

PARKLAND COLLEGE'S ECONOMIC IMPACTS

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By

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The Parkland College's Economic Impacts report was prepared by the Center for Governmental Studies at Northern Illinois University (NIU) under agreement with the Illinois Community College Board (ICCB). Questions and inquiries regarding the contents of this report may be directed to Brian Richard at NIU (815/753-0162) or Nathan Wilson at ICCB (217/558-2067).

The findings and conclusions presented in this report are those of the NIU project team alone and do not necessarily reflect the views, opinions, or policies of the officers and/or trustees of Northern Illinois University nor those of the employees, officers, and/or trustees of the Illinois Community College System.

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INTRODUCTION

Parkland College, located in Champaign, Illinois (see Figure 1), is one of 39 college districts in the state that play a vital role in the educational and workforce preparation of the individuals and communities they serve. An integral part of Illinois' higher education system, Parkland College provides high-quality, accessible, and cost-effective educational opportunities for residents in a eight county area in east central Illinois that includes all or portions of Champaign, DeWitt, Douglas, Ford, Iroquois, Livingston, McLean, and Piatt counties.

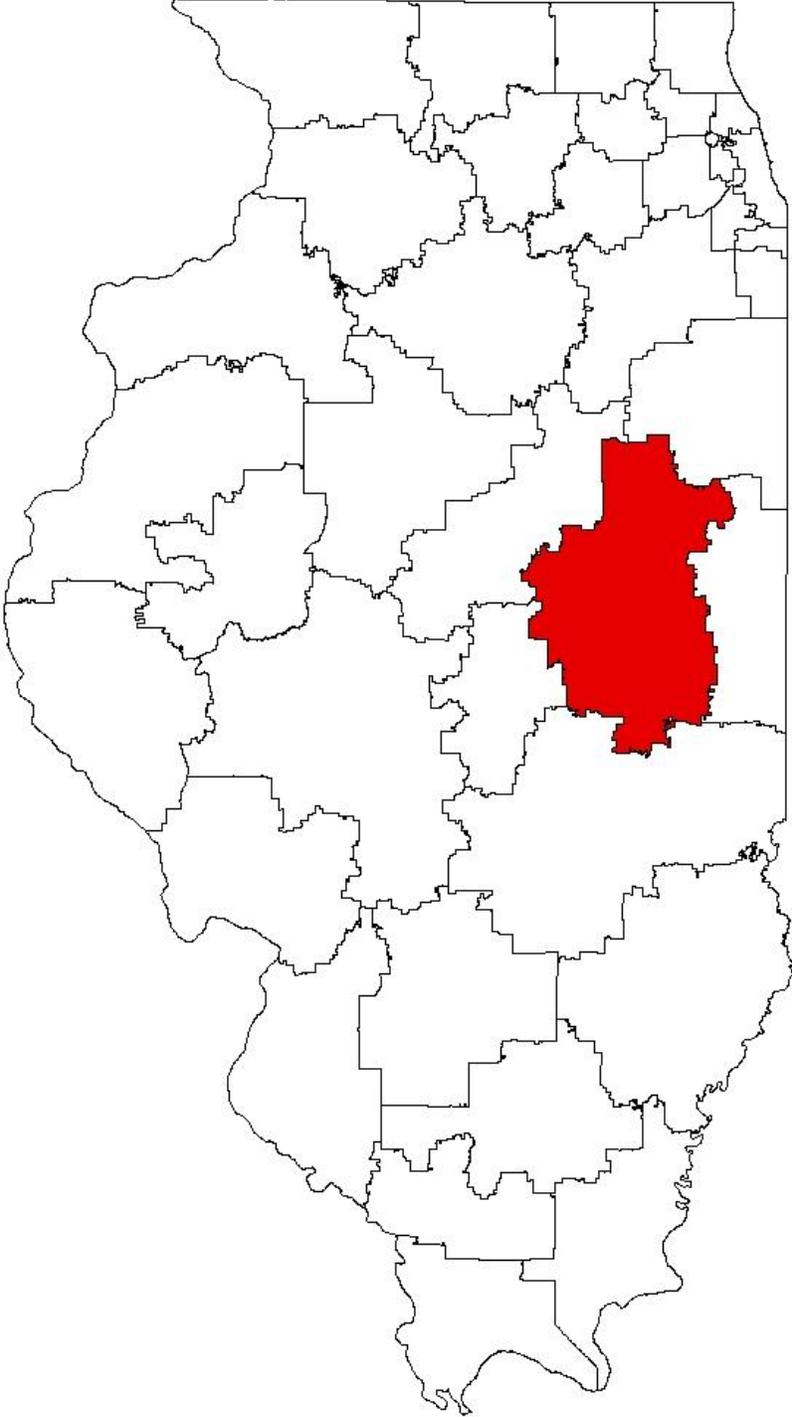
Founded in 1967, Parkland College offers academic and vocational-technical instruction in a wide variety of associate degree, transfer, or certificate programs of study as well as adult continuing education programs that serve as a gateway to higher education for many community residents, employers, and K-12 students. Courses are offered on the 255 acre campus in Champaign.

Parkland College contributes to the vitality of its service area in many ways: educationally, culturally, recreationally, civically, and economically. Perhaps the least measured and understood of these are the economic contributions. Consider that:

- Parkland College adds skills to our workforce and boosts the competitiveness of area businesses.
- Parkland College graduates generate millions of dollars in local, state, and federal tax revenues.
- A Parkland College education increases earnings for workers. By completing courses, students gain skills that contribute to higher earnings and graduates enjoy even higher returns.
- As a major employer and business entity, Parkland College generates millions of dollars in local sales and wages and an estimated 1,300 jobs.

The current study is unique from many other state and national higher education economic impact analyses because the Illinois Community College Board (ICCB), in collaboration with Illinois Department of Employment Security (IDES) and Northern Illinois University (NIU) Center for Governmental Studies (CGS), maximized student-level and employee-level data through Illinois Longitudinal Data Systems. Specifically, ICCB Centralized Data System student-level data and IDES Workforce Longitudinal Data System employee-level wage data were matched by NIU CGS to determine student economic impact through their employment and earning gains. The economic impacts of the Illinois community colleges were identified through employee-level data, operations expenditures, and capital expenditures from ICCB's Centralized Data System and annual ICCB financial submissions.

Figure 1. Parkland College



A summary of key findings is presented in the next section followed by the detailed study results. These address the characteristics of Parkland College students taking credit courses, student Return on Investment (ROI) and economic outcomes, estimated tax revenues paid by Parkland College students, community college market penetration, and the economic impact of Parkland College.

Tables and charts are used throughout the body of the report to graphically depict trends and characteristics. These graphics are supported by data presented in the report appendices. It is important to note that the numbers reflect unduplicated counts of student enrollees and completers and include adult education and English as a Second Language (ESL) students. As a result, they may vary from totals in previously published ICCB reports that represent unduplicated counts of enrollments and duplicated counts of graduates who complete multiple certificates or degrees in the same fiscal year.

HIGHLIGHTS OF SIGNIFICANT FINDINGS

Parkland College serves three integral educational purposes: it strengthens individuals' foundational academic skills, offers occupation-specific education and training, and prepares students for transfer to four-year post-secondary institutions. These activities represent significant economic contributions by increasing workers' earnings potential and generating additional tax revenues. Moreover, Parkland College is among the largest employers in the area and generates substantial additional economic benefits for local communities through local expenditures and employment impacts.

This economic impact analysis of Parkland College considers changes in student characteristics over a 12-year period, student outcomes, tax revenues generated, and economic impacts. Following are a number of significant findings from the analysis.

Students who complete their program of study realize the greatest benefits:

- A Parkland College program graduate can expect a total lifetime earnings gain over a 40 year career of about \$799,000. This is a 61% increase over the \$1.3 million average total lifetime earnings of those not completing a community college program.
- These earnings gains are realized with an average investment of about \$31,000, including foregone earnings while in college. The annual rate of return on this initial investment in a Parkland College degree is about 29.3%.

A Parkland College education increases earnings for workers.

- On average, all students who completed their Parkland College education in FY11 saw a \$5,002 increase in earnings over their pre-enrollment wages.
- When looking at just completers in Associate of Applied Science and long-term certificate programs, the first year earnings increase was \$10,597.

Parkland College graduates generate millions of dollars in local, state, and federal tax revenues.

- Parkland College students who attended school in 2002 paid an estimated \$81 million in state taxes and \$265 million in federal taxes between 2003 and 2012.
- Parkland College students who graduated in 2002 paid an estimated \$6.7 million in state taxes and \$22.1 million in federal taxes over the next 10 years.

As a major employer and business entity, Parkland College generates millions of dollars in local sales and wages annually and almost 1,300 jobs.

- In FY12, about 800 full-time and part-time staff lived in the district with a total payroll of about \$44.3 million.
- In addition to wages and salaries, Parkland College reported \$44.4 million in operating and capital expenditures.

Including the multiplier effect, the total economic impact of Parkland College on the regional economy in FY12 was estimated at \$82.6 million and 1,294 jobs.

SECTION 1: PARKLAND COLLEGE STUDENT ECONOMIC OUTCOMES

This section examines the economic outcomes for individuals who were Parkland College (Parkland) students. The source of community college student employment and earnings data is the Unemployment Insurance (UI) wage record data reported by Illinois employers for each of their employees. UI data are collected on a quarterly basis by the Illinois Department of Employment Security (IDES).

This comprehensive employment data source is estimated to cover 96 percent of total wage and salary civilian jobs.¹ While it is an immense database, there are certain limitations. The UI wage records contain neither the number of hours worked by participants nor the position they held. IDES provided the Center for Governmental Studies at NIU access to these data for the purposes of this study.

PARKLAND COLLEGE STUDENT ECONOMIC OUTCOMES – RETURN ON INVESTMENT

To begin assessing the economic impact of a Parkland student, it must be realized that education at a community college is an investment. Students attending college pay for their education in both cash and in foregone earnings. The net cash price is the cost of tuition, fees, books, and room and board. Foregone earnings result when a student spends time going to school and studying in place of earning money at work.

The analysis in this section focuses on the return on investment of students that completed a program, referred to as ‘completers’, in FY2011. The cost of attending school during the FY2010 and FY2011 school years is compared with projected earnings over a 40 year post graduation time frame. The results are net present value (NPV) and internal rate of return (IRR) estimates for the average completer in FY2011.

The net cash price of attending school was obtained from the National Center for Education Statistics’ College Navigator tool. College Navigator employs Integrated Postsecondary Education Data System (IPEDS) data from the National Center for Education Statistics to calculate the ‘average net price’ for annual attendance at each school.

¹ See <http://www.bls.gov/opub/hom/pdf/homch5.pdf>. Examples of employment not covered by UI laws include self-employment and some agricultural and domestic work.

The other major cost for college attendees is their foregone earnings, often referred to as the 'opportunity cost' of attending college. The estimate for foregone earnings is based on completers' earnings in the 12 months prior to their enrollment in the college. It is assumed that their average income would have increased by 3% per year during their two years in college.

The major benefit of completing college is the resulting increased earnings. Pre-enrollment to post-completion earnings gains were calculated for graduates of 2 year Associate of Applied Science and 2 year certificate programs at Parkland College. Gains for these graduates averaged \$10,597 in the first year.

Figure 2 presents the net return analysis based on the calculations noted above. The total cost during the two years the student is in school, including out of pocket expenses and foregone earnings is \$30,920. The return on investment occurs over a 40 year working life, where increased earnings for a degree completer are estimated to total over \$799,000 (compared to someone not attending community college).

Figure 2. Estimated Net Return for Associate Degree Completers

Year	Net Price	Opportunity Cost	Total Cost	Increased Earnings	Discounted Cash Flow
-1	5,201	\$10,175	\$15,376		-\$15,991
0	5,064	\$10,480	\$15,544		-\$15,544
1				\$10,597	\$11,039
2				\$10,915	\$10,915
3				\$11,243	\$10,793
4				\$11,580	\$10,672
5				\$11,927	\$10,553
⋮				⋮	
⋮				⋮
38				\$31,636	\$7,277
39				\$32,585	\$7,195
40				\$33,562	\$7,115
Total Increased Earnings				\$799,057	NPV \$325,958
					IRR 29.3%

The net present value of investing in a community college associate degree is almost \$326,000. The internal rate of return on their investment is 29.3%. In other words, if a student put \$30,920 in an investment that returned 40 annual payments equivalent to the earnings gains from an associate degree, they would earn interest at a rate of 29.3%.

This analysis is conservative because it is based on increased earnings in the first post-completion year. Earnings for many program completers grow significantly in the second through fifth post-completion years.

STUDENT LOAN DEBT AND ITS IMPACT ON RETURN ON INVESTMENT

Media stories related to student loan debt have been increasingly common in recent years. According to the Federal Reserve Bank of New York, in 2012 the average student loan balance for Americans under 30 was about \$21,000². That was up from about \$13,500 in 2005. About 42% of 25-year-olds have some amount of student debt.

Average student loans for Parkland College students tend to be significantly smaller than the national averages. According to College Navigator, about 24% of Parkland students took out student loans in 2012. Those loans averaged about \$4,369.

When used responsibly, student loans can actually increase the rate of return of a college education. Students loans reduce the upfront cash cost of college. Loan repayment reduces the cash flow associated with earnings gains for several years after program completion. The rate of return on paying for college is increased if the average interest rate on federal student loans is lower than the rate of return from education.

The benefits to using student loans to pay for education only occur if the student receives a strong return on their educational investment. The analysis in this report shows the majority of Parkland students do receive a good return in terms of earnings.

While many college graduates find suitable work upon graduation some have difficulty obtaining employment in competitive fields. The recent recession compounded this issue. Nationally, there are more student loan delinquencies. In 2012, 17 percent of borrowers were over 90 days delinquent, up from under 10 percent in 2004³. Student loan data for individuals are not available to analyze how these loans are impacting Parkland students. However, it is clear from national trends that counseling students on the proper use and management of student loans is becoming increasingly important.

The following sections investigate student economic outcomes from a variety of perspectives. First broad economic outcomes measured by employment and earnings are calculated. Next, average earnings gains and gains per credit hour are presented.

² Federal Reserve Bank of New York (2013). *Student Loan Debt by Age Group*. <http://www.newyorkfed.org/studentloandebt/>

³ Lee, Donghoon (2013). *Household Debt and Credit: Student Debt*. Federal Reserve Bank of New York. <http://www.newyorkfed.org/newsevents/mediaadvisory/2013/Lee022813.pdf>

PARKLAND COLLEGE STUDENT ECONOMIC OUTCOMES – EMPLOYMENT AND EARNINGS ANALYSIS

Figure 3 displays the average annual post-completion earnings (inflation adjusted to 2012 \$) for two groups of program completers from 2000 to 2011. The first group is the set of program completers that worked in each of the four post-program quarters (full-year), and the second group is the set of those that worked each of the quarters at an earnings level that was above minimum wage for 30 hours per week (full-time, full year).

**Figure 3. Average Annual Earnings (Inflation Adjusted \$)
Program Completers 2000-2011**



Earnings for those identified as full-year workers rose from 2000 to 2002, dipped in 2003, then increased again in 2004. Beginning in 2005, this group saw a steady decline in real earnings, ending in 2011 about 11% lower than 2000. The group identified as full-time, full-year also experienced a similar pattern in their real (inflation adjusted) earnings. Starting in 2005, earnings remained relatively flat through 2011. By 2011, real earnings for full-time, full year workers were about 6% lower than in 2000.

The UI data from IDES only includes individuals earning wages in Illinois. Program completers that successfully find employment in another state are not included. Additionally, self-employed small business owners and certain agricultural workers are not covered by unemployment insurance and thus, are not included. Finally, since this measure only looks at the initial post-completion year, students delaying employment to continue their education will have very low or no earnings. These students, who intend to transfer to a four-year college, are becoming an increasingly large portion of community college graduates. Between 2006 and 2012, the percentage of statewide completers stating their intention to transfer grew from 33% to 38.5%. Analysis examining longer term earnings gains of certain program completers is included later in this report. It shows that earnings can grow significantly in the several years following completion.

National income measures exhibit similar trends. According to the Bureau of Labor Statistics, average inflation adjusted earnings of individuals employed full-time that had some college or an associate degree rose by about 2.6% between 2000 and 2011⁴. This group most closely matches the full-time, full year earnings shown in Figure 3.

Figure 4 explores the relationship between credit hours and earnings gains. The results show that while there is a generally positive relationship between the number of credit hours earned and earnings gains, as the number of credit hours increases the average gain per credit hour decreases. Further exploration of the contributing factors could involve the actual pre-program earning (absolute dollar amount), age, and workforce experience of the exiters versus the completers. For example, a mid-career professional engaged in skill upgrading could see greater returns than someone who is initially entering the workforce. The chosen field of endeavor also influences outcomes.

⁴ U.S. Department of Labor, Bureau of Labor Statistics, Current Population Survey.

**Figure 4. Earnings Gain and Average Gain per Credit Hour by Earned Credit Hour Groups - Exiters FY2011
(Completers and Non-Completers)**

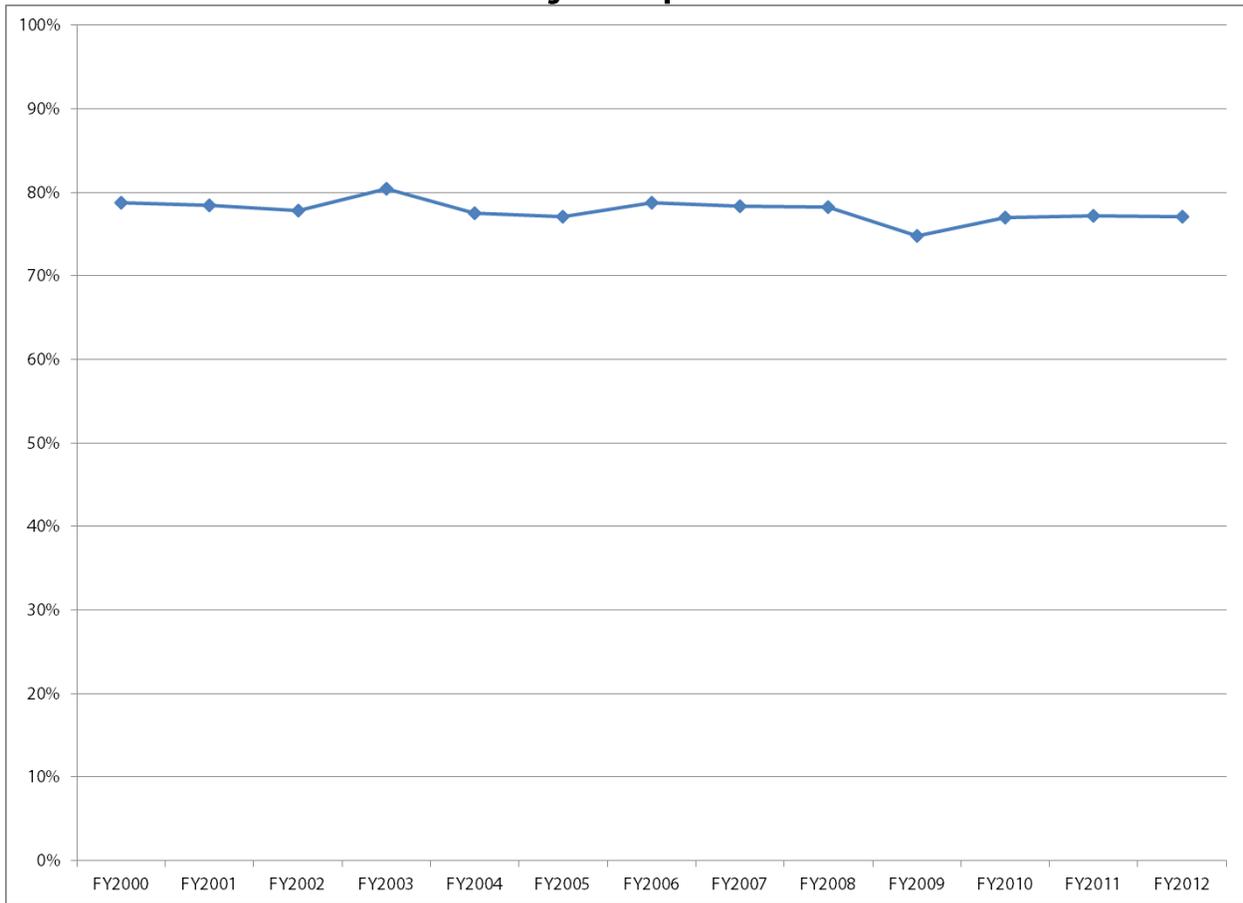
Earned Credit Hours	Total Number of Exiters	Pct of Total	Average Earnings Gains	Average Earnings Gain Per Credit Hour
Total	9,473	100.0%	\$4,431	\$211
.5 to 04 hours	2,911	30.7%	\$2,854	\$1,008
05 to 09	1,894	20.0%	\$3,788	\$560
10 to 14	1,047	11.1%	\$4,283	\$360
15 to 19	547	5.8%	\$4,013	\$239
20 to 24	369	3.9%	\$5,725	\$260
25 to 29	342	3.6%	\$5,628	\$209
30 to 34	280	3.0%	\$3,939	\$124
35 to 39	235	2.5%	\$6,037	\$164
40 to 44	171	1.8%	\$8,219	\$196
45 to 49	222	2.3%	\$6,769	\$143
50 to 54	198	2.1%	\$6,796	\$130
55 to 59	163	1.7%	\$6,895	\$121
60 and up	1,094	11.5%	\$7,197	\$94

The focus now turns to the percentage of Parkland program completers who are identified as employed in the first or second full post-completion quarter.⁵ Figure 5 displays employment rates of students who complete a program of at least one credit hour for each year from 2000 to 2012. Over this period employment rates bounced between 75% and 80%. This outcome should not be viewed as the most important measure of success since many completers do not seek employment because they immediately transfer to a four-year college.

To some extent, the decline in employment rates can be explained by overall economic conditions. According to the U.S. Census Bureau's American Community Survey, between 2007 and 2012, the unemployment rate for the Illinois' population ages 25 to 64 with some college increased from 5.8% to 8.9%.

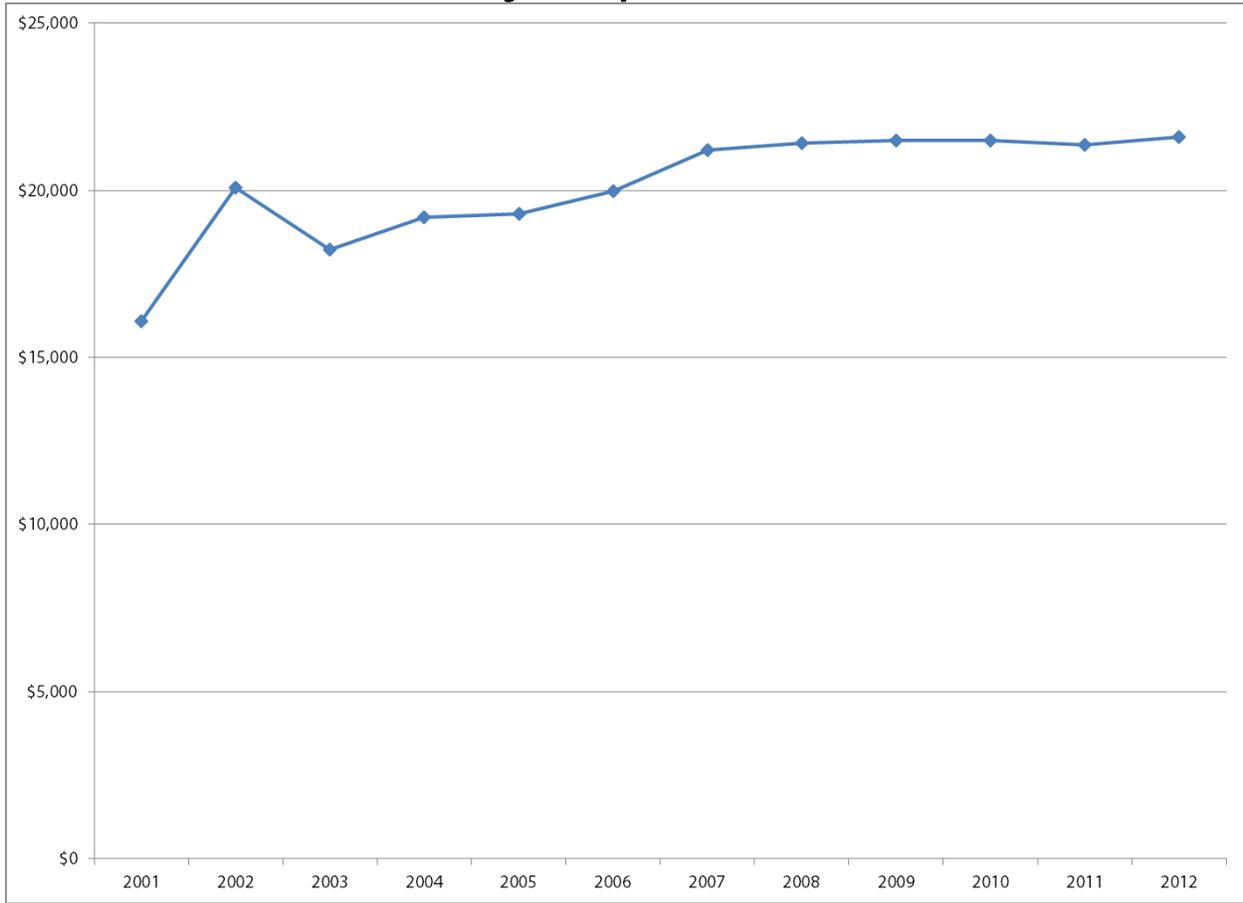
⁵ The 1st full post-completion quarter is the first full quarter after the completion of the program. This is to avoid using wages that were earned while the student was in the program.

**Figure 5. Employed During the 1st or 2nd Post-completion Quarter
Program Completers**



Another method of examining the post-completion earnings of community college students is to track the earning of a specific cohort of completers over time. For this analysis, the average annual earnings of all Parkland completers during the year 2000 were tracked over a 12-year period (see Figure 6). The results indicate that the former students had steady earnings increases in the years following program completion. Even during the national recession, Parkland completers held on to their earnings gains.

**Figure 6. Average Annual Earnings (Inflation Adjusted \$)
Program Completers FY2000**



One of the major advantages of using longitudinal measurement of UI wage data is the possibility of examining pre-enrollment and post-completion wages. The major difficulty in performing such an analysis is identifying the appropriate pre-enrollment period. Since community college students vary widely in their course-taking behavior (they can attend classes full-time, part-time, or intermittently), identifying the entry date for a student in a program can be challenging. The approach taken for this study was to examine each of the years prior to the date of program completion. If there were no earned hours during a given year, the enrollment date was set to the first day of the semester in which credit hours were earned⁶.

Once the enrollment date for each completer was determined, UI earnings for the four full pre-enrollment quarters were used to produce an annual pre-enrollment earnings amount. Similarly, UI earnings for the four full post-completion quarters were used to determine the

⁶ For example, if a student completed a program in 2010, the procedure was to look at the credit hours earned in 2009, 2008, etc. If no credit hours were earned in 2008, then the start date of the earliest semester in which credits were earned was defined as the enrollment date.

annual post-completion earnings. The results obtained for all program completers and completers most likely to directly enter the workforce following completion (AAS and long-term certificate programs) from 2005 to 2011 are displayed in Figure 7.

In the year following completion, about 84 percent of 2011 Parkland completers were employed in Illinois. That was somewhat higher than the statewide average of 77 percent. Looking at a longer time horizon, about 90 percent of 2005 completers were employed in Illinois in the five years following program completion, slightly higher than the statewide average of 87 percent.

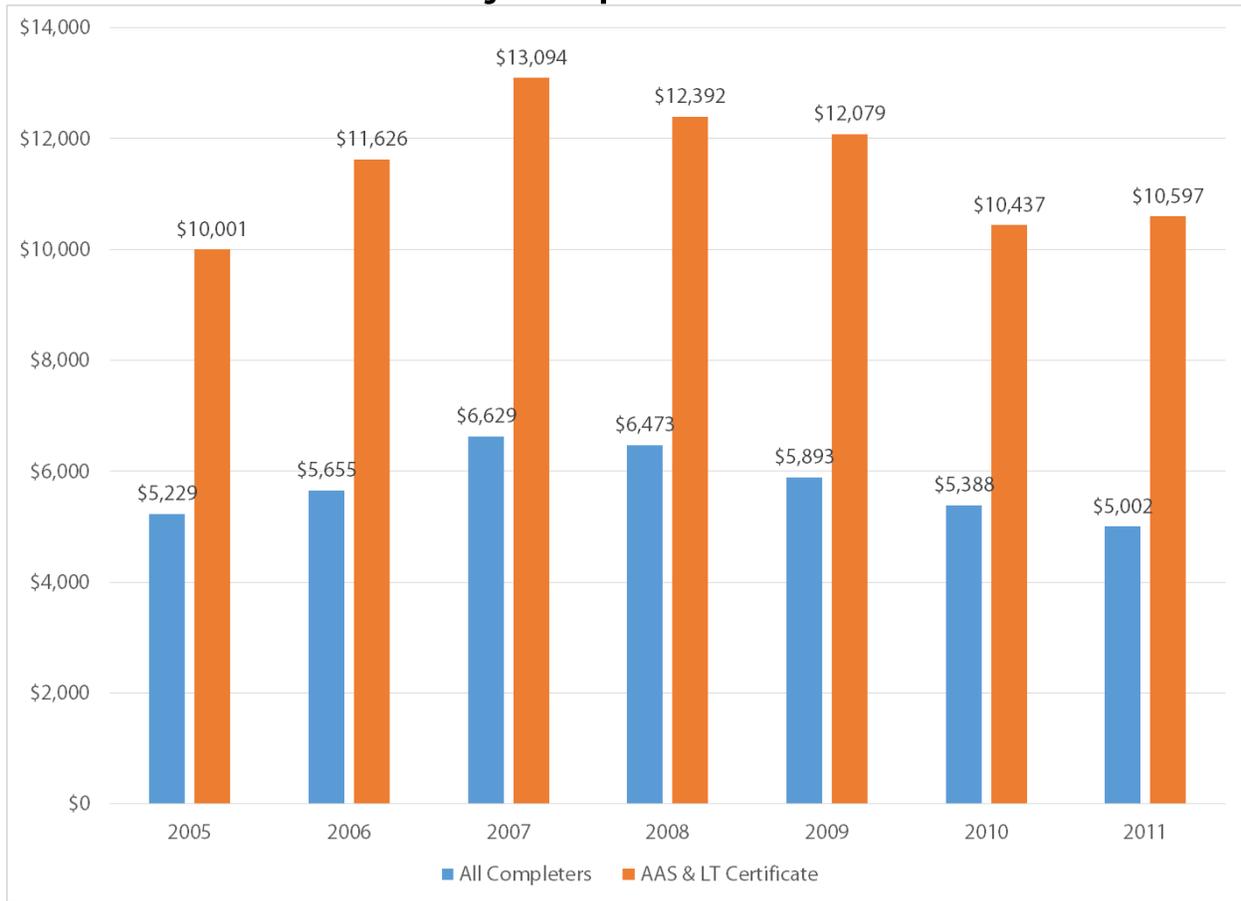
The average pre-enrollment to post-completion earnings gain over the eight-year period from 2005 to 2011 was \$5,753⁷. This translates to a \$3.16 per hour increase in earnings assuming full-time, full-year employment ($\$5,753 / \{52 \text{ weeks} \times 35 \text{ hours}\}$). The trend indicates a decline in earnings gains beginning in 2008. This period of decline coincides with the national economic recession.

For completers in Associate of Applied Science and long term (more than 30 semester hours) certificate programs, earnings gains were higher. The average pre-enrollment to post-completion earnings gain for completers in these programs was \$11,461. Earnings gains peaked in 2007 at almost \$13,000 then declined during the recession.

In real terms, average earnings decreased for workers of all educational levels during the recession. According to the U.S. Census Bureau's American Community Survey, between 2007 and 2012, the median earnings of Illinois' population ages 25 to 64 decreased by \$2,006, adjusted for inflation during this time. Median earnings for Illinois residents with some college or an associate degree decreased by \$3,028.

⁷ The data series ends in 2011 due to the lack of a full year of post-completion data and begins in 2005 due to the lack of sufficient hours earned by semester for the earlier completion cohorts.

**Figure 7. Pre-enrollment to Post-completion Earnings Gains
Program Completers 2005-2011**



As with the measure of employment used previously (Figure 5), post-completion earnings as measured here tend to understate the success of program completers. The data does not capture certain workers (self-employed, certain agricultural workers, etc.), nor do they capture workers who have successfully found employment in other states. Importantly, since this measure only looks at the initial post-completion year, students delaying employment to continue their education will have very low or no earnings.

PARKLAND COLLEGE STUDENT ECONOMIC OUTCOMES – GENERATED TAX REVENUES

Parkland students generate significant tax revenues. In this section, the amount of tax dollars contributed by Parkland students to the federal and state tax base over a period of 10 years is estimated. Separate estimates are produced for students who were enrolled in a community college during 2002 and for the subset of those students who completed programs in 2002.

For these analyses, students enrolled at Parkland in FY2002 were identified. The annual total UI earnings for these individuals were obtained for each year from 2003 to 2012. Taxable earnings were estimated by subtracting the standard deduction for an individual from the annual earnings for each tax year. Federal taxes were estimated by applying the average marginal tax rate for a given year to the taxable earnings for that year. State taxes were estimated by applying the appropriate Illinois state tax rate (3% up to 2010 and 5% after 2011) to annual taxable earnings.

Although this is a simplistic approach for estimating tax revenues in both cases, given the limitations of available data, it may be used to reasonably approximate the magnitude of taxes paid by this cohort of Parkland College students. The results of this analysis are presented in Figure 8.

**Figure 8. Estimated Federal and State Taxes Paid by Enrollees and Completers (2002 Cohort)
2003 – 2012**

2002 Cohort	Federal Taxes	State Taxes
Enrollees	\$265,360,969	\$81,005,433
Completers	\$22,093,176	\$6,696,945

Substantial federal and state tax revenue is produced by Parkland students. It is estimated that \$265.4 million in federal taxes was generated between 2003 and 2012 by students who attended Parkland in 2002. Of that total, about 8.3% was contributed by students who completed in 2002. Similarly, of the estimated \$80 million in state tax dollars generated by 2002 enrollees, a similar percentage or \$6.7 million would have been generated by 2002 completers.

SECTION 2: PARKLAND COLLEGE ECONOMIC IMPACTS

PARKLAND COLLEGE ECONOMIC IMPACTS – EXPENDITURES AND EMPLOYMENT

Parkland College is an important source of expenditures and employment for the region. As part of their day-to-day operations, the college purchases goods and services, many of them from the local economy. In addition, the income earned by their employees is spent in the local economy. Additionally, the college invests in site improvements, remodeling, and new construction that generate additional expenditures and jobs.

Any change in economic activity, such as the purchase of a commodity or a service, has direct and indirect effects. The direct effects are the employment, payroll and purchases of goods and services directly by the colleges. The indirect effects occur through a variety of channels. For example, when a community college hires a local printer to produce its catalogues and brochures, these orders contribute to the income of the local printing industry. The printers' employees spend at least some of their income locally, and these purchases contribute to the employment and the income of other local industries and services. The printers spend part of their income from the community college's orders on the supplies that they need to run their businesses. To the extent that these purchases are local, they contribute to the incomes of employees in other industries, who in turn spend their incomes on still other goods and services with these effects again induced by the college's initial purchase.

IMPLAN Pro economic modeling software was used to produce estimates of the indirect economic impacts of the college, based on the direct impacts. Direct impacts are simply the set of expenditures or employment applied to the predictive model for impact analysis. Indirect impacts are then derived as additional effects caused by industries purchasing from other industries. Induced impacts take into account the spending in the local economy of the new income generated by the new employment produced from the impact.

Taken together, direct and indirect expenditures directly attributable to Parkland activities in fiscal year 2012 approached \$82.6 million in value added (equivalent to gross state product) and an estimated 1,294 jobs. Summary data are provided in Figure 9.

**Figure 9. Parkland College Economic Impact Summary
FY 2012**

Impact Type	Operations	Construction	Total	Employment
Direct	\$44,298,744	\$7,574,330	\$51,873,074	933
Indirect	\$24,760,943	\$5,955,351	\$30,716,294	361
Total	\$69,059,687	\$13,529,681	\$82,589,368	1,294

Operational Expenditures. Data provided by Parkland to the Illinois Community College Board identified \$60.4 million in operating expenditures during fiscal year 2012⁸ (including wages and salaries, but excluding capital investments, which are analyzed in the next section). Parkland paid \$44.3 million in wages and benefits to their 802 employees that lived in the district. These direct impacts rippled through the economy creating additional jobs, payrolls, and other economic activity. These impacts are summarized in Figure 10. Over 1,000 jobs in the region could be attributed to college operations. These operations were associated with about \$98.2 million in economic output (equivalent to total sales of a business or total spending of a government enterprise). Value added, which is a measure similar to gross state product, totaled over \$69 million.

**Figure 10. Parkland College Operational Expenditures
Output and Employment Impact – FY 2012**

Employment and Operations Spending FY 2012			
Impact Type	Direct	Indirect	Total
Employment	802	285	1,087
Output	\$60,404,906	\$37,828,384	\$98,233,290
Value-Added	\$44,298,744	\$24,760,943	\$69,059,687
- Employee Compensation	\$44,298,744	\$11,490,339	\$55,789,084

Capital Expenditures. In addition to the economic activity generated by Parkland operating and employee expenditures, the college’s capital development projects also contribute significantly to the local economy. Since FY2008, the college has invested over \$40.1 million in capital projects in the district. In FY2012, the \$19.2 million in expenditures generated an estimated \$9.4 million in indirect output for a total impact of \$28.6 million. These expenditures generated an estimated 207 jobs throughout the district. As can be seen in Figure 11, construction expenditures and resulting economic impacts vary from year to year.

⁸ 2013 Data and Characteristics of the Illinois Public Community College System, Table IV-13 - Fiscal Year 2012 Audited Operating Expenditures by Object.

**Figure 11. Parkland College Construction Expenditures
Economic Impact – FY 2008-2012**

Construction Spending 2008			
Impact Type	Direct	Indirect	Total
Employment	40	23	64
Output	\$5,905,952	\$2,715,426	\$8,621,378
Value-Added	\$2,205,571	\$1,734,140	\$3,939,711
- Employee Compensation	\$1,935,254	\$934,443	\$2,869,698
Construction Spending 2009			
Impact Type	Direct	Indirect	Total
Employment	15	9	23
Output	\$2,159,361	\$995,022	\$3,154,383
Value-Added	\$810,185	\$637,012	\$1,447,197
- Employee Compensation	\$710,888	\$343,255	\$1,054,143
Construction Spending 2010			
Impact Type	Direct	Indirect	Total
Employment	45	26	71
Output	\$6,420,424	\$3,110,673	\$9,531,097
Value-Added	\$2,514,675	\$1,977,175	\$4,491,850
- Employee Compensation	\$2,206,475	\$1,065,403	\$3,271,878
Construction Spending 2011			
Impact Type	Direct	Indirect	Total
Employment	44	26	70
Output	\$6,430,205	\$3,115,999	\$9,546,204
Value-Added	\$2,523,552	\$1,984,154	\$4,507,706
- Employee Compensation	\$2,214,264	\$1,069,164	\$3,283,427
Construction Spending 2012			
Impact Type	Direct	Indirect	Total
Employment	131	76	207
Output	\$19,213,969	\$9,400,212	\$28,614,181
Value-Added	\$7,574,330	\$5,955,351	\$13,529,681
- Employee Compensation	\$6,646,014	\$3,209,047	\$9,855,061

SECTION 3: CHARACTERISTICS OF PARKLAND COLLEGE STUDENTS

To provide a context for understanding the economic impacts of Parkland College, an analysis of student characteristics and program enrollment and completion between 2000 and 2012 for credit classes was undertaken. While not the primary focus of this report, it is nonetheless useful to identify significant changes in the student population that occurred over this 12-year period.

This section highlights the noteworthy changes over this period in enrollments and completions in credit courses for 15 characteristics of Parkland students. These include:

1. Total enrollments and completions
2. Degrees and certificates
3. Age
4. Race and ethnicity
5. Gender
6. Students with disabilities
7. Highest grade completed at enrollment
8. Residence
9. Student intent
10. Educational objective
11. Program classification
12. Instructional program
13. Veteran status
14. Online status
15. Student level status

In reviewing these enrollment and completion trends, it is important to keep in mind the distinction between these two groups of students. *Enrollments* are not first-time entrants into the college system. Rather, they are all students who have taken one or more courses and earned academic credit in a given year. Some have taken courses in the previous year and others will take courses in subsequent years. Enrollments reflect a point-in-time figure of active students in the year under consideration.

Completers are students who have completed a course of study and have earned either a certificate or degree in a given year. For short-term certificates, these students may have been enrolled for a single year, the time necessary to earn that certificate. Other completers may have been enrolled in previous years and still others may enroll in the future to take additional courses after finishing an initial program. Completers received a certificate or degree in the year under consideration.

1. Total Enrollments and Completions.

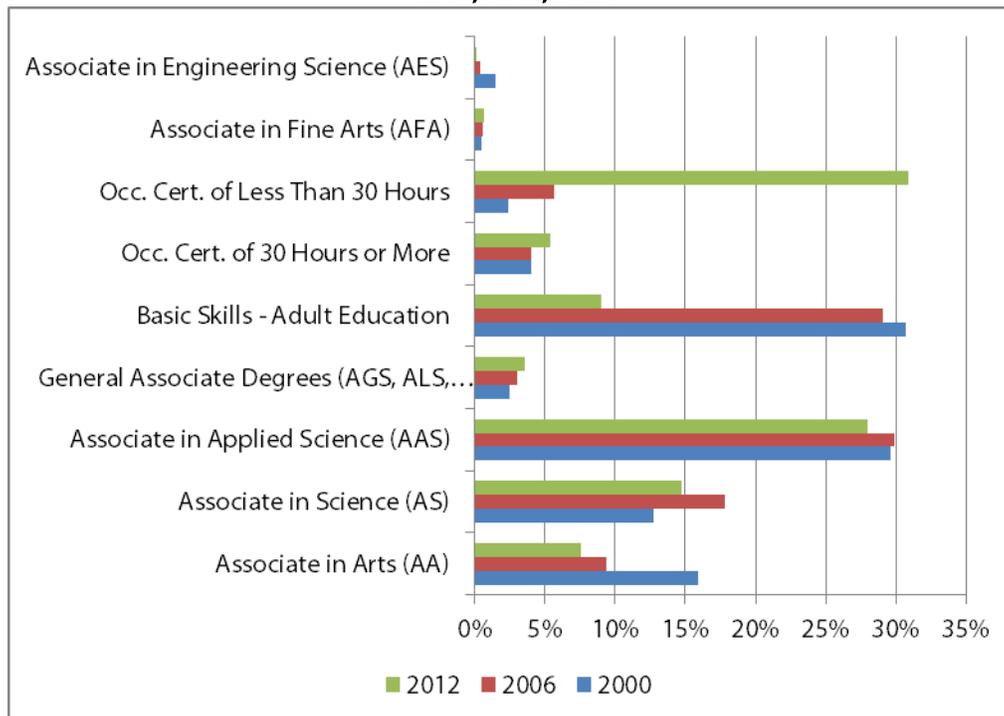
Overall, there was an increase of about 9,400 in Parkland enrollments in credit courses, from 14,640 in 2000 to 17,075 in 2006, to 24,045 in 2012.

The rate of increase in program completers was also significant. There was a 24.3% increase in students who completed their programs of study during this same period. There were 1,160 completers in 2000, 1,722 completers in 2006, and 1,422 completers in 2012.

2. Degrees and Certificates.

The percentage of program completers earning a career certificate of less than 30 hours increased strongly from 2000 to 2012 (2.4% to 30.9%). Associate degree programs in Applied Science (about 30%) and Science (about 15%) remained relatively stable over this period. Basic Skills/Adult Education declined sharply. Figure 12 shows these changes over the 12-year period.

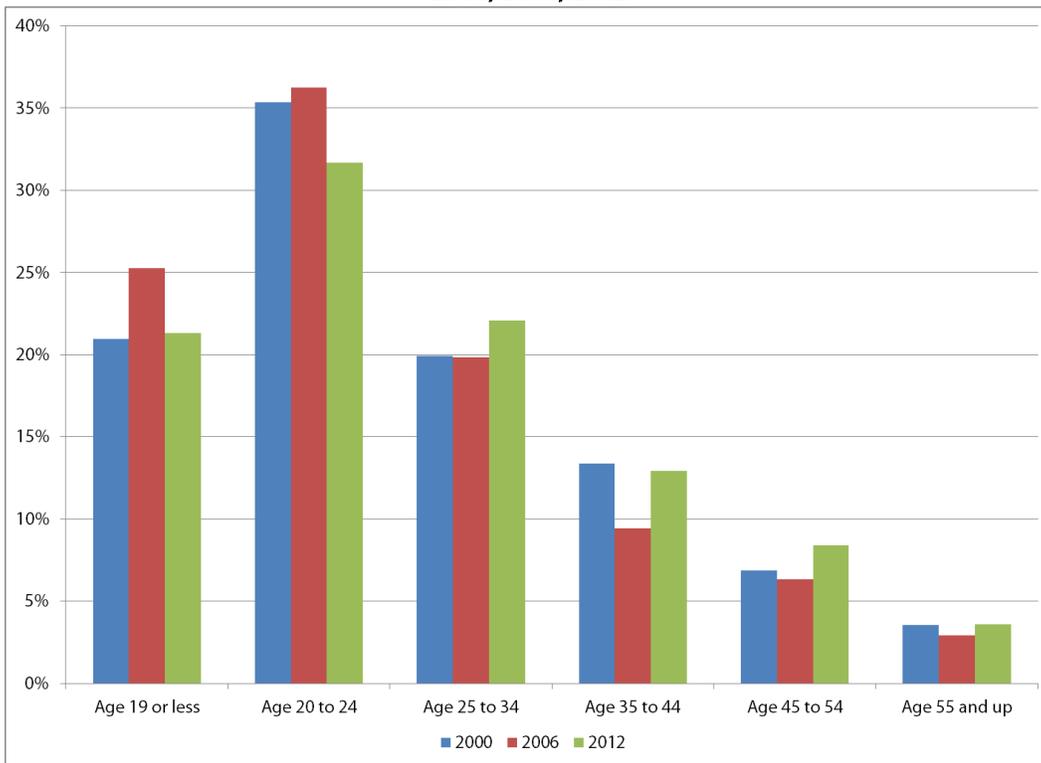
**Figure 12. Program Completers by Degree Type
2000, 2006, 2012**



3. Age.

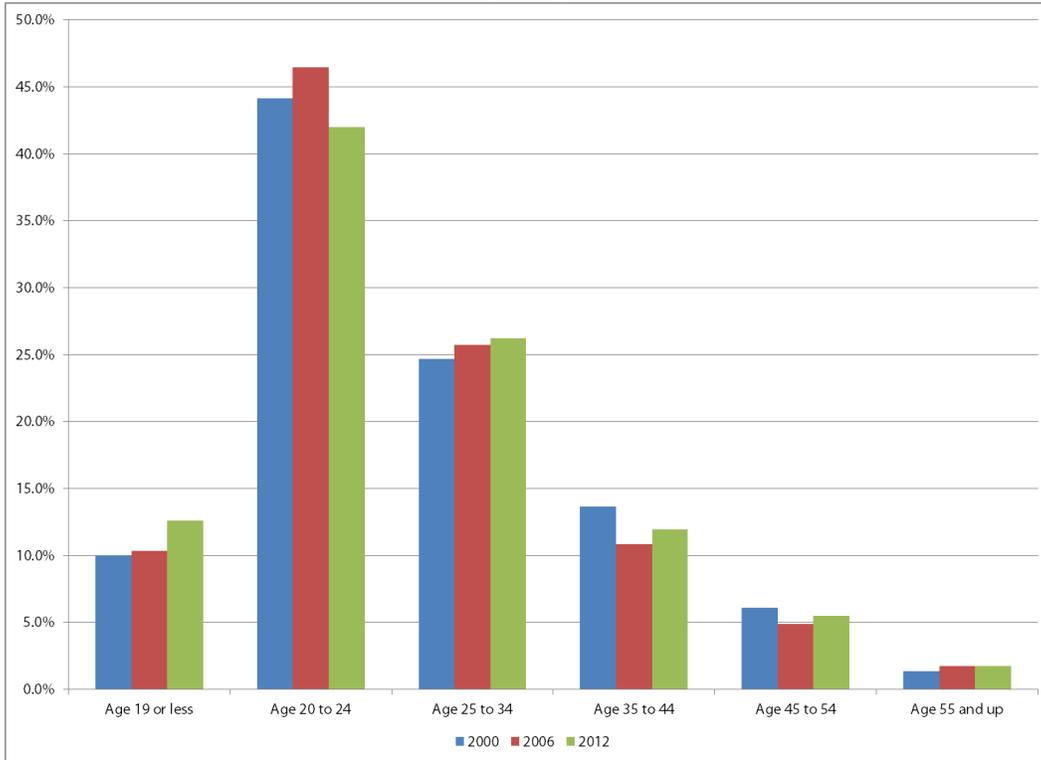
The percentage of enrollees Age 20 to 24 increased from 35.4% in 2000 to 36.2% in 2006 before declining to 31.7% in 2012. Enrollments by all age groups over 25 increased between 2006 and 2012. The percentage of enrollees aged 24 or less declined from 61.5% in 2006 to 53.0% of the total in 2012. As a result, the average age of enrollees increased from 26.6 years of age in 2006 to 28.4 years by 2012. Figure 13 illustrates the percentages of enrollees by age group.

**Figure 13. Program Enrollments by Age at Enrollment
2000, 2006, 2012**



The age distribution of completers was similar to enrollments at the college. Completions for all age groups over 25 increased or remained steady between 2006 and 2012. As indicated in Figure 14, the largest age cohort of completers was Age 20 to 24 at about 42% followed by Age 25 to 34 at 26.2%.

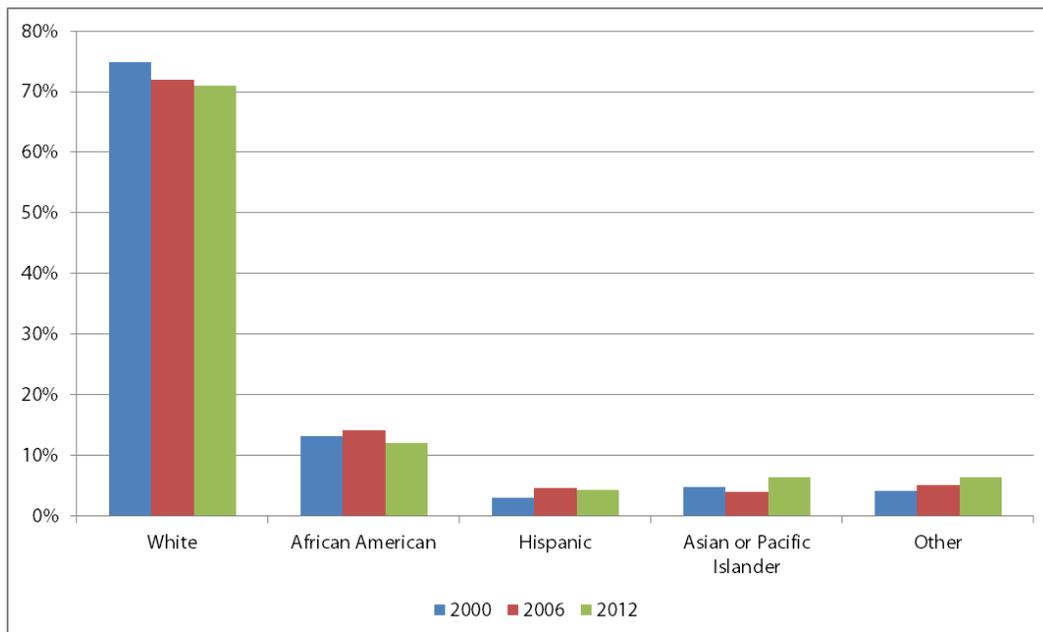
**Figure 14. Program Completers by Age at Enrollment
2000, 2006, 2012**



4. Race and Ethnicity.

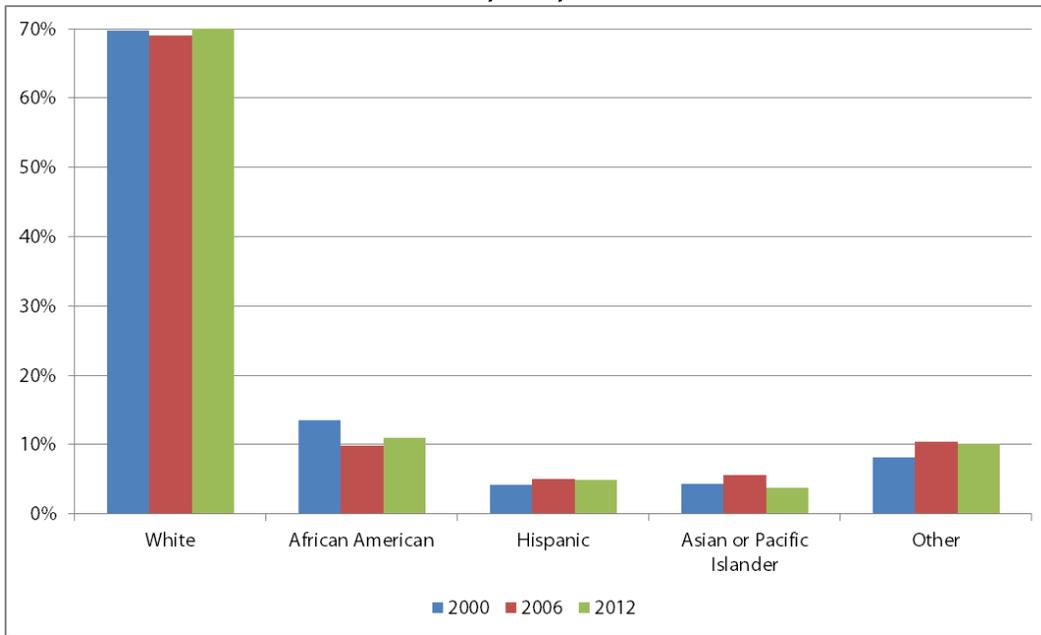
Enrollments at the college have increased for minorities from 2000 to 2012, while enrollments for whites during the same period have decreased. African American enrollees comprised the largest non-white group, although this group declined somewhat from 13.3% in 2000 to 12.0% in 2012. White enrollees as a percentage of the total decreased by 4 percent over this period. Figure 15 depicts these changes.

Figure 15. Program Enrollments by Race/Ethnicity
2000, 2006, 2012



As illustrated in Figure 16, the percentage of program completers who were white remained relatively steady. African American completers fell somewhat as a percentage of completers, while the percentage of other minority groups increased. In 2012 African Americans represented 11% of all completers, Hispanics 5%, and Asians/Pacific Islanders 3.7%.

**Figure 16. Program Completers by Race/Ethnicity
2000, 2006, 2012**



5. Gender.

Females have fallen as a percentage of enrollees in the college. In 2000 women comprised about 56% of all enrollees. This percentage fell to about 54% in 2006. Though by 2012, the percentage of female enrollees had declined significantly to 40%. In all three years examined, women made up just over 60% of program completers.

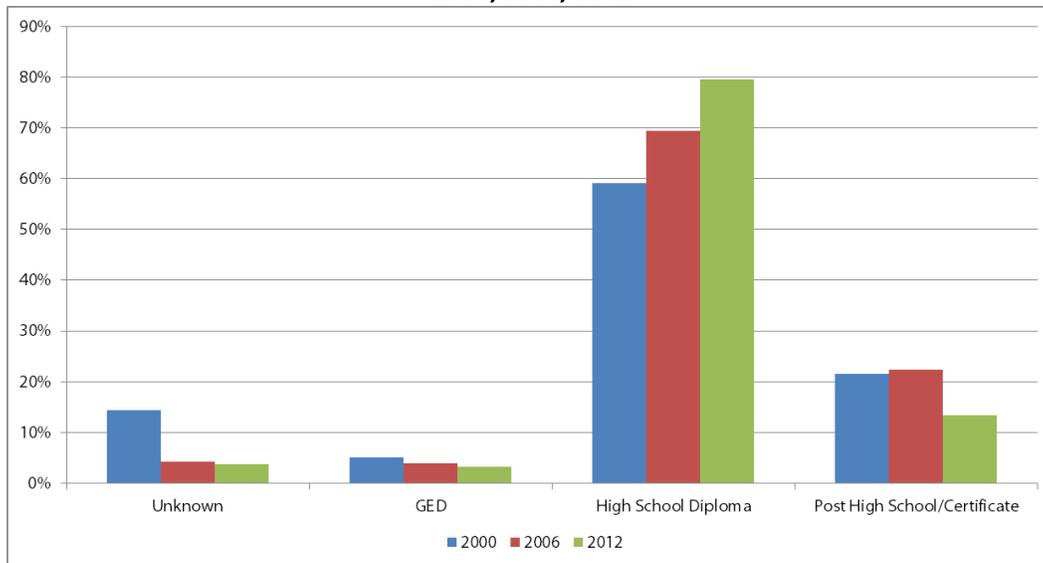
6. Students with Disabilities.

The percentage of enrolled individuals reporting a disability at the time of enrollment increased from 2.6% in 2000 to 3.4% in 2006 then fell back to 2.6% in 2012. The percentage of completers reporting a disability increased somewhat, going from 3.0% in 2000 to 4.4% in 2012.

7. Highest Grade Completed at Enrollment.

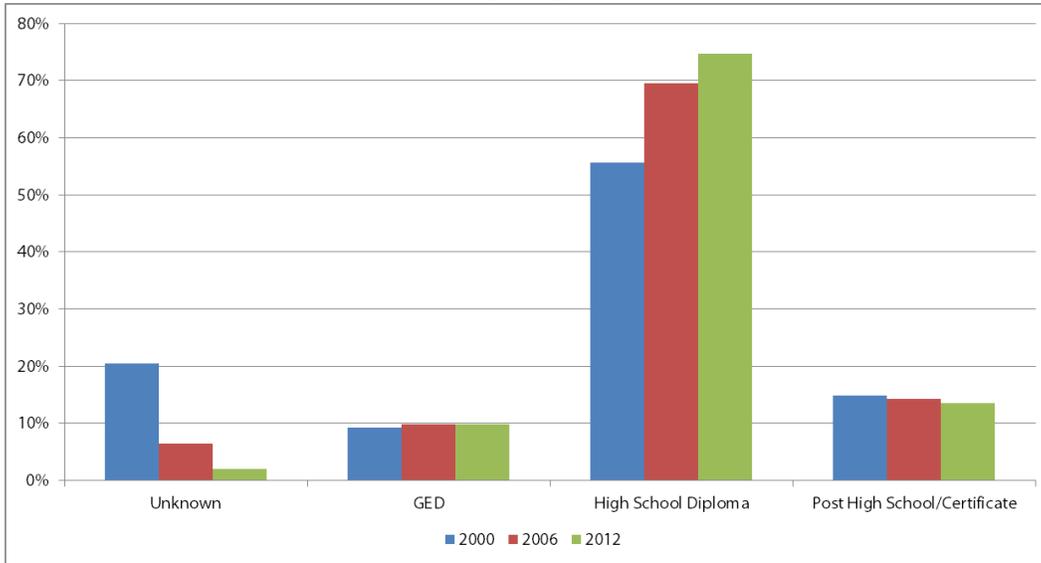
For enrollees for whom a specific level of education was indicated, the percentage with only a high school diploma increased from 59.2% in 2000 to 69.4% in 2006 to 79.6% in 2012. Figure 17 illustrates the percentage of enrollees by highest grade completed.

**Figure 17. Program Enrollments by Highest Grade Completed at Enrollment
2000, 2006, 2012**



Completers with only a high school diploma increased for all completers from 55.7% in 2000 to 69.5% in 2006. By 2012 the percentage had risen to 74.8%. As shown in Figure 18, completers with a post-high school certificate at enrollment went from 14.8% to 14.3% to 13.5% for the period 2000, 2006 and 2012.

**Figure 18. Program Completers by Highest Grade Completed at Enrollment
2000, 2006, 2012**



8. Residence.

As shown in Figure 19, when comparing program enrollments by residence, the vast majority of students resided in-district at the time of enrollment in 2000 (73.5%) and 2006 (70.5%). By 2012, out-of-district enrollees almost matched the number of enrollees from in-district.

**Figure 19. Program Enrollments by Residency at Enrollment
2000, 2006, 2012**

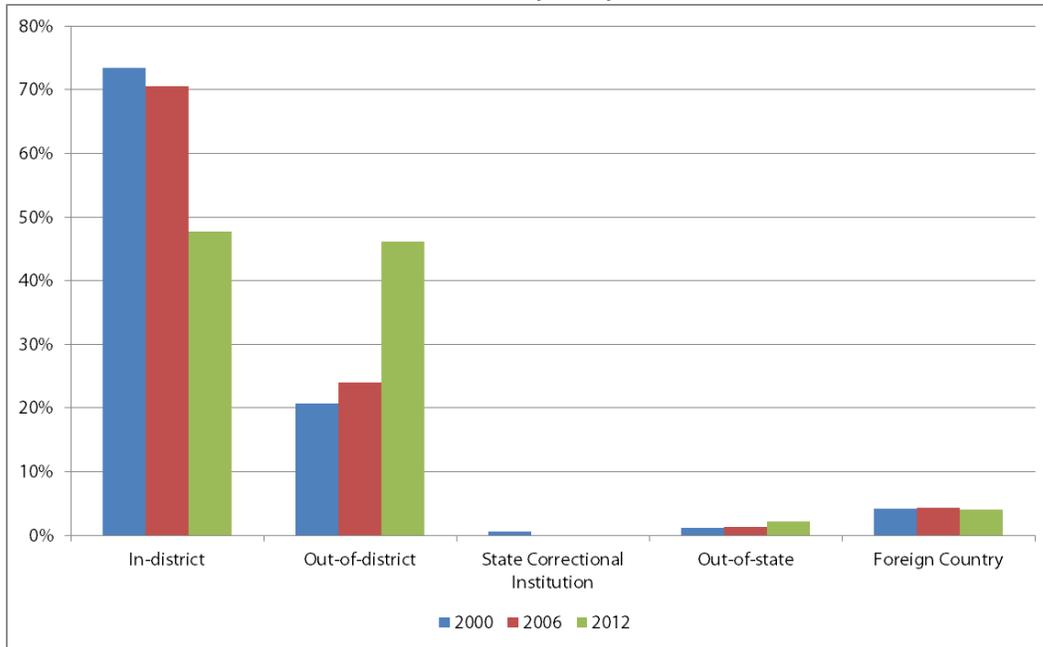
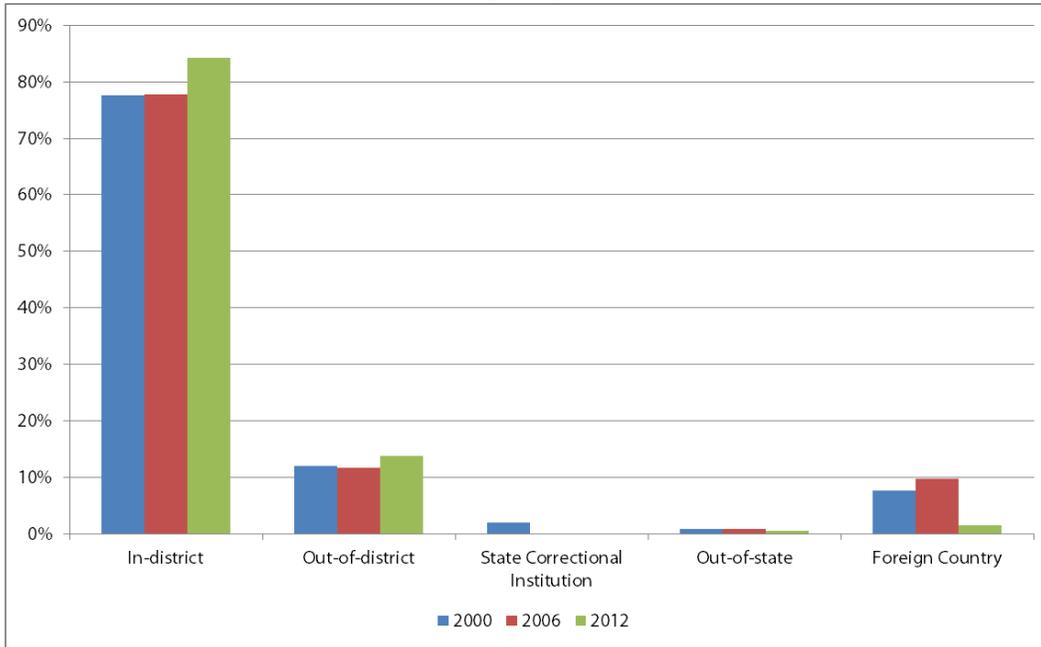


Figure 20 shows program completers by residency at enrollment. Students residing in-district represented 77.6% of all completers in 2000, 77.8% in 2006, and 84.3% in 2012. Out-of-district completers as a percentage of the total increased slightly over this period: 12.0% in 2000, 11.6%.in 2006, and 13.8% in 2012.

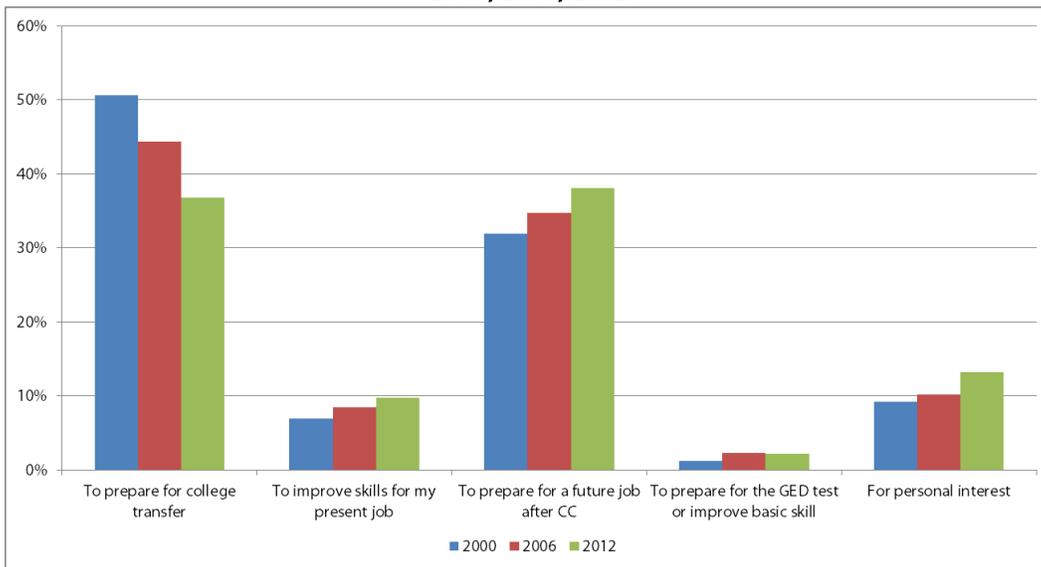
**Figure 20. Program Completers by Residency at Enrollment
2000, 2006, 2012**



9. Student Intent.

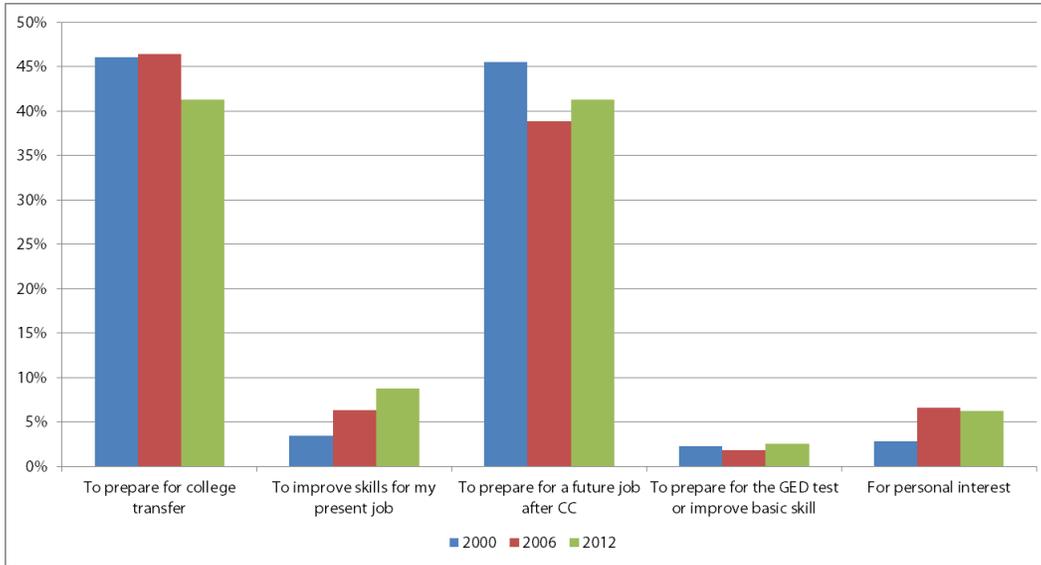
Preparing for college transfer is the intent of the largest percentage of enrollees in 2000, declining slightly from 50.7% to 36.8% in 2012. Enrollees that indicated their educational goal was improving skills for a job after school increased from 31.9% in 2000 to 38.0% in 2012, overtaking college transfer students as the largest group. Figure 21 presents student intent data for individuals enrolled in 2000, 2006 and 2012.

**Figure 21. Program Enrollments by Student Intent at Enrollment
2000, 2006, 2012**



Completions were highest in 2000 for students who were preparing for college transfer (46.0%) followed closely by students preparing for a job after community college (45.5%). As evident in Figure 22, these percentages moved in different directions in 2006 but both ended up at 41.3% by 2012. Completions were lowest for completers taking courses to prepare for the GED or improve basic skills.

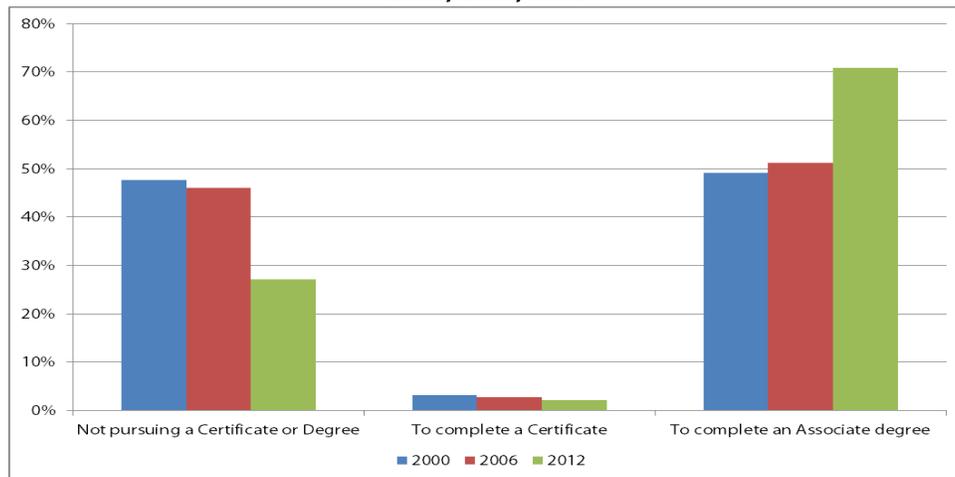
**Figure 22. Program Completers by Student Intent at Enrollment
2000, 2006, 2012**



10. Educational Objective.

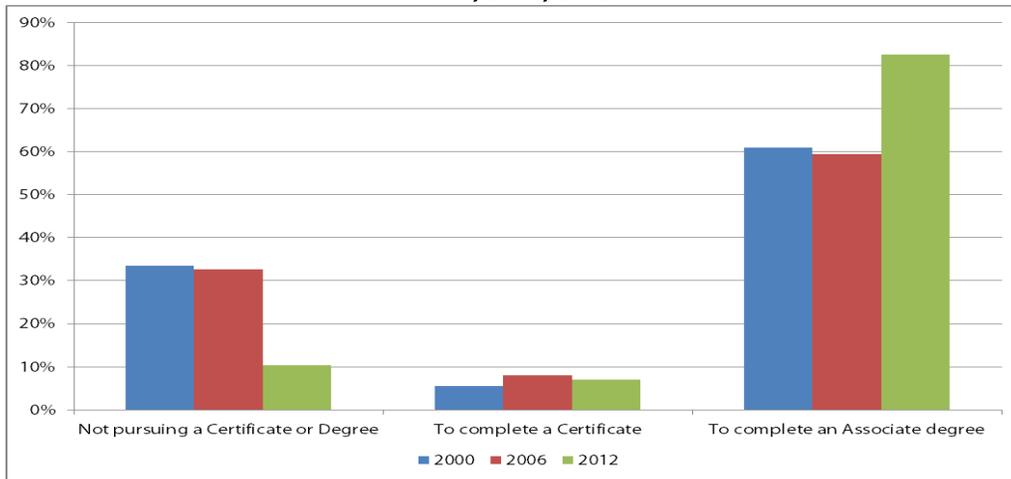
As illustrated in Figure 23, the percentage of enrollees who were not pursuing a certificate or associate degree decreased from 47.7% in 2000 to 27.1% in 2012. A slight increase occurred from 2000 to 2006 for students enrolling to complete an associate degree, from 49.2% to 51.3%. By 2012, there was a strong increase to 70.8% for students with the objective of obtaining an associate degree.

**Figure 23. Program Enrollments by Student Objective at Enrollment
2000, 2006, 2012**



As shown in Figure 24, students pursuing an associate degree made up the largest percentage of total completers from 2000 to 2012. After dropping slightly from 2000 to 2006, this figure increased significantly in 2012. Completers that had no intent to complete a certificate or degree fell sharply by 2012, making up less than 11%.

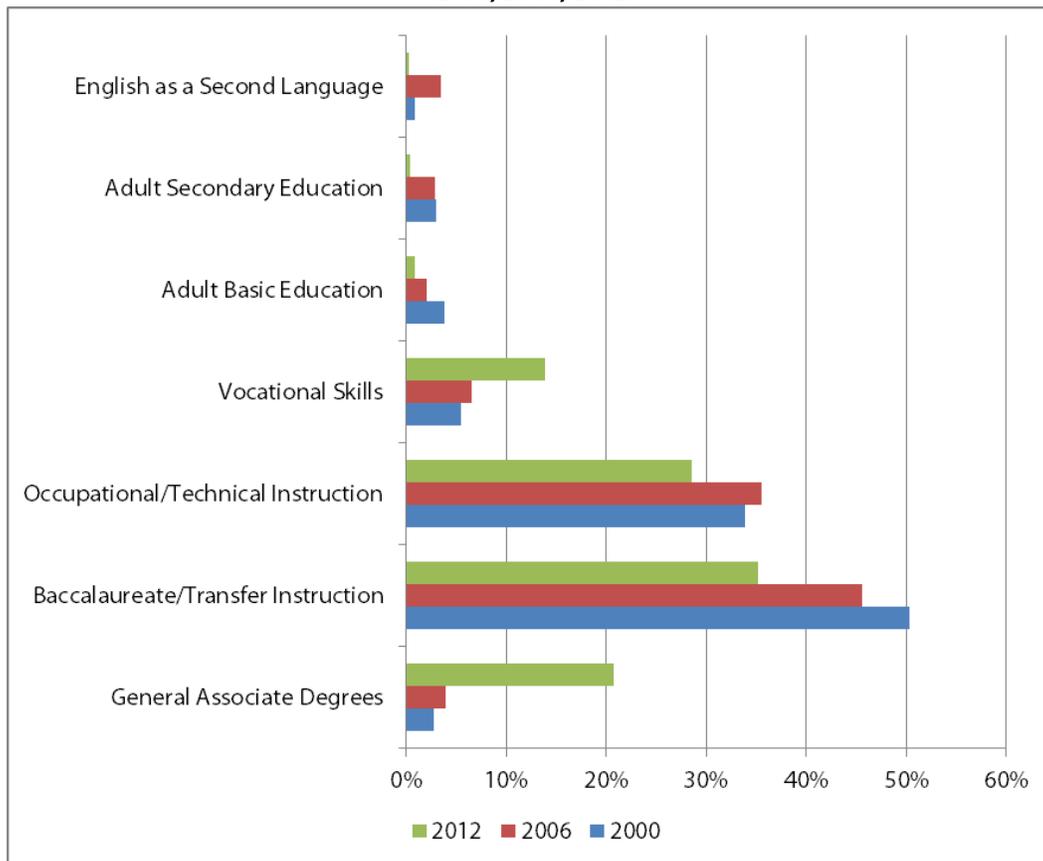
**Figure 24. Program Completers by Student Objective at Enrollment
2000, 2006, 2012**



11. Program Classification.

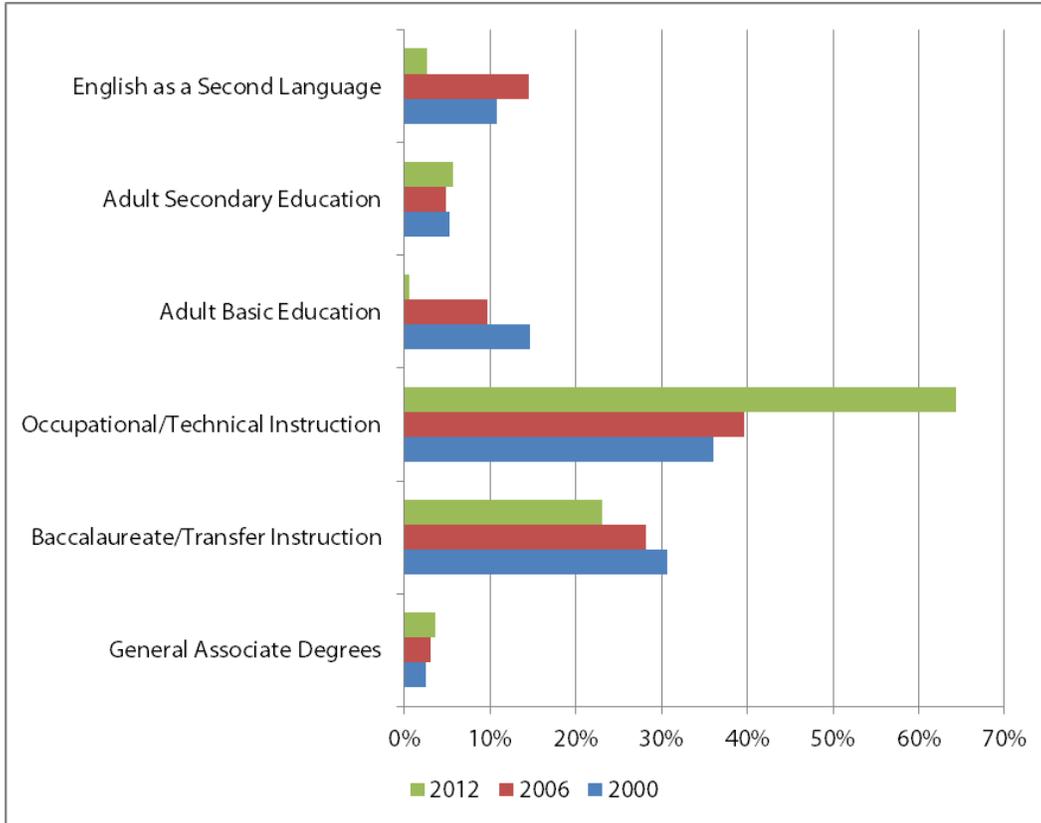
Between 2000 and 2012 the top programs in terms of total overall enrollments have remained baccalaureate/transfer and occupational/technical instruction. These two programs represented about 80% of all enrollments in 2000 and 2006. Enrollees in general associate degrees and vocational skills programs grew strongly as a percentage of the total between 2006 and 2012. Figure 25 illustrates these trends.

Figure 25. Program Enrollments by Program Classification Structure at Enrollment 2000, 2006, 2012



As evident in Figure 26, occupational and technical instruction was selected by the largest percentage of program completers, growing to 64.3% of completers in 2012. The second highest percentage of program completers was in baccalaureate/transfer programs, but this number declined from 30.7% in 2000 to 23.1% in 2012. These two programs accounted for about 87% of all completers in 2012.

Figure 26. Program Completers by Program Classification Structure at Enrollment 2000, 2006, 2012



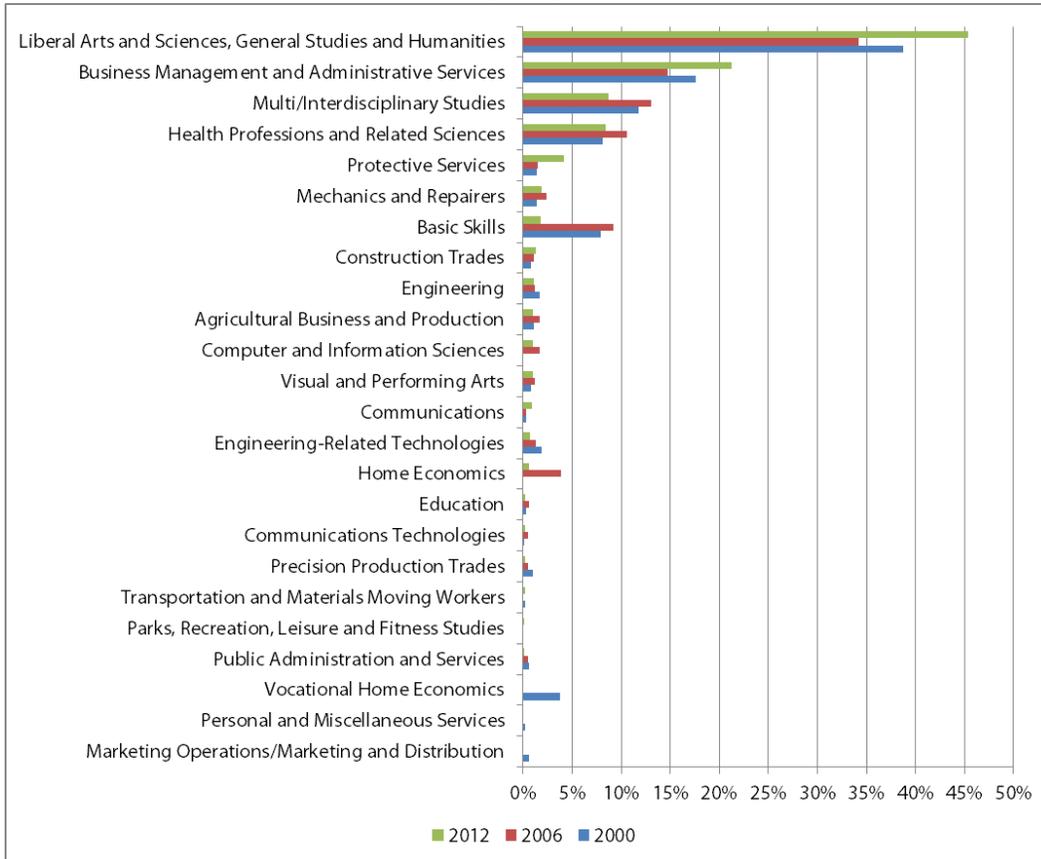
12. Instructional Program.

Using the national CIP (Classification of Instructional Programs) typology at the two-digit level, students enrolling in the college may select from 35 programs of instruction. Overall, the general pattern of enrollments remained relatively stable from 2000 to 2012. Four broad CIPs stand out as representing over 70% of enrollments in all three years evaluated:

- Liberal Arts and Sciences, General Studies and Humanities
- Business Management and Administrative Services
- Multi/Interdisciplinary Studies
- Health Professions and Related Sciences

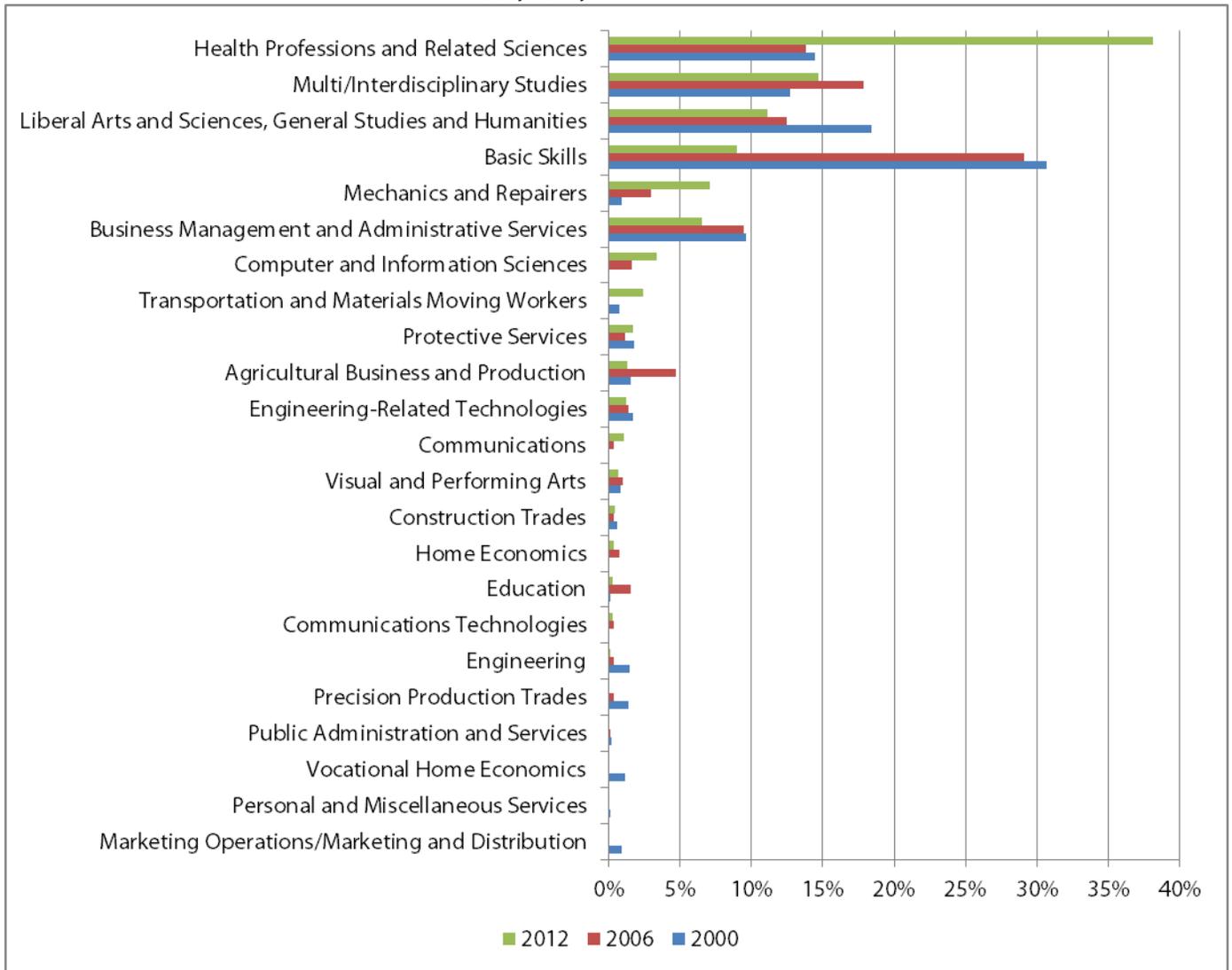
As portrayed in Figure 27, the most significant increases were in the percentages of students enrolling in Liberal Arts and Sciences, General Studies and Humanities (38.7% to 45.3%) and Business-related (17.6% to 21.3%). There were declines in Multi/Interdisciplinary Studies (11.8% in 2000 to 8.7% in 2012) enrollments.

Figure 27. Program Enrollments by Classification of Instructional Program at Enrollment 2000, 2006, 2012



Completer data reveal that Basic Skills replaces Business management in the top four CIPs. Basic Skills had the largest percentage of completers in 2000 at 30.7% but was eclipsed by several programs after declining sharply in 2012, most notably Health Professions and Related Sciences at 38.1%. Liberal Arts and Sciences programs saw a decrease from 18.4% to 11.2% and Multi/Interdisciplinary Studies increased from 12.8% to 14.7% of all completers in 2012. Figure 28 displays these data.

**Figure 28. Program Completers by Classification of Instructional Program at Enrollment
2000, 2006, 2012**



13. Veteran Status.

Veteran enrollment at the college is generally declining. In 2000, 485 students identified themselves as veterans – about 3.3% of total enrollees. This number fell to 364 (2.1%) in 2006, and to 259 (1.1%) in 2012.

Veterans make up a fairly consistent percentage of completers. In 2000, 2.8% of completers (33) reported veteran status. Veterans made up 2.1% of 2006 completers (36) and 2.4% of 2012 completers (35).

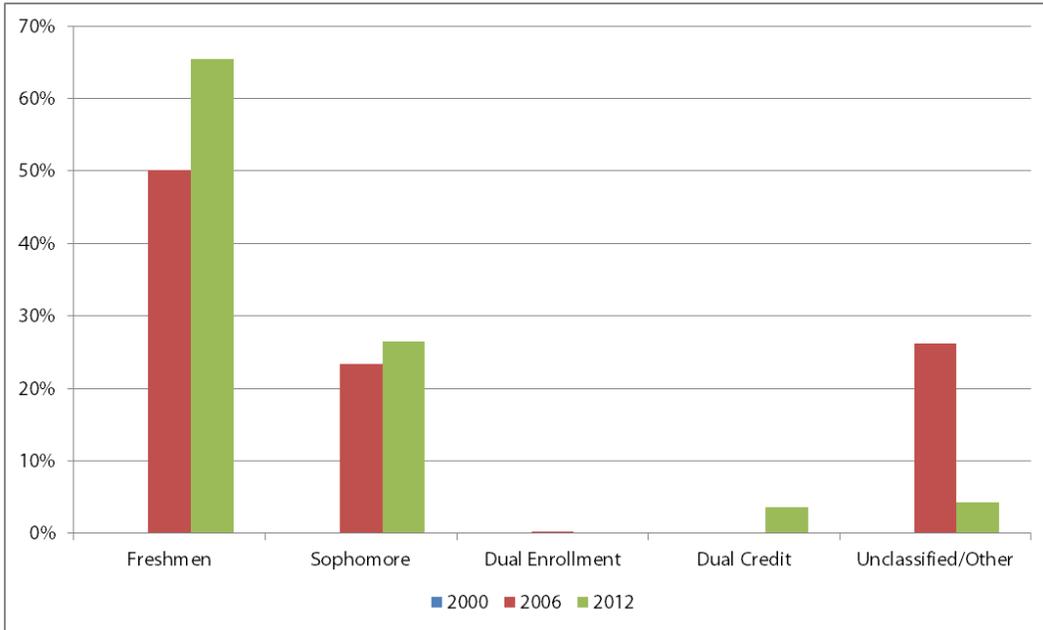
14. Online Status.

In 2006, 4,184 students took at least one online course for credit. That was 24.7% of the total annual headcount. Over the next six years, online students grew by more than 75%. By 2012, 7,393 students took at least one online class for credit, about 30.8% of total students.

15. Dual Credit Status.

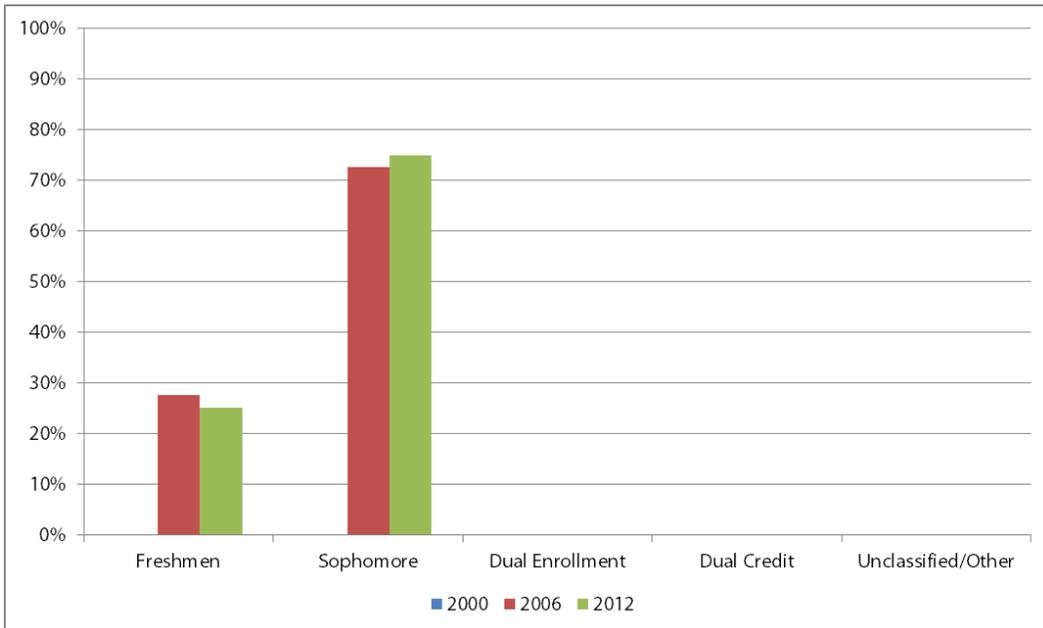
Dual credit students are high school students that are receiving both high school and college credit for courses they complete at a community college. Dual enrollment students are high school students that receive college credit but not high school credit for courses they complete. Dual enrollment students made up less than 1% of enrollees in both 2006 and 2012 (Figure 29). Freshmen made up the largest group of community college enrollees and increased between 2006 and 2012. Sophomores grew slightly as a portion of total enrollment between 2006 and 2012 (data were not collected in 2000). Dual credit enrollments were only tracked in more recent years so there is not an earlier year to compare this to. These students made up almost 4% percent of enrollments in 2012.

**Figure 29. Program Enrollments by Student Level
2006 and 2012**



Sophomores made up the largest groups of completers, increasing slightly from 72.5% in 2006 to 74.8% in 2012 (Figure 30). There were no dual enrollment or dual credit student completers reported.

**Figure 30. Program Completers by Student Level
2006 and 2012**



DATA LIMITATIONS AND POTENTIAL FUTURE ENHANCEMENTS

Throughout the study, the source of community college student employment and earnings data is the Unemployment Insurance (UI) wage record data reported by Illinois employers for each of their employees. UI wage record data are collected on a quarterly basis by the Illinois Department of Employment Security (IDES). While the matching of ICCB student records and IDES UI wage record data grounds the analysis in empirical evidence it also provides some limitations. Several categories of workers are not included in the UI dataset used for this analysis.

Employees not included in the UI dataset include self-employed individuals, agricultural workers on small farms, railroad workers, and federal workers. The last group, federal workers, is likely the most significant exclusion from the data. Statewide, federal workers make up about 1.5% of total employment. However, the percentage is significantly higher in some districts.

Individual earnings are reported based on the location of the employer. Thus, workers earning income in other states are not reported to the Illinois UI system, even if the worker resides in Illinois. This has the potential to impact the earnings outcomes for individual districts along the border. This impact is likely significantly more important in border districts adjacent to major out of state employment centers such as St. Louis, MO, Davenport/Bettendorf, IA, Kenosha/Racine, WI, and Terre Haute, IN.

These limitations have the potential of skewing the earnings outcomes. If a student was employed in Illinois prior to entering the community college system, but became employed in another state (or in one of the excluded employment categories), the data would show that they had no post-completion earnings. A worker in this situation may be counted as having a negative pre to post completion earnings gain when in fact they may have experienced a significant earnings increase.

Additionally, wage records were only supplied by IDES for individuals who had attended an Illinois community college. This limited the analysis to a comparison of individual earnings before entering a college and after completions. A preferred approach would have been to compare earnings outcomes of college attendees to similar individuals that had not attended a community college. However, the data were not available to perform this analysis.

Finally, the approach employed to analyze student outcomes also has limitations. Earnings gains were calculated by comparing an individual's earnings in the four quarters prior to earnings their first community college credits to their earnings in the four quarters after completion. Students that were in high school prior to entering a college (or even as they entered a college) would have limited earning potential prior to entrance. Likewise, students

that enrolled in a four year college after graduation would have limited earnings potential in the year immediately following completion. Data were not available to identify students that transferred to another school after completing a program.

The next iteration of the Economic Impact Study will look to utilize additional data sources to enhance the study. IDES currently participates as a member of the Wage Record Interchange System (WRIS). WRIS facilitates the exchange of wage data among participating states for the purpose of assessing and reporting on state and local employment and training performance. If given permission to access WRIS data, ICCB and NIU CGS could more effectively track Illinois community college student employment in border states. The use of National Student Clearinghouse (NSC) data will also be investigated by ICCB and NIU CGS. NSC is the nation's trusted source for student-level enrollment and degree verification. By matching ICCB student records to NCS student-level data, students continuing to persist in higher education after exiting an Illinois community college (such as baccalaureate/transfer students) could be excluded from certain economic student outcomes.

GLOSSARY

Completer. A student who has completed a degree or certificate program of study.

Direct Impacts (Direct Effect). The set of expenditures (college purchases and payrolls) or employment applied to the economic model for impact analysis.

Enrollments. Students who took one or more courses in a given year.

Exiter. A student that exits the community college system. Can be a *completer* or *non-completer*.

Indirect Impact (Indirect Effect). The impacts derived as additional effects caused by industries purchasing from other industries. In the case of community colleges, these might occur through local purchases of goods such as office supplies and services such as consulting or auditing services.

Induced Impacts (Indirect Effect). The impacts derived from college employees spending their income in the local economy. For the purposes of this report, induced impact are added to indirect impacts and reported as a single figure labeled indirect impacts.

Internal Rate of Return (IRR). The average annual return earned through the life of an investment. (Source: BusinessDictionary.com)

Net Present Value (NPV). The difference between the present value of the future cash flows from an investment and the amount of investment. Present value of the expected cash flows is computed by discounting them at the required rate of return. (Source: BusinessDictionary.com)

Net price of attending school. Average net price is generated by subtracting the average amount of federal, state/local government, or institutional grant or scholarship aid from the total cost of attendance. Total cost of attendance is the sum of published tuition and required fees (lower of in-district or in-state), books and supplies, and the weighted average for room and board and other expenses. (Source: College Navigator, National Center for Education Statistics)

Non-completer. A student who exits the community college system without completing a degree or certificate program of study.

Total Impacts. The sum of the *direct*, *indirect* and *induced* impacts.

Value added. Gross value added is the value of output less the value of intermediate consumption; it is a measure of the contribution to GDP made by an individual producer, industry or sector. It equals gross output (sales or receipts and other operating income, plus inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported). Value added consists of compensation of employees, taxes on production and imports less subsidies, and gross operating surplus (profits). (Source: IMPLAN)

DATA SOURCES

Illinois Department of Employment Security. Unemployment Insurance (UI) Wage Data Records.

Illinois Community College Board Centralized Data System.

- ICCB Annual Enrollment and Completion (A1) Data Records
- ICCB Faculty, Staff and Salary (C1/C2) Data Records
- ICCB College Financial Submissions

IMPLAN Economic Impact Modeling System (Input-Output)

National Center for Education Statistics. Integrated Postsecondary Education Data System (IPEDS).