established by Summer 2019. 2. Methodologies in place to increase constituent participation in data gathering, awareness, and decision making in Guided Pathways.

2. SHARED METRICS

College is using clearly identified benchmarks and student data to track progress on key activities and student academic and employment outcomes. Those benchmarks are shared across key initiatives.

CURRENT SCALE OF ADOPTION: Scaling in Progress

ANTICIPATED CHANGE IN SCALE OF ADOPTION DURING TIMEFRAME: Scaling in Progress

MAJOR ACTIVITIES: 1. Monitor the system-level Simplified Metrics development progress 2. Continue looking at Guided Pathways KPIs to align guided pathways metrics with Equity, SSSP, Basic Skills, and other data collected 3. Continue reviewing key benchmarks and progress.

EXISTING EFFORTS: Select data and metrics from key initiatives on which to focus that will enhance Guided Pathways.

MAJOR OUTCOMES: 1. Established the process for alignment of the colleges strategic plan with Guided Pathways initiatives 2. Established the procedures for examining the progress on the benchmarks 3. Review the strategic plan alignment with guided pathways

3. INTEGRATED PLANNING

College-wide discussions are happening with all stakeholders and support/commitment has been expressed by key stakeholders to utilize the Guided Pathways framework as an overarching structure for the college's main planning and resource allocation processes, leveraging existing initiatives and programs.

CURRENT SCALE OF ADOPTION: Early Adoption

ANTICIPATED CHANGE IN SCALE OF ADOPTION DURING TIMEFRAME: Scaling in Progress

MAJOR ACTIVITIES: 1. Identification of key stakeholders and begin early stage discussions regarding guided pathways 2. Identification of suitable existing, campus initiatives and programs as well as the ways in which they can be leveraged to support an overarching Guided Pathways structure/method of planning and resource allocation.

EXISTING EFFORTS: 1. The goal is to involve the Strategic Planning Committee and college constituents to make Guided Pathways one of our Strategic Priorities that would help AVC provide up-to-date programs that are highly attractive to potential students. 2. Continue conducting comprehensive reviews of current program offerings in light of occupational forecasts related to sectors of job growth.

MAJOR OUTCOMES: 1. Increased awareness and engagement of key constituents. 2. Resource availability. 3. Discovered general/broad ways in which suitable existing initiatives and programs on campus can be leveraged to support a main overarching Guided Pathways framework of planning and resource allocation at AVC.

Design

4. INCLUSIVE DECISION-MAKING STRUCTURES

College has identified key leaders that represent diverse campus constituents to steer college-wide communication, input and decisions regarding the Guided Pathways framework.

Constituents have developed transparent cross-functional work-teams to provide the Guided Pathways effort with momentum and regularly provide opportunities for broad college-wide input. In addition, this plan strategically engages college governance bodies college-wide.

CURRENT SCALE OF ADOPTION: Early Adoption

ANTICIPATED CHANGE IN SCALE OF ADOPTION DURING TIMEFRAME: Scaling in Progress

MAJOR ACTIVITIES: 1. Identification of key stakeholders and begin early stage discussions regarding Guided Pathways. 2. Form specific committees focused on Guided Pathways.

EXISTING EFFORTS: 1. Guided Pathways Committee is formed to initiate discussions. 2. Continue to utilize division and departmental structures. 3. Involve Strategic Planning Committee and college constituents to make Guided Pathways part of the strategic priorities.

MAJOR OUTCOMES: 1. The leaders that represent campus constituents have come together in discussions regarding Guided Pathways. 2. Established mechanisms of communicating regarding Guided Pathways. 3. Provide up-to-date programs that are highly attractive to potential students. 4. Conduct regular reviews of current program offerings in light of occupational forecasts.

5. INTERSEGMENTAL ALIGNMENT

College engages in systematic coordination with K-12, four-year institutions and industry partners to inform program requirements.

This item will not be addressed in the current time period. Please refer to the timeline above for more information.

6. GUIDED MAJOR AND CAREER EXPLORATION

College has structures in place to scale major and career exploration early on in a student's college experience.

This item will not be addressed in the current time period. Please refer to the timeline above for more information.

7. IMPROVED BASIC SKILLS

College is implementing evidence-based practices to increase access and success in college and/or transfer-level math and English.

CURRENT SCALE OF ADOPTION: Early Adoption

ANTICIPATED CHANGE IN SCALE OF ADOPTION DURING TIMEFRAME: Scaling in Progress

MAJOR ACTIVITIES: 1. The use of high school performance for placement. 2. Co-requisite remediation, academic support, or shortening of developmental sequence(s). 3. Curricular innovations including the creation of math pathways to align with students' field of study.

EXISTING EFFORTS: Discussions have begun and data are being reviewed.

MAJOR OUTCOMES: Implementation is expected in Summer 2019.

8. CLEAR PROGRAM REQUIREMENTS

College is clarifying course sequences for programs of study (including key milestones) and creating predictable schedules so that students can know what they need to take, plan course schedules over an extended period of time, and easily see how close they are to completion. College offers courses to meet student demand. In order to meet these objectives, college is engaging in backwards design with desired core competencies and/or student outcomes in mind (including time-to-goal completion and enhanced access to relevant transfer and career outcomes).
 This item will not be addressed in the current time period. Please refer to the timeline above for more information.

Implementation

9. PROACTIVE AND INTEGRATED STUDENT SUPPORTS

College provides academic and non-academic support services in a way that is proactive and aligned with instruction, so that all students are explicitly engaged in these services.

CURRENT SCALE OF ADOPTION: Early Adoption

ANTICIPATED CHANGE IN SCALE OF ADOPTION DURING TIMEFRAME: Scaling in Progress

MAJOR ACTIVITIES: 1. Incorporate and enhance available student services programs that will help keep students engaged in the Guided Pathways program. 2. Strengthen counseling support that may include embedded counselors for divisions/departments/disciplines.

EXISTING EFFORTS: 1. Existing embedded counselor pilot. 2. FYE, Urmoja, Orientation, Student Success Kickoff, Academic Summer Bridge, Senior Math Acceleration Program, Math Assessment Prep Academy etc.

MAJOR OUTCOMES: Conduct research studies that examine the relationship between student participation and engagement in co-curricular activities and academic success and completion.

10. INTEGRATED TECHNOLOGY INFRASTRUCTURE

College has the technology infrastructure to provide tools for students as well as instructional, counseling, and student support faculty and staff to support planning, tracking, and outcomes for Guided Pathways.

This item will not be addressed in the current time period. Please refer to the timeline above for more information.

11. STRATEGIC PROFESSIONAL DEVELOPMENT

Professional Development (PD) is strategically, frequently, and consistently offered for staff, faculty and administrators and aligned with the college's strategic goals, needs and priorities identified in integrated plans, program review, and other intentional processes.

This item will not be addressed in the current time period. Please refer to the timeline above for more information.

12. ALIGNED LEARNING OUTCOMES

Learning outcomes are aligned with the requirements targeted by each program and across all levels (i.e., course, program, institutional) to ensure students' success in subsequent educational, employment, and career goals.

This item will not be addressed in the current time period. Please refer to the timeline above for more information.

13. ASSESSING AND DOCUMENTING LEARNING

The college tracks attainment of learning outcomes and that information is easily accessible to students and faculty. Consistent and ongoing assessment of learning is taking place to assess whether students are mastering learning outcomes and building skills across each program and using results of learning outcomes assessment to improve the effectiveness of instruction in their programs.

This item will not be addressed in the current time period. Please refer to the timeline above for more information.

14. APPLIED LEARNING OUTCOMES

Students have ample opportunity for applied/contextualized learning and practice. Opportunities have been coordinated strategically within and/or amongst programs.

This item will not be addressed in the current time period. Please refer to the timeline above for more information.

Performance Indicators

PARTICIPATION

KEY PERFORMANCE INDICATORS

CURRENT KPI DATA

Average number of credits attempted in year one	19.1484808
Average number of degree-applicable credits attempted in year one	15.28150207
College-level course success rate	0.735168

KEY PERFORMANCE INDICATORS	CURRENT KPI DATA
Full-time students	813
Number of students	2791
Persisted from term one to term two	1989

TRANSFERRABLE MATH & ENGLISH COMPLETION

KEY PERFORMANCE INDICATORS	CURRENT KPI DATA
Successfully completed both transfer-level English and math in year one	222
Successfully completed transfer-level English in year one	827
Successfully completed transfer-level math in year one	315

FIRST TERM MOMENTUM

KEY PERFORMANCE INDICATORS	CURRENT KPI DATA
Attempted 15+ college credits in first term	251
Successfully earned 12+ college credits in first term	335
Successfully earned 15+ college credits in first term	78
Successfully earned 6+ college credits in first term	1137

Budget Totals

Total Budget
\$445,256

Code	Amount	Percent of Budget
Indirect Costs	\$18,210	4.09%
5000 - Other Operating Expenses and Services	\$50,000	11.23%
1000 - Instructional Salaries	\$145,000	32.57%
4000 - Supplies and Materials	\$75,000	16.84%
5000 - Other Operating Expenses and Services	\$25,000	5.61%
3000 - Employee Benefits	\$50,000	11.23%
2000 - Non-instructional Salaries	\$82,046	18.43%
Antelope Valley College Total	\$445,256	100%

Efforts & Support

EFFORTS: In order to gain consensus on Multiple Measures, multi-discipline teams have been sent to state presentations and RP researchers have been brought on campus to present results from MM research. In the past year, work teams lead by the Math and English Departments have been developing placement processes that will include high school grades. These new processes will be in place for use in student placement in summer, 2018.
CHANCELLOR'S OFFICE SUPPORT: Develop and make accessible an electronic resource of ideas from other colleges so that we can see what others are doing and share best practices.

Certification

CHANCELLOR/PRESIDENT

Edward Knudson
eknudson@avc.edu

SEND REMINDER

Awaiting Submittal

PRESIDENT, ACADEMIC SENATE

Van Rider
Academic Senate President
vrider@avc.edu
6617226707

SEND REMINDER

Awaiting Submittal



Appendix E

Letter of Engagement

September 18, 2018

Client name: Antelope Valley College

Address: 3041 W Ave K, Lancaster, CA 93536

Dear *Client*:

The purpose of this letter is to (1) verify that we intend to pursue the MBA Consulting Project that we discussed with you on our recent visit, and explain our understanding of the task that we are expected to accomplish, and (2) advise you of the information and material we expect to need to complete this task. Also, we are required to bring to your attention the following statement concerning the nature of the student consulting engagement that we are embarking upon:

"The MBA Consulting Project operates under the auspices of the David Nazarian College of Business and Economics at California State University, Northridge. The report that you will receive should not be interpreted as the official position of California State University, Northridge (CSUN) or of the David Nazarian College of Business and Economics at CSUN. Rather, it will contain views and opinions of the MBA student or student team based on discussions, observations, investigations, and analysis of your firm's operations and its business environment."

Based on our discussion with you on September 3, 2018, we intend to develop a strategic plan for your company to implement for the academic years of 2018-2023. We hope that our recommendations will be of some assistance to you in achieving the long-run effectiveness of your firm.

(1) This agreement is made between Antelope Valley College ("Client") and CSUN MBA group ("Consultant"). The CSUN MBA group is comprised of students Tom Anderson, Eva DiVenti, Cindy Garcia, and Inna Kim. This letter confirms the terms

of our engagement and clarifies the nature and extent of the consulting services to be provided.

- *Statement of the Problem*

For this study, the Consultant shall research and analyze the California Guided Pathways Program and determine how the Client can best utilize their participation in this grant to align with the strategic objectives outlined in their Educational Master Plan, particularly as they pertain to student success and enrollment management. Specifically, the Consultant shall consider the Client's declining enrollments and student success rates, such as completions and transfers, and assess whether the Client's Proposed Action Plan for their Guided Pathways program will indeed help them to make improvements in these areas. The Client has expressed specific concerns that students are not engaging with their education services, and that critical components of the Guided Pathways framework, such as the development of meta-majors and streamlining of pathways, may face resistance from faculty. The Client has also raised concerns that the administration may be out of touch with student needs, and that their Proposed Action Plan is not informed by student feedback. The Consultant will take these concerns, as well as the five year timeframe and budget of the Guided Pathways grant, into consideration and make recommendations accordingly.

- *Project Objectives*

For this project, the Consultant will help the Client to assess and improve their Proposed Action Plan for their Guided Pathways program so that it is better informed by student feedback and data from other colleges where the Guided Pathways framework has been successfully implemented. The Consultant shall use SWOT and Porter's Five Forces analysis to assess the Client's position within the industry and identify competitive advantages that may be leveraged in support of its Action Plan Proposal. The Consultant will also identify the key strategic issues facing the Client as they implement their Guided Pathways program. This will help the Client to anticipate and avoid potential problems; to obtain buy-in

from faculty, shared governance committees, the community, and other constituent groups for the development of meta-majors and streamlining of existing pathways; and to better market their programs and services under the Guided Pathways framework. Ideally, the Client will have a better understanding of what their students want from Guided Pathways and a strategy for remaining informed about student needs.

- *Required Information and Research*

The Consultant will pursue demographic information on the Client's students and the local community. The Consultant will also pursue quantitative information pertaining to the institutional effectiveness of the college, particularly student success rates, such as completions, transfers, and attrition. The Consultant will also investigate labor market information for the region serviced by the Client. The Consultant will do extensive research on the Guided Pathways Program, specifically on data and scholarly literature pertaining to colleges that have already implemented the Guided Pathways framework. Lastly, the Consultant will pursue qualitative information in the form of student feedback, in the form of focus groups, as well as feedback from the Client's faculty, administration, and, if practicable, community, in the form of survey questionnaires.

- *Project Roles*

The Consultant and Client will have a relationship of collaboration, communicating regularly and working together to identify problems, interpret findings, and develop recommendations. The Consultant expects the Client to provide feedback on their research design and communicate their needs, especially what kind of information they would like to know about their students. The Consultant will require the Client to reply to email inquiries in a timely manner.

- *Project Deliverables*

The Consultant will deliver its analysis, recommendations, and implementation plan in the form of a presentation and written report. The presentation and any follow-up questions and discussion will have a total duration of approximately one to two hours. The written report will be approximately one hundred pages, including appendices, diagrams, tables, and references. The recommendations and implementation plan to be presented and included in the Consultant's report shall pertain to the restructuring of various Student Services functions, such as registration and counseling, within the Guided Pathways framework; securing buy-in and support from faculty and the administration; and the marketing and re-branding of the Client and their Guided Pathways Services program. The recommendations and implementation plan will be informed by data and scholarly literature on colleges where Guided Pathways have already been implemented; data provided by the Client pertaining to their student demographics, success rates, enrollments, and organizational culture; and data obtained by the Consultant from students, faculty, and other stakeholders. This will require the Consultant to design multiple survey questionnaires for students, faculty, counselors, and other Student Services personnel. The Consultant will also design and conduct at least one focus group with students. Any data produced from the Consultant's research will be provided to the Client, including survey and questionnaire responses.

(2) Our goal is to provide a final written report and oral briefing for you by December 10, 2018. In order to accomplish our goal, the Consultant may require the Client to provide student success and program data from its Institutional Effectiveness, Research and Planning Office. The Consultant will require support and cooperation from the Client for the distribution and delivery of survey links, and the promotion and provision of facilities for on-site focus groups. The Consultant may also require the Client to allocate Guided Pathways funds in support of their research plan (e.g., paying for sandwiches as an incentive for focus group participants, or prizes as an incentive for survey respondents). The Consultant will also require the Client to provide insight into the organizational culture of the college, and recommendations as to how to best obtain information and support from the administration.

Thank you for giving us this opportunity to apply our knowledge and skills in an actual business environment. We are looking forward to an interesting and challenging assignment.

Yours truly,

Tom Anderson

Tom Anderson
MBA Student Consultant

Cindy Garcia

Cindy Garcia
MBA Student Consultant

Eva DiVenti

Eva DiVenti
MBA Student Consultant

Inna Kim

Inna Kim
MBA Student Consultant

The following individuals will be supervising this project:

Akanksha Bedi

Akanksha Bedi, Ph.D.
Faculty Advisor, MBA Consulting
Professor of Management
626-399-1646

Deborah Heisley, Ph.D.
Project Chair, MBA Consulting Project
Professor of Marketing
Director, MBA & Graduate Business
Programs
(818) 677-2467

Receipt of engagement letter acknowledged:

Nathan Dillon

Digitally signed by Nathan Dillon
DN: cn=Nathan Dillon, o=Antelope Valley College,
ou=Arts & Humanities, email=ndillon@avcedu, c=US
Date: 2018.09.19 12:10:27 -0700

Antelope Valley College
MBA Consulting Project Client

9/19/2018

Date