

Alvin Community College
Strategic Plan Data Portfolio

DRAFT

October 4, 2021

Prepared by the Collaborative Brain Trust

External Environmental Scan

The External Environmental Scan is an analysis of the area in which the College operates. Several regions were considered for analysis in this Strategic Plan. The geographical area chosen as most useful for study, is the area in which the bulk of the College's students reside. This region will be referred to as the "Primary Feeder Region". The following section describes the analysis that determined the boundaries of this Primary Feeder Region.

Defining the Primary Feeder Region

Enrollments by City of Residence

Following is a table showing enrollments by City of residence for the past six fall semesters. In fall 2020, the list of cities captures 95.5% of enrolled students. Pearland, Alvin, Rosharon and Manvel were consistently the top four cities in which students reside.

City	State	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	2020 %
Pearland	TX	1,223	1,504	1,677	1,734	2,037	2,098	34.1%
Alvin	TX	1,205	1,275	1,362	1,443	1,634	1,388	22.5%
Rosharon	TX	488	594	591	702	836	727	11.8%
Manvel	TX	251	326	400	422	455	499	8.1%
Friendswood	TX	237	234	194	184	192	172	2.8%
Houston	TX	168	210	178	156	160	169	2.7%
League City	TX	142	174	143	159	144	139	2.3%
Angleton	TX	100	103	84	86	93	95	1.5%
Danbury	TX	55	71	79	78	84	81	1.3%
Santa Fe	TX	119	154	112	111	105	78	1.3%
Dickinson	TX	98	119	76	85	82	67	1.1%
Richmond	TX	73	117	107	100	106	53	0.9%
Brazoria	TX	64	64	37	45	47	45	0.7%
Fresno	TX	43	26	32	41	40	43	0.7%
Missouri City	TX	29	32	41	40	35	39	0.6%
Lake Jackson	TX	24	37	24	27	24	26	0.4%
Liverpool	TX	25	28	30	32	34	25	0.4%
Texas City	TX	55	62	36	36	33	23	0.4%
Webster	TX	26	52	24	26	18	20	0.3%
#N/A	#N/A	1,395	1,367	1,005	575	278	96	1.6%
Other ¹		289	436	249	226	281	275	4%
Total		6,109	6,985	6,481	6,308	6,718	6,158	100%

Source: ESRI, Analysis by CBT

¹ Fewer than 20 students in fall 2020

Enrollments by Zip Code

Using student zip codes is a more granular way to determine where Alvin Community College students reside. The following table shows the same enrollment history data organized by zip code of residence instead of city. For the fall 2020 semester, 84.4% of enrolled students resided in the nine zip codes listed in the table.

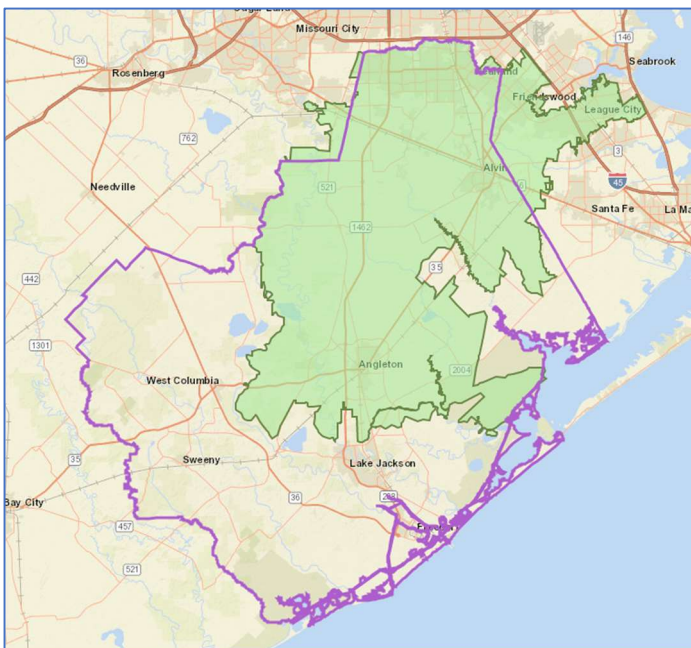
Enrollments by Zip Code Fall 2015 to 2020								
Zip	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	Fall 2020 %	Cumulative total
77584 - Pearland	784	928	1,055	1,101	1,308	1,409	22.9%	22.9%
77511 – Alvin	1,205	1,275	1,362	1,443	1,634	1,388	22.5%	45.4%
77583 – Rosharon	488	594	591	702	836	727	11.8%	57.2%
77581 – Pearland	439	576	622	633	729	689	11.2%	68.4%
77578 – Manvel	251	326	400	422	455	499	8.1%	76.5%
77546 – Friendswood	237	234	194	184	192	172	2.8%	79.3%
77573 – League City	142	174	143	159	144	139	2.3%	81.6%
77515 – Angleton	100	103	84	86	93	95	1.5%	83.1%
77534 - Danbury	55	71	79	78	84	81	1.3%	84.4%
Other	2,408	2,704	1,951	1,500	1,243	959	15.6%	100.0%
Grand Total	6,109	6,985	6,481	6,308	6,718	6,158	100.0%	

Source: ESRI, Analysis by CBT

For the purpose of this External Scan, this nine zip code region will be referred to as the “Primary Feeder Region”. This does not mean that the College should ignore areas outside of these nine zip codes. Rather, the analysis of this region will provide data that will help the College evaluate how well it is serving the local population and identify underserved populations.

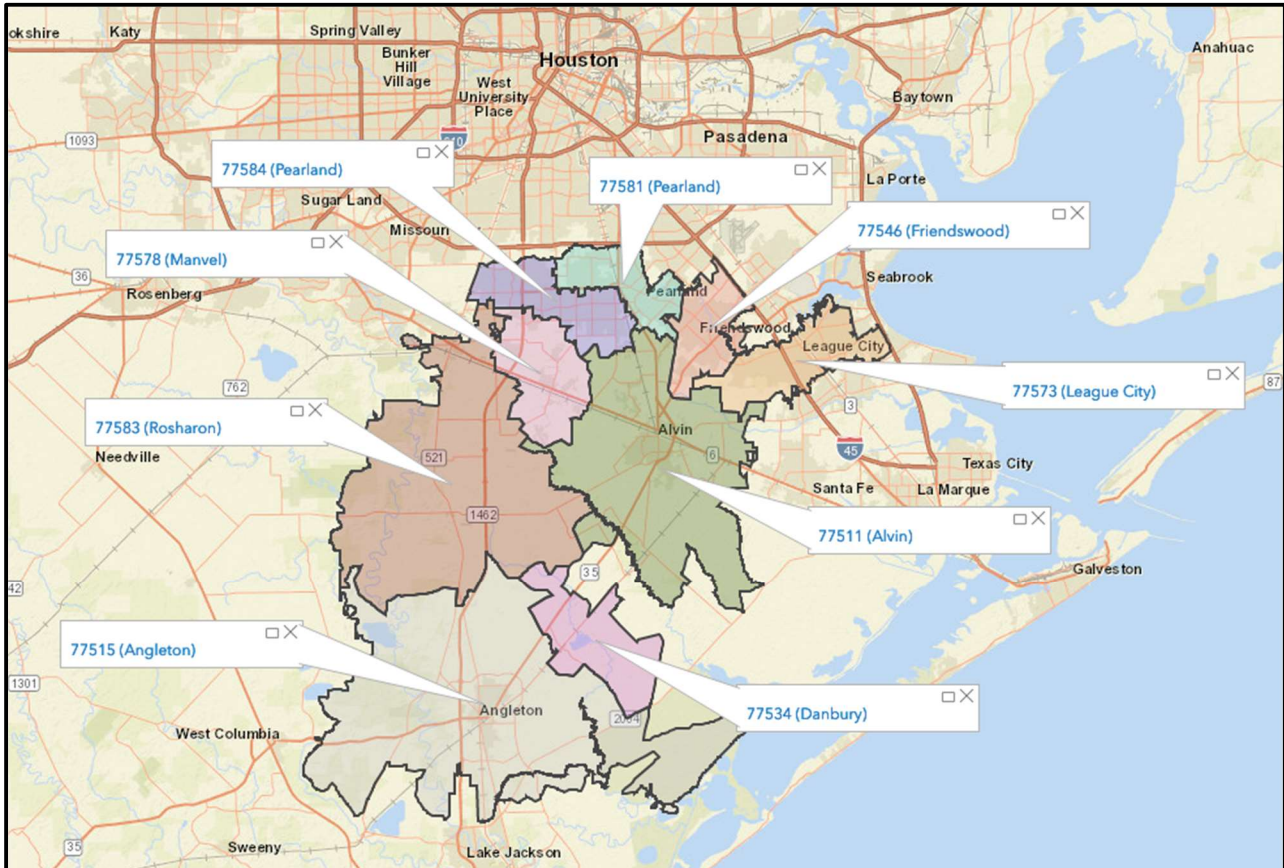
The following sections provide data about the population living in the Primary Feeder Region as well as comparisons to Brazoria County, the State of Texas and the Nation.

The green shaded area is the (nine zip code) Primary Feeder Region. The area outlined in purple is Brazoria County.



Source: ESRI, Analysis by CBT

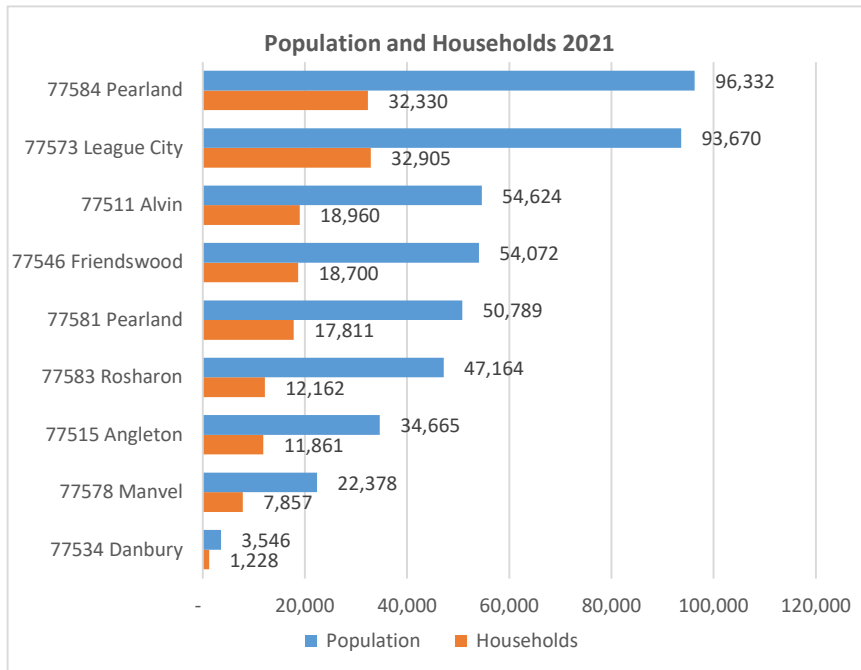
Following, is a map that shows these nine zip codes.



Source: ESRI, analysis by CBT

Population Metrics by Zip Code

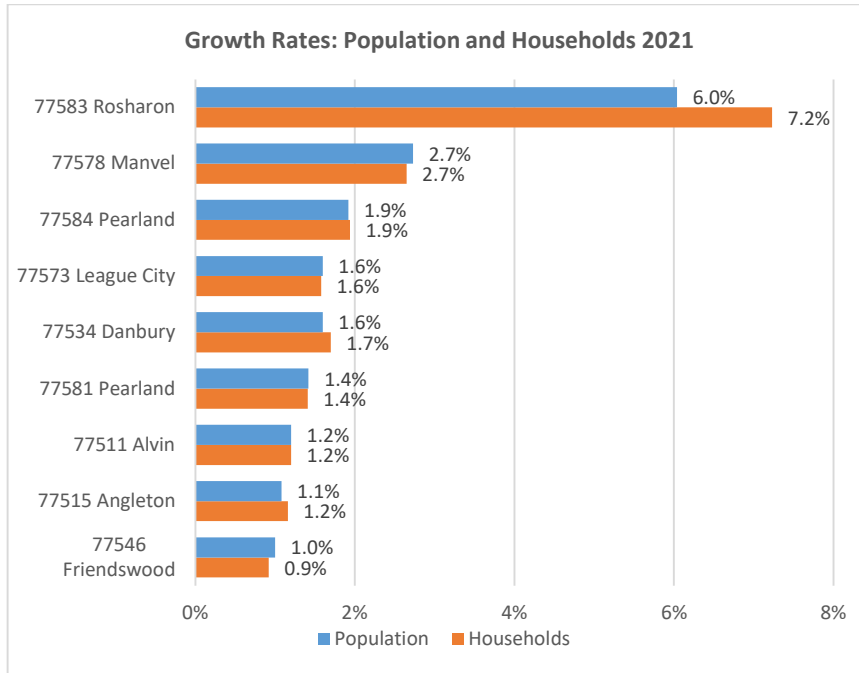
The following chart shows the population and numbers of households for each of the nine zip code areas. The zip codes with the largest populations are 77584 (Pearland), 77573 (League City), and 77511 (Alvin). The zip codes with the smallest populations are 77534 (Danbury), 77578 (Manvel), and 77515 (Angleton).



Source: ESRI, Analysis by CBT

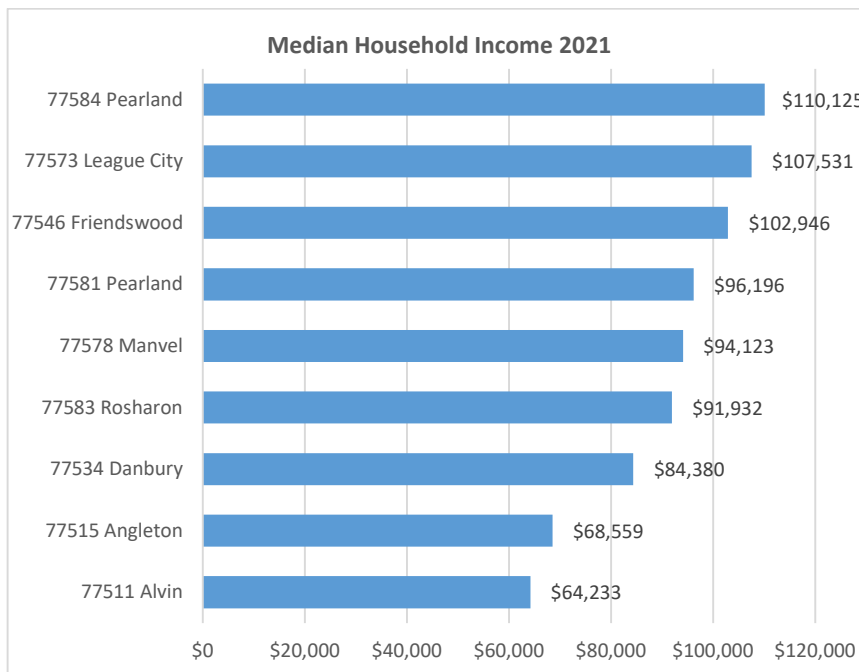
Among the nine zip codes in the Primary Feeder Region, 77583 (Rosharon) has the fastest growing population (6.0% per year). This area is growing at nearly three times the rate of Brazoria County and nearly four times as fast as the State of Texas. The number of households in this zip code are growing at 7.2% annually.

One of the other zip codes in the Primary Feeder Region has population growth exceeding that of the County. This is 77578 (Manvel) with a population growing at 2.7% annually. Three of the zip codes have population growth that is slower than the County but faster than the State overall. These are 77584 (Pearland), 77573 (League City), and 77534 (Danbury).



Source: ESRI, Analysis by CBT

Median household income varies greatly among the nine zip codes. Three zip codes have median household income over \$100,000. These are 77584 (Pearland), 77573 (League City), and 77546 (Friendswood). The zip codes with the lowest median household incomes are 77515 (Angleton) and 77511 (Alvin).



Source: ESRI, Analysis by CBT

Primary Feeder Region Demographic Data

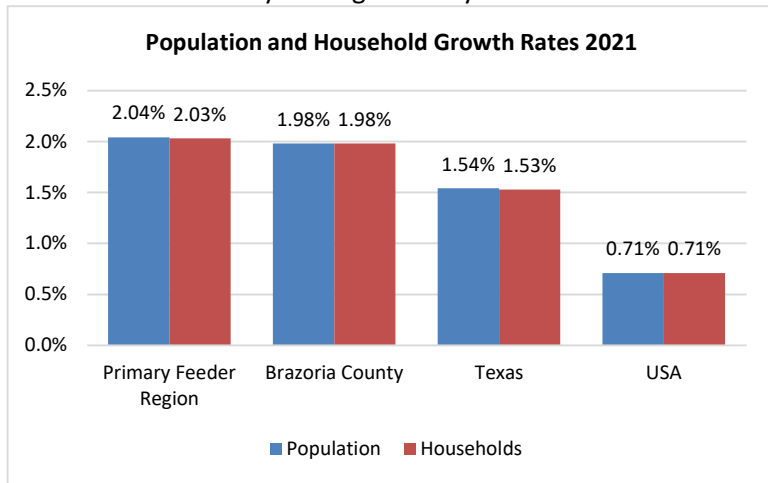
Population and Households

There are 457,240 people living in the Primary Feeder Region in 153,814 households. This is more populous than Brazoria County. The average household size in the Primary Feeder Region is 2.9 persons with a median age of 36.6 years.

Population Summary Data 2021				
	Primary Feeder Region	Brazoria County	Texas	USA
Population	457,240	395,841	29,969,514	333,934,112
Households	153,814	134,701	10,615,809	126,470,675
Average Household Size	2.9	2.9	2.8	2.6
Median Age	36.6	36.6	35.3	38.8

Source: ESRI, Analysis by CBT

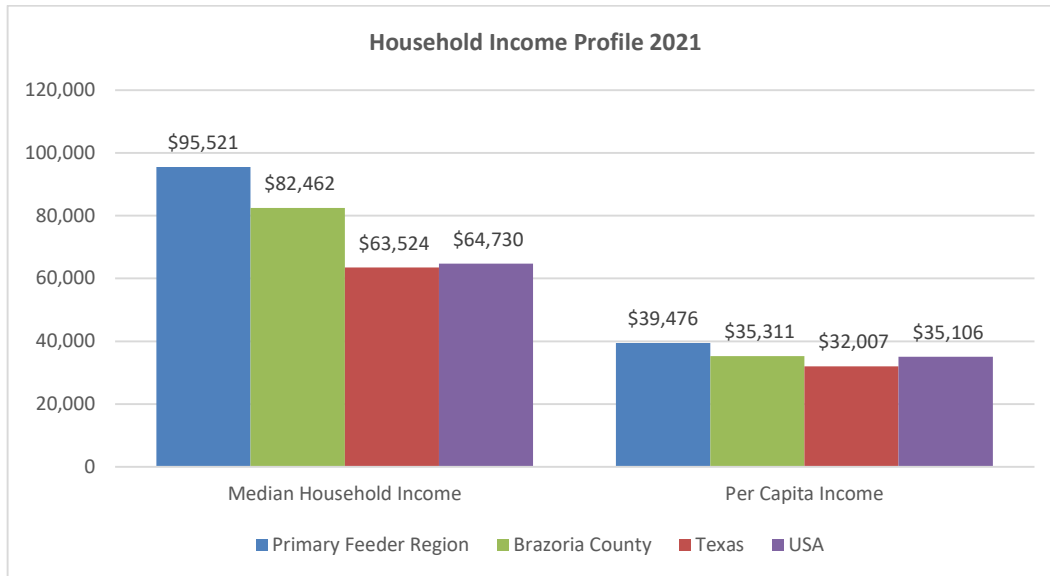
The population and number of households in the Primary Feeder Region are growing at 2.0% per year, slightly faster than the County and significantly faster than the State and the Nation.



Source: ESRI, Analysis by CBT

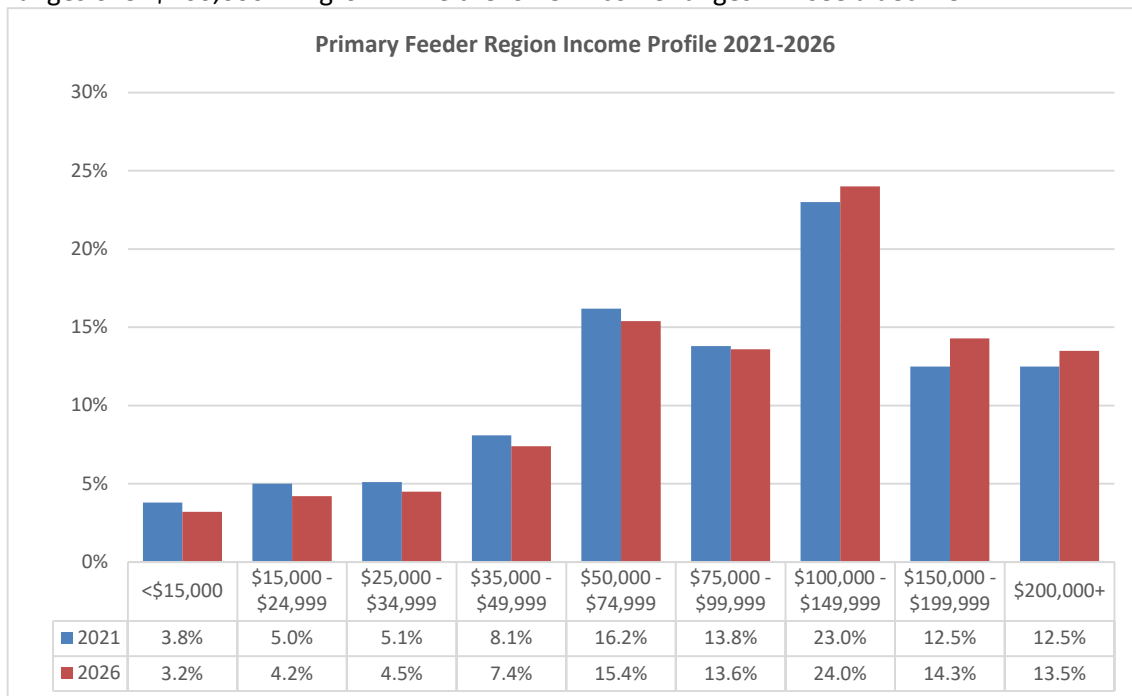
Income

The population of the Primary Feeder Region has higher median household and per capita incomes than the County, the State and the Nation.



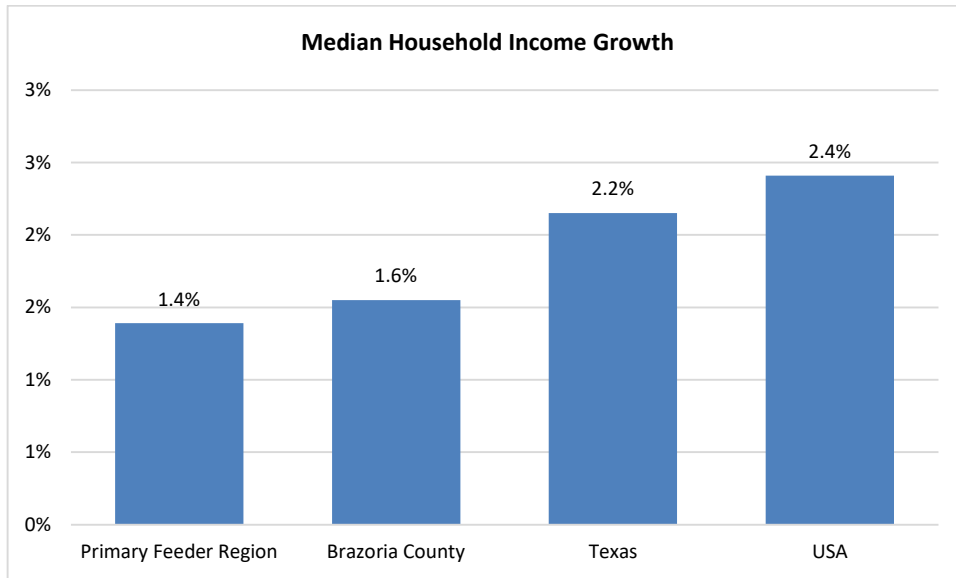
Source: ESRI, Analysis by CBT

The following chart shows the projected change in income over the next five years for the residents of the Primary Feeder Region. Income levels are projected to rise. The percentage of the population in the income ranges over \$100,000 will grow while the lower income ranges will see a decline.



Source: ESRI, Analysis by CBT

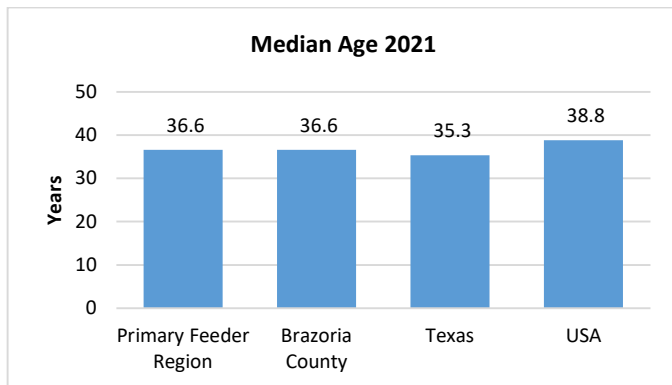
Income levels in the Primary Feeder Region are growing at a rate of 1.4%. This growth rate is slower than those of the County, the State and the Nation. However, the baseline income level in the Primary Feeder Region is higher, as shown in the previous chart.



Source: ESRI, Analysis by CBT

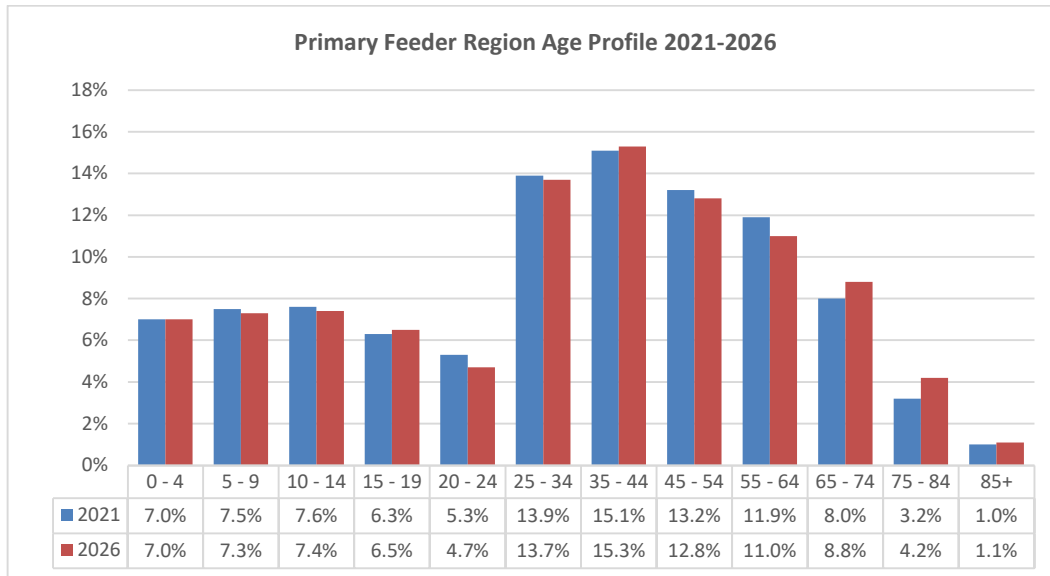
Age Profile

The median age in the Primary Feeder Region is 36.6 years. This is the same median age as the population of Brazoria County.



Source: ESRI, Analysis by CBT

The following chart shows the projected change in the age segmentation of the population of the Primary Feeder Region over the next five years. The age segments that are projected to grow as a percentage of overall population are 15-19, 35-44, and 65+. The key college-going age segment of 20-24 year olds, is projected to decrease from 5.3% to 4.7% of the population, though the actual number of people in this segment is projected to decrease only slightly.

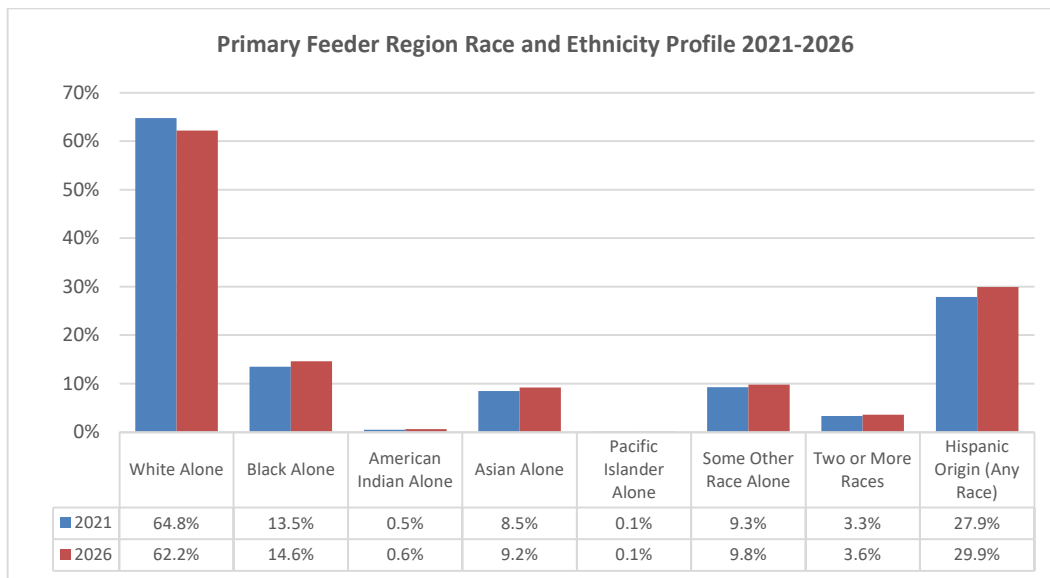


Source: ESRI, Analysis by CBT

Race and Ethnicity

The largest race/ethnicity groups comprising the population of the Primary Feeder Region are White (64.8%), Black (13.5%), and Asian (8.5%). Another 12.6% of the population identifies as Some Other Race or Two or more Races. In the U.S. Census data used for this analysis, Hispanic is defined as an “origin” and includes people counted in the other race/ethnicity groups. Therefore, the first seven categories in the chart add up to 100%.

Over the next five years, all but two race/ethnicity group are projected to grow as a percentage of the population. These are Black, American Indian, Asian, Some Other Race, Two or More Races, and Hispanic. The only group projected to decline is White, falling from 64.8% to 62.2% of the overall population.



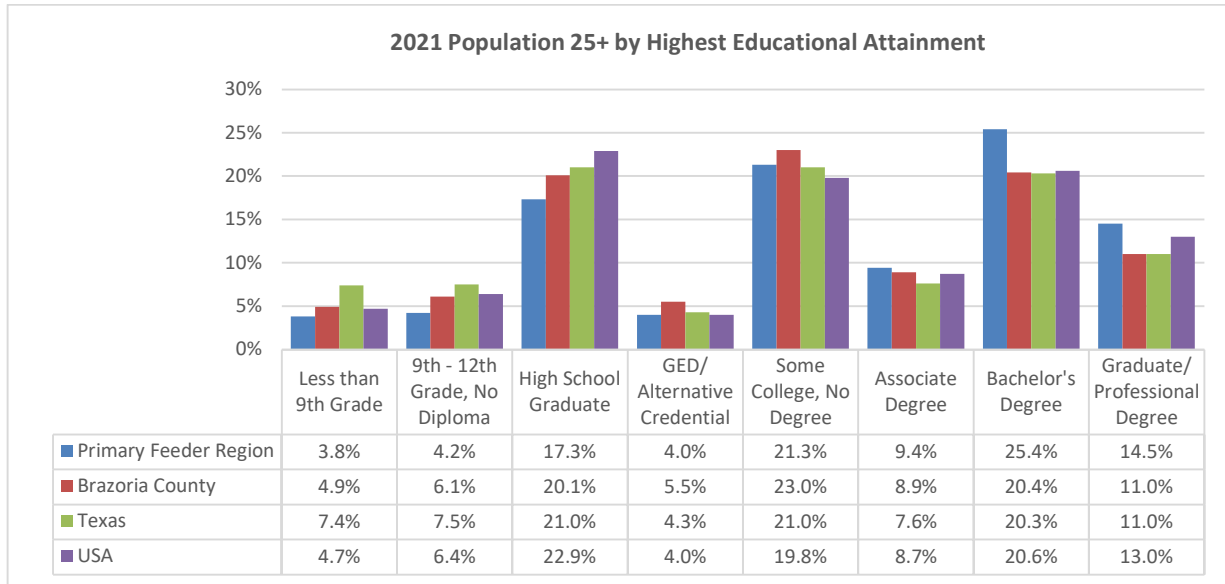
Source: ESRI, Analysis by CBT

Educational Attainment

The following chart shows the segmentation of the population by highest educational attainment. For example, in the State of Texas, 21.0% of the population (25 years and older) has a High School diploma as their highest educational attainment. When comparing the Primary Feeder Region with Brazoria County, Texas and the U.S.A.,

the Primary Feeder Region has the highest level of educational attainment. In the region, 49.3% of the population (25 years and older) has an Associate, Bachelor’s, or Graduate/Professional Degree.

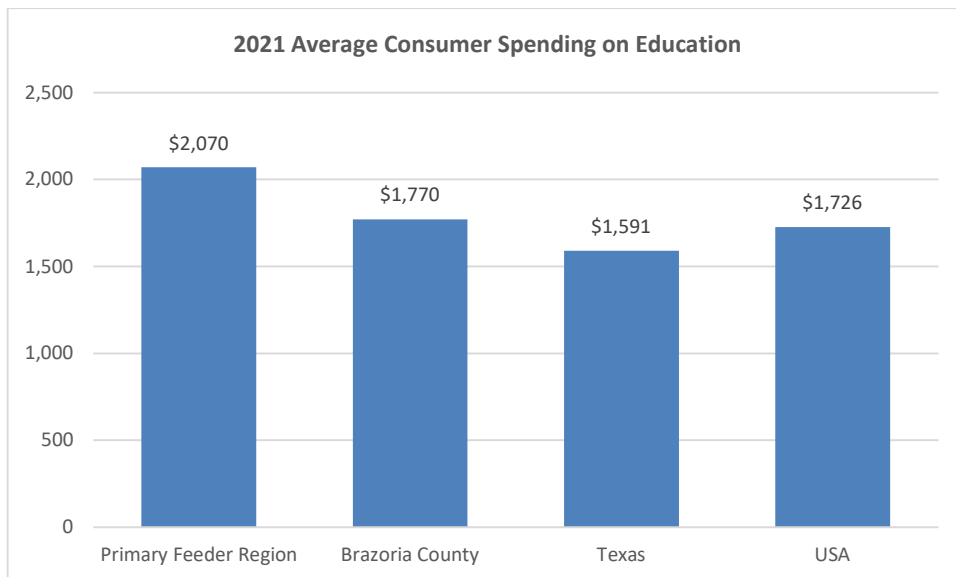
Even with the higher levels of educational attainment in the Primary Feeder Region, around half (50.6%) of the population (25 years and older) has attained less than an Associate Degree in their educations.



Source: ESRI, Analysis by CBT

Spending on Education

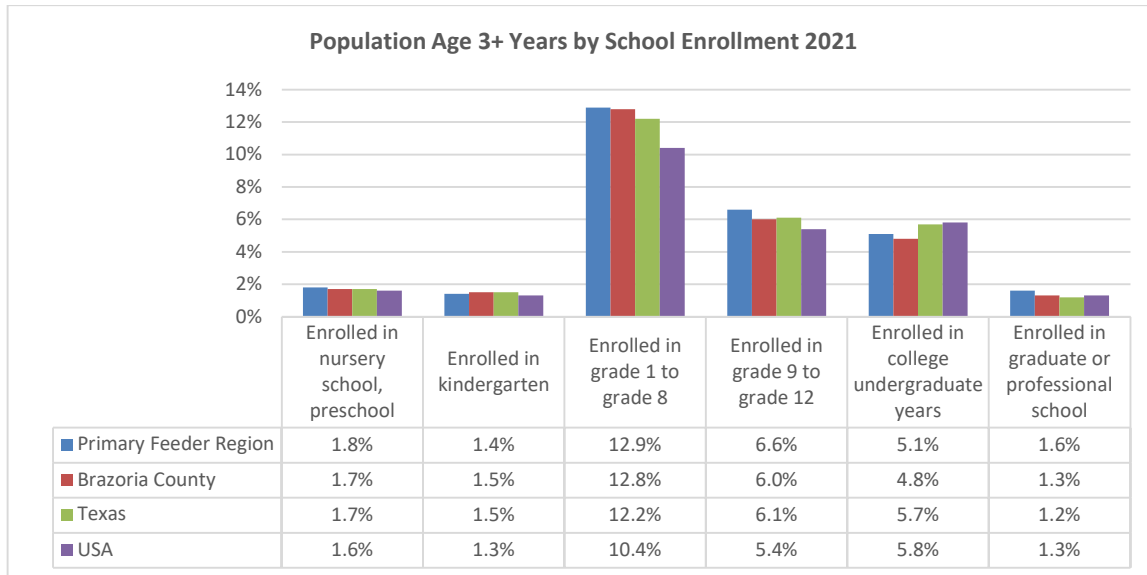
The U.S. Census gathers information on consumer spending on education. This is a total of all spending at all academic levels by household. The average consumer spending on education in the Primary Feeder Region in 2021 is estimated to be \$2,070. This is 16.9% higher than the level for Brazoria County and 30.1% higher than the level for the State of Texas.



Source: ESRI, Analysis by CBT

School Enrollment

The following chart shows the 2021 population 3 years of age and older by school enrollment level. The Primary Feeder Region has the largest percentage of the population enrolled in preschool (1.8%), grades 1 to 8 (12.9%), 9 to 12 (6.6%), and graduate school (1.6%).



Source: ESRI, Analysis by CBT

Language Spoken at Home

The following table shows the percentages of the Primary Feeder Region (age 5 and older) who speak English either “not well” or “not at all”. The data comes from the U.S. Census, American Community Survey.

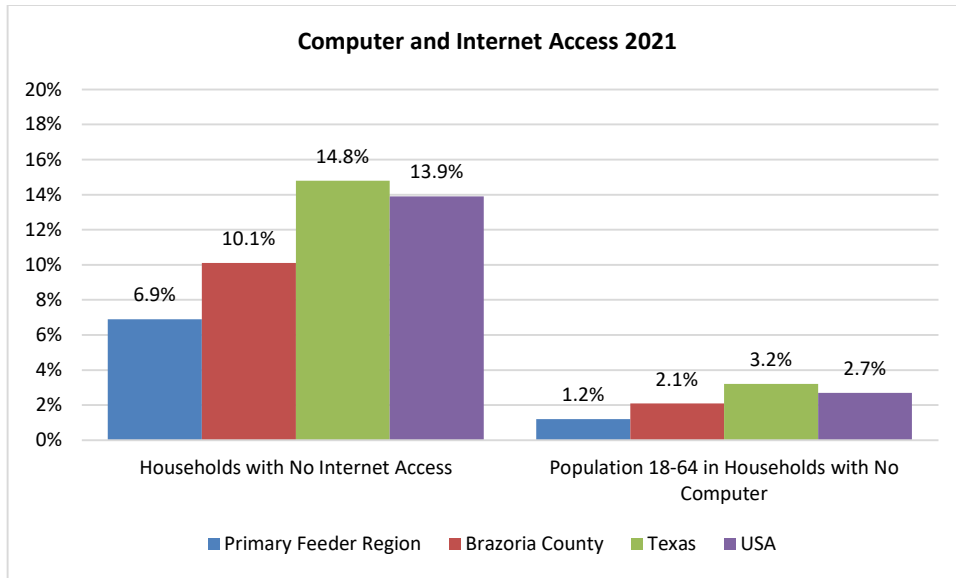
The largest groupings are found among 18 to 64 year-olds who live in households where Spanish is spoken at home.

Population Age 5+ Years by Language Spoken at Home Who Speak English "not well" or "not at all"				
	Primary Feeder Region	Brazoria County	Texas	USA
5 to 17 years				
Speak Spanish	0.1%	0.2%	0.5%	0.1%
Speak other Indo-European languages	0.0%	0.0%	0.0%	0.0%
Speak Asian and Pacific Island languages	0.0%	0.0%	0.0%	0.0%
Speak other languages	0.0%	0.0%	0.0%	0.0%
18 to 64 years				
Speak Spanish	1.8%	2.5%	5.1%	2.4%
Speak other Indo-European languages	0.1%	0.0%	0.1%	0.2%
Speak Asian and Pacific Island languages	0.4%	0.3%	0.4%	0.5%
Speak other languages	0.0%	0.0%	0.1%	0.1%
65 years and over				
Speak Spanish	0.4%	0.5%	1.0%	0.5%
Speak other Indo-European languages	0.1%	0.1%	0.0%	0.1%
Speak Asian and Pacific Island languages	0.3%	0.3%	0.2%	0.2%
Speak other languages	0.0%	0.0%	0.0%	0.0%

Source: ESRI, Analysis by CBT

Access to Technology

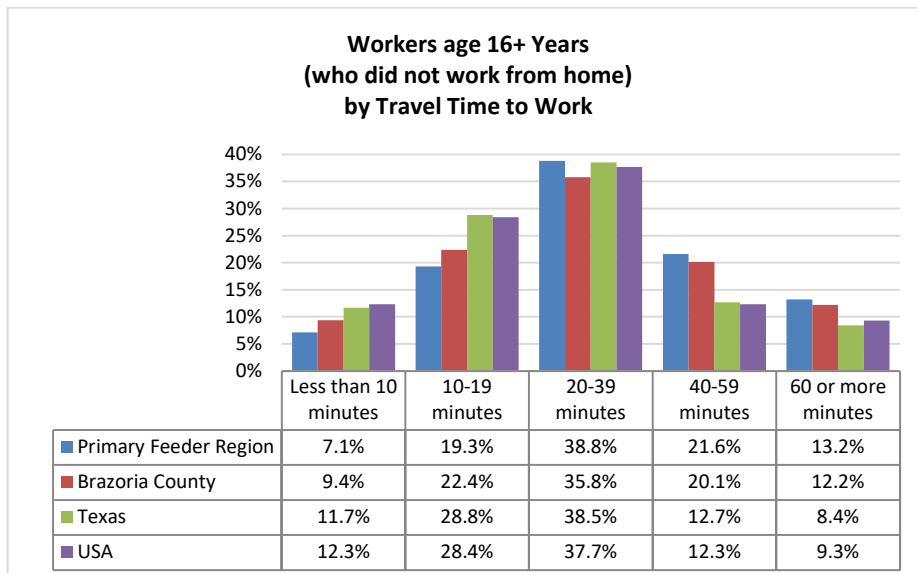
A lack of access to technology at home can have a negative effect on a student’s ability to succeed in their studies. The data shows that the residents of the Primary Feeder Region are in relatively good shape vis-à-vis access to technology. Only 6.9% of households in the Primary Feeder Region lack Internet access at home; and only 1.2% of households have no computer.



Source: ESRI, Analysis by CBT

Commute Times

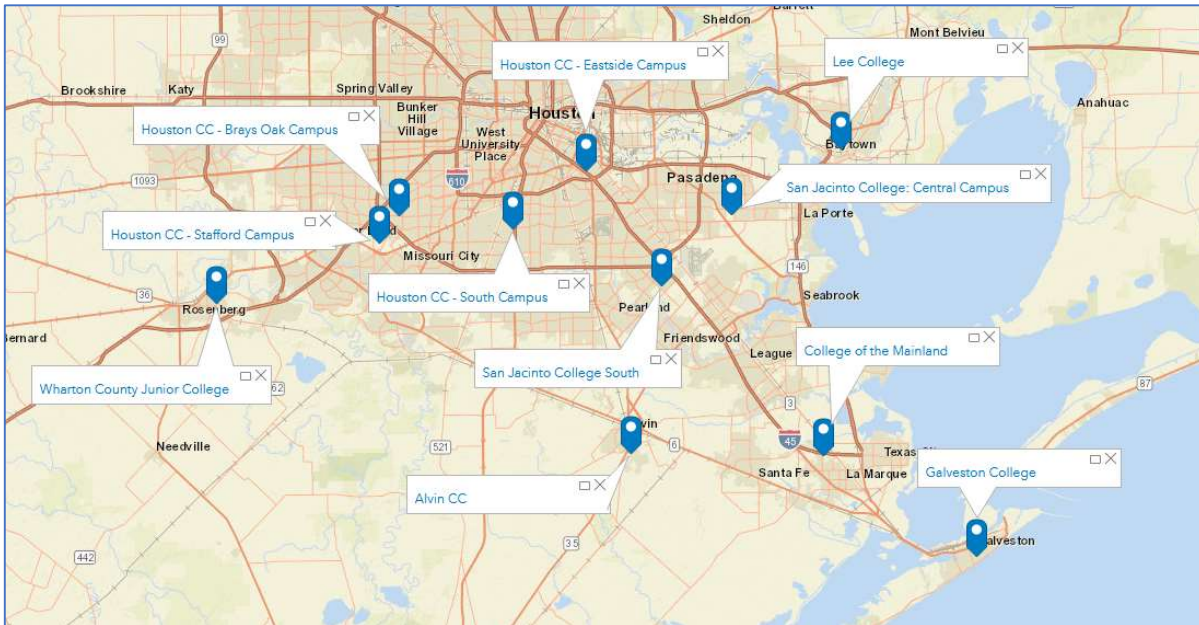
The data shows that workers age 16 and older in the Primary Feeder Region have longer commutes than the populations of Brazoria County, the State of Texas and the Nation as a whole. It is unclear if there will be a lasting increase in the numbers of people working from home and how that will affect the regional population.



Source: ESRI, Analysis by CBT

Neighboring Colleges

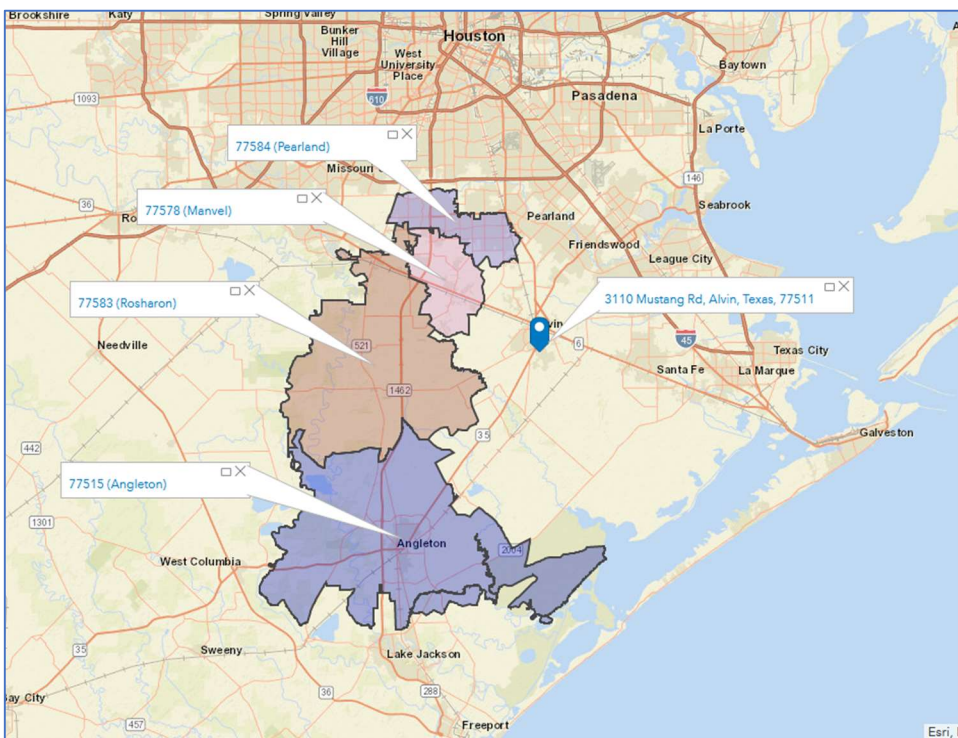
There are many colleges in the greater Houston area. All of these Colleges are competing for the students living in the surrounding communities. The following map shows many of these colleges.



Source: ESRI, Analysis by CBT

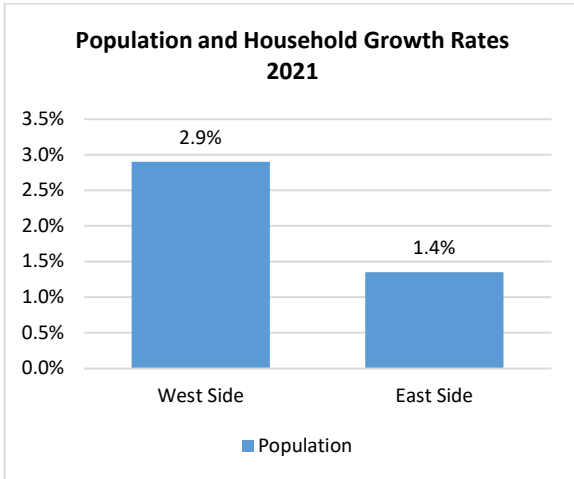
'West Side' Demographics

For the purpose of this Plan, the 'West Side' of the Primary Service Area will be defined as the four zip code areas: 77584 Pearland, 77578 Manvel, 77583 Rosharon, and 77515 Angleton (see the map, following). The remaining five zip codes in the Primary Feeder Region will be referred to as the 'East Side'. The following section includes demographic information for these two parts of the Primary Service Area.



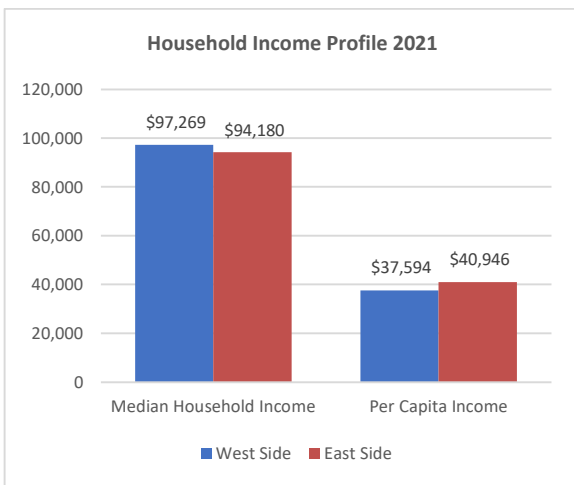
Source: ESRI, Analysis by CBT

The population of the West Side is growing much faster than the population of the East Side. (2.9% versus 1.4% per annum).

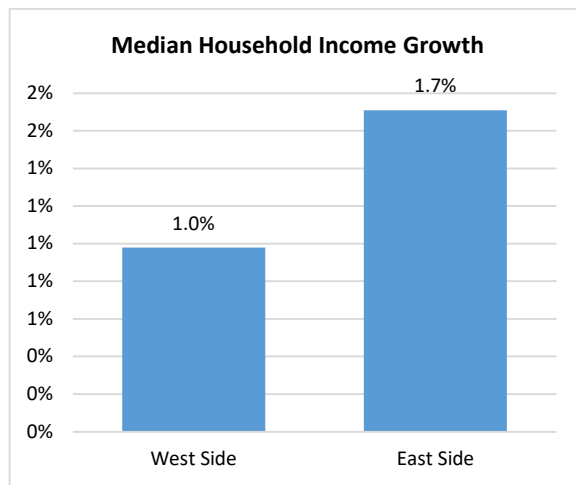


Source: ESRI, Analysis by CBT

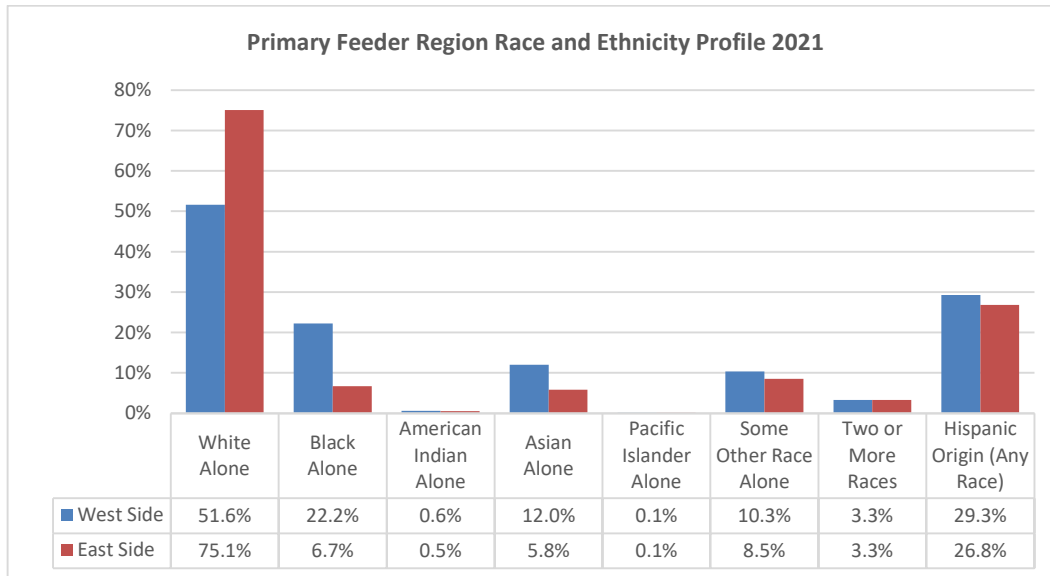
Median household income in the West Side region is higher than that of the East Side (\$97,269 versus \$94,180). Per capita income in the West Side Zip codes is slightly lower than that of the Primary Feeder Region indicating larger average household size. Income levels are rising much faster on the East Side (1.7% versus 1.0%).



Source: ESRI, Analysis by CBT



The race and ethnicity profile is quite different when comparing the West Side and East Side populations. The West Side population has higher percentages of residents identifying as Black Alone (22.2% versus 6.7%), Asian Alone (12.0% versus 5.8%), and Hispanic (29.3% versus 26.8%). Three-quarters of the East Side population is White compared to just over half of the West Side.

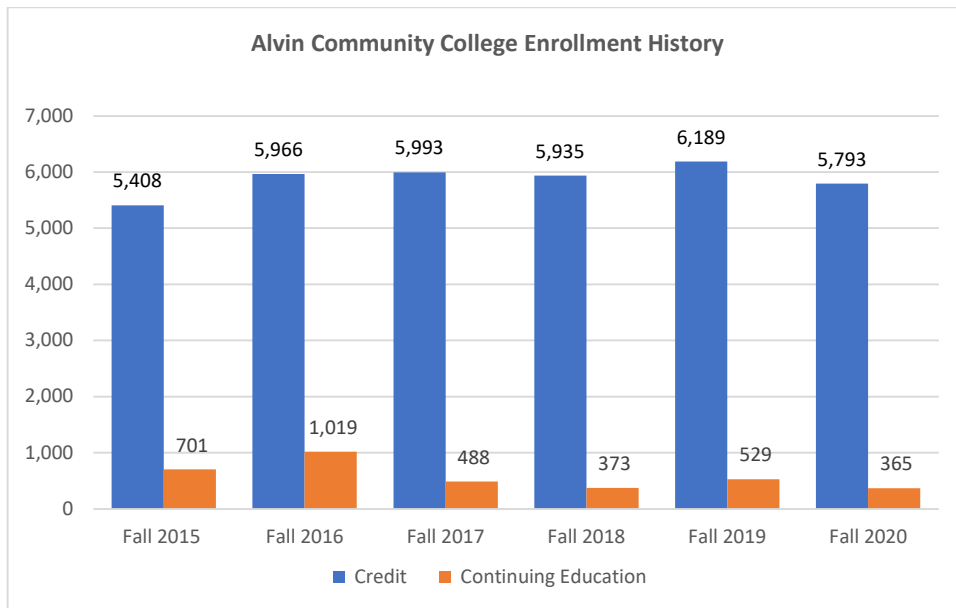


Source: ESRI, Analysis by CBT

Internal Environmental Scan

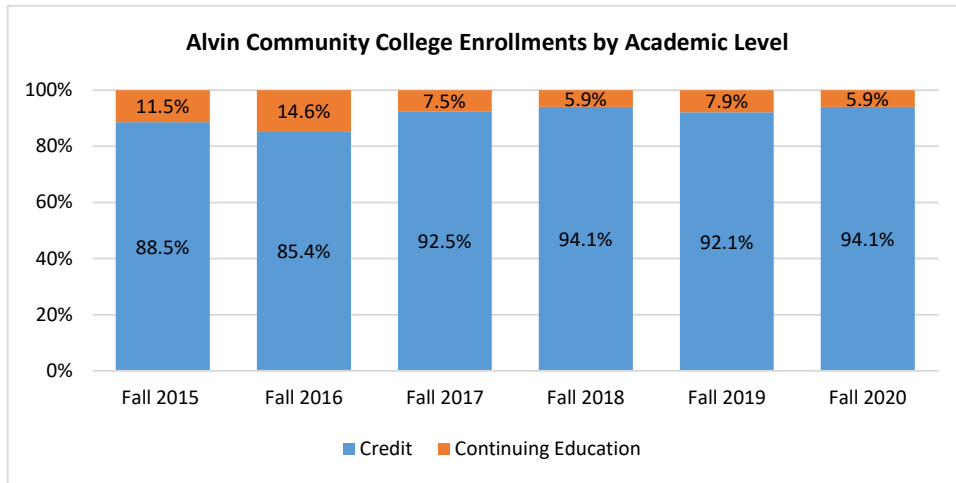
Historical Enrollments

The following chart shows the student headcount for the past six fall semesters. Enrollments have varied slightly, but even during 2020, with Covid, enrollments only declined by 8.3%. Note: There may be some duplication between Credit and Continuing Education, i.e., a student may be enrolled in both types of courses in a given semester.



Source: Alvin Community College Office of Institutional Effectiveness and Research 2021

Over the past six fall semesters, the percentage of students attending as continuing education students has declined. Continuing education student enrollment ranged from a high of 14.6% in 2016 to a low of 5.9% in 2018 and 2020.



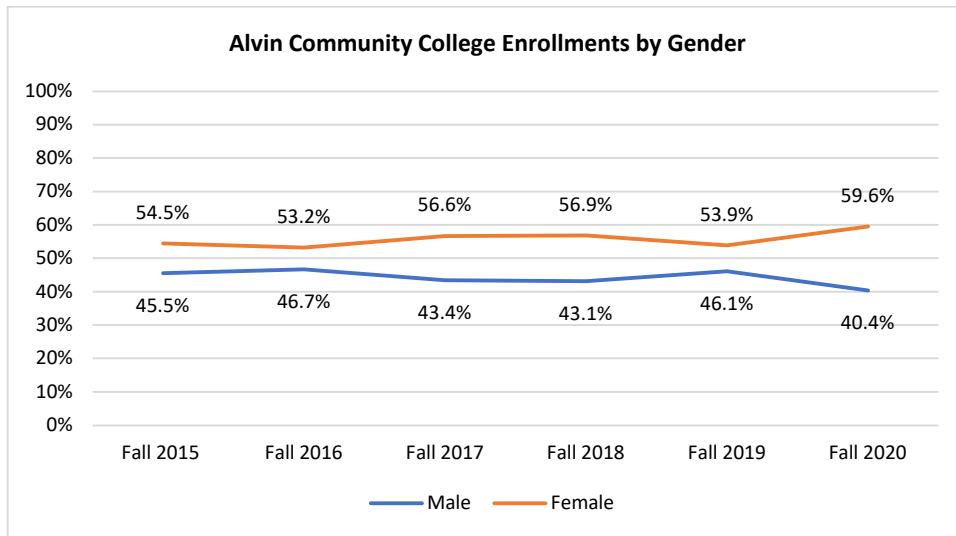
Source: Alvin Community College Office of Institutional Effectiveness and Research 2021

Student Demographics

This section describes the demographics of the students attending the College. This data is provided to help identify underserved populations in the community. This data includes credit and continuing education students.

Student Gender

Most of the students attending Alvin Community College are female. In the fall 2020 semester, the gap between male and female students hit a 6-year high (59.6% female versus 40.4% male). It would be interesting to investigate the reasons for this change.



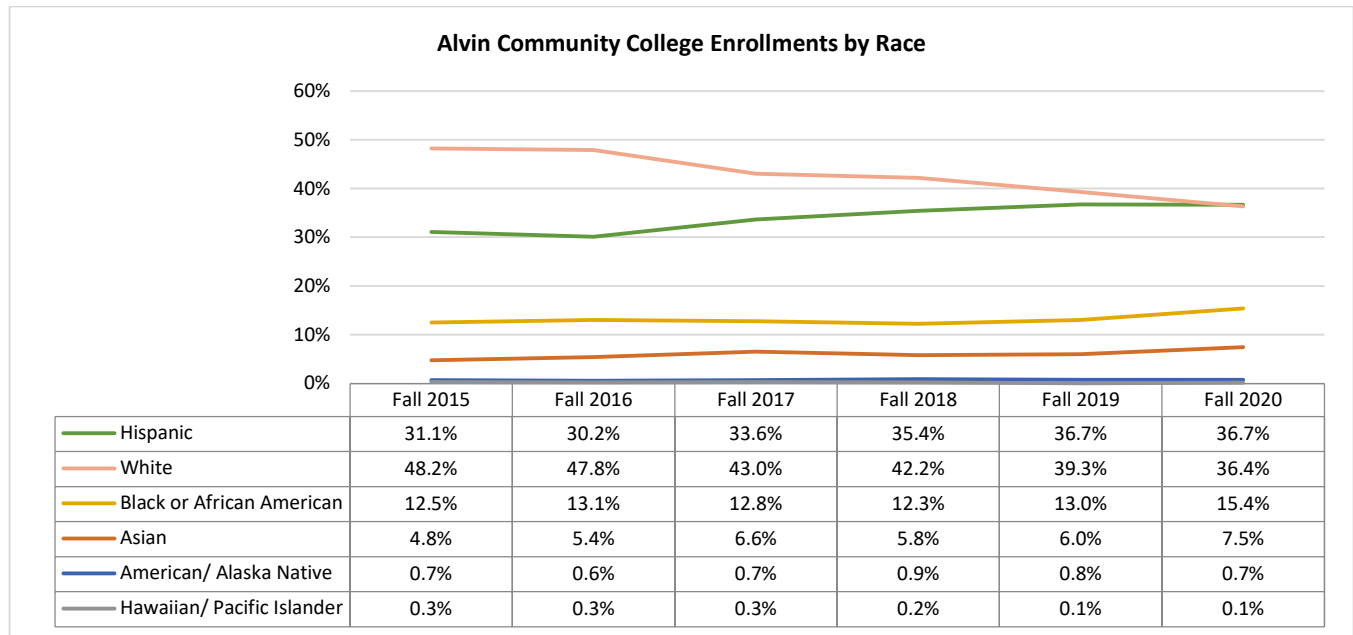
The table shows the actual student headcount by gender.

Gender	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020
Female	3,328	3,719	3,670	3,587	3,618	3,670
Male	2,780	3,263	2,811	2,720	3,098	2,488
(Blank)	1	3	-	1	2	-
Grand Total	6,109	6,985	6,481	6,308	6,718	6,158

Source: Alvin Community College Office of Institutional Effectiveness and Research 2021

Student Race and Ethnicity

The race/ethnicity makeup of the student body has changed over the past 6 years. In fall 2020, for the first time, there were more students identifying as Hispanic (36.7%) than identifying as White (36.4%). The third largest group of students are those identifying as Black or African American. This group has grown from 12.5% to 15.4% of the student body over the past 6 years. Students identifying as Asian grew from 4.8% to 7.5% of the total.



The table shows the actual student head count by Race/Ethnicity.

Race/Ethnicity	Fall 2015	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020
American/Alaska Native	42	42	44	57	53	46
Asian	293	379	425	368	403	462
Asian/ Pacific Islander	-	-	2	2	2	2
Black or African American	764	912	828	775	875	951
Hawaiian/ Pacific Islander	18	18	21	15	7	9
Hispanic	1,897	2,106	2,180	2,234	2,467	2,258
International	50	55	67	89	109	84
Race/Ethnicity Unknown	62	108	111	89	140	96
White	2,945	3,342	2,787	2,659	2,638	2,239
(Blank)	38	23	16	20	24	11
Grand Total	6,109	6,985	6,481	6,308	6,718	6,158

Source: Alvin Community College Office of Institutional Effectiveness and Research 2021

The following chart compares the Race/Ethnicity makeup of the College’s students to that of the Primary Feeder Region. The College has a very diverse student body.

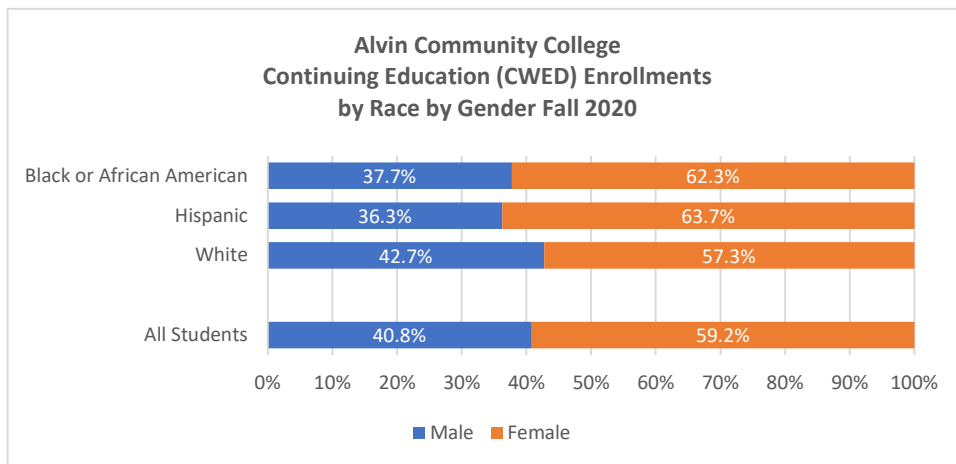
Race/Ethnicity Representation Fall 2020			
Race/Ethnicity	Students	Primary Feeder Region	Difference (percentage points)
American/ Alaska Native	0.7%	0.5%	+ 0.2
Asian	7.5%	8.5%	- 1.0
Black or African American	15.4%	13.5%	+ 1.9
Hawaiian/ Pacific Islander	0.1%	0.1%	+ 0.0
Hispanic	36.7%	27.9%	+ 8.8
White	36.4%	64.8%	- 28.4

Gender Gap

As seen previously, there is a gender gap at the College. Females outnumbered males by a nearly 1.5:1 ratio. Females represented a majority of students for all of the past 6 fall semesters, though not by quite such a large margin. The following data examines this gender gap within each of the various racial/ethnic groups of students. The following charts include data for the Race/Ethnicity groups with at least 10 enrollments in the fall 2020 semester.

Continuing Education (CWED) Enrollments – Gender Profile

In the fall 2020 semester, among Continuing Education students, the gender gap was 18.4 percentage points (59.2% females versus 40.8% males). There were two groups of Continuing Education students with larger gender gaps, Black/African American and Hispanic students. The gender gap for Black/African American students was 24.6 percentage points (62.3% females versus 37.7% males). The gap for Hispanic students was 27.4 percentage points (63.7% females versus 36.3% males).

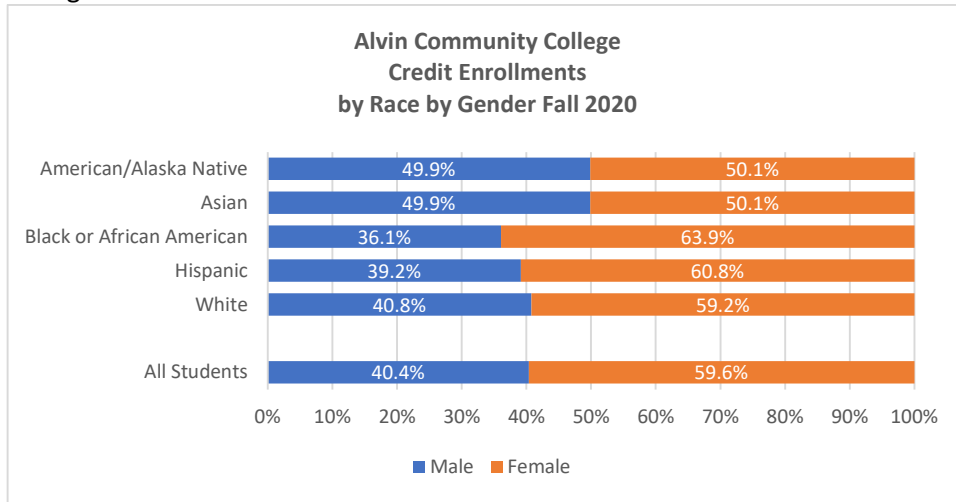


Source: Alvin Community College Office of Institutional Effectiveness and Research 2021

Credit Enrollments – Gender Profile

Among students enrolled in Credit courses in the fall 2020 semester, the gap between female and male students was 19.2 percentage points (59.6% females versus 40.4% males). Two groups of students had a larger gender gap than the overall average. As with Continuing Education students, these two groups were Black/African American and Hispanic students.

The gender gap for Black/African American students was 27.8 percentage points (63.9% females versus 36.1% males). The gender gap for Hispanic students was smaller, 21.6 percentage points (60.8% females versus 39.2% males). Black/African American and Hispanic students make up more than 40% of the students attending the College.



Source: Alvin Community College Office of Institutional Effectiveness and Research 2021

Feeder High Schools

The following chart shows the numbers and percentages of 2020 High School graduates (by High School) that enrolled at Alvin Community College.

Enrollment Rate by High School FY 2020			
High School	Enrolled at Alvin Community College	Total Graduates	Percentage
ALVIN H S	98	642	15.3%
ANGLETON H S	10	488	2.0%
ASSETS	11	40	27.5%
CLEAR BROOK H S	6	559	1.1%
CLEAR CREEK H S	7	593	1.2%
CLEAR SPRINGS H S	12	655	1.8%
DANBURY H S	7	60	11.7%
DICKINSON H S	5	643	0.8%
FRIENDSWOOD H S	16	510	3.1%
GLENDA DAWSON H S	29	632	4.6%
MANVEL H S	46	448	10.3%
PEARLAND H S	50	738	6.8%
ROBERT TURNER COLLEGE AND CAREER H	18	282	6.4%
SANTA FE H S	17	346	4.9%
SHADOW CREEK H S	40	611	6.5%
Grand Total	372	7,247	5.1%

Source: Alvin Community College Office of Institutional Effectiveness and Research 2021

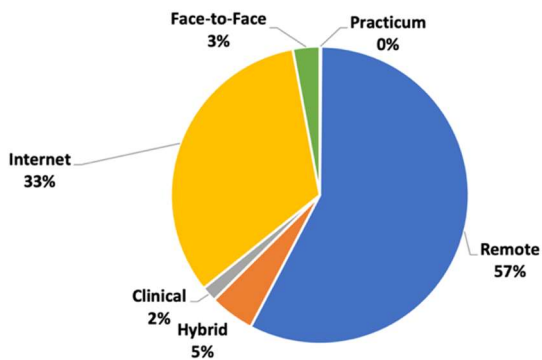
Credit Enrollment Data

The following data is taken from the College’s Annual Report 2019-2020. It includes data for credit enrollments only.

Delivery Method

In fall 2020 the Covid-19 pandemic shifted nearly all classes to an online format. “Remote” classes are those normally taught on campus but shifted online during the pandemic. Only a small percentage of students attended classes face-to-face (3%), hybrid (5%), or in a clinical setting (2%). This data is for credit enrolled students.

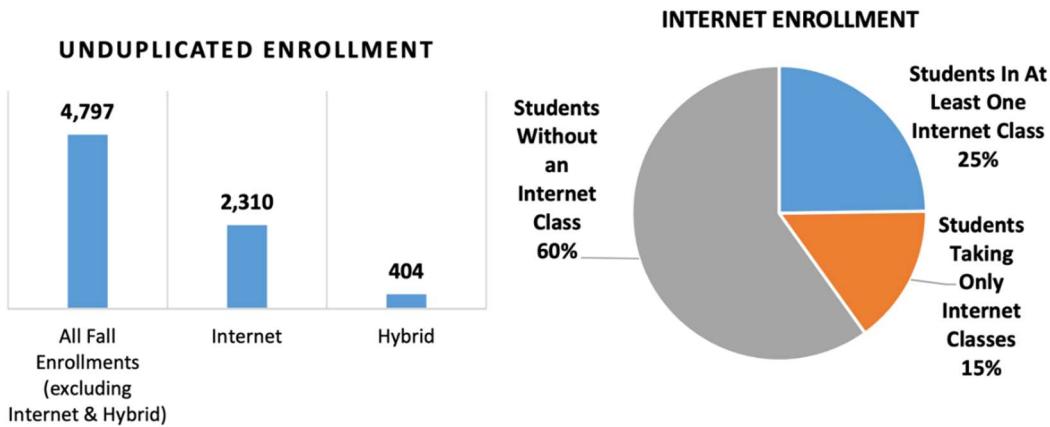
ENROLLMENT BY COURSE TYPE - FALL 2020 ALL TERMS, ALL STUDENTS



Source: College Data Annual Report 2019-2020

In the fall of 2020, 2,714 students attended classes over the Internet or in a hybrid format.

ENROLLMENT BY INTERNET - FALL 2020 ALL TERMS, ALL STUDENTS



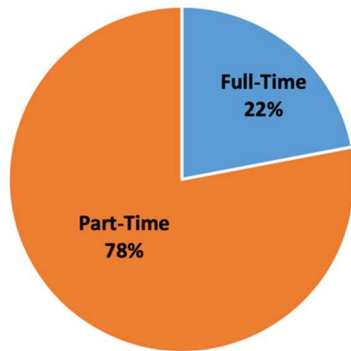
Note: In the above Internet Enrollment breakdown, "Remote" classes are not included in the calculations as Internet classes. In Fall 2020, the COVID-19 Pandemic required a majority of previously on-campus classes to be designated as "Remote." Remote instruction is online with lectures and virtual instruction occurring on specific days/times as listed in the course schedule. Students have flexibility to be off campus while still experiencing live and/or recorded lectures, labs, and class interactions in a virtual setting. These are not counted as "Internet" as they are the classes that would have been scheduled on-campus if health restrictions were removed.

Source: College Data Annual Report 2019-2020

Full-time / Part-time status

In the fall 2020 semester, more than three-quarters of students were enrolled on a part-time basis.

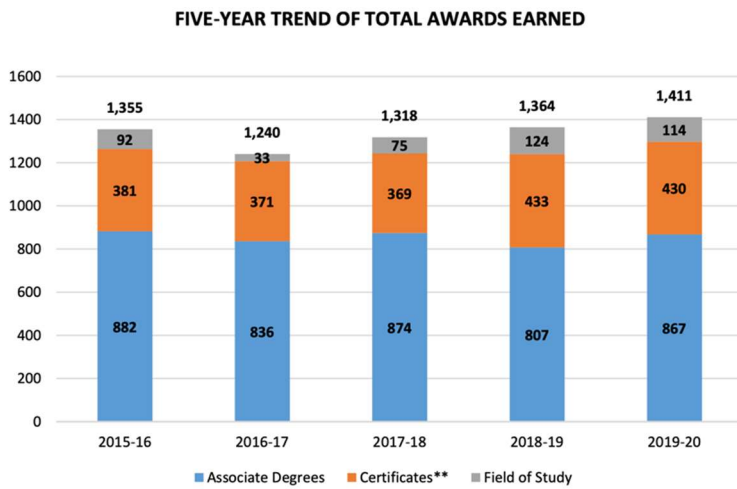
PART-TIME/FULL-TIME ENROLLMENT



Source: College Data Annual Report 2019-2020

Awards Earned

The following chart shows the total awards earned over the past five academic years. The number of Associate Degrees awarded has varied over this time, with a low of 807 and a high of 882. The number of Certificates has grown from a low of 369 in 2017-18 to a 430 last year.



**Includes Certificates + Advanced Technology Certificates
Source: Zogotech 10/26/20

Source: College Data Annual Report 2019-2020

Financial Assistance

The student financial aid program at Alvin Community College aims to provide financial assistance to eligible students to help meet college expenses. Financial aid is awarded in the form of scholarships, grants, loans, and/or work study according to financial need, academic grades, and academic load. Pell Grants comprise the largest amount of financial assistance. Pell Grant awards have increased by 40.2% over the past five academic years. They have also increased from 58.1% to 72.4% of Total Financial Assistance.

Total Financial Assistance (as Percentage of Total)						
	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2019-2020 Dollar Amounts
Pell	58.1%	61.4%	68.0%	70.4%	72.4%	\$ 4,301,936
SEOG	2.4%	1.3%	2.7%	3.2%	2.8%	\$ 166,350
TPEG	4.3%	7.6%	3.7%	2.4%	2.1%	\$ 125,737
Federal Work Study	1.4%	1.3%	1.3%	1.0%	1.4%	\$81,918
Texas Work Study	0.2%	0.2%	0.2%	0.2%	0.2%	\$ 9,449
Texas Educational Opportunity Grant	3.7%	2.9%	2.8%	3.4%	3.0%	\$ 181,180
Direct Subsidized	20.3%	15.3%	12.1%	11.3%	9.6%	\$ 572,369
Direct Unsubsidized	5.9%	7.7%	6.6%	6.2%	6.6%	\$ 394,399
Direct Parent PLUS	0.0%	0.0%	0.0%	0.1%	0.2%	\$14,350
Alternative Loans	3.6%	2.4%	2.7%	1.6%	1.6%	\$95,905
Total	100.0%	100.0%	100.0%	100.0%	100.0%	\$ 5,943,593

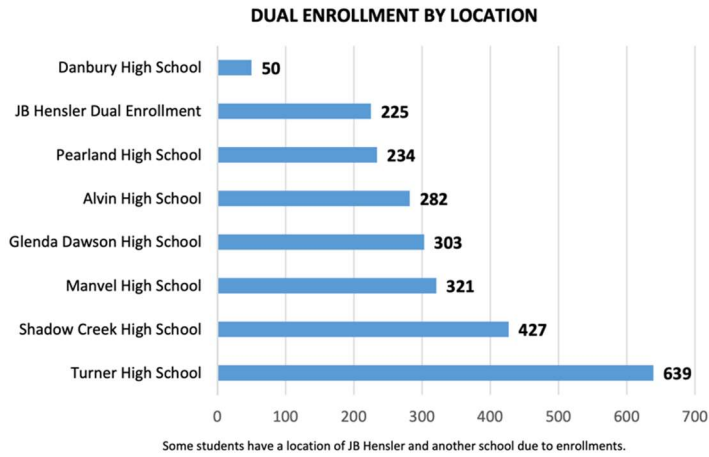
Source: College Data Annual Report 2019-2020

Dual Enrollment

The following data is related to dual enrollment. Dual enrollment refers to students enrolling in College classes, taught at their High School, by Alvin Community College instructors.

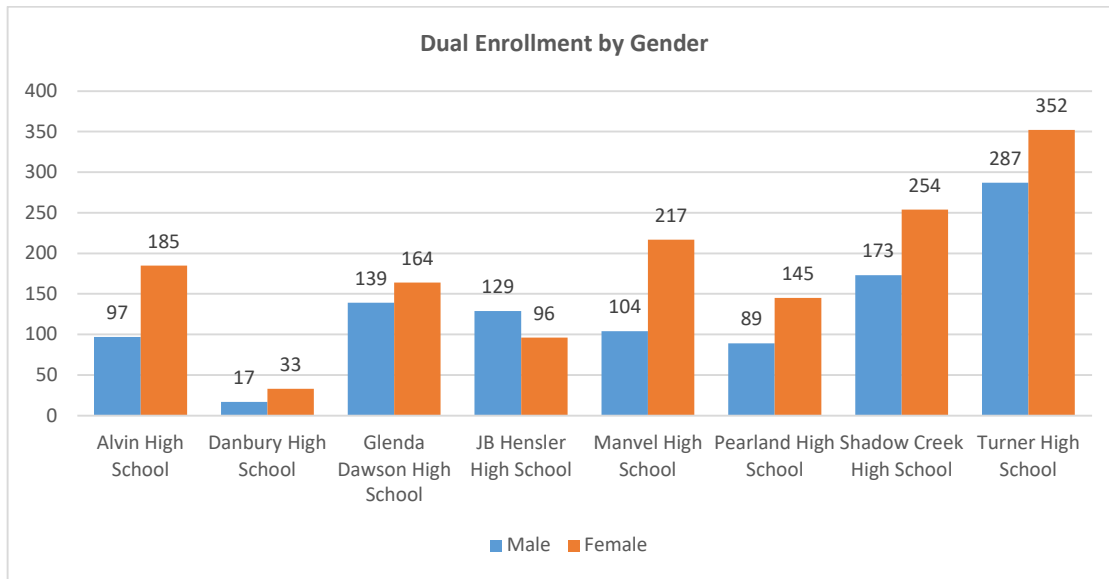
The first chart shows the numbers of dual enrolled students by high school.

DUAL ENROLLMENT (UNDUPLICATED) - FALL 2020 ALL TERMS



Source: College Data Annual Report 2019-2020

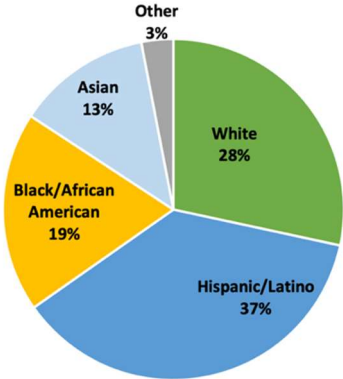
Most (58.3%) dual enrolled students are female. This is true for all high schools except one (JB Hensler).



Source: College Data Annual Report 2019-2020

In terms of the ethnicity of dual enrolled students, most (37%) are Hispanic. The next largest groups of students are White (28%), Black/African American (19%), and Asian (13%).

DUAL ENROLLMENT BY ETHNICITY - FALL 2020 ALL TERMS



Source: College Data Annual Report 2019-2020

Labor Market Analysis

Introduction

Economic Modelling Specialist (Emsi) is a company that provides data and analysis of the labor market. They use data from multiple sources to show the demand for and the supply of labor. Alvin Community College hired Emsi to provide an analysis for the College of the labor market in the region. The Executive Summary of that report is included in this section of the Strategic Plan.

The Emsi report used data that is available at the County level. Following is some additional data related to the Primary Feeder Region.

Primary Feeder Region

Net Commuters

In the Primary Feeder Region, there is a negative net commuting pattern in all nine zip codes. This means that the number of jobs in each of the zip codes is less than the number of workers residing in that zip code.

Primary Feeder Region Net Commuters 2020				
ZIP	ZIP Name	2020 Jobs	2020 Resident Workers	2020 Net Commuters
77511	Alvin	22,152	24,278	(2,126)
77515	Angleton	9,878	14,601	(4,723)
77534	Danbury	739	1,385	(646)
77546	Friendswood	15,213	26,951	(11,738)
77573	League City	26,148	42,655	(16,507)
77578	Manvel	3,258	11,503	(8,245)
77581	Pearland	22,442	25,691	(3,249)
77583	Rosharon	4,924	12,954	(8,030)
77584	Pearland	19,805	40,851	(21,046)
		124,559	200,870	(76,310)

Source: Emsi

Example

In the 77583 (Rosharon) zip code, there are 12,954 residents who are employed. But within the zip code boundary, there are only 4,924 jobs. The data does not tell us how many of the people holding these jobs reside in the County. But it does tell us that the vast majority (at least 8,030) of the residents of this zip code, commute elsewhere for work.

The following table shows a list of occupations in the Primary Feeder Region that meet the following criteria.

- Average Annual Openings is greater than or equal to 30
- Typical Entry Level Education is less than or equal to an Associate Degree
- Median Hourly Earnings are greater than or equal to \$12.00

There are 55 occupations that meet these criteria. They are shown in order by SOC (Standard Occupational Classification). Add explanation about sip to soc and limitations

SOC	Description	Median Hourly Earnings	2018 Jobs	2021 Jobs	2018 - 2021 Change	2018 - 2021 % Change	Avg. Annual Openings	Alvin Community College Completions (2020)	Typical Entry Level Education
37-3011	Landscaping and Groundskeeping Workers	\$14.66	642	609	(33)	(5%)	78	0	No formal educational credential
41-2021	Counter and Rental Clerks	\$14.09	342	283	(59)	(17%)	36	13	No formal educational credential
41-2022	Parts Salespersons	\$12.04	211	244	33	16%	35	0	No formal educational credential
47-2061	Construction Laborers	\$15.63	1,117	1,164	47	4%	166	0	No formal educational credential
53-7051	Industrial Truck and Tractor Operators	\$17.78	399	371	(28)	(7%)	45	0	No formal educational credential
53-7061	Cleaners of Vehicles and Equipment	\$12.58	464	455	(9)	(2%)	67	0	No formal educational credential
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	\$13.23	1,151	1,112	(39)	(3%)	162	0	No formal educational credential
11-9051	Food Service Managers	\$24.81	159	197	38	24%	34	26	High school diploma or equivalent
21-1093	Social and Human Service Assistants	\$16.85	148	180	32	22%	31	435	High school diploma or equivalent
29-2052	Pharmacy Technicians	\$17.34	389	379	(10)	(3%)	32	15	High school diploma or equivalent
33-3012	Correctional Officers and Jailers	\$19.29	819	778	(41)	(5%)	68	17	High school diploma or equivalent
33-3051	Police and Sheriffs Patrol Officers	\$28.91	1,048	1,031	(17)	(2%)	75	44	High school diploma or equivalent
33-9032	Security Guards	\$13.06	343	381	38	11%	61	0	High school diploma or equivalent
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	\$14.57	989	1,090	101	10%	188	26	High school diploma or equivalent
39-9031	Exercise Trainers and Group Fitness Instructors	\$19.67	284	216	(68)	(24%)	45	52	High school diploma or equivalent
41-1011	First-Line Supervisors of Retail Sales Workers	\$20.00	1,222	1,192	(30)	(2%)	127	61	High school diploma or equivalent
41-3091	Sales Representatives of Services, Except Advertising, Insurance, Financial Services, and Travel	\$23.11	739	614	(126)	(17%)	76	0	High school diploma or equivalent
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$30.34	651	643	(8)	(1%)	72	417	High school diploma or equivalent
41-9099	Sales and Related Workers, All Other	\$12.72	132	202	70	53%	42	0	High school diploma or equivalent

SOC	Description	Median Hourly Earnings	2018 Jobs	2021 Jobs	2018 - 2021 Change	2018 - 2021 % Change	Avg. Annual Openings	Alvin Community College Completions (2020)	Typical Entry Level Education
43-1011	First-Line Supervisors of Office and Administrative Support Workers	\$25.39	954	940	(14)	(1%)	97	430	High school diploma or equivalent
43-3071	Tellers	\$13.84	359	316	(43)	(12%)	36	0	High school diploma or equivalent
43-4031	Court, Municipal, and License Clerks	\$16.44	236	285	50	21%	39	6	High school diploma or equivalent
43-4051	Customer Service Representatives	\$14.94	1,874	1,808	(67)	(4%)	238	430	High school diploma or equivalent
43-4171	Receptionists and Information Clerks	\$12.67	738	707	(31)	(4%)	98	21	High school diploma or equivalent
43-5071	Shipping, Receiving, and Inventory Clerks	\$16.34	479	588	108	23%	84	13	High school diploma or equivalent
43-6013	Medical Secretaries and Administrative Assistants	\$16.16	588	538	(50)	(9%)	65	52	High school diploma or equivalent
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$16.96	1,423	1,270	(153)	(11%)	142	445	High school diploma or equivalent
43-9061	Office Clerks, General	\$17.07	2,319	2,256	(64)	(3%)	268	21	High school diploma or equivalent
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	\$28.15	710	750	39	6%	98	42	High school diploma or equivalent
47-2031	Carpenters	\$19.49	429	346	(83)	(19%)	43	0	High school diploma or equivalent
47-2073	Operating Engineers and Other Construction Equipment Operators	\$21.13	499	630	132	26%	107	0	High school diploma or equivalent
47-2111	Electricians	\$26.23	491	552	61	12%	98	0	High school diploma or equivalent
47-2152	Plumbers, Pipefitters, and Steamfitters	\$24.92	333	312	(21)	(6%)	41	42	High school diploma or equivalent
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	\$31.14	360	386	26	7%	39	28	High school diploma or equivalent
49-9041	Industrial Machinery Mechanics	\$28.45	381	479	98	26%	68	0	High school diploma or equivalent
49-9071	Maintenance and Repair Workers, General	\$18.11	904	892	(12)	(1%)	88	70	High school diploma or equivalent
51-1011	First-Line Supervisors of Production and Operating Workers	\$32.03	504	524	20	4%	58	0	High school diploma or equivalent
51-2098	Miscellaneous Assemblers and Fabricators	\$14.67	316	328	12	4%	42	0	High school diploma or equivalent
51-4121	Welders, Cutters, Solderers, and Brazers	\$21.29	389	442	53	14%	63	42	High school diploma or equivalent
51-8091	Chemical Plant and System Operators	\$36.03	449	478	29	7%	59	133	High school diploma or equivalent
51-9011	Chemical Equipment Operators and Tenders	\$31.36	905	941	36	4%	114	133	High school diploma or equivalent

SOC	Description	Median Hourly Earnings	2018 Jobs	2021 Jobs	2018 - 2021 Change	2018 - 2021 % Change	Avg. Annual Openings	Alvin Community College Completions (2020)	Typical Entry Level Education
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$18.78	436	449	13	3%	59	0	High school diploma or equivalent
51-9198	Helpers--Production Workers	\$14.02	217	195	(22)	(10%)	31	0	High school diploma or equivalent
53-1047	First-Line Supervisors of Transportation and Material Moving Workers, Except Aircraft Cargo Handling Supervisors	\$23.53	260	358	98	38%	61	0	High school diploma or equivalent
53-3033	Light Truck Drivers	\$16.58	457	536	79	17%	80	0	High school diploma or equivalent
53-3058	Passenger Vehicle Drivers, Except Bus Drivers, Transit and Intercity	\$12.23	626	571	(54)	(9%)	74	0	High school diploma or equivalent
53-7065	Stockers and Order Fillers	\$13.31	2,121	2,349	228	11%	339	13	High school diploma or equivalent
43-3031	Bookkeeping, Accounting, and Auditing Clerks	\$19.15	955	960	5	1%	111	13	Some college, no degree
29-2061	Licensed Practical and Licensed Vocational Nurses	\$22.35	566	498	(68)	(12%)	41	26	Postsecondary nondegree award
31-1131	Nursing Assistants	\$12.92	729	558	(171)	(23%)	66	171	Postsecondary nondegree award
31-9091	Dental Assistants	\$18.04	373	369	(4)	(1%)	48	0	Postsecondary nondegree award
31-9092	Medical Assistants	\$14.91	486	640	154	32%	105	52	Postsecondary nondegree award
49-3023	Automotive Service Technicians and Mechanics	\$20.54	501	526	25	5%	53	28	Postsecondary nondegree award
53-3032	Heavy and Tractor-Trailer Truck Drivers	\$20.22	1,105	1,221	116	10%	162	0	Postsecondary nondegree award
25-2011	Preschool Teachers, Except Special Education	\$19.02	701	498	(202)	(29%)	57	40	Associate's degree
Total			36,422	36,637	215	1%	4,713		

Source: Emsi

NOTE: In amassing this data, EMSI links educational programs to occupations. This requires a “crosswalk” of educational program codes (SIP codes) to occupational classifications (SOC codes). This is not an exact science. The relationships between educational programs and occupations fall into three categories: one-to-one and one-to-many. Examples of “one-to-one” relationships include educational programs such as Nursing, Plumbing, Welding, Pharmacy tech, Medical Assistant, etc. “One-to-many” relationships include programs like Business administration, Sociology, Mathematics, etc. Completers of these programs are likely to go into a number of different fields.

Though this is not an exact science, for most career technical programs, the data provides a pretty good perspective on the supply and demand for skilled workers.



Alvin Community College

Program Demand Gap Analysis:
Economic Overview and
Review of Academic Programs

EXECUTIVE SUMMARY

April 2021

Executive Summary

Alvin Community College (ACC) is a public, two-year postsecondary educational institution in Texas. To further its goal of providing the region with well-trained and well-educated residents, ACC continually pursues improvement in various forms. An up-to-date understanding of the regional economy and the demand for skilled labor is vital to the planning efforts of the college as it seeks to adapt its program offerings to the requirements of an ever-changing workforce. ACC partnered with Emsi, a leading provider of labor market data, to complete a program demand gap analysis, which assesses regional job openings against educational program completions.

RECOMMENDATIONS

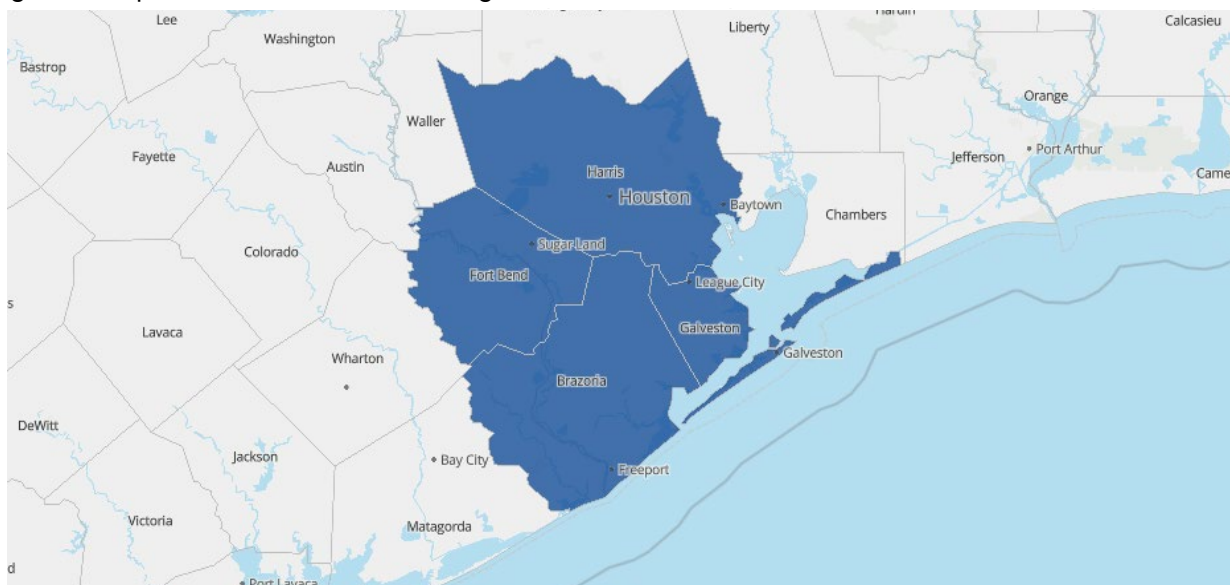
<p>HIGH DEMAND, LOW SUPPLY</p> <p><i>How can we expand these program opportunities?</i></p> <p>Business Admin. & Man., General (CERT, ASSOC, T-T) Criminal Justice/Safety Studies (CERT) Nursing Assist./Aide & Patient Care Assist./Aide (CERT) General Office Occupations & Clerical Services (CERT) Health Services/Allied Health/Health Sciences, General (ASSOC, T-T) Early Childhood Education & Teaching (ASSOC, T-T)</p>	<p>HIGH DEMAND, HIGH SUPPLY</p> <p><i>Can we maintain focus on program quality & student success?</i></p> <p>Welding Technology/Welder (CERT) Chemical Technology/Technician (CERT) Criminal Justice/Police Science (CERT) Registered Nursing/Registered Nurse (ASSOC, T-T) Drafting & Design Technology/Technician, General (ASSOC)</p>
<p>LOW DEMAND, LOW SUPPLY</p> <p><i>Should we discontinue these programs?</i></p> <p>Criminalistics & Criminal Science (CERT) Electroneurodiagnostic/Electroencephalographic Technology/Technologist (CERT) History, General (ASSOC) Physics, General (ASSOC)</p>	<p>LOW DEMAND, HIGH SUPPLY</p> <p><i>Are we connecting these programs to opportunities outside the county?</i></p> <p>Drafting & Design Technology/Technician, General (CERT) Chemical Technology/Technician (ASSOC) Psychology, General (T-T)</p>

Source: Emsi program demand gap model.

INTRODUCTION

For purposes of the program demand gap analysis, ACC serves a region called the ACC Economic Region. The ACC Economic Region is comprised of four counties in Texas: Brazoria, Fort Bend, Galveston, and Harris. This report outlines the region's economy and uses the region's average annual projected job openings between 2020 and 2030 as a measurement of labor market demand. When job openings are compared to the region's supply of educational program completions, the analysis determines how well ACC's program offerings satisfy regional workforce demand. In addition, this report offers recommendations for new program development. In its entirety, the analysis is a starting point for ACC as the college continues to develop programs using data-based decision-making strategies. The following figures and table display key findings of the analyses.

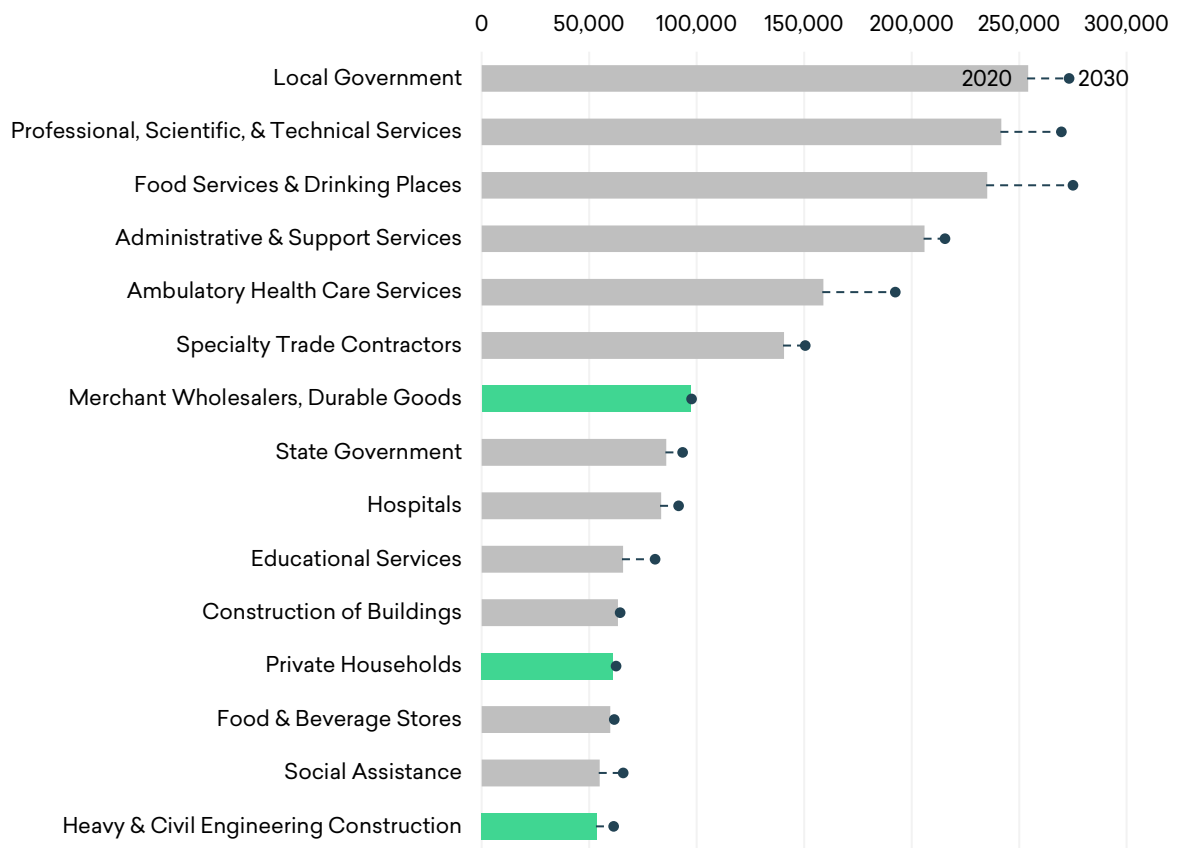
Figure 1: Map of the ACC Economic Region



Source: Emsi Analyst. Region provided by ACC.

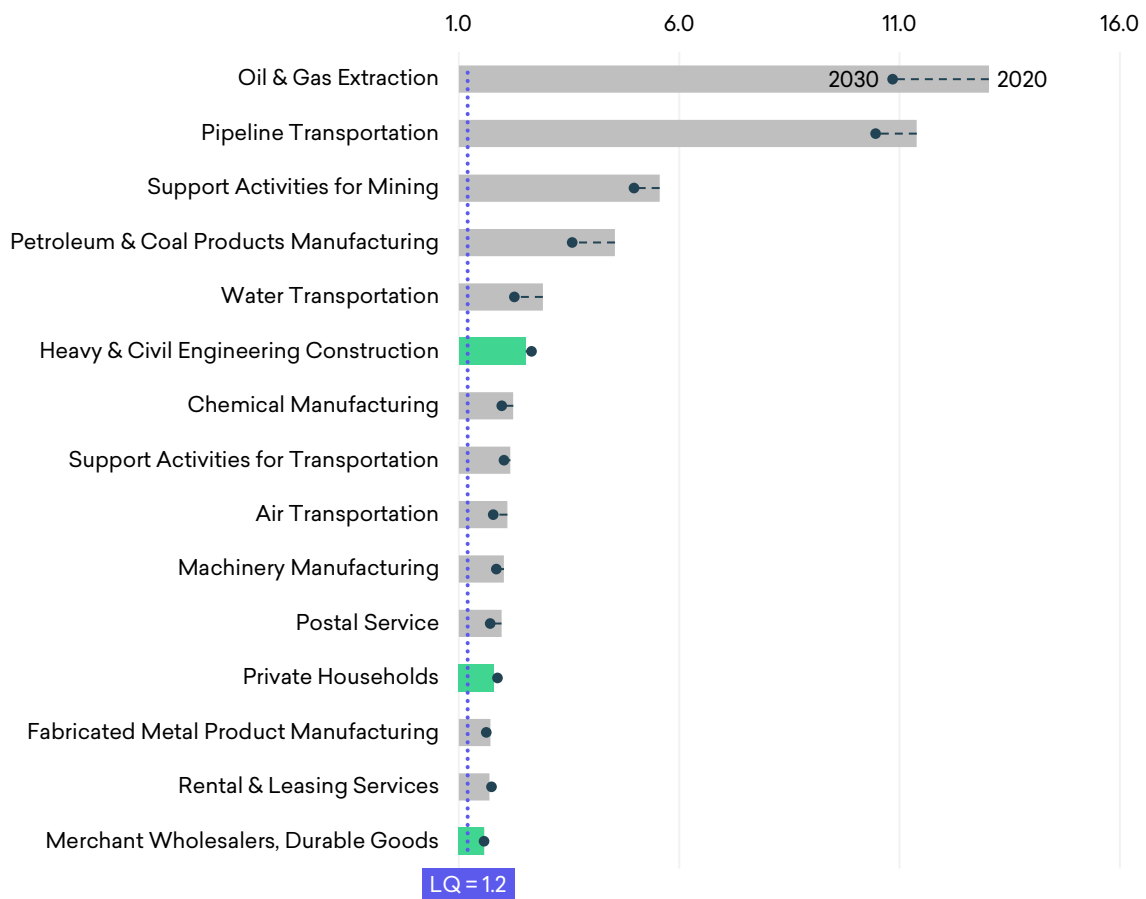
Figure 2 displays the top industry subsectors in terms of employment in the ACC Economic Region, and Figure 3 shows the top industry subsectors in terms of employment concentrations, referred to as location quotients (LQs). High LQs (usually anything greater than 1.2) are an indication that the region has a comparative advantage or specialization in certain industry subsectors relative to the rest of the nation or potentially to other regions.

Figure 2: Top Industry Subsectors in the ACC Economic Region by Jobs



Source: Employees & Self-Employed 2021.1.

Figure 3: Top Industry Subsectors in the ACC Economic Region by Employment Concentration (LQ)



Source: Employees & Self-Employed 2021.1.

Note the green bars in the figures. Across all of the ACC Economic Region's industry subsectors, three are within the top 15 in terms of jobs with relatively high LQs. The appearance of these industry subsectors provides an indication of their strength in the region's economy and offers the college insight into potential employment opportunities for its students. These industry subsectors, ranked by 2020 jobs, are:

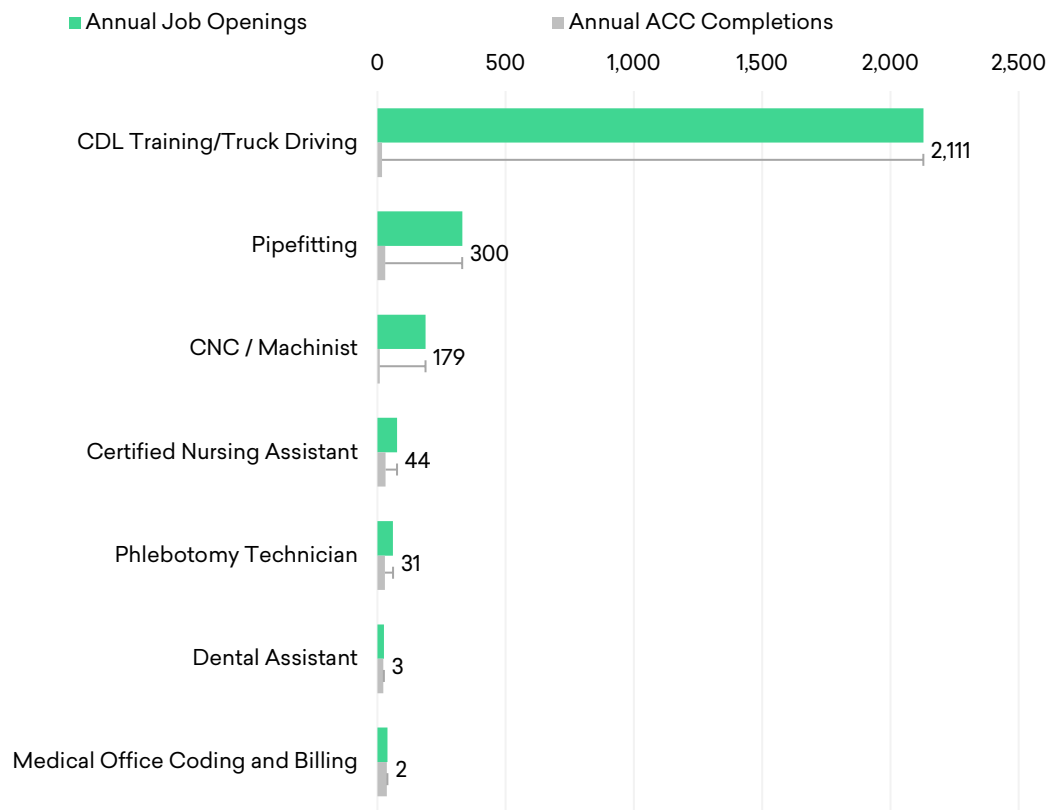
- Merchant Wholesalers, Durable Goods;
- Private Households; and
- Heavy & Civil Engineering Construction.



PROGRAM DEMAND GAP ANALYSIS

The program demand gap analysis provides results across all of ACC's non-credit, certificate, and degree level programs, which have been classified by their formal CIP code.¹ The analysis connects the college's program completers with the availability of regional job openings. For ACC's non-credit programs, the analysis is similar in that it connects the college's completers with the availability of regional job openings but without the additional reference to non-credit program completions from other postsecondary educational institutions in the ACC Economic Region. Furthermore, the analysis focuses on the gaps and surpluses in the programs by award level. A gap or surplus larger than 500 is considered beyond normal labor market fluctuations and therefore an area of consideration for program development.

Figure 4: Gaps for Non-Credit Programs



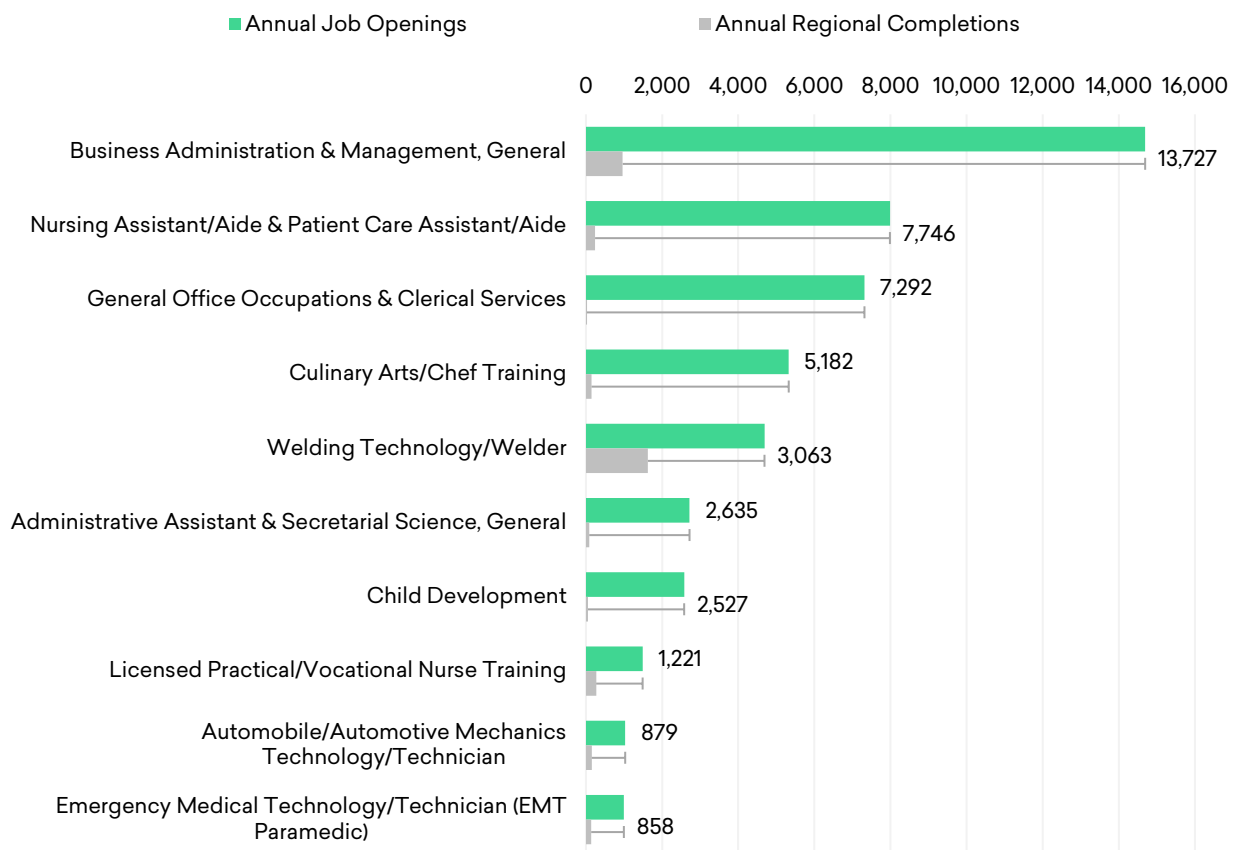
Non-credit programs are grouped by their six-digit CIP code.
Source: Emsi program demand gap model.

¹ CIP refers to the Classification of Instructional Program and was originally developed by the U.S. Department of Education's National Center for Education Statistics (NCES).

ACC offers 10 non-credit programs, when grouped by their six-digit CIP codes. The non-credit programs can be designed for self-enrichment; however, ACC offers them with workforce skills in mind. Using a customized non-credit program-to-occupation map, the programs are analyzed using similar methods to the program demand gap analysis. One non-credit program has a significant gap (Figure 4). However, the ACC Economic Region is quite large, and completion of any one of the non-credit programs could lead to successful regional employment. The non-credit program analysis provides ACC administrators with opportunities for local student recruiting and curriculum re-alignment.

ACC offers 28 certificate level programs, 11 of which have a significant gap above the 500-openings level of significance. The top 10 are shown in Figure 5. All should be considered for expansion at the certificate level, considering the industries and occupations of the ACC Economic Region. No programs at this award level have a significant surplus.

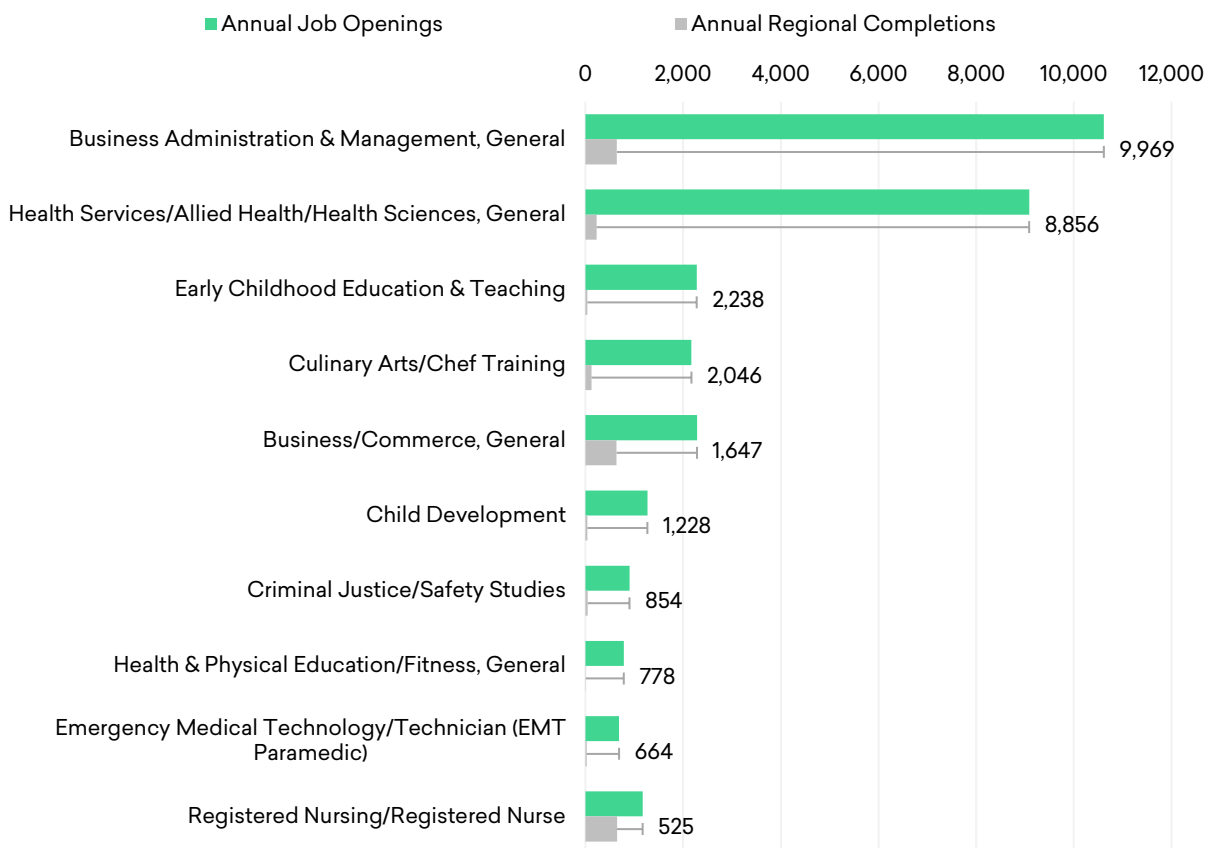
Figure 5: Top 10 Certificate Level Gaps



Source: Emsi program demand gap model.

At the associate degree level, ten programs have a significant gap (Figure 6). Several should be considered for a college-wide expansion, many of which are related to other associate degree level programs without a significant 500-openings gap. Many should be considered for expansion, with more priority given to the programs with a significant gap and high median hourly wage. Furthermore, if the associate degree level program is associated with a formal industry-specific certificate, permit, or license required for employment, it is also recommended for expansion.

Figure 6: Top 10 Associate Degree Level Gaps

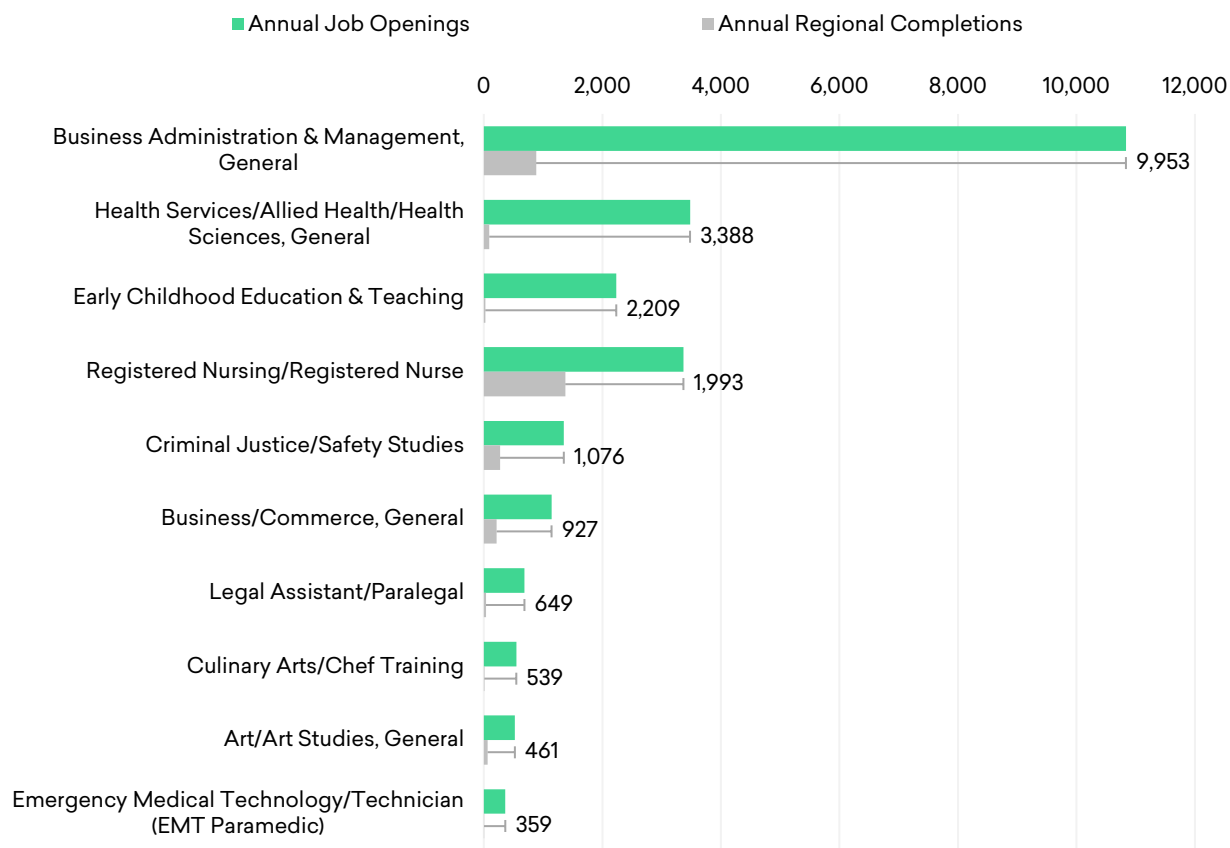


Source: Emsi program demand gap model.

All of ACC's 36 associate degree programs are considered at the transfer-track level. In other words, a program completer could readily transfer into a similar bachelor's degree level program at another postsecondary educational institution in the state. When evaluated at the transfer-track level, eight programs have a significant gap above the 500-openings level of significance, as shown in Figure 7. These programs should be considered for expansion. A program expansion should consider the process by which ACC's students transfer into regional bachelor's degree level programs. Administrative and academic support measures

at ACC would enable student success. No programs at this award level have a significant surplus.

Figure 7: Top 10 Transfer-Track Degree Level Gaps



Source: Emsi program demand gap model.

A liberal arts program expansion is not recommended at this time, but ACC administrators should be aware that students can find success in a variety of business-related occupations. Using Emsi's Profile Analytics database, many liberal arts program completers are currently employed as retail salespersons, administrative assistants, and customer service representatives, as well as a variety of managers and supervisors. These occupations have a considerable number of job openings in the ACC Economic Region. The college's liberal arts program, therefore, serves as a starting point to students' career goals beyond an associate degree level of education.



PROGRAM ADDITIONS

Fifty certificate level programmatic areas of opportunity have been identified in the program demand gap analysis, most of which are related to construction & extraction occupations. At the associate degree level, there are fewer opportunities for new programs, considering the college's current offerings. Nonetheless, ACC should consider new programs related to healthcare practitioners & technical occupations, whether its focus is on job openings in the ACC Economic Region or Texas. Another 50 programmatic areas of opportunity were identified at the transfer-track degree level, many of which are related to business & financial operations occupations, a demand which ACC could establish or adjust existing transfer-track degrees to meet. For all award levels, many program additions are related to the college's current program offerings, which indicates an opportunity for a curriculum adjustment to better align with the region's current and projected labor market demand. A selection of these occupations, which have the most regional job openings by award level, appear in Table 1.

Table 1: Program Additions by Education Level

SOC TITLE	2019 JOBS	ANNUAL JOB OPENINGS	ANNUAL COMPL.	GAP	MEDIAN HOURLY WAGE	ED. LEVEL
Construction Laborers	40,567	2,740	0	2,740	\$16.34	CERT
Carpenters	23,138	1,477	1	1,476	\$20.19	CERT
Electricians	17,879	1,355	67	1,288	\$27.26	CERT
Operating Engineers & Other Construction Equipment Operators	12,406	1,016	0	1,016	\$22.52	CERT
Inspectors, Testers, Sorters, Samplers, & Weighers	15,175	997	31	966	\$20.47	CERT
Industrial Machinery Mechanics	12,997	911	17	894	\$29.85	CERT
First-Line Supervisors of Production & Operating Workers	13,697	774	0	773	\$32.19	CERT
First-Line Supervisors of Transportation & Material Moving Workers, Except Aircraft Cargo Handling Supervisors	9,526	633	0	633	\$26.05	CERT
Heating, Air Conditioning, & Refrigeration Mechanics & Installers	8,168	572	43	530	\$23.06	CERT
Roustabouts, Oil & Gas	5,409	499	1	498	\$18.97	CERT
Radiologic Technologists & Technicians	4,181	155	55	99	\$31.97	ASSOC
Dental Hygienists	2,888	132	43	89	\$35.66	ASSOC
Cardiovascular Technologists & Technicians	1,275	42	0	42	\$25.47	ASSOC
Sales Representatives of Services, Except Advertising, Insurance, Financial Services, & Travel	25,272	1,451	0	1,451	\$25.72	T-T
Insurance Sales Agents	11,646	579	19	559	\$24.40	T-T

SOC TITLE	2019 JOBS	ANNUAL JOB OPENINGS	ANNUAL COMPL.	GAP	MEDIAN HOURLY WAGE	ED. LEVEL
Securities, Commodities, & Financial Services Sales Agents	10,004	563	50	513	\$25.23	T-T
Real Estate Sales Agents	10,310	523	47	476	\$28.01	T-T
Civil Engineers	10,729	512	41	471	\$47.11	T-T

SOC refers to the Standard Occupational Classification system used to classify occupations. Average annual job openings represent regional data from 2020 to 2030. Numbers may not sum due to rounding.

Source: Emsi program demand gap model.

