



CERTIFICATE PROGRAMS AND THEIR ECONOMIC VALUE: A Look at King County Postsecondary Institutions

AUTHOR

Nicole Jones

Senior Policy Analyst
Seattle Jobs Initiative





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INTRODUCTION

The United States workforce is one that consists of many highly educated individuals. Nearly 60 percent of its workforce possesses some kind of education beyond high school. However, there is still another 40 percent that possess only a high school diploma or less.¹ In King County, Washington specifically, almost 75 percent of all workers have some kind of education beyond high school, with a quarter possessing a high school diploma or less.² According to the Bureau of Labor Statistics, higher education equates to higher earnings and lower unemployment rates. Bachelor's degree holders in the US experienced median weekly earnings of \$1,066 and an unemployment rate of 4.5 percent in 2012. This is compared to median weekly earnings of \$652 and an unemployment rate of 8.3 percent for individuals whose highest level of attainment is a high school diploma.³

Statistics demonstrating the significant potential value of additional education for low skill adults has led two-year colleges to develop education and training programs targeted at adults possessing a high school diploma or less. These programs are typically designed to help individuals gain credentials in a relatively short amount of time with the possibility of continuing their education. This approach is predominantly helpful for low-income/low-skill adults who need to quickly re-enter the workforce with more skills to compete for better-paying jobs. Particularly, these institutions offer certificates in an array of programs that can be attained in as little as a few months or as long as four years. This report seeks to quantify the value of certificates by depicting the demographic makeup, fields of study, and wages earned by certificate level. Doing so will help Seattle Jobs Initiative (SJI) and the workforce system better understand the payoffs of certificates in the local labor market to assist low-income/low-skill individuals in making informed decisions about certificate programs.

WHAT ARE CERTIFICATES?

Certificates are credentials issued by educational institutions to signify completion of a program of study or series of courses that does not culminate in a degree. Sub-baccalaureate certificates are those that are issued below the baccalaureate level. For the purposes of this report, an analysis of sub-baccalaureate certificates will be used. The terms certificates and sub-baccalaureate certificates are used interchangeably throughout this report.

There are three main categories of sub-baccalaureate certificates based on length of study:⁴

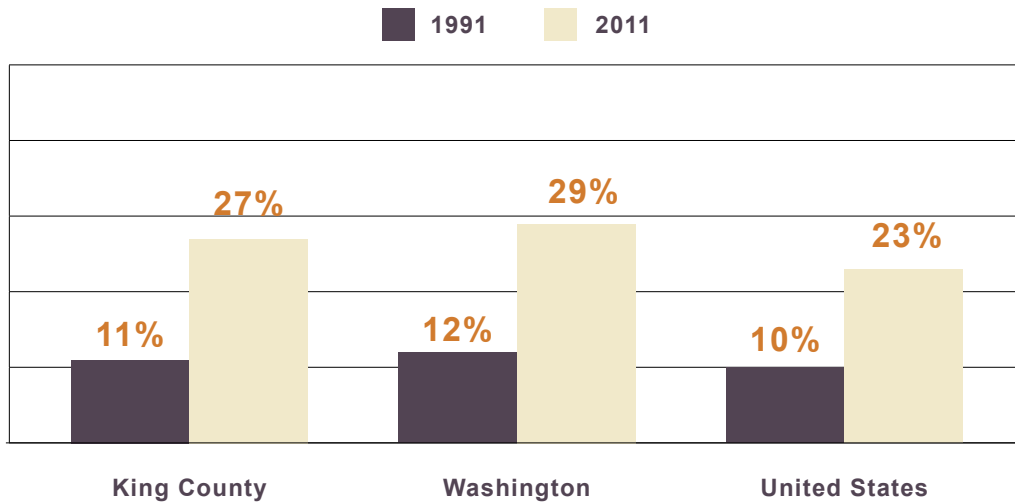
- Award of less than one academic year
- Award of at least one but less than two academic years
- Award of at least one but less than four academic years

For the purposes of this report, awards of less than one year will be considered short-term certificates and awards of at least one up to four years will be considered long-term certificates. Certificates are distinct from certifications or licenses. These terms refer to awards issued by third-party, standard-setting bodies as a way to measure the competencies within an occupation. For example, a Certified Public Accountant (CPA) is a certification given to qualified accountants who pass the Uniformed Public Accountant Examination conferred by State Accountancy Boards.⁵ They are almost never linked to academic awards and therefore, this report will be specifically analyzing the value of sub-baccalaureate certificates awarded by educational institutions.

CERTIFICATE HOLDERS: WHO ARE THEY AND HOW HAVE THEY CHANGED?

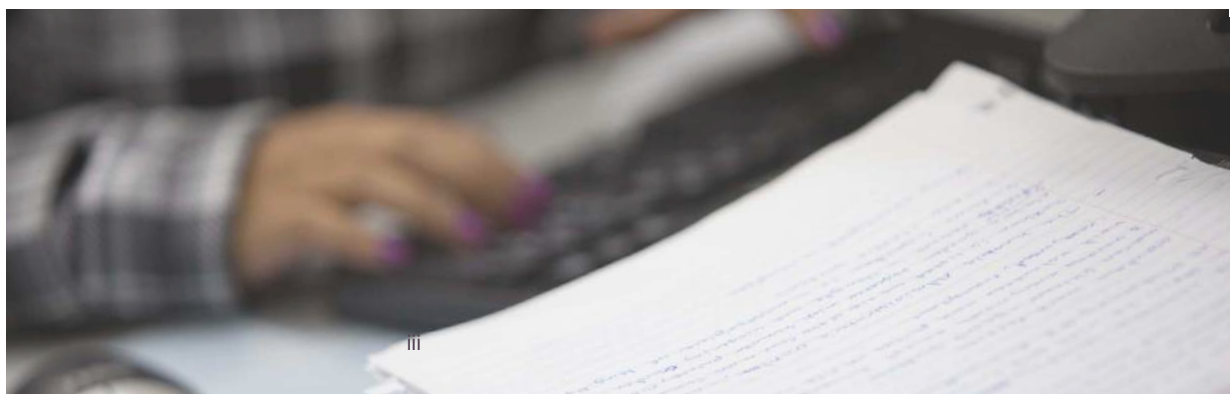
Over the period 1991 to 2011, the number of certificates awarded by educational institutions has significantly increased locally in King County and Washington State, as well as throughout the nation. As depicted by **Chart 1** below, in all three geographies (King County, Washington State, and the US) certificates represented only around eleven percent of total degrees and certificates awarded in 1991. Twenty years later, the amount of certificates awarded more than doubled as a percentage of all degrees and certificates awarded. King County and Washington averaged a slightly larger share than the rest of the US, with certificates representing a 28 percent share of all degrees and certificates awarded.

CHART 1:
Certificates Awarded as a Share of Total Degrees / Certificates

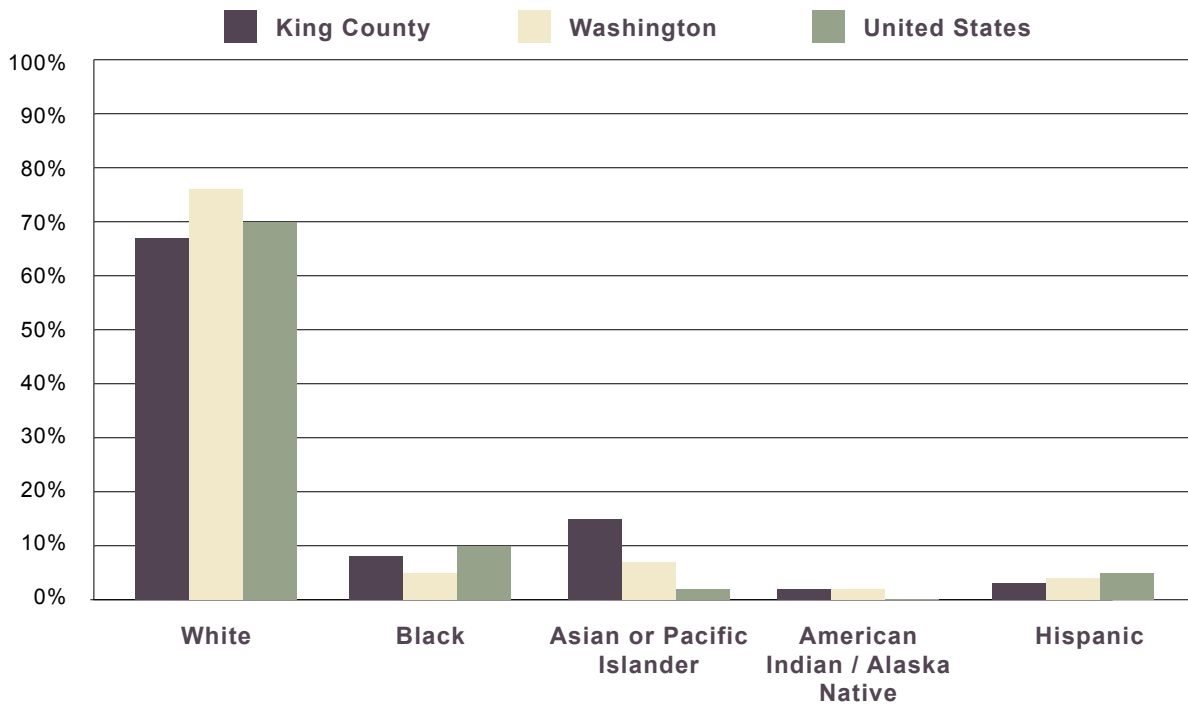


SOURCE: US Department of Education, National Center for Education Studies, IPEDS 1991 & 2011

While there has been a significant increase in the amount of certificates awarded during the period 1991 to 2011, the demographic makeup of certificate earners has changed little in King County and Washington during this period. This is not true of the US. In 1991, most certificate earners in all three geographies were white (70 percent nationally) with only a small percentage of earners from other racial and ethnic backgrounds. However, as shown in **Charts 2 and 3** below, King County's certificate earners consist of much higher percentages of Asian and Pacific Islanders (15 percent) than the US. By 2011, the population of certificate earners within the US became much more diversified. White certificate earners dropped down to a 50 percent share of certificates awarded and the Black and Hispanic population of earners increased significantly. Black and Hispanic earners held 10 percent and 5 percent shares, respectively, in 1991, and both increased to 19 percent by 2011. Washington's demographic makeup of certificate earners changed very little over the twenty-year span and King County's only changed slightly.

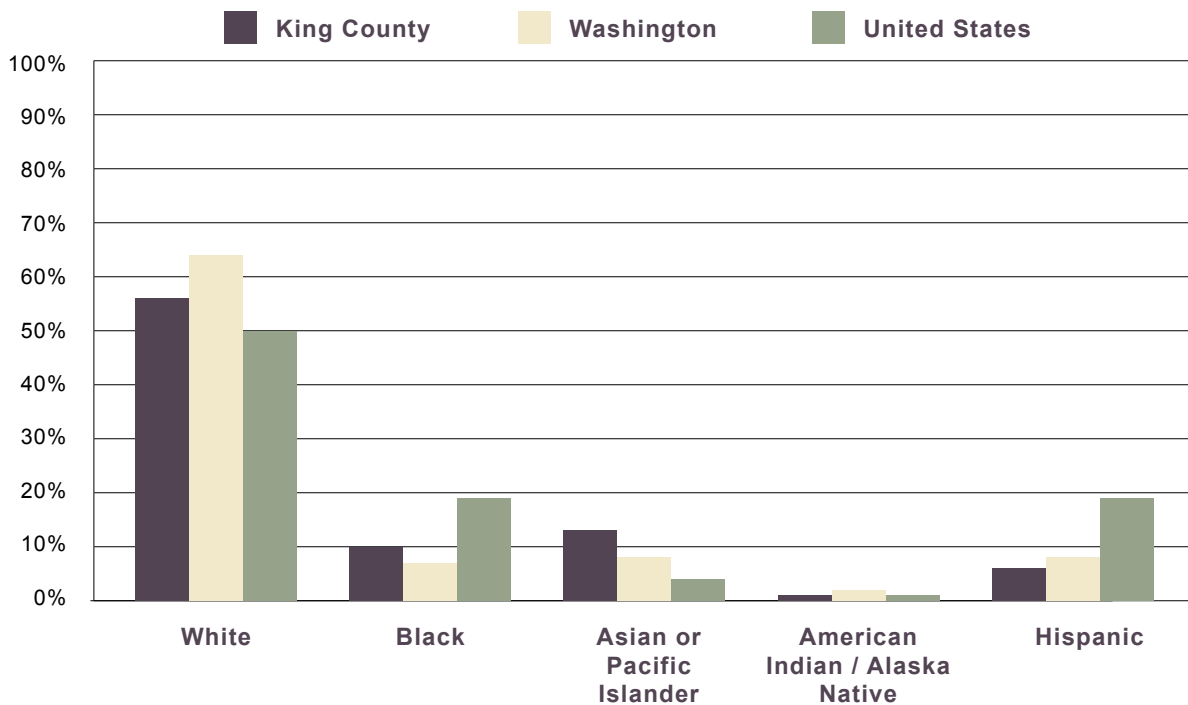


**CHART 2:
Race / Ethnicity of Certificates Awarded in 1991**



SOURCE: US Department of Education, National Center for Education Studies, IPEDS 1991 & 2011

**CHART 3:
Race / Ethnicity of Certificates Awarded in 2011**



SOURCE: US Department of Education, National Center for Education Studies, IPEDS 1991 & 2011

SHORT-TERM VS. LONG-TERM CERTIFICATES

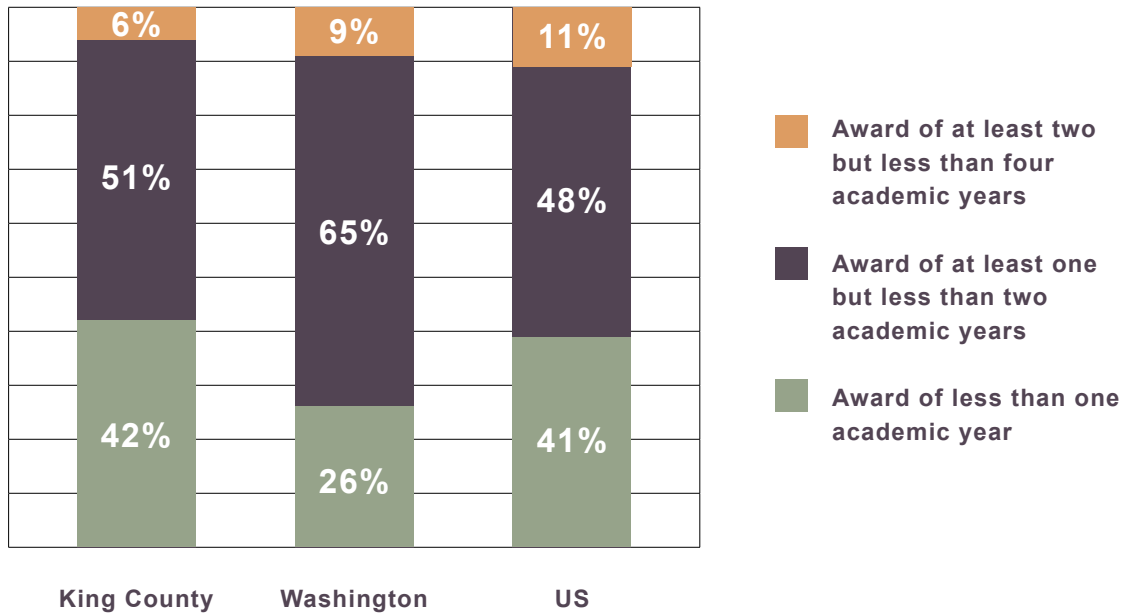
As mentioned previously, there are three types of certificate award levels: less than one year, one to two years and three to four years. This report identifies short-term certificates as those that take less than one year to complete. Long-term certificates are those that take one year or more to complete. **Charts 4 and 5** on the following page display the share of short-term and long-term certificate awards for King County, Washington, and the US in 1991 and 2011.

During the twenty-year span, the share of awards of less than one academic year increased across the board. Conversely, the share of awards of at least one academic year or more has declined during that time. King County and Washington State's share of certificate earners of less than one academic year has increased significantly from 1991 to 2011 in comparison to the US. In 1991, only 26 percent of certificate earners possessed short-term certificates and 74 percent possessed long-term certificates in Washington. By 2011, the share of short-term certificates awarded jumped to 60 percent and long-term certificates declined to 40 percent. King County experienced a similar shift in award levels, though not as drastic. In 1991, 42 percent of certificates awarded were short-term and 57 percent were long-term. Short-term certificates awarded increased to 62 percent by 2011 and long-term certificates decreased to 38 percent.

It is evident that certificate earners here in Washington find more value in earning shorter-term certificates than do certificate earners in the rest of the country. The shift toward short-term certificate programs could be due to the practice of some colleges of embedding short-term certificates in longer-term certificates or associate degree programs. In other words, students can gain credentials along the way to completion of longer-term programs by obtaining short-term, stackable certificates. Other community and technical colleges have increased their short-term program offerings in an effort to bolster completion rates, which in turn has also contributed to the increase in short-term certificate production.⁶

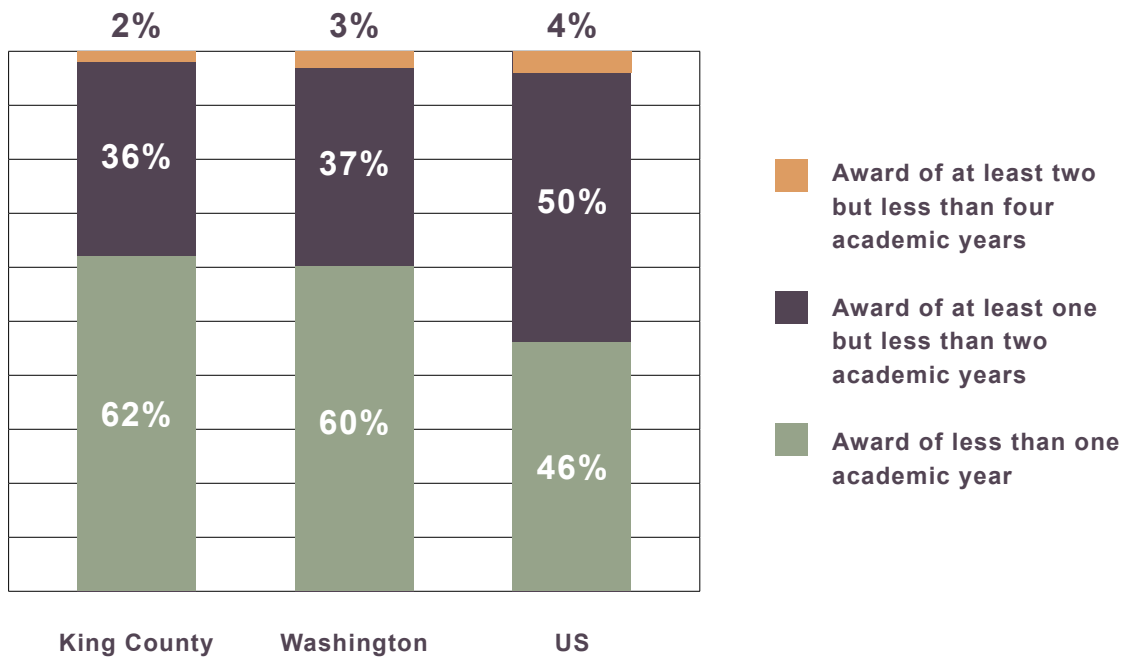


CHART 4:
Share of Certificates Awarded in 1991



SOURCE: US Department of Education, National Center for Education Studies, IPEDS 1991

CHART 5:
Share of Certificates Awarded in 2011

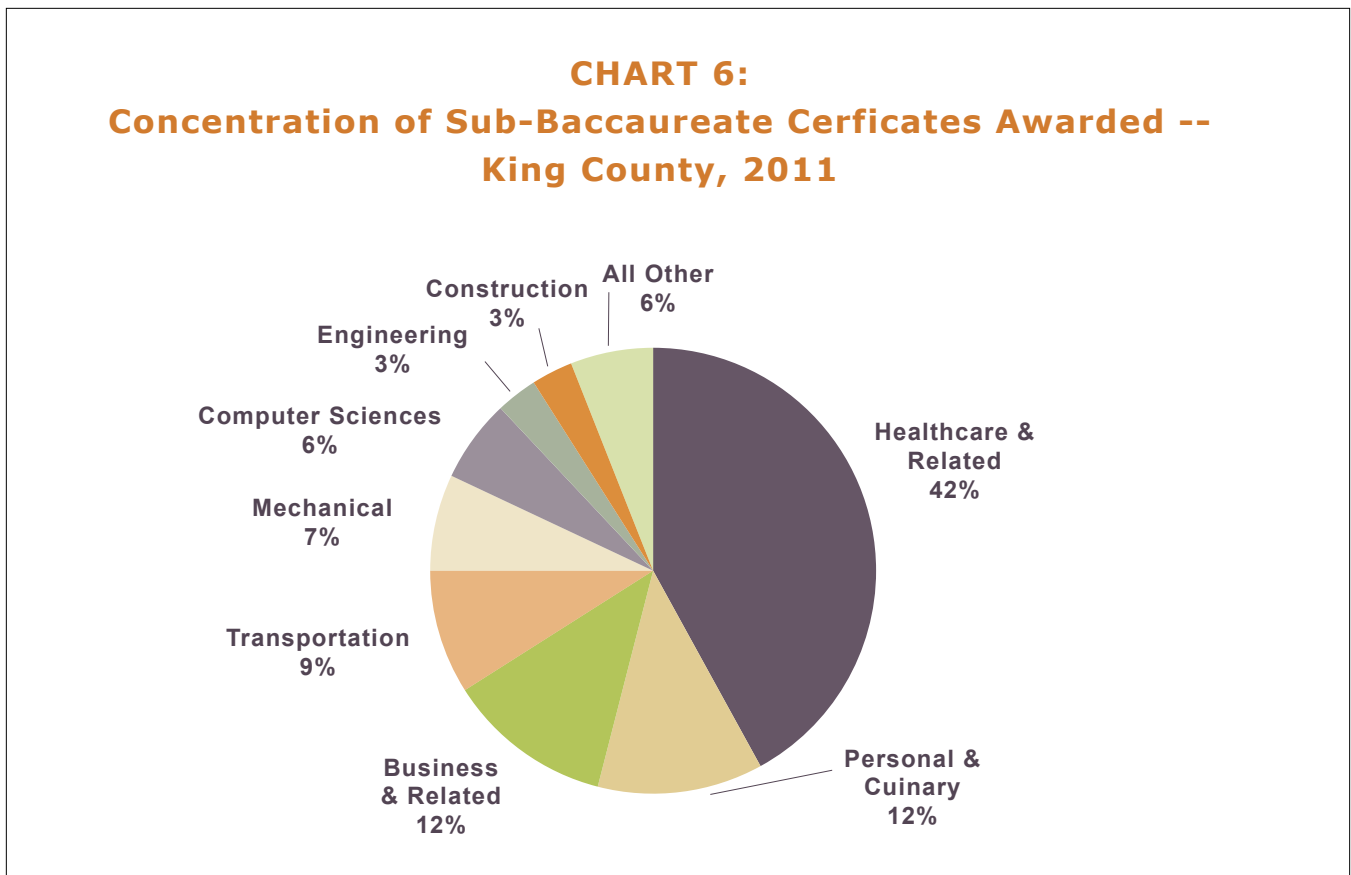


SOURCE: US Department of Education, National Center for Education Studies, IPEDS 2011

IN WHICH FIELDS ARE CERTIFICATES CONCENTRATED?

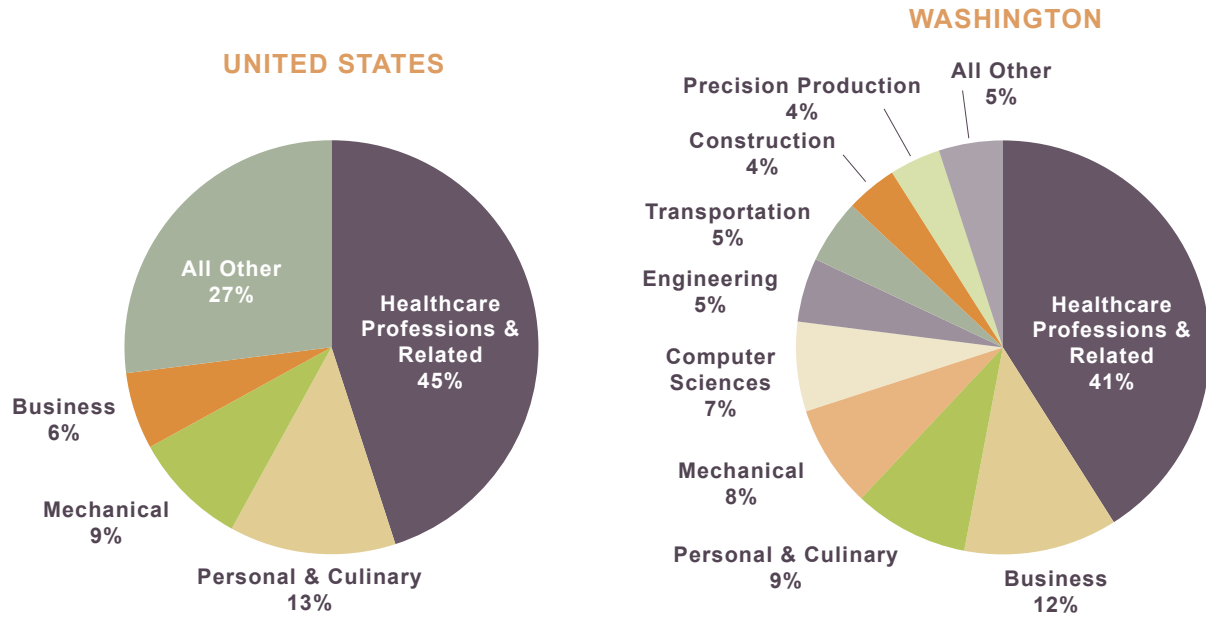
Charts 6 and 7, below and on the following page, identify the fields of study containing the largest concentration of sub-baccalaureate certificates awarded in King County, Washington State, and the US in 2011. Washington State and King County are very similar to each other in terms of the fields of study that certificate holders pursue. However, in the US certificates awarded are mostly concentrated in just four fields – *Healthcare, Personal & Culinary Services, Mechanical, and Business*. Additionally, certificates awarded in the *Business* field of study in King County and Washington State (12 percent) are double that of the US. This is not surprising given the plethora of jobs within the *Professional & Business Services* industry sector locally. The industry holds the second largest share of all jobs in King County and is projected to experience positive job growth of 10 percent through 2016.⁷

For all three geographies, *Healthcare & Related Services* represents just under half of all certificates awarded. In King County specifically, *Healthcare, Business, Personal & Culinary Services, and Transportation* makeup three-fourths of all certificates awarded. These fields of study are connected to industry sectors in the King County economy that hold a large concentration of jobs as well



SOURCE: US Department of Education, National Center for Education Studies, IPEDS 2011

**CHART 7:
Concentration of Sub-Baccalaureate Certificates Awarded --
US and Washington State, 2011**

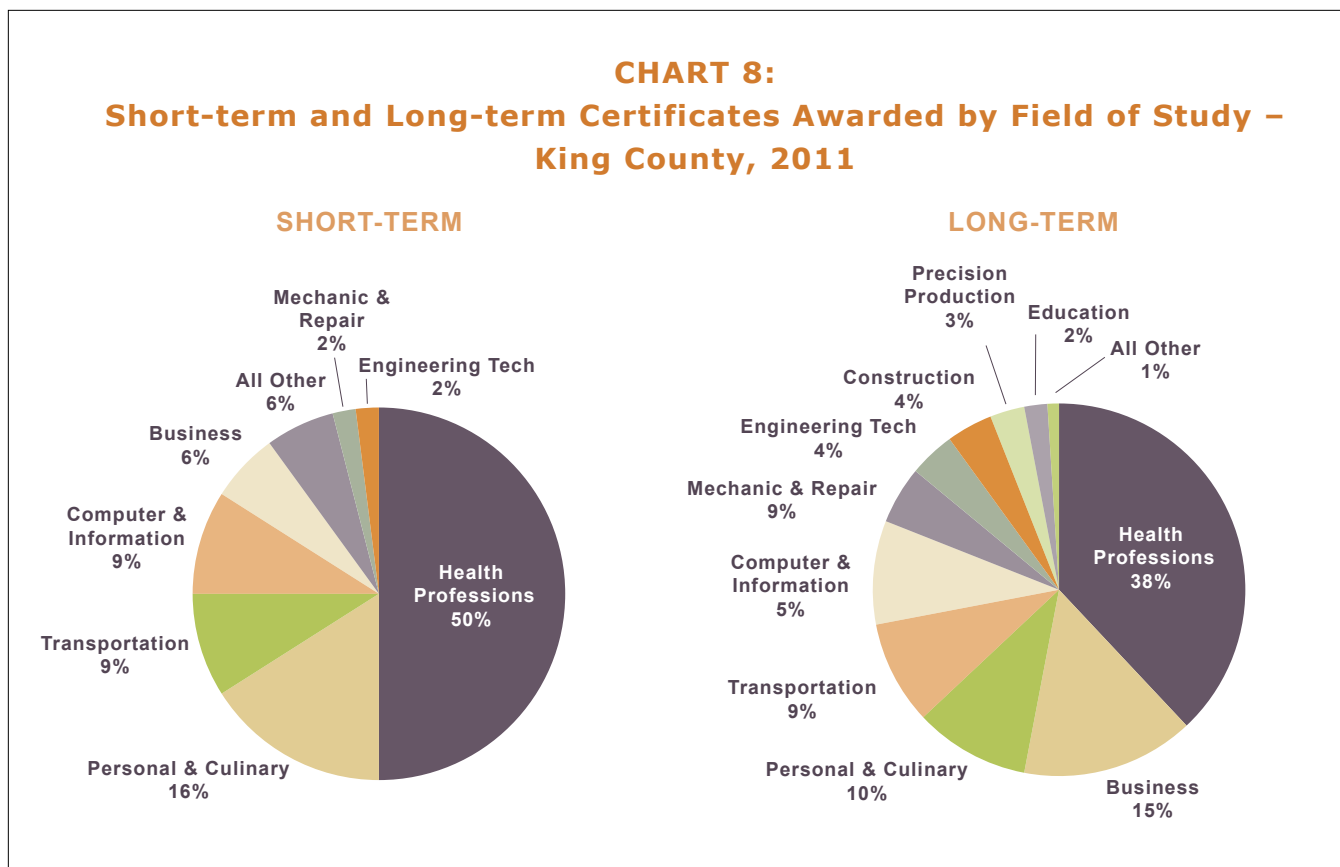


SOURCE: US Department of Education, National Center for Education Studies, IPEDS 2011

as projected growth over the next three years. According to Economic Modeling Specialists, International, these four industries are among the top five in terms of number of jobs in King County. Together, they are projected to grow at a rate of six percent through 2016. All other industry sectors combined are projected to experience an average of zero percent growth in jobs over the same period.⁸ Therefore many students have focused their efforts into attaining credentials that will lead to employment within these sectors.

CERTIFICATE FIELDS OF STUDY: SHORT- AND LONG-TERM

Chart 8 below breaks **Chart 6** (Concentration of Sub-baccalaureate Certificates Awarded – King County 2011) into short-term or long-term certificate attainment. The fields of study for both types of credentials have many similarities, but there are some interesting differences. Notably, the amount of long-term certificates awarded in the *Business Services* field of study is more than double (15 percent) the amount of short-term certificates awarded. There is also a higher percentage of *Mechanic & Repair Services* long-term certificates awarded compared to the short-term. And while *Healthcare Professions* is the largest field of study for both long- and short-term certificates, there were 12 percent more short-term than long-term certificates awarded by King County education institutions in 2011.

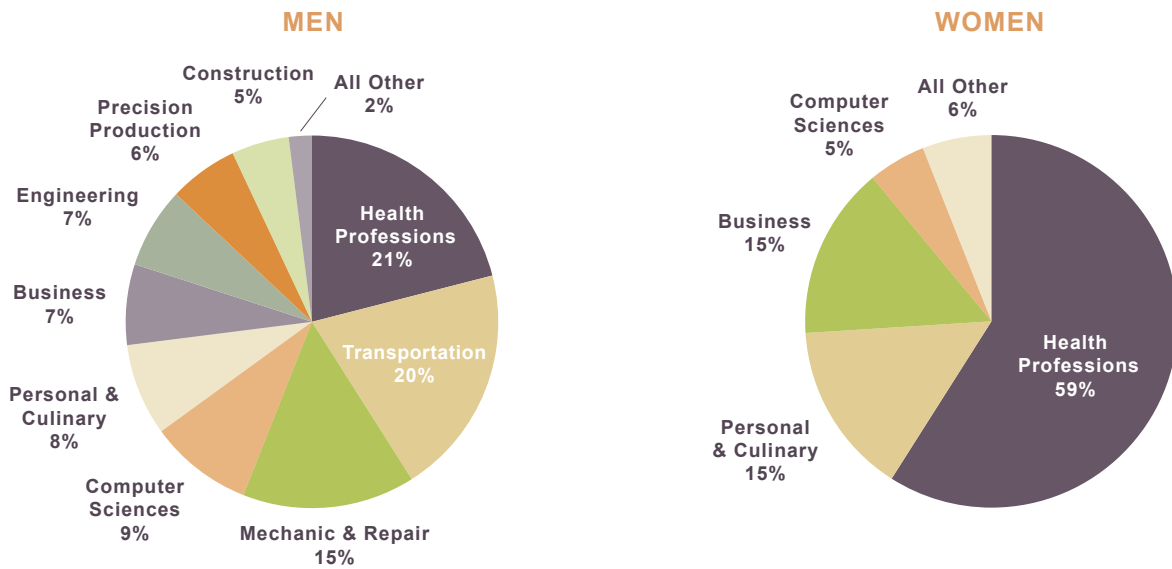


SOURCE: US Department of Education, National Center for Education Studies, IPEDS 2011

CERTIFICATE FIELDS OF STUDY: GENDER AND RACE/ETHNICITY

Men and women also vary in their fields of study when attaining a certificate. As evidenced by **Chart 9** on the following page, men are more diversified in the fields of study in which they gain certificates compared to women. Nearly 90 percent of women earn certificates in only three fields of study –

**CHART 9:
Concentration of Certificates Awarded by Gender –
King County, 2011**

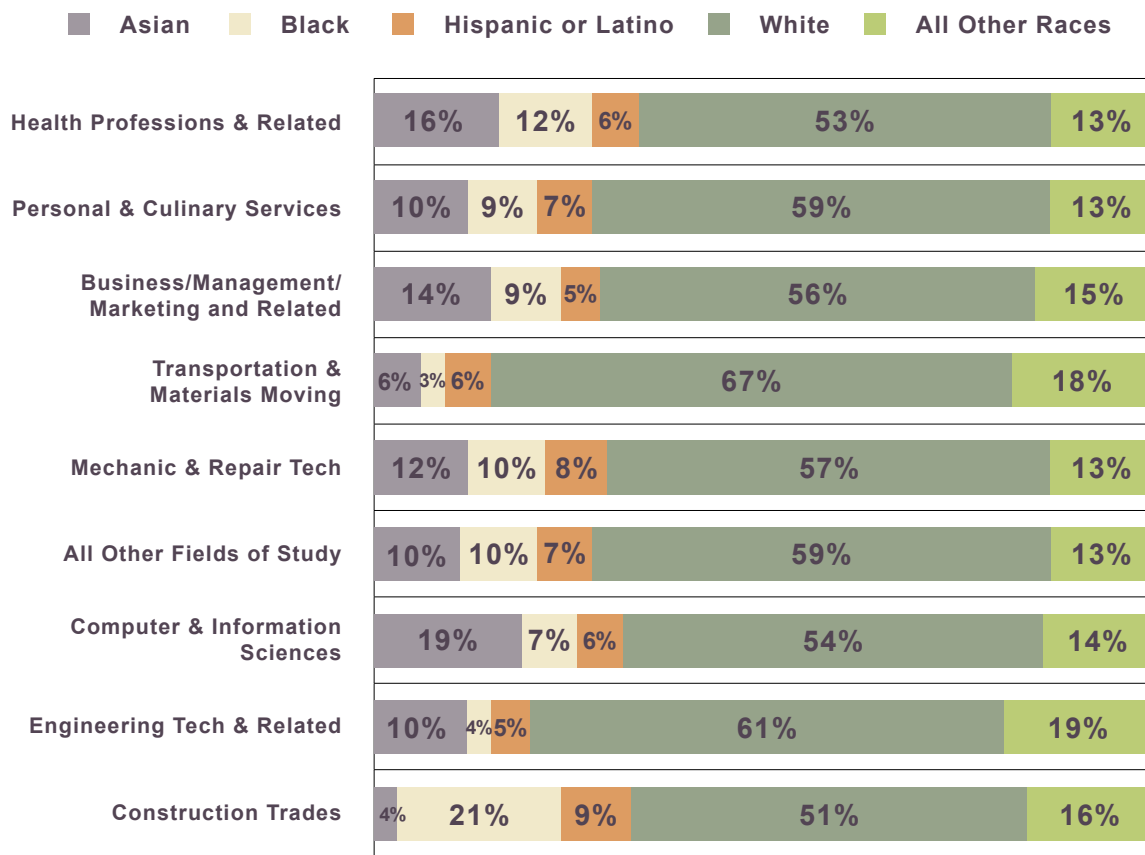


SOURCE: US Department of Education, National Center for Education Studies, IPEDS 2011

Health Professions, Business Services, and Personal & Culinary Services. Conversely, men earn certificates in an array of fields including – Health Professions, Transportation, Mechanic & Repair Services, Computer Sciences, Personal & Culinary Services, Business Services, and Engineering Technologies. Women are not only less diversified than men in their certificate fields of study, they also comprise 20 percent more of the total number of all certificates awarded in King County.

Chart 10 on the following page displays the racial and ethnic composition of certificate earners in King County within each of the top fields of study among these earners (as identified in **Chart 6**). All of the certificates awarded in these fields of study are awarded to predominantly white students. Of all of the fields represented, there is not an instance where fewer than half of the certificates awarded have been attained by white students. While the number of minority students appears to be underrepresented in the sub-baccalaureate certificate institutional system, this is not surprising given the population demographics of King County as a whole. As of 2013, 63 percent of the county’s population is white. Asians and Hispanics make up the next 25 percent of the county’s population – 15 percent and 10 percent, respectively. And lastly, all other races combined only account for 12 percent of King County’s population demographics, with the Black population accounting for 6 percent.¹⁰

**CHART 10:
King County Certificate Fields of Study by Race/Ethnicity**



SOURCE: US Department of Education, National Center for Education Studies, IPEDS 2011

The racial/ethnic demographics of certificates awarded in King County generally mirror the county’s population demographics with one exception: the Hispanic population is largely absent from these programs. There is not one field of study listed in **Chart 10** that awards 10 percent or more of its certificates to Hispanic students. Though a small population, Hispanic students are highly concentrated in *Construction Trades* and *Mechanic & Repair Technologies*. The black student population is also highly represented within certificates awarded in the *Construction Trades* – with 21 percent. And lastly, Asian students are awarded certificates mostly concentrated in the *Computer & Information Sciences* programs of study, with 19 percent of certificates awarded.



WHAT TYPE OF CERTIFICATES ARE AVAILABLE?

There are many certificate programs in King County and they vary by length and field of study. Short-term certificates are by far the most popular type of certificate awarded in King County: approximately 62 percent of all sub-baccalaureate certificates awarded are completed in less than one year. Long-term certificates (at least one but less than two years, or at least two but less than four years) make up the other 38 percent of sub-baccalaureate certificates awarded, with only two percent of those contributing to awards of at least two but less than four years.¹¹ **Table 1** on the following page is a list of the varying types of certificates available in King County by program length and field of study. The fields of study are the same as those identified in **Chart 6**. For each award type within each field of study, the table displays the most popular certificate awarded in terms of number of completions. An award level of less than one year is the most popular certificate awarded among the programs offered at King County educational institutions and they account for approximately 62 percent of all sub-baccalaureate certificates awarded.

As identified in **Chart 8** previously, *Healthcare* and *Personal & Culinary Services* comprise the largest share of short-term, sub-baccalaureate certificates awarded in King County. There are more than one hundred different types of short-term certificates available within this field of study; however, Nursing Assistant/Aide certificates are the most common (**Table 1**). In fact, they account for approximately 24 percent of all of short-term certificates awarded within *Healthcare* programs. Culinary Arts/Chef Training certificates are the most common short-term certificates within the *Personal & Culinary Services* field, accounting for approximately 55 percent of all short-term certificates awarded.¹²

The *Healthcare* field accounts for the largest amount of long-term certificates as well as short-term certificates awarded in King County. Medical/Clinical Assistant certificates account for 36 percent of all short-term *Healthcare* certificates awarded. *Business* program offerings also make up a large share of long-term certificates awarded – 15 percent (**Chart 8**). The most popular long-term certificate in this field of study is *Medical Administrative/Executive Assistants* and *Medical Secretaries*.¹³ Overall, there are ample opportunities to obtain both short- and long-term certificates, but short-term awards are sought after more than longer term ones across all fields of study.

A more comprehensive look at certificate award types by field of study can be found in **Appendix A**. This table is a duplication of **Table 1**, except that it displays the institutions that offer certificate awards for a particular career path in King County.

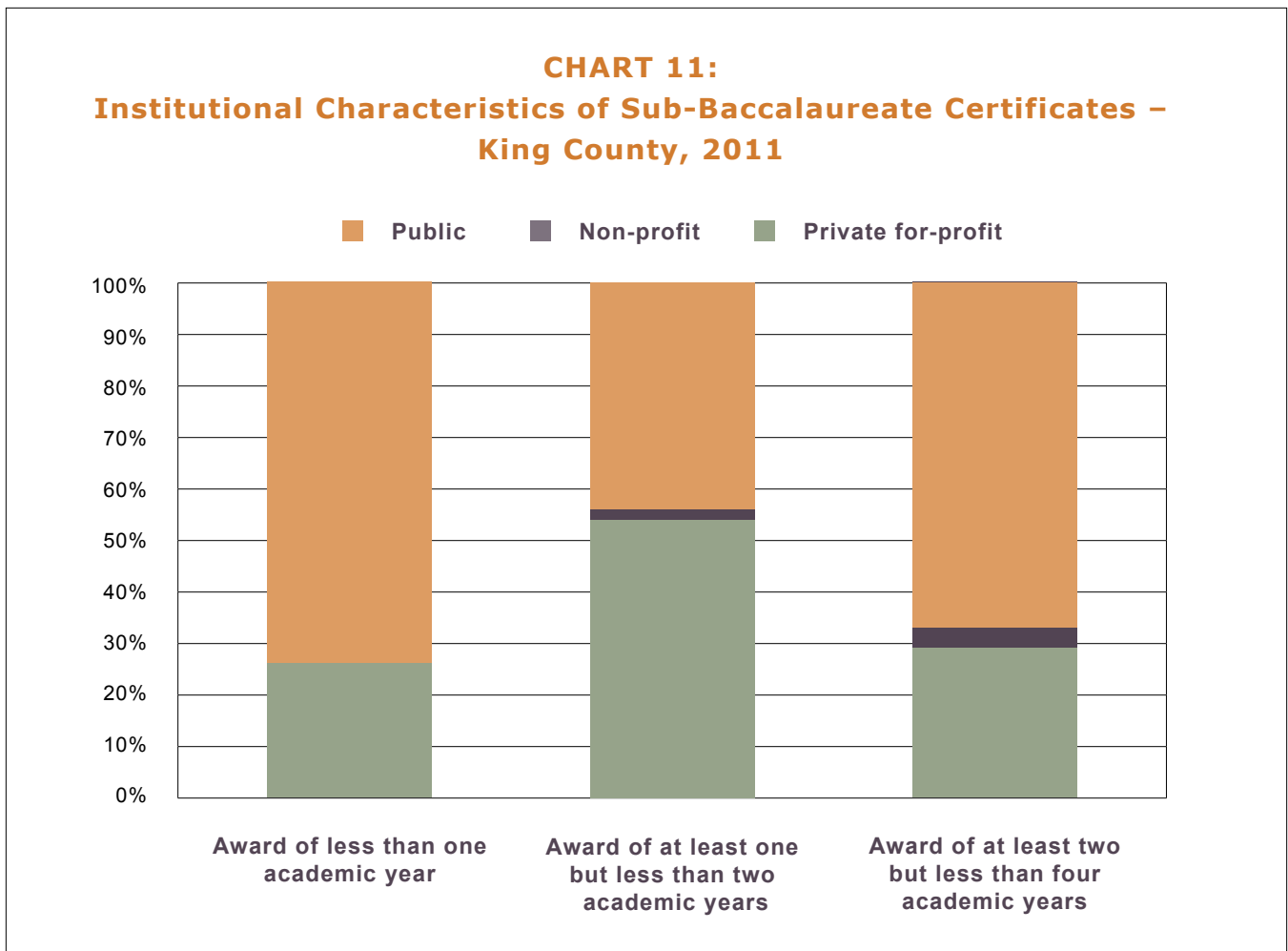
TABLE 1. Popular Certificates Awarded by Field of Study and Length -- King County 2011

FIELD OF STUDY	AWARD TYPE	CAREER PATH	2011 COMPLETIONS
Health Professions & Related	Less than one year	Nursing Assistant / Aide & Patient Care Assistant / Aide	577
	At least one year but less than two years	Medical / Clinical Assistant	670
	At least two years but less than four years	Medical Insurance Coding Specialist / Coder	20
Personal & Culinary Services	Less than one year	Culinary Arts / Chef Training	330
	At least one year but less than two years	Cosmetology / Cosmetologist, General	645
	At least two years but less than four years		
Business & Related Services	Less than one year	Accounting Technology / Technician & Bookkeeping	416
	At least one year but less than two years	Medical Administrative / Executive Assistant & Medical Secretary	128
Transportation & Materials Moving	Less than one year	Air Traffic Controller	263
	At least one year but less than two years	Diver, Professional & Instructor	363
Mechanic & Repair Tech	Less than one year	Automobile / Automotive Mechanics Technology / Technician	394
	At least one year but less than two years	Heating, Air Conditioning, Ventilation & Refrigeration Maintenance Technology / Technician	16
	At least two years but less than four years	Autobody / Collision & Repair Technology / Technician	16
Computer & Information Sciences	Less than one year	Data Entry / Microcomputer Applications, General	219
	At least one year but less than two years	Computer Systems Networking & Telecommunications	131
	At least two years but less than four years	Web Page, Digital / Multimedia & Information Resources Design	1
Construction Trades	Less than one year	Carpentry / Carpenter	81
	At least one year but less than two years	Building / Property Maintenance	21
	At least two years but less than four years	Electrician	1
Engineering Tech	Less than one year	Solar Energy Technology / Technician	78
	At least one year but less than two years	Mechanical Drafting & Mechanical Drafting CAD / CADD	24
	At least two years but less than four years	Mechanical Engineering / Mechanical Technology / Technician	1

SOURCE: Author's analysis of community college certificate program offerings in King County, EMSI

EARNINGS OUTCOMES OF SUB-BACCALAUREATE CERTIFICATE HOLDERS

Sub-baccalaureate certificates are awarded by public, private for profit, and non-profit institutions. As of 2011, the overwhelming majority of certificates awarded were produced by private, for-profit and public institutions in King County. **Chart 11** below illustrates the length of awards as produced by each type of institution. Public institutions award the most certificates – specializing in short-term awards (less than one year) and longer-term awards of two or more years. Long-term awards of at least one but less than two years are almost evenly split between both public and private institutions, though private institutions do produce slightly more (54 percent).



SOURCE: US Department of Education, National Center for Education Studies, IPEDS 1991

NATIONAL DATA

On a national level, there has been extensive research conducted on the earnings outcomes of certificates. However, the relationship between earning outcomes and *length* of certificate awards has not been researched as extensively. Almost all of the research on the labor market returns of schooling at any level agrees that an additional year of schooling raises earnings by 5 to 10 percent.¹⁴ Moreover, data from the U.S. Census Bureau and the Bureau of Labor Statistics consistently show that higher educational attainment leads to higher earnings, wages, and hours worked combined with lower unemployment. However, these sources do not specifically classify certificates as a level of education. Rather, certificate earners are included in the broader category reported as "some college, no degree." Even still, there seems to be clear agreement among researchers that one year of study beyond high school results in higher earnings than those with no postsecondary participation.

While the research overwhelmingly suggests a premium on postsecondary attainment over high school, national research indicates that short-term certificates have very little economic return. Rather, longer-term certificates of a year or more produce valuable economic returns.¹⁵ This hypothesis has proven difficult to test given that there is currently no data available that includes earnings, field of study, and program length. Research conducted by Georgetown University on the value of certificates attempted to rectify the lack of distinction between short-term and long-term certificates. By using IPEDS data, programs with high or low concentrations of short-term certificates were identified. That information was then used with earnings data from the national Survey of Income and Program Participation to quantify the economic value of short-term and long-term certificates. The findings indicated that while there were plenty of short-term certificates that did not lead to significant earnings, there were plenty that did. Some even fared better than longer-term certificates. The following section of this report uses this same methodology to quantify the value of short-term versus long-term certificates in King County, Washington.¹⁶

LOCAL DATA: CAREER BRIDGE

In trying to quantify the earnings outcomes of certificate holders in King County, data provided by the Career Bridge tool created by Washington State's Workforce Training and Education Coordinating board was used for analysis. Career Bridge is a one-stop source for career and education planning that gives users the ability to explore careers, view job trends, and find education programs. In this research, the performance results data was used to evaluate median earnings, employment rates, and completion rates for King County education providers. The data available provides these statistics for Title IV participating community and technical colleges in King County and includes students who completed programs between 2007 and 2010. Title IV institutions are those that

participate in federal financial aid programs. The Title IV, public institutions in King County are: Bellevue College, Green River Community College, Highline Community College, Seattle Community Colleges (North, Central, and South), Seattle Vocational Institute, Renton Technical College, Shoreline Community College, and Lake Washington Institute of Technology. Earnings are measured in the third quarter after the quarter in which students completed their training programs. Students who continue their education and earn more certificates or transfer to four-year colleges are not included in the data.

LIMITATIONS OF THE CAREER BRIDGE DATA

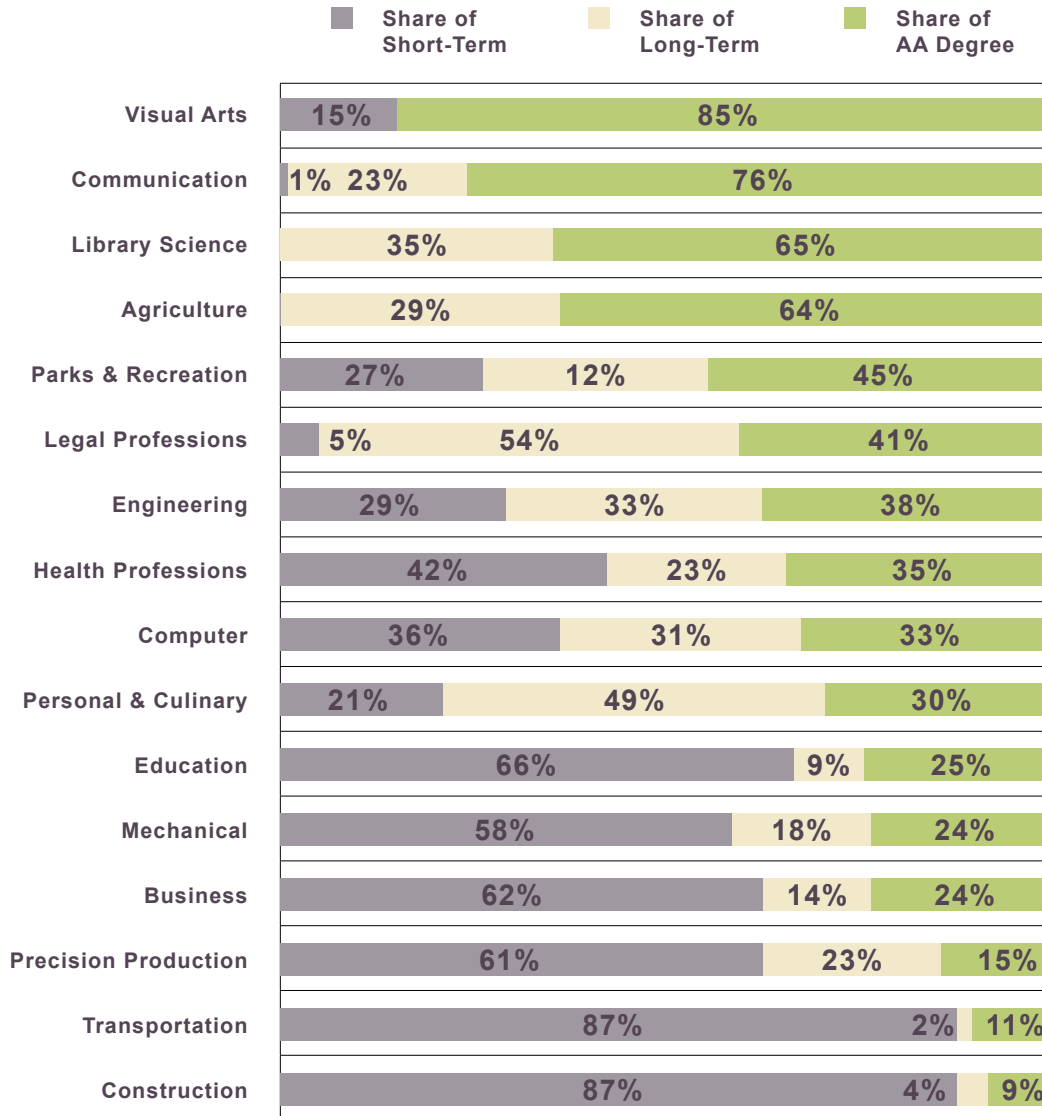
Programs on Career Bridge are listed by program title and award type combination. For example, Lake Washington Institute of Technology offers a Data Entry/Microcomputer Applications program for students. However, students can obtain either a certificate or an associate's degree within this program. The earnings data is rolled up for the program as a whole, so there is no way to distinguish between which students received certificates and which received associate degrees within the program.

In order to differentiate between short-term and long-term earnings, the number of completers per program was quantified to provide a majority value of programs that are either short-term (less than one year), long-term (at least one year but less than four) or AA degrees. The IPEDS data provides information on the field of study and program length of King County certificate programs. **Chart 12** on the following page displays the percentage share of award types by education program. For example, *Communications* programs are primarily comprised of students receiving AA degrees – about 74 percent. Only 1 percent of students receive a short-term award and 24 percent receive a long-term award. Thus, it can be determined that earnings of communication completers are mostly tied to AA degree holders. Using this as a guide, the assumption was made that earnings of programs correspond to either short-term or long-term awards, or an AA degree.

However, there are a few programs – *Engineering, Health Professions, and Computer Services* – where this distinction is not so clear. The share of awards obtained by students in these programs are distributed evenly across all three types of attainment levels and therefore it is hard to definitively say that these programs typically generate short-term or long-term certificates, or AA degrees. Therefore, the hypothesis that earnings are mostly driven by students gaining credentials in a specific type of award (within *Engineering, Health Professions, and Computer Services* programs) cannot be distinguished with certainty.



**CHART 12:
Share of Degrees / Certificates Awarded by Field of Study –
King County, 2007–2010**



SOURCE: US Department of Education, National Center for Education Studies, IPEDS 2007–2010

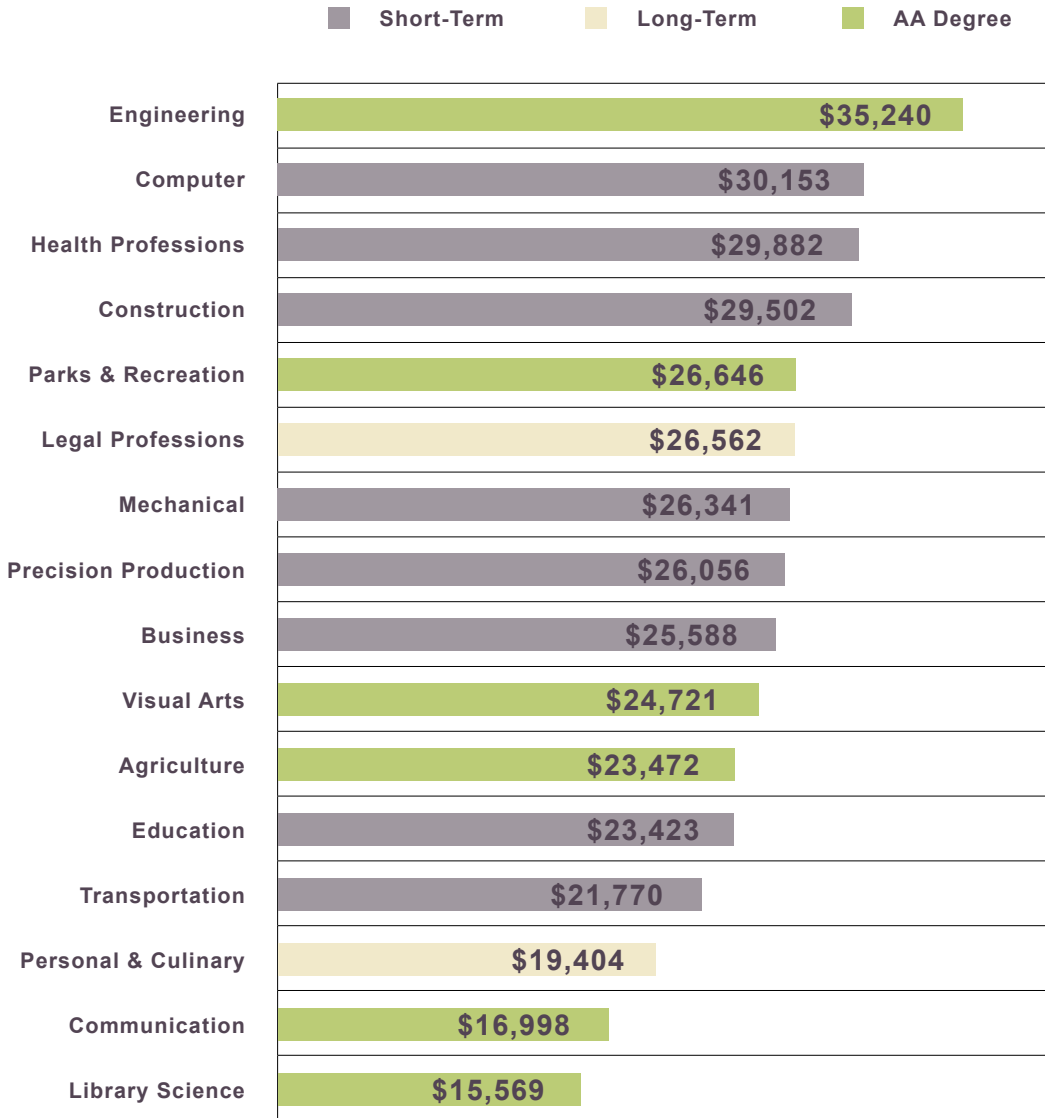
Chart 12 (previous page) was constructed using the same programs and years as the Career Bridge data. Specifically, IPEDS completion data from 2007-2010 for the King County community and technical colleges included in the Career Bridge data was used to determine the share of short- and long-term certificates as well as associate's degrees awarded. Using this information, the programs in this analysis can be classified as follows:

SHORT-TERM	LONG-TERM	AA DEGREE
<i>Construction</i>	<i>Personal & Culinary</i>	<i>Visual Arts</i>
<i>Transportation</i>	<i>Legal Professions</i>	<i>Communication</i>
<i>Production</i>		<i>Library Science</i>
<i>Business</i>		<i>Parks & Recreation</i>
<i>Mechanical</i>		<i>Engineering</i>
<i>Education</i>		<i>Agriculture</i>
<i>Computer</i>		
<i>Health Professions</i>		

Chart 13 on the following page displays the median annual earnings of students who have completed an education program between 2007 and 2010. **Chart 13** also illustrates which programs are primarily short-term, long-term, or AA degrees. Based on this information, there are a variety of short-term programs which provide ample opportunity for living wages. It is important to keep in mind that these earnings are taken from students who are in only their third quarter since completing a particular program and are therefore likely to be earning entry-level wages. Most notably, *Computer*, *Health*, and *Construction* programs provide the highest earnings of the short-term programs. However, there are also a fair amount of *Health* and *Computer* programs that provide long-term awards and AA degrees as well. It is therefore hard to declare with certainty that these earnings are a result of short-term certificate holders.

That said, the *Construction*, *Mechanic*, *Production*, and *Business* programs are programs producing mostly short-term certificates and provide earnings within the range of \$25,000-\$30,000 annually. Of the two predominantly long-term programs, *Legal Professions* is a more lucrative career path than *Personal and Culinary Services*. Students who complete programs within *Legal Professions* make median earnings of \$26,562 annually compared to \$19,404 annually for students who complete *Personal and Culinary Services* programs. Of the six programs that produce mainly AA degrees, *Communication* and *Library Science* round out the bottom tier programs in terms of annual earnings. Students completing these programs are earning a mere \$15,000-\$17,000 annually.

**CHART 13:
Median Annual Earnings Measured by Program –
King County, 2007–2010 Completers**



SOURCE: Washington State Career Bridge Data – King County 2007–2010

OCCUPATIONAL PROJECTIONS FOR EDUCATIONAL PROGRAMS

Table 2 on the following page is a snapshot of the target occupations per instructional program as identified in the Career Bridge data. The table shows the target occupations with the largest and smallest projected openings from 2013 to 2016 in King County. Target occupations were identified using EMSI's proprietary tool to select the educational programs identified in the Career Bridge data for all King County institutions in an effort to display the current labor market trends for those occupations. The target occupations are those in which incumbent workers possess some kind of education and training beyond high school, but less than a bachelor's degree. The table also shows occupational jobs, growth rates, and hourly wages for the 10th and median percentiles. As mentioned previously, the earnings data analyzed in this research is taken from students who are in their third quarter of employment upon completion of an instructional program. Therefore, the tenth percentile wage is displayed to show the more entry-level wages of incumbent workers within a target occupation. The top occupations with the largest projected openings are *Customer Service Representatives* and *Office Clerks*, with openings of over 2,500 each over the next three years. The entry-level wages for these occupations range from roughly \$10-\$13 per hour to median wages of \$15-\$18 per hour.

Occupations with at least 1,000 jobs were used as a threshold when measuring the smallest openings over the next three years. Occupations with very few jobs also have very few openings and therefore are not viable career options. Using this logic, *Postal Service Workers* and *Printing Press Operators* will not see very many job openings in the next three years and a more than 10 percent decline in jobs.

Occupations with the largest openings are most heavily saturated within the *Business* and *Healthcare* professions. This result is in alignment with the heavily concentrated number of sub-baccalaureate certificates that are awarded by colleges in King County within these fields of study. Though there are a plethora of occupations with substantial job openings in the business professions, there are also quite a few business occupations that are going to experience more moderate gains in job openings through 2016. Students seeking to become *Legal Secretaries* or *File Clerks* may encounter more competition for jobs due to the relatively sluggish movement in job openings – 129 openings – over the next three years.

TABLE 2. Projected Wages for Target Occupations – King County 2013–2016

TARGET OCCUPATIONS BY FIELD OF STUDY	2013 JOBS	2016 JOBS	3 YEAR GROWTH	OPENINGS	10TH	50TH
Largest Openings						
Customer Service Representatives	16,703	17,791	7%	2,573	\$12.57	\$17.84
Office Clerks, General	23,016	24,316	6%	2,567	\$10.22	\$15.58
Registered Nurses	19,797	21,152	7%	2,481	\$26.96	\$38.95
Computer Support Specialists	10,298	11,325	10%	1,894	\$16.85	\$26.72
Receptionists and Information Clerks	9,635	10,268	7%	1,547	\$10.50	\$14.57
Cooks, Restaurant	11,516	12,164	6%	1,412	\$9.94	\$13.24
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	15,231	15,742	3%	1,137	\$13.71	\$19.82
Bookkeeping, Accounting, and Auditing Clerks	16,342	16,875	3%	1,083	\$13.19	\$19.86
Maintenance and Repair Workers, General	10,738	11,105	3%	974	\$12.81	\$19.52
Landscaping and Groundskeeping Workers	6,916	7,433	7%	902	\$11.24	\$15.70
Medical Secretaries	6,335	6,947	10%	884	\$15.65	\$20.31
Executive Secretaries and Executive Administrative Assistants	9,029	9,503	5%	850	\$18.72	\$25.97
Nursing Aides, Orderlies, and Attendants	8,294	8,782	6%	822	\$11.46	\$14.73
Medical Assistants	4,987	5,428	9%	685	\$14.58	\$17.64
Order Clerks	4,414	4,688	6%	661	\$11.50	\$18.20
Hairdressers, Hairstylists, and Cosmetologists	4,377	4,756	9%	645	\$10.00	\$15.97
Smallest Openings						
Postal Service Mail Sorters, Processors, and Processing Machine Operators	1,241	1,097	-12%	18	\$23.81	\$25.68
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	1,114	1,123	1%	35	\$12.56	\$18.49
Printing Press Operators	1,224	1,090	-11%	68	\$12.99	\$19.37
Chefs and Head Cooks	1,171	1,188	1%	80	\$15.48	\$19.47
Mechanical Drafters	1,381	1,402	2%	102	\$23.30	\$34.11
Food Service Managers	1,961	1,942	-1%	108	\$20.37	\$42.18
Bakers	1,351	1,345	0%	117	\$9.62	\$14.02
Court, Municipal, and License Clerks	1,098	1,125	2%	121	\$15.98	\$21.65
Mail Clerks and Mail Machine Operators, Except Postal Service	1,051	1,109	6%	121	\$9.82	\$13.96
File Clerks	1,584	1,559	-2%	129	\$10.90	\$15.55
Legal Secretaries	1,639	1,700	4%	129	\$17.69	\$25.41
Transportation, Storage, and Distribution Managers	1,656	1,674	1%	138	\$26.82	\$47.45
Manicurists and Pedicurists	1,105	1,183	7%	141	\$9.71	\$11.11
Payroll and Timekeeping Clerks	1,451	1,508	4%	149	\$16.84	\$22.47
Data Entry Keyers	1,525	1,595	5%	152	\$10.71	\$15.25
Health Technologists and Technicians, All Other	1,499	1,573	5%	167	\$15.64	\$22.22
Bus and Truck Mechanics and Diesel Engine Specialists	2,725	2,686	-1%	177	\$15.26	\$26.53

SOURCE: QCEW Employees & Non-QCEW Employees – EMSI 2013.2 Class of Worker



COMPLETION AND EMPLOYMENT RATES

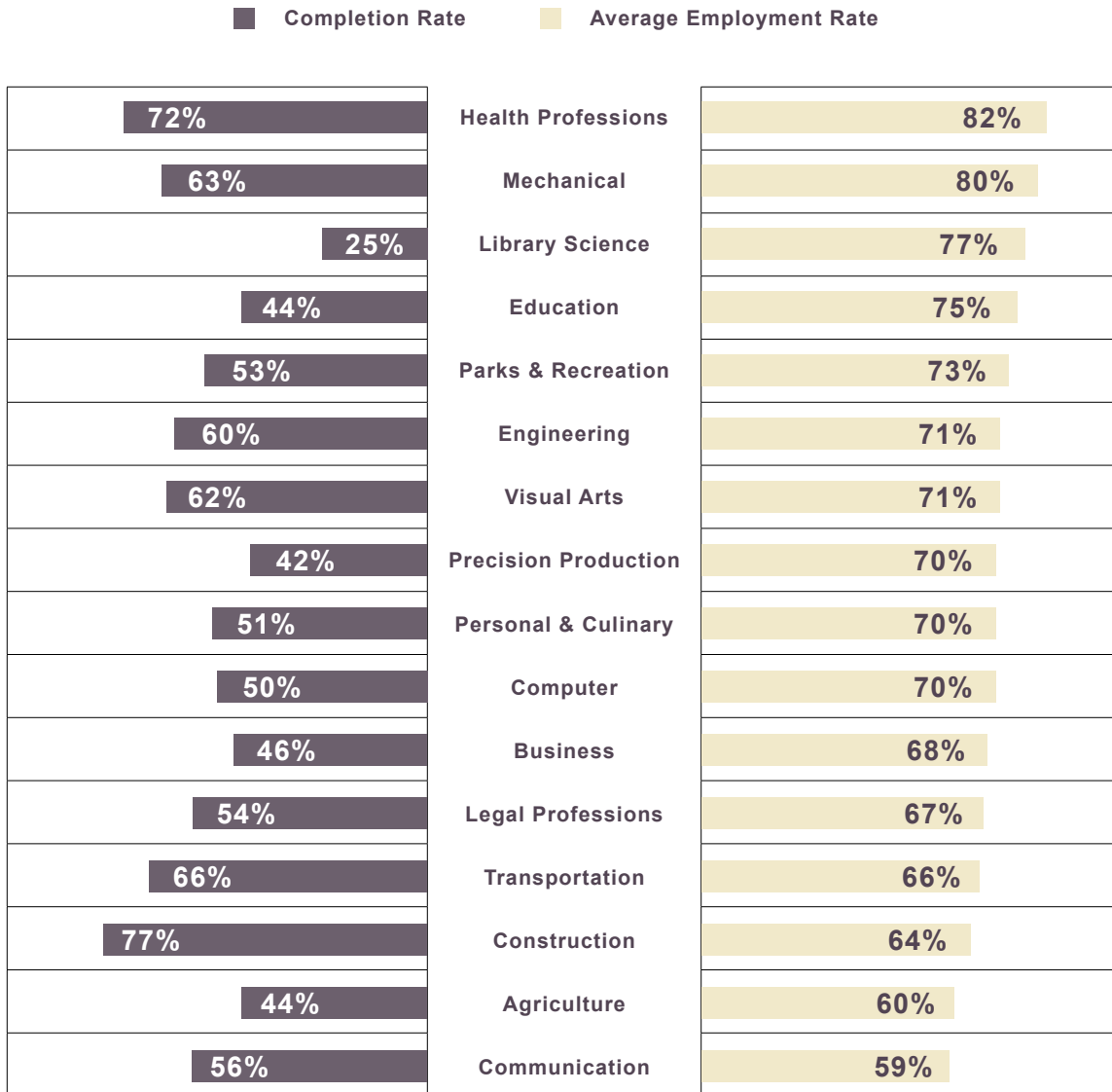
The Career Bridge data also provides information on the completion and employment rates of the cohort sampled from the ten public institutions listed previously. **Chart 14** on the following page displays the average completion and employment rates of the students included in the dataset by field of study. *Health* and *Mechanical* programs produce high employment rates coupled with above average completion rates. Of the nearly 8,600 students pursuing a credential in healthcare, 72 percent of them completed the program. Additionally, students experienced high job placement with roughly 82 percent of those completers finding employment. *Mechanical* programs also yield high employment – approximately 80 percent of students became employed upon completion.

Conversely, there are programs that produced low employment and completion rates within the sample cohort. Students pursuing credentials in *Communication* and *Agriculture* programs experienced lackluster employment and completion rates of 60 percent or less. Not only do these programs produce less than ideal results, but they are also long-term programs that yield annual earnings of less than \$25,000 (**Chart 13**).

While students within *Construction* programs can obtain a certificate in a relatively short amount of time with high completion rates, only about 64 percent of students are finding employment within the first three quarters upon completion. The construction industry suffered a significant loss in employment during the recession years – a roughly 25 percent decline in employment from December 2007 through June 2009 in the Seattle-Bellevue-Everett metropolitan division.¹⁷ The majority of students in this sample completing programs in construction were entering into the workforce during this time. Since 2012, the industry has been experiencing some positive growth in employment – adding 8,000 jobs - and thus, recent graduates may have better luck in securing a job.¹⁸

As shown in **Chart 13** previously, students completing *Engineering* and *Computer* programs garner higher earnings (in terms of the median) than any other fields of study. And while employment rates are 70 percent or better, only a little more than half of all students complete these programs in King County community and technical colleges. Despite the fact that pursuing credentials in these fields can be a lucrative career option, they appear to be harder than other programs (like *Health Professions* and *Mechanic and Repair Technologies*) to complete.

**CHART 14:
Completion and Employment Rates by Field of Study for
King County Title IV Institutions**



SOURCE: Washington State Career Bridge Data – King County 2007–2010



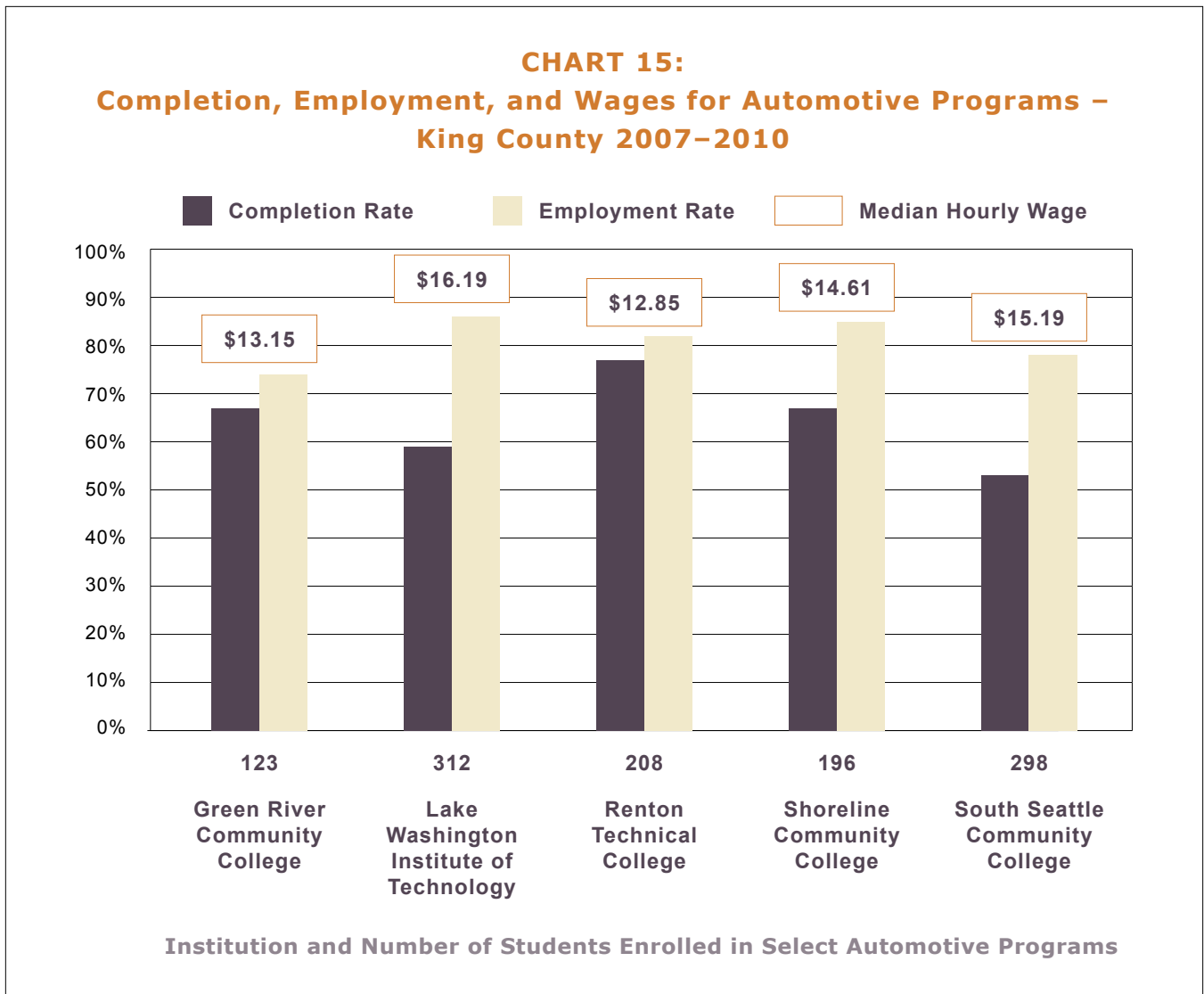
SJI'S CAREER PATHWAYS PROGRAM

Seattle Jobs Initiative is a workforce development agency which focuses its education and training programs in growing industry sectors at local area community and technical colleges. The aim of this research is to identify the living-wage opportunities available for our participants. SJI's Career Pathways program design is based upon our expertise in helping individuals successfully meet the many challenges they may face on the road to acquiring more skills and education and a living-wage career. Participants benefit from the combined know-how of our community college partners in providing quality training and education and our community-based organization partners in offering coaching, support and connections to employers.

The Career Pathways program provides linked short-term and longer-term training at Seattle area community colleges in four industry sectors: *Automotive, Healthcare, Office Occupations, and Welding and Manufacturing*. The Career Bridge data provides statistics on the earnings, employment rates, and completion rates of instructional programs by educational institution in King County. In selecting the programs that are specifically aligned with Career Pathways, these statistics were analyzed in an effort to quantify the programs and institutions which provide students with the best opportunities for advancement into living-wage careers.

AUTOMOTIVE PATHWAY

The SJI *Automotive* programs are concentrated in the certificate programs of *Automotive Service Technician* and *Diesel and Heavy Equipment Technician*. **Chart 15** below displays the Title IV participating community and technical colleges in King County which provide these programs for students. It shows the completion and employment rates, median hourly wages, and total number of students enrolled in the *Automotive* programs. The *Automotive* programs provide students with a high probability of employment – each institution produces employment rates of 70 percent or higher. However, high employment rates do not always equate to higher earnings. Completers of the *Automotive* programs at Renton Technical College experienced employment rates of 82 percent, but earned a median hourly wage of only \$12.85 per hour. Conversely, completers of South Seattle and Lake Washington *Automotive* programs experience high employment rates coupled with median hourly wages of over \$15 per hour. Though these programs produce higher wages and employment, completion rates are less than 60 percent. While *Automotive* programs can be completed in a relatively short amount of time and provide students ample opportunity for employment, entry-level wages can be lower than other career pathways.



SOURCE: Washington State Career Bridge Data – King County 2007–2010

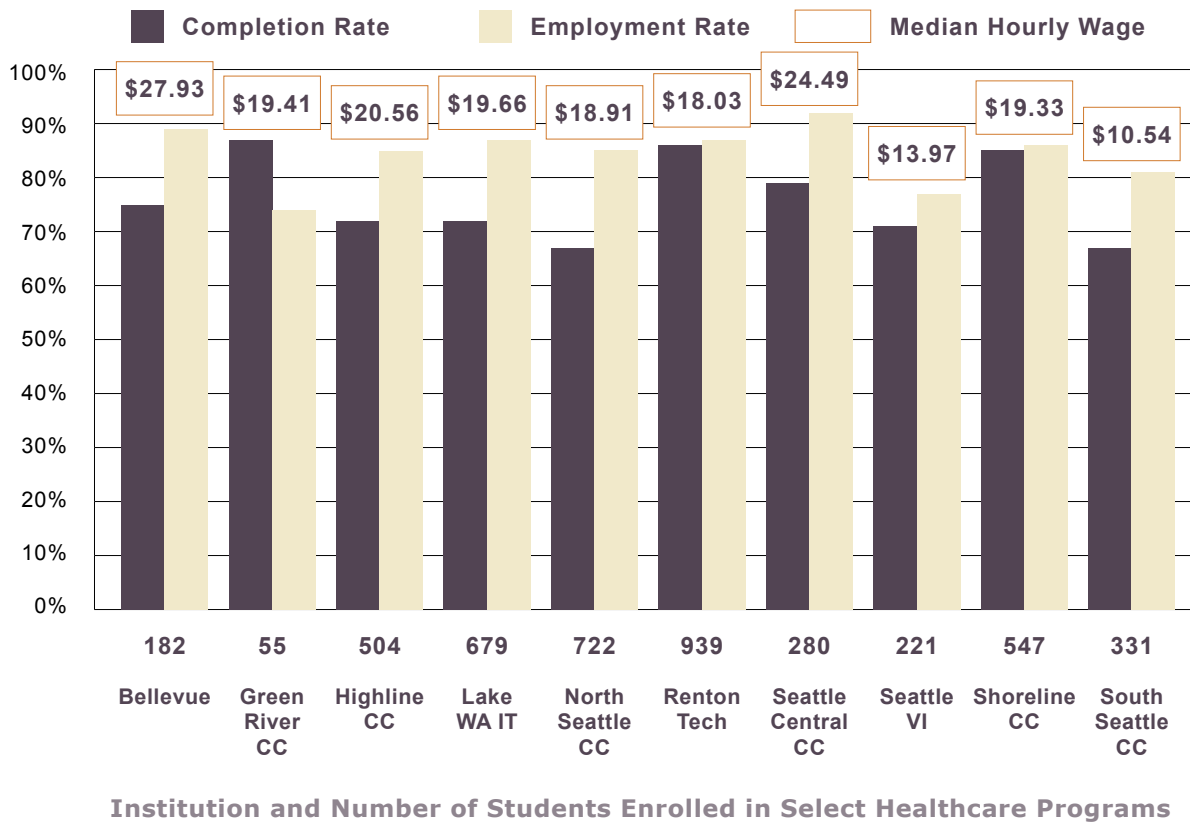
HEALTHCARE PATHWAY

The *Healthcare* sector pathway offered through SJI provides education and training for individuals seeking a career as a *Certified Nursing Assistant, Anesthesia Technician, Licensed Practical Nurse, Medical Assistant, Pharmacy Technician, Surgical Technician*, and other related professions. **Chart 16** on the following page outlines the *Healthcare* programs which SJI participants typically pursue at Seattle area community colleges. As depicted throughout this report, healthcare is a viable career path both in terms of volume and earnings. **Chart 16** further proves this trend by illustrating the impressive employment and completion rates as well as median hourly wages per training institution. Completion rates range from 67 to 87 percent and employment rates are even higher, ranging from 77 to 92 percent.

The majority of wages also range between \$18 and \$20 an hour, with the exception of a few outliers. Students completing healthcare programs at Bellevue College and Seattle Central Community College experienced median hourly wages of \$27.93 and \$24.49, respectively. These higher wages are due to the large volume of students completing associate degree nursing programs and obtaining employment. Conversely, students completing programs at Seattle Vocational Institute experienced median hourly wages of \$13.97 per hour. The majority of healthcare programs at SVI are concentrated in *Medical & Dental Assisting*, neither of which pay as much as nursing completers. According to EMSI's occupational estimate of all incumbent workers in King County, *Dental Assistants* make \$19.83 an hour and *Medical Assistants* make \$17.64 an hour on the median. In comparison, *Licensed Practical Nurses* and *Registered Nurses* make \$25.02/hr and \$38.95/hr on the median, respectively.¹⁹ Overall, *Healthcare* programs at community and technical colleges in King County, especially those related to nursing, provide students with notable results in terms of both employment and earnings upon completion.



**CHART 16:
Completion, Employment, and Wages for Healthcare Programs –
King County, 2007–2010**



SOURCE: Washington State Career Bridge Data – King County 2007–2010

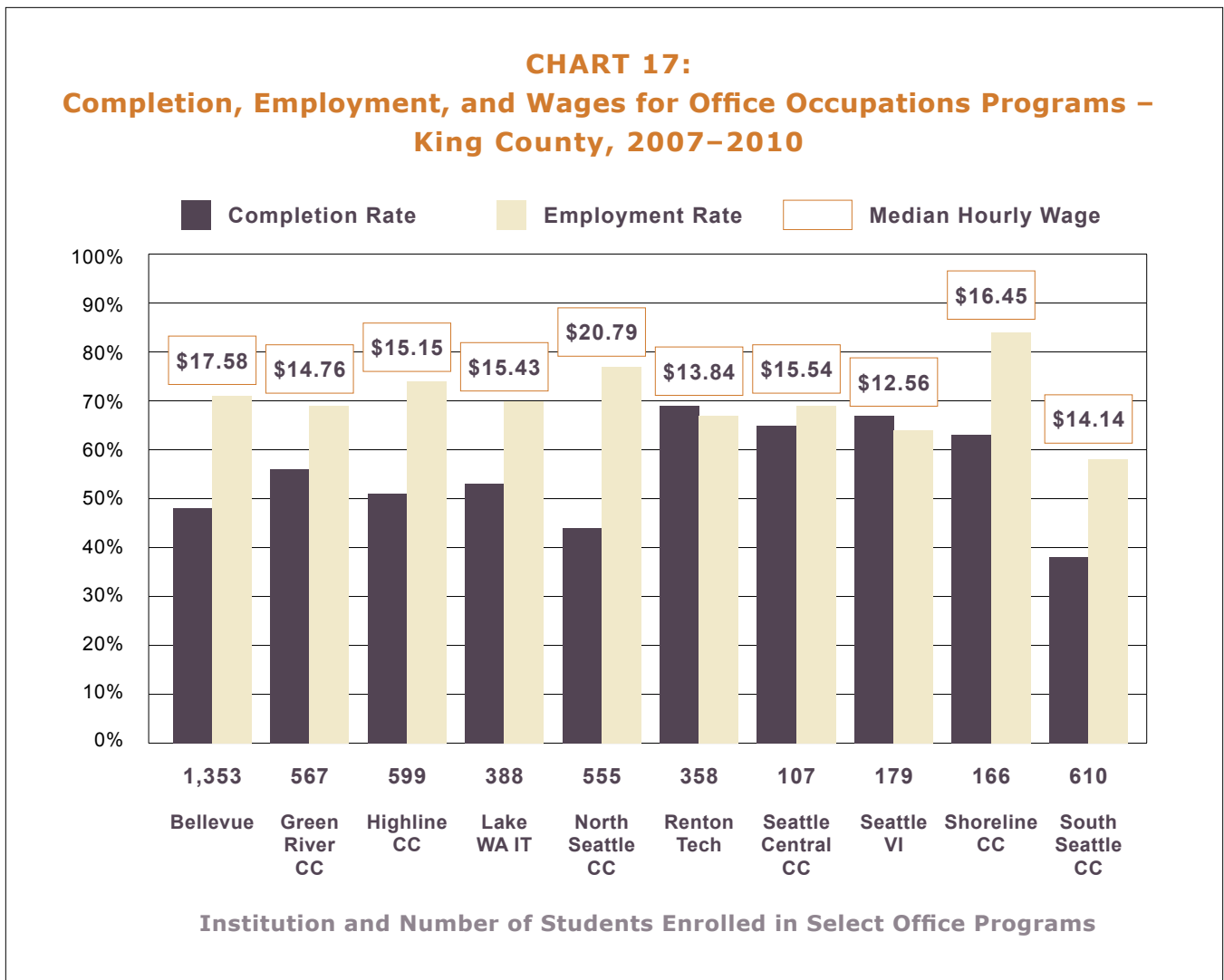
OFFICE OCCUPATIONS PATHWAY

Programs in the Career Pathways' *Office Occupations* sector provide students with several short- and long-term certificate options. Short-term programs offered are focused in *Accounting*, *Administrative*, and *Computer Support* fields. Long-term programs offered are specialized in *Business Information Technology*, *Customer Service*, and *Network Design & Administration*. *Office Occupations* pathways, like *Healthcare* pathways, can be obtained through many education and training programs throughout King County. **Chart 17** on the following page depicts the wages and employment and completion rates of these programs.

Most programs offered by Seattle area community colleges link students with employment opportunities which pay somewhere between \$14 and \$16 per hour. There are, however, a few outliers. Students completing office occupation programs at North Seattle Community College and Bellevue College make \$20.79/hr and \$17.58/hr,

respectively. These institutions offer programs in IT fields which garner higher wages. Specifically, they specialize in programs like *Database Administration*, *Computer Support*, and *Network Administration*. Institutions more specialized in *Accounting* and *Office Administration* programs observe students earning a few dollars less than *Computer Support* related professions.

Completers of Shoreline’s programs lead to employment rates of over 80 percent combined with satisfying median wages of \$16.45 per hour. Overall, employment rates of students completing *Office Occupation* programs are much higher than their corresponding completion rates. The average rate of completion for students enrolled in these programs is only 55 percent for the institutions in **Chart 17**. Ultimately, pursuing a career in *Office Occupations* provides students with adequate employment opportunities and entry-level wages upon completion.



SOURCE: Washington State Career Bridge Data – King County 2007–2010

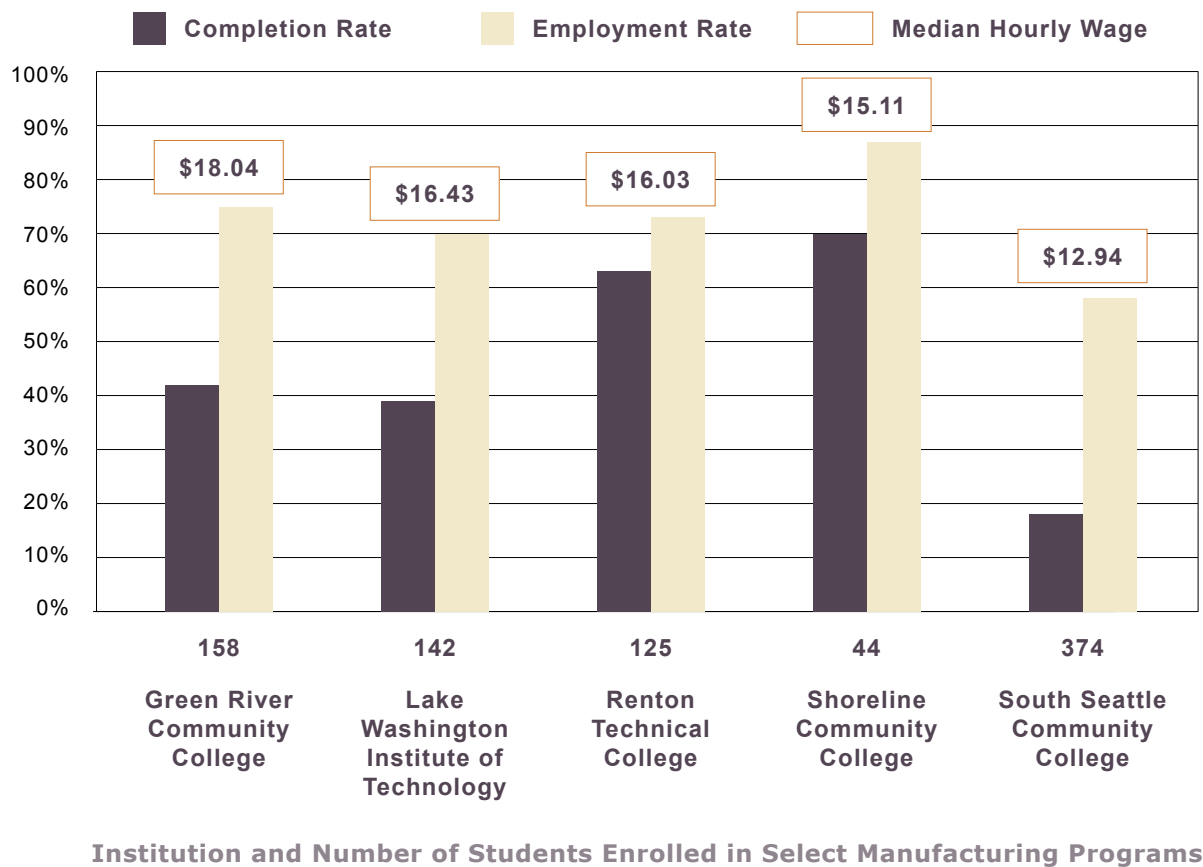
MANUFACTURING PATHWAY

The Career Pathways *Manufacturing* program offers long-term certificate options in two main professions – *CNC Machinist* and *Welding Fabricator*. Students can also obtain a short-term certificate in *Basic Manufacturing* or *Welding*. These *Manufacturing* programs, like *Automotive*, are offered by a handful of community colleges in King County. **Chart 18** on the following page depicts the rate of completion and employment, number of students enrolled, and the median hourly wages for recent completers of select manufacturing programs offered by King County community and technical colleges.

These programs produce similar results to the *Automotive* career pathway. The majority of the programs have less than 50 percent completion rates and employment rates of less than 75 percent. Shoreline Community College students have experienced the best combination of completion and employment rates – 70 and 87 percent, respectively. Completers of their *Machinist* program earned a median hourly wage of just over \$15 per hour. However, their program is relatively small and only 44 students were enrolled. South Seattle Community College by far had the largest *Welding* program with 374 students enrolled between 2007 and 2010. Though enrollment was high, completion and employment rates were lower than any other King County community college. Only 58 percent of students completed the program and of those, 18 percent obtained employment. Renton Technical College had the best combination of enrollments, completion and employment rates, and wages. There were 125 students enrolled in their *Welding* programs and 63 percent of them completed the program. Additionally, 73 percent (79 students) of those completers found employment and obtained median wages of \$16.03 per hour. Though *Manufacturing* pathways are seemingly difficult to complete, they can lead to gainful employment with access to adequate entry-level wages.



**CHART 18:
Completion, Employment, and Wages for Manufacturing Programs –
King County 2007–2010**



SOURCE: Washington State Career Bridge Data – King County 2007–2010

Ultimately, the Career Pathways sector programs provided by King County community and technical colleges equip students with training opportunities leading to living-wage jobs. The *Healthcare* pathway is by and large the strongest of the four sectors encompassed in the Career Pathways training programs. There are many programs offered at a variety of institutions which ultimately lead to high rates of completion and employment coupled with impressive entry-level wages. However, most healthcare employers will not hire employees with criminal backgrounds.²⁰ With nearly 30 percent of SJI’s participants having criminal backgrounds, exploring pathways in other sectors is detrimental to adequately serving our client base.²¹ While career paths in *Automotive* and *Manufacturing* may not be as lucrative as those in *Healthcare*, employers in the *Automotive* and *Manufacturing* industries are more likely to hire employees with criminal backgrounds.²²

CONCLUSION

Ultimately, attaining some sort of education and training beyond high school leads to a higher earnings premium for students. Differentiating the types of certificates by field of study and program length for King County community and technical colleges is by no means seamless. Data on program length, field of study, and earnings simply does not exist on a state and local level. Nonetheless, the methods used in this research have led to interesting results regarding the value of certificates. Namely, there are a variety of certificate types within many different fields of study. Choosing the right program and length is the cornerstone of garnering the most out of a sub-baccalaureate credential.

Overall, longer-term programs of at least one year provide better wages than short-term ones in King County. Of the King County institutions studied, *Engineering*, *Computer*, and *Healthcare* programs provide a higher earnings premium than all other programs. While *Computer* and *Healthcare* programs do produce a significant amount of short-term awards, there are also a lot of longer-term awards and AA degrees obtained as well – which could be contributing to the higher earnings premium associated with these programs. There are, however, long-term awards that are not a worthwhile career option in regards to earnings potential. Programs in *Communication* and *Library Science* typically generate AA degrees and lead to less than viable earnings. While it is seemingly better to attain longer-term certificates, there are a fair amount of short-term programs that provide students with substantial earnings. Short-term programs in *Construction*, *Mechanic & Repair Technologies*, *Production*, and *Business* give students an opportunity to attend school for a short amount of time and obtain satisfactory entry-level wages upon employment.

With the drastic shift from long-term to short-term awards in the last 20 years, it is important that students are choosing the right short-term programs to enroll in. About two-thirds of all certificates awarded in King County are short-term, but as quantified by this research, only a few of them are practical career paths. Particularly focusing on *Healthcare* and *Business* programs will provide students with ample opportunity for a pathway toward living wages. Certificate programs are a feasible career option for low-income, low-skill individuals to attain a living-wage career. Hopefully this trend toward postsecondary attainment will continue and King County residents will be able to acquire skills at an affordable cost in a short amount of time.



APPENDIX A. Popular Programs by Award Length and Institution – King County 2011

FIELD OF STUDY	AWARD TYPE	CAREER PATH	INSTITUTIONS	2011 COMPLETIONS
Health Professions & Related	Less than one year	Nursing Assistant / Aide and Patient Care Assistant / Aide	Renton Technical College	144
			Seattle Community College - South Campus	121
			Lake Washington Institute of Technology	109
			Seattle Community College - North Campus	76
			Shoreline Community College	62
			Highline Community College	47
			Green River Community College	18
	At least one year but less than two years	Medical / Clinical Assistant	Everest College - Renton	419
			Everest College - Seattle	112
			Renton Technical College	49
			Seattle Community College - North Campus	39
			Seattle Vocational Institute	37
	At least two years but less than four years	Medical Insurance Coding Specialist / Coder	Renton Technical College	20
Personal & Culinary Services	Less than one year	Culinary Arts / Chef Training	Le Cordon Bleu College of Culinary Arts - Seattle	290
			The Art Institute of Seattle	40
	At least one year but less than two years	Cosmetology	Gene Juarez Academy of Beauty - Branch Campus	182
			Gene Juarez Academy of Beauty	178
			Gary Manuel Aveda Institute	134
			Toni & Guy Hairdressing Academy - Shoreline	40
			Cascade Beauty College	26
			Seattle Vocational Institute	13
	At least two years but less than four years	Cosmetology	GP Institute of Cosmetology	8
			Evergreen Beauty & Barber College - Bellevue	63
			Cascade Beauty College	1
Business & Related Services	Less than one year	Accounting Technology/ Technician and Bookkeeping	Bellevue College	155
			Green River Community College	129
			Shoreline Community College	51
			Lake Washington Institute of Technology	28
			Seattle Community College - North Campus	25
			Highline Community College	15
			Renton Technical College	13
	At least one year but less than two years	Accounting Tech and Bookkeeping	Seattle Community College - South Campus	1

FIELD OF STUDY	AWARD TYPE	CAREER PATH	INSTITUTIONS	2011 COMPLETIONS
Business & Related Services, cont'd	At least two years but less than four years	Medical Administrative/ Executive Assistant and Medical Secretary	Everest College - Renton	89
			Renton Technical College	29
			Seattle Vocational Institute	10
Transportation & Materials Moving	Less than one year	Air Traffic Controller	Green River Community College	263
	At least one year but less than two years	Diver, Professional and Instructor	Divers Institute of Technology	363
Mechanical	Less than one year	Automobile / Automotive Mechanics Tech	Green River Community College	217
			Seattle Community College - South Campus	101
			Shoreline Community College	76
	At least one year but less than two years	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Tech	Renton Technical College	15
At least two years but less than four years	Autobody / Collision and Repair Tech	Renton Technical College	16	
Computer	Less than one year	Data Entry / Microcomputer Applications, General	Lake Washington Institute of Technology	37
			Shoreline Community College	34
			Bellevue College	26
			Green River Community College	1
	At least one year but less than two years	Computer Systems Networking and Telecommunications	Lake Washington Institute of Technology	63
			Renton Technical College	43
			Bellevue College	22
			Seattle Community College - Central Campus	1
			Seattle Community College - South Campus	1
At least two years but less than four years	Web Page, Digital / Multimedia and Information Resources Design	Lake Washington Institute of Technology	1	
Construction	Less than one year	Carpentry / Carpenter	Green River Community College	81
	At least one year but less than two years	Building / Property Maintenance	Renton Technical College	21
	At least two years but less than four years	Electrician	Lake Washington Institute of Technology	1
Engineering	Less than one year	Solar Energy Tech	Shoreline Community College	78
	At least one year but less than two years	Mechanical Drafting and Mechanical Drafting CAD / CADD	Lake Washington Institute of Technology	22
			Green River Community College	2
At least two years but less than four years	Mechanical Engineering Tech	Seattle Community College - South Campus	1	

SOURCE: Author's analysis of community college certificate program offerings in King County, EMSI

APPENDIX B: INTEGRATED POSTSECONDARY EDUCATION DATA SYSTEM (IPEDS)

All of the data collected for analysis of awards/degrees conferred by program, award level, race/ethnicity, and gender was collected from the IPEDS. IPEDS is a system of interrelated surveys conducted annually by the US Department's National Center for Education Statistics (NCES). It gathers data from every educational provider that participates in federal student financial aid programs. The Higher Education Act of 1965 requires that participating institutions report data on enrollments, program completions, graduation rates, faculty and staff, finances, institutional prices, and student financial aid.

The primary source of analysis came from the sub-baccalaureate certificate data provided by IPEDS for the US, Washington State, and King County. There are three categories of certificate awards:

- **Certificates of less than one academic year:** Requires completion of an organized program of study at the postsecondary level (below the baccalaureate degree) in less than one academic year (two semesters or three quarters) or in less than 900 contact hours by a student enrolled full time.
- **Certificates of at least one but less than two academic years:** Requires completion of an organized program of study at the postsecondary level (below the baccalaureate degree) in at least one but less than two full-time equivalent academic years, or designed for completion in at least 30 but less than 60 credit hours, or in at least 900 but less than 1,800 contact hours.
- **Certificates of at least two but less than four academic years:** Requires completion of an organized program of study at the postsecondary level (below the baccalaureate degree) in at least two but less than four full-time equivalent academic years, or designed for completion in at least 60 but less than 120 credit hours, or in at least 1,800 but less than 3,600 contact hours.

LIMITATIONS

The IPEDS reporting criteria in combination with the varying types of certificate award policy and practices among colleges make analysis of certificate awards and their economic value a challenging task. Colleges reporting to IPEDS are also doing so on an individual basis without state oversight. Unlike associate and bachelor's degrees, certificate awards can vary greatly in program length which leads to convoluted reporting practices. Generalizations about short-term and long-term certificates cannot be made and thus lead to difficulty in analyzing labor market returns. Another challenge is the practice of some colleges to embed short-term certificates within long-term ones. IPEDS reports the number of certificates awarded in total and not individuals receiving certificates.

APPENDIX C: WASHINGTON STATE’S WORKFORCE TRAINING AND EDUCATION COORDINATING BOARD – CAREER BRIDGE DATA

Performance results for the Community and Technical College (CTC) programs on the state’s Eligible Training Provider (ETP) List are calculated using student data provided by the State Board for Community and Technical Colleges (SBCTC), in their DLOA database. This database is produced once a year, and includes workforce training program exiters for the previous academic year. The data does not include all students trained in the programs on the ETP List.

Students are included in the DLOA database only after they have not been enrolled anywhere in the system for at least one year, whether or not they obtained an award. Only those students with a valid social security number in their registration or completions records are included, as only those students have a possibility of matching to external databases. Students who re-enroll as “lifelong learners” in classes such as parent education or industrial first aid, or who do not enroll in 10 or more state or contract credits are regarded as having left the college, and thus are included in the DLOA file.

Not Included: Students who continue in further training after completing a certificate or degree or students who transfer between two-year colleges are not included in the DLOA as they have not yet left the two-year system. Because International students do not have social security numbers and because they do not intend to work in the United States, they are not included in the DLOA. Similarly, students who elect not to provide a social security number are excluded as those students do not have the possibility of matching to external databases.

Employment and wage data is obtained through matching student social security numbers with wage records from Washington and 48 other states, and with federal employment records. Some employment is not included in these sources, including self-employment and employment in religious organizations. Employment rate, median annual earnings and median hourly wage are measured in the third quarter after the quarter in which the student completed the training program. Employment and wage results are suppressed if the number of program completers is less than 25. Completion rate is suppressed if the number of program completers is less than 15. Programs with no performance results are either new programs, have few students in the data or do not have any data in the DLOA database.

LIMITATIONS

Programs on Career Bridge are listed by program title and award type combination. For example, at Bellevue College, there is an Early Childhood Education AA degree, AAS-T degree, and Certificate of Achievement. Each of these are listed separately on Career Bridge. The data used to calculate the performance results, however, does not go down to that fine level. The data is at the CIP code level. The CIP (Classification of Instructional Programs) code system is a taxonomic scheme for categorizing education programs. Similar programs will share the same CIP code. Therefore, it is very common for CTC programs on Career Bridge to display the exact same performance results as other programs, at the same college.

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