
**An Analysis of the Economic and Workforce Development
Impact of**



Anne Arundel Community College

On

The Anne Arundel County Economy

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Prepared

by

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The Economic Impact of Anne Arundel Community College

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Executive Summary

Anne Arundel Community College (AACC) plays an important role in the Anne Arundel County economy. The College has its primary impact on the County economy through its provision of educational services, but also has an important economic impact on the County economy through the spending associated with its educational mission. This report estimates both the economic and workforce development impacts of the College.

Economic Impacts

The College impacts the County economy through its operating and capital expenditures and through the spending of the students and visitors it attracts into the County. A summary of the economic impacts of the College is as follows:

- The \$60.2 million in FY 1999 College-related expenditures spent in the County and not supported by County government appropriations generates additional economic activity through economic "multiplier" or "spin-off" effects. AACC's total economic output impact on the Anne Arundel County economy in FY 1999 was of \$97.6 million.
- The majority of the College's economic output impact (\$80.9 million or 83%) is based on recurring expenditures, with the remaining \$16.8 million (17%) in economic output impact is based on one-time capital expenditures.
- In addition to the College's direct employment of 832 FTEs, there are an estimated, 462 jobs supported by student expenditures, 94 jobs supported by the College's one-time capital expenditures and 7 jobs supported by visitor expenditures, for a total of 1,395 FTE jobs directly supported by the College. Adding in the indirect and induced impacts, AACC supported a total of 1,886 in the county in FY 1999.
- Some 91% (1,707 jobs) of the AACC supported employment is based on recurring expenditures; the remaining 180 jobs (9%) result from capital expenditures.
- There is an estimated \$39.8 million in County salaries and wages associated with the 1,886 jobs directly or indirectly supported by the College – \$34.2 million (86% of the total) from recurring expenditures and \$5.5 million (14%) from capital expenditures.
- The College is among the top 1% of employers in the County in terms of number of employees.
- Anne Arundel Community College generates nearly \$6 in economic output for each \$1 appropriated.

Workforce Development Impacts

The College has its most important impact by supplying educated and skilled workers to the County's labor market.

- The County's business community has an overwhelmingly positive view of the College, with 68% of businesses rating the College as either good or excellent in providing a skilled workforce.
- The College awarded 253 certificates in FY 1999. Twenty six percent (26%) of certificates awarded were in the important computer or business management fields, 20% were in health fields, and 18% were in architecture and drafting.
- The College awarded 910 associates degrees in 1999. Sixty-eight percent (68% - 617 degrees) of associate degrees awarded were transfer degrees to students likely to go on for a four-year degree. Thirty-two percent (32% - 293 degrees) non-transfer degrees were awarded to students, who are likely to enter the workforce.
- The College plays a vital role in meeting the demand for key employment openings in the County. The College meets all of the projected demand for business/management and non-nursing health occupations. The College meets 70% of the demand for nursing and 65% of the demand for computer job openings in Anne Arundel County.

Introduction

Anne Arundel Community College (AACC) plays an important role in the Anne Arundel County economy. The College has its primary impact on the County economy through its provision of educational services. Community colleges are a critical element of a county's educational infrastructure and play a crucial role in providing a skilled and educated workforce. In addition to this important educational and workforce development impact, AACC also has an important economic impact on the County economy. The College provides jobs and makes purchases from County businesses. The College's employees and students make purchases in the County. The College also attracts visitors into the County to attend educational activities and events and these visitors make purchases from local companies. The purchases made by the College and its employees, students and visitors stimulate the economy and create new jobs and economic activity through economic multiplier effects. The first part of this report measures these economic impacts and the second part analyzes the role of the College in the County's labor market.

Methodology

This report uses an economic impact modeling approach similar to the Ryan-New Jersey model¹ that has been used to conduct economic impact analyses by community colleges in a number of other states. There are two basic steps in an economic modeling effort. The first step is to determine the spending in the economy attributable to the project or activity being analyzed. This spending represents the changes in economic activity attributable to the community college and is called the direct effect. The second step is to multiply the direct effect spending by economic multipliers. Economic multipliers measure the additional "indirect" or "multiplier" effects that occur as a result of the direct effect. These indirect or multiplier effects occur as the initial round of spending by the project or activity being analyzed becomes income for other businesses and individuals and a portion of this income is in turn re-spent locally in additional rounds of spending.

The three major components of direct effects used in the Ryan-New Jersey model were included in this modeling effort. These were:

1. Non-payroll expenditures made in Anne Arundel County;
2. Employee payroll paid to employees residing in Anne Arundel County; and
3. Living and educational expenditures made by students residing in Anne Arundel County.

This report differs from the Ryan-New Jersey model in several important aspects. In this analysis a fourth direct effect, spending by out-of-County visitors was included. The capital expenditures of the College were also modeled separately using multipliers for the construction sector. This analysis also reduced the payroll, non-payroll and capital expenditures of the College by the portion of total AACC revenues supported by County appropriations. County government supported expenditures were excluded on the grounds that in the absence of the College, these funds could be reallocated to other government uses. Finally, this analysis

¹ G. Ryan, Brookdale Community College. *A Study of the Economic Impact of the Community Colleges on the State of New Jersey*. (Lincroft, NJ, 1983).

employed the multipliers in the IMPLAN² input-output model rather than deriving its own multipliers. Most of the studies based on the Ryan-New Jersey model use multipliers that range from 1.9 to 3.0.³ The total IMPLAN multiplier for colleges and universities is 1.75. Thus, this analysis uses a more conservative multiplier than other studies. The IMPLAN multipliers allow the estimation of two effects:

- Indirect effects, which represent the changes in inter-industry purchases, for example the purchase of raw materials from a local supplier, in response to the new demands from the directly affected industries; and
- Induced effects that reflect changes in spending from households as income and population increase (or decrease) due to the changes in production.

The total impact of the College is the sum of the direct effects plus these indirect and induced effects and represents the total estimated impact of the College on the County economy.

An input-output model allows the estimation of several different types of impacts. This analysis estimates the total, direct, indirect, and induced economic output, employment, and employee compensation effects of AACC.

- Economic output represents the value of production by a particular industry or an economy over a given period of time.
- Employment is the total number of wage and salary earning employees and self-employed individuals in a region. It includes full-time and part-time workers measured in full-time equivalent (FTE) positions.
- Employee compensation consists of wage and salary payments paid to employees by employers. Employee compensation includes all benefits and non-cash compensation paid to employees.

² IMPLAN (Impact Analysis for PLANing) was originally developed to assist the U.S. Forest Service in land and resource management planning. For a description of input-output analysis and the IMPLAN modeling process, please reference: The Minnesota IMPLAN Group, Inc., *IMPLAN Pro Users Guide*, (Stillwater, MN: MIG, Inc. 1997) pp. 77-104. This analysis used the Colleges and Universities multiplier for AACC expenditures of AACC. Student and visitor spending was allocated into commodity groups using student and visitor spending information developed for analyses of other educational institutions.

³ Office of Institutional Research, Johnson County Community College, *The Economic Impact of Johnson County Community College on Johnson County 1993-94*, (Overland Park, KS, JCCC, 1994).

The Economic Activity Associated with Anne Arundel Community College

Anne Arundel Community College is an important component of the County economy. As presented in Table 1, there is a total of \$89.1 million in expenditures associated with the College. The majority of these expenditures (\$72.8 million) represent recurring expenditures with the remaining \$16.3 million consisting of capital expenditures which fluctuate from year to year based on capital budgets. The College's operating expenditures total \$46.2 million and the College had capital expenditures of \$16.3 million. In addition to these operating and capital expenditures there are an estimated \$26.3 million in student expenditures and \$300,000 in visitor expenditures associated with the College. The College employs 1,402 full-time and part-time employees and has a total payroll of \$36.4 million.

Table 1
Total Expenditures, Employment and Payrolls Associated
With the Anne Arundel Community College
FY 1999

<hr/> Item <hr/>	
Total Expenditures (Mil. \$)	<u>89.1</u>
Total Recurring Expenditures	72.8
Operating Budget	46.2
Student Expenditures	26.3
Visitor Expenditures	0.3
One-Time Capital Expenses	16.3
 Total Employment	 1,402
 Total Payroll (Mil. \$)	 36.4

Source: AACC and the Jacob France Center

The County Economic Output Impact of Anne Arundel Community College

The expenditure figures in Table 1, however, do not represent the actual impact of the College on the County for two reasons:

1. Some of these expenditures would occur in the absence of the College, for instance the County appropriation to the College could be reallocated to other government programs; and
2. Some of the expenditures associated with the College represent spending that would otherwise not occur in the County in the absence of the College, for instance student expenditures. This spending has associated "spin-off" or "multiplier" effects.

Thus, in order to estimate the direct impact of the College, several adjustments are made to the College's expenditures. A description of the data used in this analysis and the adjustments made to the data are as follow:

College Operating Expenditures include the payroll and non-payroll expenditures of AACC paid to employees residing in or suppliers located in the County. Student salaries are excluded since these would be captured in student expenditures (described below). Operating expenditures were also reduced by the portion of the College's operating budget (35%) that is directly supported by County appropriations. Operating expenditures account for 39% of the direct impact of the College.

Student Expenditures represent the educational and living expenses of the College's more than 12,000 students. Data on living expenditures were provided by the College's financial aid office. Students less than 25 years old were assumed to be living at home and their room, board and other expenditures were estimated at \$4,850 per year. Out-of-state students, foreign students, and students over 25 were assumed to be living on their own and their room, board and other expenditures were estimated at \$9,700 per year. Students residing in other Maryland counties were assumed to only purchase school supplies and books in Anne Arundel County, their expenditures were estimated at \$900 per year. Estimated student expenditures totaled \$26 million and accounted for 43% of the direct impact of the College.

Visitor Expenditures consist of the expenditures by out-of-County visitors to the College to attend research or training programs, seminars, or other educational events. Visitor expenditures account for less than 1% of the direct impact of the College.⁴

Capital Expenditures consist of the major construction and renovation expenditures made by the College. Capital expenditures were also reduced by the portion of the College's operating budget (35%) that is directly supported by County appropriations. Capital expenditures account for 17% of the direct impact of the College. Unlike the College's operating, student, and visitor expenditures which generally remain stable from year to year, capital expenditures vary with the College's and the County's capital budget. Thus, capital expenditures are treated for descriptive purposes as non-recurring expenses while the College's operating, student, and visitor expenditures are treated as recurring expenses.

⁴ AACC staff and Jacob France Center researchers derived the estimated number of visitors and their associated spending.

The economic output impact of these College expenditures was estimated using the IMPLAN model. The results of the modeling effort are presented in Table 2. The \$60.2 million in direct College-related expenditures in the County is leveraged with an additional \$18 million in indirect impacts (through the College's purchases of goods and services) and \$19.4 million in induced impacts (through the salaries and wages paid by the College and its suppliers) for a total impact of \$97.6 million. The majority of the College's economic output impact (\$80.9 million or 83%) is based on recurring expenditures, with the remaining \$16.8 million (17%) in economic output impact is based on capital expenditures.

Table 2
The Economic Output Impact of Anne Arundel Community College
On the Anne Arundel County Economy, FY 1999
(Millions of Dollars)

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Total Economic Output Impact	<u>60.2</u>	<u>18.0</u>	<u>19.4</u>	<u>97.6</u>
Total Recurring Expenditures	49.7	14.6	16.5	80.9
Operating Expenditures	23.5	7.3	10.0	40.8
Student Expenditures	26.0	7.2	6.4	39.6
Visitor Expenditures	0.3	0.1	0.1	0.4
One-Time Capital Expenditures	10.5	3.4	2.9	16.8

Note: Figures may not add due to rounding.

Source: AACC and the Jacob France Center

The Impact of Anne Arundel Community College on County Employment and Earnings

With total non-student employment of 1,402 (832 FTEs), Anne Arundel Community College is one of the largest employers in the County. According to data from the U.S. Department of the Commerce's *County Business Patterns, 1997* report, the College was one of only 4 employers in the County with more than 1,000 employees, ranking the College among the top 1% of County employers. As presented in Table 3, in addition to the College's direct employment of 832 FTEs, there are an estimated, 462 jobs supported by student expenditures, 94 jobs supported by the College's one-time capital expenditures and 7 jobs supported by visitor expenditures, for a total of 1,395 FTE jobs directly supported by the College. The total employment impact of the College on the County is these direct jobs plus the 222 estimated jobs supported by the indirect impacts of the College and the 269 jobs supported by the induced impacts of the College for a total of 1,886 jobs directly or indirectly supported by the College. As presented in Table 4, there is an estimated \$39.8 million in County salaries and wages associated with the 1,886 jobs directly or indirectly supported by the College.

Table 3
The Employment Impact of Anne Arundel Community College
On the Anne Arundel County Economy, FY 1999
(Number of FTEs)

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Total Employment Impact	<u>1,395</u>	<u>222</u>	<u>269</u>	<u>1,886</u>
Total Recurring Employment Impact	1301	176	229	1,707
Operating Expenditures	832	85	139	1,056
Student Expenditures	462	91	89	642
Visitor Expenditures	7	1	1	9
One-Time Capital Employment Impact	94	46	40	180

Note: Figures may not add due to rounding.

Source: AACC and the Jacob France Center

Table 4
The Employee Compensation Impact of Anne Arundel Community College
On the Anne Arundel County Economy, FY 1999
(Millions of Dollars)

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Total Employee Compensation Impact	<u>26.8</u>	<u>6.5</u>	<u>6.4</u>	<u>39.8</u>
Total Recurring Compensation Impact	23.6	5.2	5.5	34.2
Operating Expenditures	15.9	2.7	3.3	22.0
Student Expenditures	7.6	2.4	2.1	12.1
Visitor Expenditures	0.1	0.0	0.0	0.2
One-Time Capital Compensation Impact	3.2	1.4	1.0	5.5

Note: Figures may not add due to rounding.

Source: AACC and the Jacob France Center

The Fiscal Impact of Anne Arundel Community College

In addition to the economic impacts discussed above, Anne Arundel Community College also impacts fiscal conditions in the County. The salaries earned by College employees residing in Anne Arundel County and the jobs created and sustained through College, student, and visitor expenditures are subject to County "Piggy Back" income taxes. There are an estimated \$600,000 in County income tax revenues associated with the employees of the College and an additional estimated \$200,000 in County income tax revenues associated with the jobs supported by the multiplier effects of the College. Thus, there is an estimated \$800,000 in County income tax revenues associated with the College. This estimate does not include any County sales or property taxes associated with the employees of the College nor does it include income or other taxes paid by the College's students.⁵ This estimate also excludes the taxes associated with the increase in earnings for County-resident graduates attributable to their increased educational attainment. Thus, the actual fiscal impacts of the College are likely to be much higher.

Table 5
Fiscal Impact of AACC on Anne Arundel County, FY1999
(Millions of Dollars)

Item	Direct Effects	Indirect Effects	Induced Effects	Total Effects
County Income Tax Revenues (1)	0.6	0.1	0.1	0.8

(1) Calculated as the incremental increase in earnings multiplied by the effective state income tax rate and then multiplied by the Anne Arundel County "Piggy Back" Tax Rate of 50% of State Taxes. Total estimated tax revenues from one-time capital expenditures are \$114,000 or 14% of the total

Source: AACC and the Jacob France Center

The fiscal impact of the Anne Arundel Community College can also be analyzed in terms of the level of economic output leveraged by the County's appropriation. A substantial portion of the College's revenues and expenditures are derived from tuition and state and federal government funding. In fiscal 1999, County funding accounted for only 35% of revenues. This leveraging of County appropriations, combined with the economic impacts discussed above, leads to a high return on County expenditures. Dividing the total economic output impacts of the College by the County appropriation provides an estimate of the economic returns on the County's investment in the College. As presented in Table 6, Anne Arundel Community College generates nearly \$6 in economic output for each \$1 appropriated.

⁵ A full fiscal impact study was outside of the scope of this analysis.

Table 6
FY 1999 Anne Arundel County "Return on Investment"

Item	
Total County Operating Appropriation (Mil. \$)	16.4
Total Economic Output Impact (Mil. \$)	97.6
Economic Output Impact per Dollar Appropriated	\$5.95
Source: AACC and the Jacob France Center	

The Impact of Anne Arundel Community College on the County's Labor Market

Anne Arundel Community College has its most important impact on the County through the educational and training services that it provides to County residents and businesses. Workforce training is an essential element of any state, county, or local economic development effort and community colleges are an essential element of any region's workforce training infrastructure. Nearly every study of business location decisions and economic development in general ranks labor market issues among the most important factors in evaluating a region's business climate. Labor availability was ranked as the second most important factor out of a total of twenty-two site selection factors (after real estate costs) in an Ernst & Young survey of corporate real estate executives.⁶

The availability of skilled workers is a key element in any region's efforts to build competitive advantage. Community colleges play a vital role in supplying a skilled workforce at two levels.

- On the supply side, community colleges provide training to large numbers of students in business, health, and technical fields, providing an important source of educated workers; and
- On the demand side, community colleges provide businesses with customized training and technical assistance to improve productivity and enhance competitiveness.⁷

Thus, in addition to the economic impacts discussed above, the County benefits in two important ways from the educational and training services provided by the College. Students gain vital skills and knowledge, enabling them to enjoy increased earnings and a higher standard of living. Employers also gain access to a pool of educated and productive workers, making the County more attractive to businesses.

The Importance of Community College Education

One of the primary benefits of higher education is the increased earnings and standard of living made possible by the education and skills acquired. Higher educational attainment generally results in increased earnings potential and consequently, a higher standard of living. As presented in Table 7, in 1998, the average income for males nationally, who have completed some college, was 22% higher than the income of those with only a high school diploma and the average income for males who complete an associate degree was 34% higher. The results for females were similar, with a 16% increase in earnings from completing some college and a 34% increase in earnings for completing an associate degree. Furthermore, community colleges serve as the entry point to higher education to many individuals who go on to higher levels of educational attainment and earnings. The County's workforce also benefits from the customized training provided by the college, which both increases worker productivity and promotes career

⁶ Evans, M. and Barovick, B., The Ernst & Young Almanac and Guide to U.S. Business Cities, John Wiley and Sons, 1994, p. 303.

⁷ Fitzgerald, J., "Is Networking Always the Answer? Networking Among Community Colleges to Increase their Capacity in Business Outreach," *Economic Development Quarterly*, Vol. 12, #1, pp. 30-40.

advancement for the trained employees. The income gains associated with higher education can add up to a large sum over the course of a lifetime.

Table 7
Average 1998 Income of Individuals
by Educational Attainment, for the U.S.
(Dollars)

Highest Degree Earned	Average Income ⁽¹⁾	
	Male	Female
High School Graduate	32,647	23,841
Some College, No Degree	39,820	27,610
Associate Degree	43,668	31,959
Bachelor's Degree	60,605	39,655

(1) For full-time, year-round workers

Source: U.S. Census Bureau

The Role of Anne Arundel Community College in Meeting the County's Workforce Needs

In addition to the increase in resident earnings attributable to the educational services provided by the College, the County also benefits from the increased supply of skilled workers supplied by the College. Anne Arundel Community College provides both broad educational and specific skills training to County residents. This increases the supply of skilled workers available to County businesses. As a result, the County gains an economic "comparative advantage" relative to areas with a more limited supply of skilled labor. As described above, the presence of a skilled workforce is a key business climate factor. Counties with a better-educated workforce are both more attractive for the attraction of new businesses and are better able to retain existing and expanding businesses. The supply of skilled workers is critical to the high technology sectors targeted for growth by the County.

There is a real and substantial need for skilled workers in the Anne Arundel County economy. As of April of 2000 (the most recent data available at the time of writing), the unemployment rate in Anne Arundel County was 2.1%. This is well below the unemployment rate of 5% considered full employment and is one of the lowest unemployment rates in Maryland. These figures signify a significantly tight labor market in the County.

The existence of tight County labor market conditions is further demonstrated by the Anne Arundel County specific results of the *Maryland Business Climate Survey*, a statewide business survey conducted by the Maryland Business Research Partnership. In 1999, 63% of Anne Arundel County businesses reported difficulties in obtaining workers with the skills necessary to fill existing job openings. Of the Anne Arundel County firms that reported experiencing worker shortages, 33% reported that these shortages were long-term. Businesses reported worker shortages in many of the areas where the College plays a critical role. Thirteen percent (13%) of businesses reported that they have difficulty in hiring managerial personnel,

11% reported difficulty in hiring computer technicians or operators, and 11% reported difficulty in hiring laboratory or technical personnel. The County's business community has an overwhelmingly positive view of the College, with 68% of businesses rating the College as either good or excellent in providing a skilled workforce.

As presented in Table 8, Anne Arundel Community College awarded 253 certificates in fiscal year 1999. Twenty six percent (26%) of certificates were awarded in each of the important computer and business management fields, 20% were in health fields, and 18% were in architecture and drafting.

Table 8
Anne Arundel Community College
Certificates Awarded, FY 1999

<u>Program Area</u>	<u># of Certificates</u>	<u>% of Total</u>
Total	<u>253</u>	<u>100%</u>
Computers	67	26%
Business/Management	65	26%
Health (ex Nursing)	50	20%
Architecture/Drafting	45	18%
Law Enforcement	15	6%
Paralegal	10	4%
Other	1	0%

Source: AACC

As presented in Table 9, the College awarded 910 associate degrees in 1999. Sixty-eight percent (68% - 617 total degrees) of associate degrees awarded were transfer degrees to students likely to go on for a four-year degree. As was the case for certificates awarded, the non-transfer degrees awarded were highly concentrated in the important nursing, business management, and computer fields most in demand by County employers.

Table 9
Anne Arundel Community College Associate Degrees
Awarded, FY 1999

Program Area	# of Certificates	% of Total
Total	910	100%
Transfer Degrees Total	617	68%
General Studies	511	56%
Business	54	6%
Technology/Science	24	3%
Other	28	3%
Career Degrees	293	32%
Nursing	77	8%
Business/Management	50	5%
Computers	46	5%
Health (ex. Nursing)	39	4%
Paralegal	33	4%
Architecture/Drafting	27	3%
Law Enforcement	15	2%
Other	6	1%

Source: AACC

Many of the College's certificate and associate degree graduates go on to work in the County. Table 10 compares the number of non-transfer certificate and associate degree graduates to projected number of annual job openings in relevant fields.⁸ Transfer students were excluded because it was assumed that most of these students go on to complete a four-year degree. As presented in Table 10, Anne Arundel Community College plays a vital role in meeting the demand for key employment openings in the County. The College meets all of the projected demand for business/management and non-nursing health occupations. The College meets 70% of the demand for nursing and 65% of the demand for computer job openings. In some areas, the number of certificate program or associate degree graduates exceeds the demand

⁸ Occupational demand was derived by applying national U.S. Bureau of Labor Statistics occupational employment and demand statistics to current and projected County employment data. Because these data are based on national, not County or State, data they differ somewhat from the County occupational demand estimates produced by the Maryland Department of Labor, Licensing, and Regulation (DLLR). Estimates based on national data were made because DLLR estimates were not available for the full range of relevant occupations. Occupational demand includes openings for both growth and replacement. The occupations in this analysis were not strictly limited to those requiring an associate's degree or less on the grounds that in today's tight labor markets, many positions are open to applicants with lower levels of educational attainment.

for the relevant occupations. This is not unusual because based on a 1999 survey of College graduates, 45% of graduates find work outside of the County. Furthermore, the education and training provided by the College does not limit the employment opportunities of the graduate to the fields he or she studied. Many of the skill sets obtained at the College are applicable to other jobs. For instance, in the Architecture/Drafting area, graduates are skilled in the use of computers and other technology and may find employment in computing fields.

Table 10
Occupational Demand for Anne Arundel Community College Graduates, FY 1999

Occupation	AACC Certificate Graduates	AACC Non-Transfer Associate Degree Graduates	Total AACC Graduates	Estimated Anne Arundel County Occupational Demand ⁽¹⁾	Graduates as a % of Demand
Total	<u>253</u>	<u>293</u>	<u>546</u>		
Business/Management	65	50	115	113	102%
Computers	67	46	113	173	65%
Health (ex. Nursing)	50	39	89	66	135%
Nursing	0	77	77	111	70%
Architecture/Drafting	45	27	72	33	218%
Paralegal	10	33	43	9	488%
Law Enforcement	15	15	30	94	32%
Other	1	6	7	-	-

(1) Estimated total annual openings for 1998 to 2008.

Source: BLS, DLLR, The Jacob France Center

This analysis underestimates the true role of the College in meeting the workforce demands of the County's business community. Many students enroll in a select number of classes in a targeted skill area, like computers, in order to broaden or deepen their existing skill set and do not receive a degree or certificate. These students often go on to apply the skills and education they receive into the workplace - either for their existing employer or by finding new employment. Thus, the true workforce impact of the education and skills training provided by the College is much larger than is reflected in these numbers.

A final area in which Anne Arundel Community College impacts the County's workforce is through the employer training activities of the College's Workforce Development and Business Services unit. The College's Business and Industry Training office designs, coordinates, and conducts high quality and affordable training tailored to the specific needs of businesses or government agencies. Training is provided in a variety of areas ranging from software applications, to basic business skills, to human resources issues using both College and outside expert instructors and consultants. One key impact of in the area of employer training is the College's training relationship with the County's largest private sector employer - Northrop

Grumman. The College's training program was an essential element of a combined state and County incentive package that has assisted in the retention and growth of the company in the County.

In fiscal 2000, the College provided 50,000 hours of instruction to 37,000 registered workers at 67 of the County's leading businesses or government agencies. The companies served by the college include Aerotek, Northrop Grumman, and Usinternetworking. The government agencies served by the College include the National Security Agency, Anne Arundel County Public Schools, the Department of Defense-Fort Meade, and the U.S. Naval Academy. All of these companies or agencies are among the leading employers in the County.