



4. Workforce Development

Introduction

Developing a skilled workforce is one of the keys for Greene County to respond to the needs of a changing regional, national, and global economy. Recognizing the importance of this issue for economic development in Greene County, the Project Team conducted an analysis of the factors that impact workforce development in the region: the quality of public schools and other educational institutions, characteristics of the existing labor force, workforce commutation, unemployment, and other workforce issues identified through previous reports and surveys. The team also examined the labor force needs and skill requirements associated with the target industries identified through the Target Industry and Resource Analysis. Finally, case studies were undertaken to look at best practices from other areas of the country and New York State that could serve as model approaches for workforce development in Greene County. Key findings, trends, issues and needs are summarized below.

KEY FINDINGS

- With Greene County school districts on average, faring better than New York State averages and with some school districts comparable to the best in the Capital Region, there is a need to focus on marketing the successes of Greene County schools as an attraction strategy for both creative technical workers and businesses.
- A large percentage of Greene County residents work outside the County. Many of these are professionals, scientific, management, and administrative workers, as well as those in finance, insurance, and real estate (FIRE). This indicates that job opportunities in higher-paid professions are lacking in Greene County. This also implies that a professional, white-collar workforce exists in the county that could be tapped should job opportunities become available. These workers could also help support the workforce needs of a high-tech economy in the future.
- Employers report a lack of qualified workers in education, health care, and manufacturing. On the other hand, a large number of Greene County workers in these professions work outside the County. Providing competitive wages could help attract Greene County residents to work locally.
- Only 60% of jobs in the manufacturing industry are filled by workers residing within Greene County. The County has also had to import labor for retail and service sector jobs. Greene County employers report that they are having difficulty finding entry-level workers in the hospitality/tourism, service, and manufacturing industries due to attitudinal issues such as lack of motivation, soft skills, and work ethics. Developing soft skills should be the focus not only of



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job training at both low and high levels, but as part of character education in middle-school and high school as well. The addition of guidance counselors could also help focus attention on at-risk youth.

- The Pathfinder Workforce Report of 2003 indicates that Greene County has a large underemployed population. The Project Team doubts the accuracy of numbers presented in this report, however, due to the use of an eight-county labor shed to determine workforce needs. Unless a more detailed survey and study of the Greene County workforce is undertaken, a more accurate picture of underemployment in the county could not be determined.
- The presence of a highly qualified workforce is a prerequisite that could deter the County from meeting its aspiration of attracting high-tech industries. While the County is at an advanced stage in meeting the *physical* needs of technology-based industries (e.g., the presence of shovel-ready land, infrastructure and telecommunications), workforce issues must be resolved to be competitive in attracting technology companies. Significant deficiencies related to the local workforce will need to be addressed either by growing the workforce internally, by attracting commuters and new residents, or both.
- There is a need to align course offerings at BOCES and Columbia-Greene Community College with the labor and educational requirements of target industries. For educational institutions to invest in new programs, however, significant interest from the youth must be present to justify the investment. There is declining enrollment projections for school districts within Greene County further compounding the supply and demand ratio for Greene County's targeted industries.
- There is apparently a mismatch between the career aspirations of high school students and identified target industries for Greene County. A survey of graduating high school students indicates that career choices of the emerging workforce are focused on the arts, media and other softer type of professions. A cultural shift has to occur in the county to elicit sufficient interest in courses related to science and engineering. This is considered a national trend not unique to Greene County.
- The absence of a major research university in Greene County will make it a challenge to pursue research and development facilities in emerging technologies such as nanotechnology, biotechnology, renewable energy, advanced materials, and information technology. By providing a low-cost business environment and a skilled workforce, however, Greene County could attract manufacturing facilities in these fields, for product commercialization, as a mid-to long-term goal.



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- The Greene County Department of Planning and Economic Development and the Greene County IDA could help multiply outreach efforts for the Columbia-Greene Community College and the Workforce Investment Office by informing existing and incoming businesses regarding the availability of on-demand training and state grants for this purpose.
- A technology-focused high school, modeled after Tech Valley High School, could be an option for Greene County. The school could be funded from BOCES aid, private foundations, Greene County, and legislative member items. The school could serve as a business incubator and be co-located in a business park, allowing interaction with businesses and encouraging practical applications for technology.
- Creation of business and technology incubators should be encouraged as a means for generating higher-paying jobs in the County. Jobs created through incubators could help retain talented youth and highly-skilled workers in the County.
- A large number of artists, writers and performers are attracted to Greene County because of its good quality-of-life and the natural beauty of its environment. The growing number of creative workers in the County could be considered an important resource to enhance tourism. The presence of these creative workers could be celebrated through art and music festivals, craft fairs, open-air theatre performances, and other events that highlight their presence in the community. The diversity they bring to Greene County is an important ingredient in attracting other creative professionals from the technology, professional, and scientific sectors. There is a need to provide additional amenities that creative workers are seeking, however, including good restaurants and a variety of retail options.
- Many new residents (especially in the Mountaintop Towns) are entrepreneurs. They could be encouraged to participate in the community through mentoring and business development for job creation. Development of a business conference center on the Mountaintop could help serve the needs of telecommuters and entrepreneurs.
- The Workforce Investment Office and local school districts could explore the possibility of collaborating with the American Hotel & Lodging Educational Institute in establishing the Skills, Tasks, and Results Training (START) Program for ninth- and tenth-grade students, as well as at-risk youth, welfare-to-work, and dislocated workers in the County. This collaboration could also include establishing the Lodging Management Program (LMP) for eleventh- and twelfth-grade high school students. These two programs could help supply a steady stream of highly-skilled, certified workers for Greene County's tourism and lodging industry. Articulation



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agreements could also be established with colleges and universities in New York State that offer courses leading to careers in hospitality administration.

Existing Conditions

QUALITY OF SCHOOLS

Greene County currently provides over 8,000 students with public education. The following provides a comparison of various performance standards of the ten public school districts serving the students of Greene County, as well as averages for nearby Columbia County and the state as a whole.

The performance standards are based on findings in the New York State School District Report Card, and contain raw proficiency scores in the subjects of English, Math, and Science, in addition to dropout rates and earned high school Regents Diplomas. Proficiency levels are derived from elementary and middle-level tests developed by the Board of Regents in collaboration with teachers, administrators, and other professionals in the field. Test responses demonstrate students' ability to read, write, and listen, and to understand and apply information related to mathematics and science.

Student performance is divided into four levels. Students earning test scores ranging from 455 to 602 are ranked at Level 1, which denotes serious academic deficiencies. Those with test scores between 603 and 644 are ranked at Level 2, which reflects students' need for extra help. Students with test scores ranging from 645 to 691 are ranked at Level 3, demonstrating that they have met the standards, while those with test scores ranging from 692 to 800 are ranked at Level 4, meaning that they have exceeded the standards. Raw scores are tabulated across all levels in order to develop a mean score. Mean scores are reported for proficiency in English, Science and Math by school district in the table on page 4-6.

Overall, the ten school districts serving the students of Greene County have achieved similar levels of proficiency in the fields of English, Math and Science as compared with nearby Columbia County as well as statewide averages.

In some instances, proficiency levels in particular areas stand out. For example, fourth grade students in the Gilboa-Conesville Central School District received exceptional scores in English proficiency, while eighth grade students in the Margaretville School Central School District outperformed all other districts in Science.

In order to earn a high school diploma in the State of New York, students must score 55 or higher on at least five Regents examinations and earn 22 units of credit. Students scoring 65 or higher will

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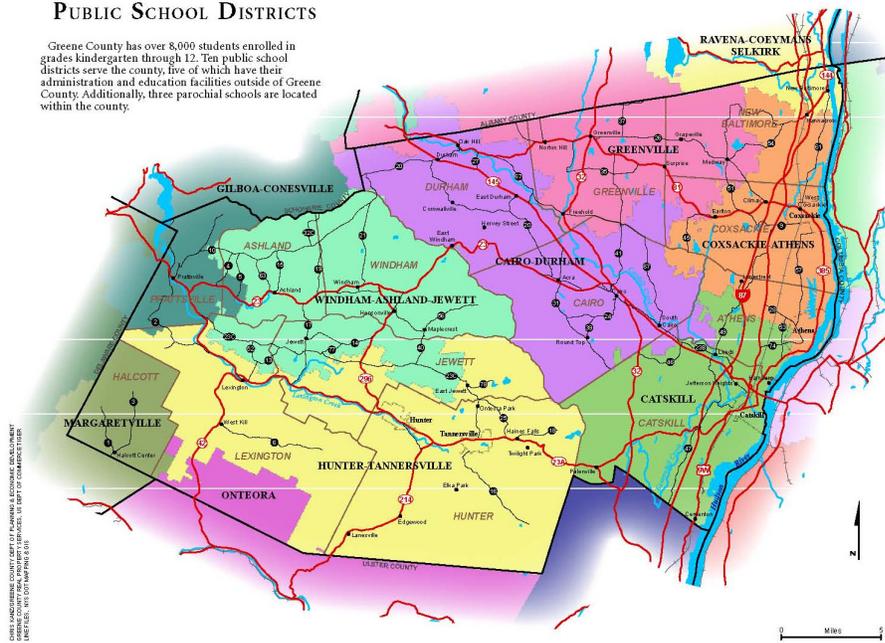


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earn a Regents diploma, reflecting a higher level of student achievement on standardized tests within each school district.

PUBLIC SCHOOL DISTRICTS

Greene County has over 8,000 students enrolled in grades kindergarten through 12. Ten public school districts serve the county, five of which have their administration and education facilities outside of Greene County. Additionally, three parochial schools are located within the county.



The school districts in Greene County on average fare relatively well compared with Columbia County and statewide averages. Mountaintop school districts could compete with school districts well regarded in the Capital Region including the Bethlehem Central School District in Albany County; homebuyers looking for a home in the southern part of the Capital Region recognize the Bethlehem School District for its standards of excellence. The chart indicates that as a whole, Greene County school districts have higher percentages of students earning Regents Diplomas than nearby Columbia County and statewide averages, and they are not far behind the Bethlehem School District. School districts such as Catskill, Windham, Onteora, and Hunter have all bested Bethlehem in turning out graduates earning Regents Diplomas. In fact, 64% of students in the ten school districts serving Greene County are earning Regents Diplomas, as compared with almost 10% less in Columbia County and 57% for New York State as a whole.

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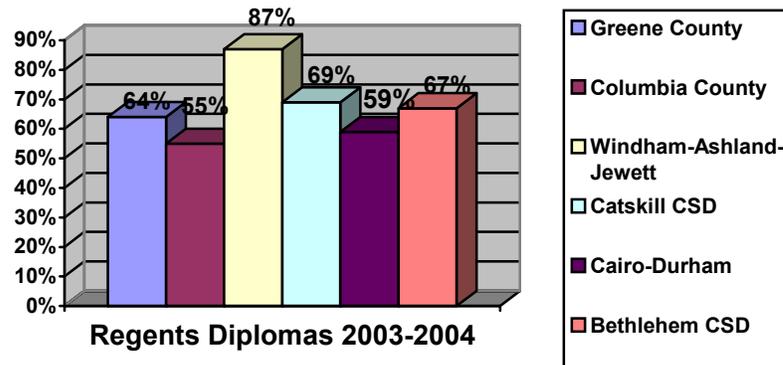
Greene County School District Report Cards, 2003-2004									
School District by Sub-Region	Grade 4: English Proficiency	Grade 4: Math Proficiency	Grade 4: Science Proficiency	Grade 8: English Proficiency	Grade 8: Math Proficiency	Grade 8: Science Proficiency	Enrollment (Total)	Dropout Rate	Earning High School Regents Diplomas
Mountaintop School Districts									
Gilboa-Conesville CSD	670	663	71	699	723	76	396	0.0%	55%
Hunter-Tannersville CSD	648	652	78	699	724	77	522	1.9%	75%
Onteora CSD	660	656	81	703	719	84	2172	2.3%	71%
Margaretville CSD	650	656	79	700	703	89	546	1.3%	57%
Windham-Ashland-Jewett CSD	654	653	81	705	721	80	512	0.0%	87%
Historic River Towns School Districts									
Catskill CSD	646	654	78	688	708	74	1817	3.2%	69%
Coxsackie-Athens CSD	660	664	81	694	701	74	1607	1.9%	55%
Ravena-Coeymans Selkirk CSD	651	659	78	695	717	76	2337	4.1%	56%
Valley Towns School Districts									
Cairo-Durham	645	657	74	695	719	74	1813	3.9%	59%
Greenville CSD	659	666	83	708	724	79	1376	1.3%	56%
County and Statewide Comparisons									
Greene Co. Averages	654	658	78	699	716	78	n/a	2.0%	64%
Columbia Co. Averages	653	659	78	689	709	73	n/a	3.9%	55%
Bethlehem C.S.D. (Albany Co.)	674	682	85	712	734	83	5022	0.2%	67%
Statewide Public School Averages	656	661	76	699	718	85	2,806,436	4.3%	57%

Source: New York State Department of Education



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Comparison of Greene County & Selected School Districts with Columbia County & Bethlehem CSD



The above analysis shows that school districts lagging behind in Greene County could learn from what the other school districts in the County are doing right. It also indicates that with a little improvement, Greene County could market itself as a residential alternative for families seeking to relocate to the Capital Region.

THE RESIDENT LABOR FORCE

Data on employment by industry from the 2000 Census indicates that the largest proportion of employed residents in Greene County, 20.3%, worked in educational services, health care, and social services (see chart on the following page). Nearly 11% were employed in retail trade, while 10.5% worked in government. Only 6.4% worked in professional, scientific, management, administrative, and waste management services. This suggests that the pool of knowledge-based workers in Greene County is relatively small.

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Greene County Resident Employment by Industry, 2000 Census		
Industry	Number and Percent	
Agriculture, forestry, fishing and hunting, mining	508	2.5%
Construction	1,724	8.5%
Manufacturing	1,766	8.7%
Wholesale trade	511	2.5%
Retail trade	2,199	10.8%
Transportation and warehousing, and utilities	1,377	6.8%
Information	564	2.8%
Finance, insurance, real estate and rental and leasing	1,106	5.4%
Professional, scientific, management, administrative, and waste management services	1,297	6.4%
Educational, health and social services	4,138	20.3%
Arts, entertainment, recreation, accommodation and food services	1,920	9.4%
Other services (except public administration)	1,098	5.4%
Public administration	2,147	10.5%
Employed population 16 years and over	20,355	100.0%

Source: 2000 Census

EMPLOYMENT AND WAGES IN GREENE COUNTY

Employment and wage data from the New York State Department of Labor indicates that the public sector – the federal, state, and local governments – is the largest employer in Greene County, accounting for 30.2% of all jobs in the County. These are also well-paying jobs with New York State average wages reported at \$70,328 in 2004. For private sector jobs, the NYS Department of Labor shows that the top-ranking industries in Greene County in terms of employment are those that are service-oriented, such as food services, recreation, and grocery stores. The majority of these are also lower-paid jobs. (See tables on the pages that follow.)

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Ranking of NAICS-Based Industry Employment in Greene County, 2004				
Rank	Industry	Average Employment	Percentage of Total Jobs	Average Annual Wages
1	Local Government	2,631	19.4%	\$32,290
2	State Government	1,348	9.9%	\$70,328
3	Food Services and Drinking Places	985	7.3%	\$10,355
4	Amusement, Gambling & Recreation Industry	667	4.9%	\$17,276
5	Food and Beverage Stores	562	4.2%	\$15,825
6	Nursing and Residential Care Facilities	443	4.1%	\$23,943
7	Specialty Trade Contractors	430	3.2%	\$34,286
8	Professional and Technical Services	385	2.8%	\$40,257
9	Ambulatory Health Care Services	355	2.6%	\$36,905
10	Motor Vehicle and Parts Dealers	337	2.5%	\$36,488
11	Merchant Wholesalers, Durable Goods	276	2.0%	\$38,360
12	Transit and Ground Passenger Transport	263	1.9%	\$15,194
13	Building Material & Garden Supply Stores	262	1.9%	\$28,576
14	Social Assistance	240	1.8%	\$22,519
15	Gasoline Stations	218	1.6%	\$16,717
16	Nonmetallic Mineral Product Mfg	212	1.6%	\$51,048
17	Construction of Buildings	183	1.4%	\$26,192
18	Credit Intermediation & Related Activity	180	1.3%	\$27,800
19	Administrative and Support Services	171	1.3%	\$15,230
20	Health and Personal Care Stores	163	1.2%	\$26,098

Source: NYS Department of Labor

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NAICS Based Industry Employment and Wages in Greene County, 2004				
Industry	Reporting Units	Average Employment	Percentage	Average Annual Wages
Total, All Industries	1,248	13,551		\$31,635
Total, All Private	1,167	9,458	69.8%	\$25,841
Agriculture, Forestry, Fishing & Hunting	12	79	0.6%	\$18,761
Crop Production	3	39		\$15,458
Animal Production	4	28		\$21,016
Forestry and Logging	4	7		\$34,763
Construction	161	681	5.0%	\$33,078
Construction of Buildings	55	183		\$26,192
Heavy and Civil Engineering Construction	13	69		\$43,341
Specialty Trade Contractors	93	430		\$34,286
Manufacturing	37	854	6.3%	\$41,464
Food Manufacturing	5	30		\$10,913
Printing and Related Support Activities	3	16		\$21,440
Nonmetallic Mineral Product Mfg	6	212		\$51,048
Furniture and Related Product Mfg	3	39		\$36,161
Miscellaneous Manufacturing	3	23		\$29,619
Wholesale Trade	34	464	3.4%	\$35,748
Merchant Wholesalers, Durable Goods	17	276		\$38,360
Electronic Markets and Agents/Brokers	9	33		\$36,940
Retail Trade	190	1,870	13.8%	\$23,485
Motor Vehicle and Parts Dealers	26	337		\$36,488
Electronics and Appliance Stores	9	23		\$15,955
Building Material & Garden Supply Stores	16	262		\$28,576
Food and Beverage Stores	34	562		\$15,825
Health and Personal Care Stores	13	163		\$26,098
Gasoline Stations	30	218		\$16,717
Clothing and Clothing Accessories Stores	6	27		\$15,072
General Merchandise Stores	10	55		\$13,219
Miscellaneous Store Retailers	25	80		\$17,511
Nonstore Retailers	10	96		\$36,426
Transportation and Warehousing	24	370	2.7%	\$21,954
Truck Transportation	15	105		\$38,186
Transit and Ground Passenger Transport	8	263		\$15,194
Information	22	217	1.6%	\$41,683
Publishing Industries	7	65		\$19,616
Telecommunications	8	127		\$58,662
Finance and Insurance	51	296	2.2%	\$31,793

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NAICS Based Industry Employment and Wages in Greene County, 2004				
Industry	Reporting Units	Average Employment	Percentage	Average Annual Wages
Credit Intermediation & Related Activity	25	180		\$27,800
Financial Investment & Related Activity	4	2		\$40,999
Insurance Carriers & Related Activities	23	113		\$38,270
Real Estate and Rental and Leasing	34	113	0.8%	\$29,540
Real Estate	26	62		\$35,503
Rental and Leasing Services	8	51		\$22,291
Professional and Technical Services	83	385	2.8%	\$40,257
Professional and Technical Services	83	385		\$40,257
Administrative and Waste Services	37	208	1.5%	\$17,004
Administrative and Support Services	31	171		\$15,230
Waste Mgmt and Remediation Service	6	37		\$25,205
Educational Services	10	56	0.4%	\$20,391
Educational Services	10	56		\$20,391
Health Care and Social Assistance	86	1,038	7.7%	\$28,047
Ambulatory Health Care Services	51	355		\$36,905
Nursing and Residential Care Facilities	15	443		\$23,943
Social Assistance	21	240		\$22,519
Arts, Entertainment, and Recreation	38	733	5.4%	\$17,641
Performing Arts and Spectator Sports	8	15		\$18,760
Amusement, Gambling & Recreation Industry	27	667		\$17,276
Accommodation and Food Services	181	1,560	11.5%	\$11,652
Accommodation	61	575		\$13,872
Food Services and Drinking Places	120	985		\$10,355
Other Services	111	385	2.8%	\$18,936
Repair and Maintenance	38	137		\$24,975
Personal and Laundry Services	27	90		\$14,074
Membership Organizations & Associations	34	139		\$16,707
Private Households	12	19		\$14,731
Total, All Government	81	4,093	30.2%	\$45,024
Federal Government	23	114		\$39,703
State Government	8	1,348		\$70,328
Local Government	50	2,631		\$32,290
Unclassified	54	56	0.4%	\$18,405

Source: NYS Department of Labor

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WORKFORCE COMMUTATION

Where Greene County Residents Work

- Data on workforce commutation patterns from the 2000 Census shows that almost 42% of Greene County residents work outside the County, compared to almost 58% who both live and work in Greene County. This suggests that sufficient job opportunities are not available in Greene County.
- As indicated in the chart below, nearly 50% of Greene County residents employed in the Construction industry work in surrounding higher growth counties, with approximately 19% commuting to Albany and 10.5% commuting to Dutchess County.
- Over 52% of Greene County residents employed by the federal government and the military work outside the County, while over 41% employed by the state and local government entities commute to their places of work outside the County. Retiring state and federal workers could possibly form a pool of skilled white-collar workers.

Workplace Location and Industry of People Who Live in Greene County, 2000							
Industry	Total Number and %		% in Greene	% in Albany	% in Columbia	% in Ulster	% in Dutchess
Agriculture, forestry, hunting, and mining	180	0.9	80.6	2.2	0.0	8.3	2.2
Construction	958	4.8	50.1	18.8	3.7	4.7	10.4
Manufacturing	1,637	8.3	40.0	22.3	15.6	7.0	4.0
Wholesale trade & retail trade	2,444	12.4	66.1	13.1	8.2	6.8	1.4
Transportation, warehousing & utilities	831	4.2	40.9	36.1	5.4	2.4	1.8
Information & FIRE	1,469	7.4	48.3	22.1	4.4	11.2	0.3
Services (exc. pvt households)	5,726	29.0	60.8	15.3	8.8	5.2	1.2
Self-employed (part) & unpaid family members	1,949	9.9	74.9	7.7	2.6	3.6	1.5
Federal civilian & military	649	3.3	47.8	23.9	4.6	4.6	0.6
State & local government	3,914	19.8	58.8	21.8	7.3	4.2	2.0
Total	19,757	100.0	58.2	17.9	7.4	5.5	2.1

Source: Bureau of Economic Analysis, Census Journey to Work

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- Almost 52% of County residents employed in Information and Finance, Insurance, & Real Estate (FIRE), work outside Greene County. Should sufficient job opportunities become available, this pool of skilled professional workers could be attracted to working locally, and could help support the labor needs of high-tech industries.

Where Workers Employed in Greene County Reside

- More than three-quarters of those employed in Greene County also reside in Greene County. However, some industries must import workers from surrounding counties to fill jobs. For example, as shown in the chart below, almost 40% of manufacturing jobs in the County are filled by workers residing in other counties, with a large percentage coming from Albany and Ulster counties.
- A substantial percentage of state and local government jobs in Greene County are filled by workers residing in surrounding counties. More than 16% of state and local government jobs employ Albany County residents.
- More than 20% of jobs in wholesale and retail trade and 19% of those in services are filled by workers residing outside Greene County.

Residence and Industry of People Who Work in Greene County, 2000							
Industry	Total Number and %		% from Greene	% from Albany	% from Columbia	% from Ulster	% from Dutchess
Agriculture, forestry, hunting, and mining	153	1.0	94.8	0.0	0.0	2.6	2.6
Construction	692	4.6	69.4	7.9	4.3	4.3	0.0
Manufacturing	1,084	7.2	60.4	11.5	6.5	9.7	0.0
Wholesale trade & retail trade	2,053	13.7	78.7	8.5	3.9	4.1	1.5
Transportation, warehousing & utilities	417	2.8	81.5	6.0	1.0	6.0	0.0
Information & FIRE	880	5.9	80.7	7.4	5.7	5.1	0.0
Services (exc. pvt households)	4,298	28.6	81.0	7.6	3.5	2.8	0.1
Self-employed (part) & unpaid family members	1,648	11	88.6	4.9	2.1	2.1	0.0
Federal civilian & military	355	2.4	87.3	5.6	0.0	2.8	4.2
State & local government	3,448	22.9	66.7	16.5	4.1	3.3	0.3
Total	15,028	100.0	76.5	9.6	3.7	3.8	0.4

Source: Bureau of Economic Analysis, Census Journey to Work



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SELF-EMPLOYMENT IN GREENE COUNTY

Nonemployer statistics compiled annually by the U.S. Census Bureau provide insight into the number and type of establishments run by self-employed individuals. The U.S. Census Bureau defines nonemployers as self-employed individuals operating very small unincorporated businesses, which may or may not be the owner's principal source of income. Greene County has over 3,200 nonemployer establishments.

Findings from the 2003 Nonemployer Statistics indicate the following:

- The highest number of nonemployer establishments is found in the construction industry, comprising 17% of all nonemployers. Many are small contractors providing home improvements, as well as specialty trade contractors that include building equipment and finishing contractors.
- The second highest percentage of nonemployers is in other services. These include personal care services such as hair and nail salons, as well as automotive repair establishments and household goods repair.
- Approximately 12% of nonemployer establishments are in the retail trade. Many of these are direct selling establishments. Other types of establishments under this category include automobile dealers, sporting goods and music stores, as well as food and beverage stores.
- Nearly 11% of nonemployers in Greene County provide professional services. These include accounting, architectural and engineering services, computer systems design, and consulting services.
- Greene County has an increasing number of artists, writers and performers. Almost 6% of nonemployer establishments are in arts, entertainment, and recreation. The quality of life and scenery has long attracted artists and writers to the County. This information is confirmed by the nonemployer data, which shows that there were almost 140 independent artists, writers and performers reported in 2003.
- Health care and social assistance establishments comprise nearly 6% of all nonemployers in Greene County. A large number of these are health practitioners, home health care, daycare services, and physical, occupational and other types of therapists.
- The table below shows the breakdown of nonemployer establishments and receipts by industry and selected NAICS codes in 2003.

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Nonemployer Establishments in Greene County, 2003					
NAICS Code	Description	Nonemployers			
		Number	%	Receipts (\$1,000)	%
	Total for all sectors	3,206	100.0%	119,758	100.0%
11	Forestry, fishing & hunting, and agricultural support services	59	1.8%	2,393	2.0%
22	Utilities	11	0.3%	727	0.6%
23	Construction	544	17.0%	24,173	20.2%
236	Construction of buildings	141	4.4%	8,316	6.9%
237	Heavy and civil engineering construction	16	0.5%	1,079	0.9%
238	Specialty trade contractors	387	12.1%	14,778	12.3%
31-33	Manufacturing	54	1.7%	3,148	2.6%
42	Wholesale trade	56	1.7%	4,878	4.1%
44-45	Retail trade	389	12.1%	17,555	14.7%
441	Motor vehicle and parts dealers	32	1.0%	1,761	1.5%
444	Building material and garden equipment and supplies dealers	13	0.4%	1,147	1.0%
445	Food and beverage stores	20	0.6%	1,965	1.6%
446	Health and personal care stores	13	0.4%	701	0.6%
448	Clothing and clothing accessories stores	12	0.4%	655	0.5%
451	Sporting goods, hobby, book, and music stores	31	1.0%	1,133	0.9%
454	Nonstore retailers	140	4.4%	2,370	2.0%
48-49	Transportation and warehousing	114	3.6%	8,320	6.9%
51	Information	29	0.9%	714	0.6%
52	Finance and insurance	55	1.7%	3,500	2.9%
53	Real estate and rental and leasing	350	10.9%	15,477	12.9%
531	Real estate	332	10.4%	15,268	12.7%
532	Rental and leasing services	18	0.6%	209	0.2%
54	Professional, scientific, and technical services	340	10.6%	11,300	9.4%
541	Professional, scientific, and technical services	340	10.6%	11,300	9.4%
5412	Accounting, tax preparation, bookkeeping, and payroll services	37	1.2%	528	0.4%
5413	Architectural, engineering, and related services	26	0.8%	428	0.4%
5414	Specialized design services	25	0.8%	853	0.7%
5415	Computer systems design and related services	29	0.9%	652	0.5%
5416	Management, scientific, and technical consulting services	54	1.7%	3,047	2.5%
5418	Advertising and related services	17	0.5%	1,151	1.0%
5419	Other professional, scientific, and technical	111	3.5%	3,485	2.9%

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Nonemployer Establishments in Greene County, 2003					
NAICS Code	Description	Nonemployers			
		Number	%	Receipts (\$1,000)	%
	services				
56	Administrative and support and waste management and remediation services	184	5.7%	3,886	3.2%
5611	Office administrative services	14	0.4%	114	0.1%
5614	Business support services	21	0.7%	544	0.5%
5617	Services to buildings and dwellings	111	3.5%	1,542	1.3%
5619	Other support services	18	0.6%	1,070	0.9%
61	Educational services	59	1.8%	934	0.8%
62	Health care and social assistance	188	5.9%	3,447	2.9%
621	Ambulatory health care services	91	2.8%	2,366	2.0%
6211	Offices of physicians	13	0.4%	601	0.5%
6213	Offices of other health practitioners	45	1.4%	1,413	1.2%
6216	Home health care services	23	0.7%	179	0.1%
6244	Child day care services	77	2.4%	730	0.6%
71	Arts, entertainment, and recreation	189	5.9%	3,256	2.7%
711	Performing arts, spectator sports, and related industries	159	5.0%	2,742	2.3%
72	Accommodation and food services	109	3.4%	4,807	4.0%
721	Accommodation	57	1.8%	2,383	2.0%
722	Food services and drinking places	52	1.6%	2,424	2.0%
81	Other services (except public administration)	476	14.8%	11,243	9.4%
811	Repair and maintenance	141	4.4%	5,696	4.8%
812	Personal and laundry services	310	9.7%	5,237	4.4%
813	Religious, grantmaking, civic, professional, and similar organizations	25	0.8%	310	0.3%

Source: Non-Employer Statistics, 2003, U.S. Census Bureau

Greene County Comprehensive Economic Development Plan



4. Workforce Development

UNEMPLOYMENT IN GREENE COUNTY

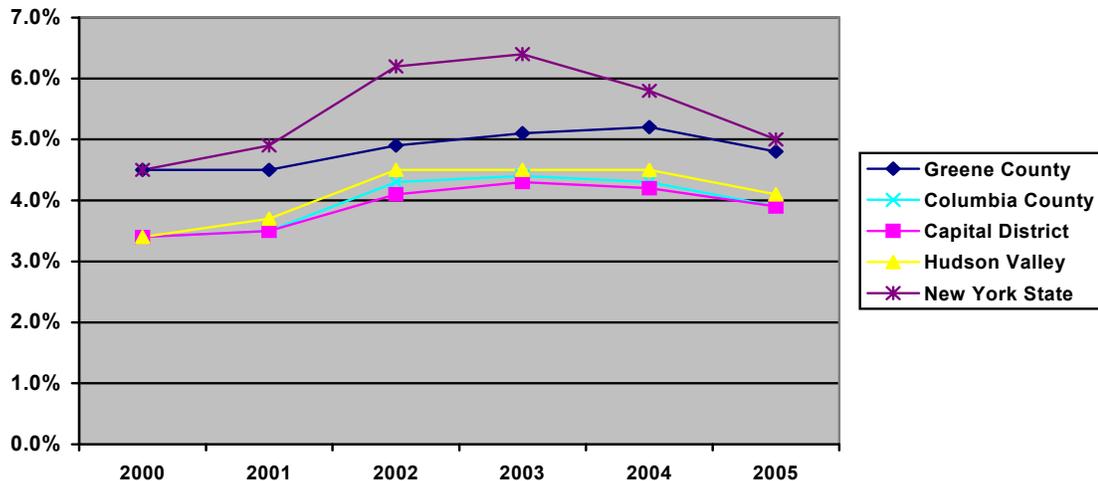
Greene County has experienced higher unemployment rates over the past 5 years compared to the unemployment rate in nearby Columbia County, the Capital District, and the Hudson Valley. While Greene County lags behind most of the Capital District in its unemployment rate, the County has historically experienced lower unemployment than the statewide average. By the end of 2005, Greene County had a 4.8% unemployment rate compared with 3.9% unemployment rate, for both Columbia County and the Capital District, 4.1% for the Hudson Valley, and 5.0% unemployment rate for the entire State of New York.

Unemployment Rate for Greene County Compared with Columbia County, Capital District, Hudson Valley & New York State					
	Greene County	Columbia County	Capital District ¹	Hudson Valley ²	New York State
2000	4.5%	3.4%	3.4%	3.4%	4.5%
2001	4.5%	3.5%	3.5%	3.7%	4.9%
2002	4.9%	4.3%	4.1%	4.5%	6.2%
2003	5.1%	4.4%	4.3%	4.5%	6.4%
2004	5.2%	4.3%	4.2%	4.5%	5.8%
2005	4.8%	3.9%	3.9%	4.1%	5.0%

Source: NYS Department of Labor

By the end of 2005, Greene County had a 4.8% unemployment rate compared with 3.9% unemployment rate, for both Columbia County and the Capital District, 4.1% for the Hudson Valley, and 5.0% unemployment rate for the entire State of New York.

Greene County Unemployment Rate Compared with Columbia County, Capital District, Hudson Valley & New York State (2000 – 2005)



¹ The New York State Department of Labor defines the Capital District as the counties of Albany, Columbia, Greene, Rensselaer, Saratoga, Schenectady, Warren, and Washington.

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4. Workforce Development

An August 2003 report entitled *Greene County, New York Area Workforce Report*, prepared by The Pathfinders, attempted to quantify the number of underemployed individuals in Greene County. As defined by the report, “underemployed” individuals are potentially available workers that “possess the skills, experience, and education to qualify them for the pay rates at which they would take a new job.”³

The Pathfinder report quantified the number of available workers in the Greene County Area Labor Shed as follows:

Available Workers The Greene County Area Labor Shed	
Number of underemployed workers	65,000
Number of unemployed persons who are seeking work	10,200
Number of persons who are not working, but are Contemplating re-entering the workforce	<u>10,900</u>
Total Number of Workers Available for Employers	86,100

Source: *The Pathfinders 2003.*

The Project Team has doubts regarding the merit of using the above data as the said report defined the Greene County Labor Shed as an 8-county area that includes Albany, Columbia, and Greene Counties, as well as portions of Delaware, Rensselaer, Schoharie, Schenectady and Ulster Counties. The defined labor shed has an estimated total civilian labor force of approximately 299,700 workers, which is much larger than the civilian labor force of 21,685 workers⁴ for Greene County in 2000. Using ratios based on a percentage share of the county labor force versus the labor force for the 8-county labor shed as defined by Pathfinder report would not be accurate as labor conditions within the above-mentioned counties are not consistent. Albany County for example, offers more job opportunities than Greene County and has a lower unemployment rate. Unless an actual survey of Greene County workers is undertaken, the number of underemployed workers could not be determined.

² The New York State Department of Labor defines the Hudson Valley as comprised of Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester counties.

³ The Pathfinders, “Greene County, New York Area Workforce Report,” August 2003.

⁴ 2000 Census, SF-3.

4. Workforce Development

Identified Needs Based on Workforce Survey and Industry Focus Groups

The Workforce Investment Board of Columbia and Greene Counties has conducted a strategic planning process to determine the future direction of the programs and services it offers. Part of the process involved conducting an in-depth survey of eleventh- and twelfth-grade students in the two counties, as well as industry specific focus groups with local employers. These needs were identified as follows:

INDUSTRY FOCUS GROUPS

Greene County area businesses expressed the following concerns:

Employee Recruitment Issues

- Lack of qualified workers has a severe impact on local businesses. This is especially felt in highly skilled positions that included teachers, therapists, nurses, veterinarians, technical health positions, technical manufacturing and management.
- Difficulty in filling entry-level service sector jobs due to low pay and high stress.
- Lack of skills in the emerging workforce. High school age workers lacked motivation, soft skills, and work ethic.
- Businesses resort to a variety of tools to recruit workers to include newspapers, job fairs, web sites, and professional search firms, among others. Some firms offer referral bonuses and pay sign-on bonuses.
- Some businesses, such as the hospitality and health care industries, recruit foreign workers to fill employee shortages in both seasonal and year-round positions.
- Jobs that depend on state reimbursement rates have experienced difficulty due to funding cuts.
- Social issues also contributed to hiring difficulties. These included lack of childcare facilities and transportation options, as well prevalence of alcoholism and drug abuse among applicants.
- Lack of retail options was identified as an issue to recruiting candidates to move into the area.
- Wages had to be increased to make jobs more attractive to area workers.

Training Issues

- Common training needs:
 - Technology skills training – business computer software applications
 - Basic skills training – reading, writing, spelling
 - Soft skills training – work ethic, communication skills, flexibility, responsibility
 - Managerial/supervisory skills training
 - English as a Second Language for H1-B guest worker visas and immigrant workers



4. Workforce Development

- Industry specific needs
 - Allied health
 - Soil science/agronomy
 - Tourism and hospitality
 - Sales
 - Communication
- Difficulty in finding appropriate training
 - No training programs for new technologies; most vendors are not the best trainers.
 - Local employees not willing to travel out of area for training.
 - Hudson Valley Community College has a larger variety of technical programs than Columbia-Greene Community College

Employee Retention Issues

- Varies widely among industries and businesses
- Employers with seasonal workers having difficulty in getting the same workers to return each year.

Workforce Readiness (High School Survey Results)

- A high percentage, 80%, planning to continue education after high school
- Only 40% of respondents planning to return to the area after completion of post-secondary education.
- More than half of students surveyed felt that they did not have enough information about their career choices, i.e. career entry requirements, income and benefits, impact on personal lifestyle.
- Less than 10% identified internships as a career planning resource.
- Reasons for moving away from area include better job opportunities, and cultural and social activities.
- Career choices:
 - More interest in creative class professions
 - Life, physical and social science: more interest than jobs available
 - Art, design, entertainment and math: Seven times more interest in arts and media than jobs available
 - Sales and related occupations: need for workers outstrips interest in jobs
 - Office and administrative occupations: interest in these jobs far less than projected availability
 - Production occupations: less interest than projected jobs



4. Workforce Development

Findings of Interviews

Interviews were conducted by the Project Team to gather insight on the current workforce needs and challenges in Greene County. Interview participants included the President of the Columbia-Greene Community College, the Director and Associate Director of the Workforce Investment Office, and School Superintendents of the Catskill Central School District and the Hunter-Tannersville Central School District. These interviews reinforced findings resulting from the Industry Focus Groups and the High School Survey that were conducted by the Workforce Investment Board. The key findings from these interviews are summarized as follows:

- Greene County unemployment is higher than surrounding counties. Anecdotal observations note that many employers express dissatisfaction with the quality of entry-level workers.
- Employers have stated that soft-skills training are needed for workers both at low level and higher level.
- There is difficulty maintaining workforce services due to funding cuts.
- With the BOCES geared towards high school students, there is a need for trade schools that will provide training in technical skills and crafts.
- In comparison with Columbia County, many Greene County employers have not fully utilized available state employee training grants.
- Many students lack motivation. This is partly due to lack of support and guidance from disengaged parents.
- There is a need for more entry-level positions than available in Greene County. Students and young graduates are having difficulty finding job opportunities within the County. Many of the youth leave the County to look for opportunities elsewhere. The challenge is to create jobs that will keep talented youth in the County.
- Many students and young graduates do not have access to reliable transportation that will take them to jobs, unless they have family members or friends who could take them. Greene County does not have a public transportation system.
- Greene County has a large workforce that commutes out of the County. Many of these workers are professionals. There is a need to utilize this resource locally.

4. Workforce Development

- If creative class workers are to relocate to Greene County, they have to be made aware that the lifestyle they are looking for is available in the County.
 - There is a need to improve base amenities such as shopping, restaurants, culture and other types of amenities that draw such workers.
 - Health and medical facilities should be present. Greene County does not have a hospital, nor a developed mental health network. Health care providers should be willing to struggle at first.
- Greene County has an increasing population of artists, writers and performers who have been attracted to the natural beauty and good quality-of-life in Greene County. These creative workers should be welcomed as they bring with them more diversity. They should also be viewed as an important resource that enhances tourism opportunities in Greene County.
- A survey of high school students also indicates a large interest in artistic and creative professions among youth.
- The Hunter-Tannersville School District has an outstanding record in terms of graduating students and school report cards. Lessons could be learned from some practices that have contributed to success:
 - Students are taught computer skills at an early age (pre-K).
 - Students have high access to technology through a high ratio of computers per classroom (5 computers for every classroom).
 - Development of career aspirations starting at middle school through Home & Careers class and in Grades 10 – 12 for college exploration.
 - High number of guidance counselors.
 - Opportunities for distance learning by improving telecommunications.
- Teachers at Mountaintop schools have problems finding affordable housing in the Mountaintop area.
- Many new residents (especially in the Mountaintop Towns) are entrepreneurs. They could be tapped to help in business development in order to create jobs, as well as serve as mentors to the youth.
- Facilities for business incubators would help create more jobs.
- Development of a business conference center at the Mountaintop area could help serve the needs of telecommuters and entrepreneurs.



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Workforce Needs Based on Identified Target Industries

TRADITIONAL INDUSTRIES WITHIN THE REGION

The Target Industry and Resource Analysis identified the following target industries that are already present in Greene County and which need to be enhanced. These industries and their labor requirements include the following:

Type of Industry	Number of Employees	Positions Required	Educational/ Training Requirement	Related Courses/Certificates Available	
				BOCES/ Questar III	CGCC
1. FOOD PROCESSING	< 5 Employees	OJT on food prep/handling, cheese processing or baking techniques	High school	Culinary Arts	NA
		Part-time clerical/sales support	High school	Business Information Systems	NA
	10 – 25 Employees	OJT on food prep/handling, cheese processing or baking techniques	High school	Culinary Arts	NA
		Foods Technician	2-yr college	NA	NA
		Cheese or Baking Specialist	2-yr college	NA	NA
		Part-Time Accountant	4-yr college	NA	A.A.S. Accounting
2. PRINTING & RELATED SUPPORT OPERATIONS	<5 Employees	OJT on printing techniques	High school	NA	NA
		Part-time clerical/sales support	High school	Business Information Systems	NA
		Printing technician	2-yr college	NA	NA
	10 – 25 Employees	OJT on printing techniques	High school	NA	NA
		Clerical & sales support	High school	Business Information Systems	A.A. Business Administration
		Printing technician	2-yr college	NA	NA

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Type of Industry	Number of Employees	Positions Required	Educational/ Training Requirement	Related Courses/Certificates Available	
				BOCES/ Questar III	CGCC
		Graphic arts specialist	2-yr college	NA	A.A. Fine Arts; Cert. Computer Graphics & Design
		Sales specialist	2-yr college	NA	A.S. Business Admin.
		Part-time accountant	4-yr college	NA	A.A.S. Accounting
3. PLASTICS & RUBBER	<5 Employees	OJT on molding & support techniques	High school	NA	NA
		Molding technician	2-yr college	NA	NA
	25 – 50+ Employees	OJT on molding & support techniques	High school	NA	NA
		Clerical & sales support	High school	Business Information Systems	A.A. Business Admin.
		Molding technician	2-yr college	NA	NA
		Sales specialist	2-yr college	NA	A.S. Business Admin.
		Part-time accountant	4-yr college	NA	A.A.S. Accounting
		Technical sales	4-yr college	NA	NA
4. FABRICATED METALS & MACHINERY	<5 Employees	OJT on production techniques	High school	Welding & Metal Fabrication; Machine Shop/ Machine Tool	NA
		Metals forming, machining, welding, etc.	2-yr college	NA	AAS Automotive Technology
	20 – 50+ Employees	OJT on production techniques	High school	Welding & Metal Fabrication/ Machine Shop/ Machine Tool	NA
		Clerical & sales support	High school	Business Information Systems	A.S. Business Admin.
		Metals forming, machining, welding, etc.	2-yr college	NA	AAS Automotive Technology
		Sales specialist	2-yr college	NA	A.S. Business Admin

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Type of Industry	Number of Employees	Positions Required	Educational/ Training Requirement	Related Courses/Certificates Available	
				BOCES/ Questar III	CGCC
		Part-time accountant	4-yr college	NA	A.A.S. Accounting
		Technical sales	4-yr college	NA	NA
5. ELECTRONIC COMPONENTS & EQUIPMENT	<5 Employees	OJT on production techniques (molding, machining, assembly, etc.)	High school	Welding & Metal Fabrication/ Machine Shop/ Machine Tool	NA
		Production technician	2-yr college	NA	AAS Automotive Technology
	20 – 50+ Employees	OJT on production techniques (molding, machining, assembly, etc.)	High school	Welding & Metal Fabrication/ Machine Shop/ Machine Tool	NA
		Clerical & sales support	High school	Business Information Systems	NA
		Production technician (QC)	2-yr college	NA	NA
		Sales specialist	2-yr college	NA	A.S. Business Admin
		Part-time accountant	4-yr college	NA	A.A.S. Accounting
		Production supervisor	4-yr college	NA	NA
		Technical sales	4-yr college	NA	NA
		6. MEDICAL DEVICES	<5 Employees	OJT on production techniques	High school
Production technician (QC)	2-yr college			NA	NA
20 – 50+ Employees	OJT on production techniques		High school	Welding & Metal Fabrication/ Machine Shop/ Machine Tool	NA
	Clerical & sales support		High school	Business Information Systems	NA

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Type of Industry	Number of Employees	Positions Required	Educational/ Training Requirement	Related Courses/Certificates Available	
				BOCES/ Questar III	CGCC
		Production technician (QC)	2-yr college	NA	NA
		Sales specialist	2-yr college	NA	A.S. Business Administration
		Part-time accountant	4-yr college	NA	A.A.S. Accounting
		Production supervisor	4-yr college	NA	NA
		Technical sales	4-yr college	NA	Liberal Arts & Science- Math & Science
7. WAREHOUSING/ STORAGE	75 – 100 Employees	OJT on warehousing operations	High school	NA	NA
		Clerical support	High school	Business Information Systems	NA
		Equipment/ automation technician	2-yr college	NA	NA
		Accountant	4-yr college	NA	A.A.S. Accounting
		Production supervisor	4-yr college	NA	NA
		HR (recruiting & training)	4-yr college	NA	A.S. Human Services
	300+ Employees	OJT on warehousing operations	High school	NA	NA
		Clerical support	High school	Business Information Systems	NA
		Equipment/ automation technician	2-yr college	NA	NA
		Accountant	4-yr college	NA	A.A.S. Accounting
		Production supervisor	4-yr college	NA	A.S./A.A.S. Business Admin.
		HR (recruiting & training)	4-yr college	NA	A.S. Human Services

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Type of Industry	Number of Employees	Positions Required	Educational/ Training Requirement	Related Courses/Certificates Available	
				BOCES/ Questar III	CGCC
8. FINANCIAL SERVICES	50 – 100 Employees	Clerical support	High school & 2-year college	Business Information Systems	NA
		Customer service	2-yr college	Business Information Systems	A.S./A.A.S. Business Admin.
		Accountant	4-yr college	NA	A.A.S. Accounting
		Supervisor	4-yr college	NA	A.S./A.A.S. Business Admin.
		HR (recruiting & training)	4-yr college	NA	A.S. Human Services
		SEC-certified sales & customer service	4-yr college	NA	A.S./A.A.S. Business Admin.
		IT support functions	4-yr college	Academy for Information Technology	A.A.S. Information Technology/ A.S. Computer Science
	150+ Employees	Clerical support	High school & 2-year college	Business Information Systems	A.S./A.A.S. Business Admin.
		Customer service	2-yr college	Business Information Systems	A.S./A.A.S. Business Admin.
		Accountant	4-yr college	NA	A.A.S. Accounting
		Supervisor	4-yr college	NA	A.S./A.A.S. Business Admin.
		HR (recruiting & training)	4-yr college	NA	A.S. Human Services
		SEC-certified sales & customer service	4-yr college	NA	A.S./A.A.S. Business Admin.
		IT support functions	4-yr college	Academy for Information Technology	A.A.S. Information Technology A.S. Computer Science

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Type of Industry	Number of Employees	Positions Required	Educational/ Training Requirement	Related Courses/Certificates Available	
				BOCES/ Questar III	CGCC
9. PROFESSIONAL & TECHNICAL SERVICES	Individual				
	5-10 Employees	Clerical Support	High school & 2-year college	Business Information Systems	A.S./A.A.S. Business Administration
		Paralegal (for law practice)	2-yr college	NA	NA
		Professional staff	4-yr college	NA	NA
		IT support functions	4-yr college	Academy for Information Technology	A.A.S. Information Technology A.S. Computer Science
	25+ Employees	Clerical Support	High school & 2-year college	Business Information Systems	A.S./A.A.S. Business Administration
		Paralegal (for law practice)	2-yr college	NA	NA
		Professional staff	4-yr college	NA	NA
		IT support functions	4-yr college	Academy for Information Technology	A.A.S. Information Technology/ A.S. Computer Science

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EMERGING TECHNOLOGIES

The Center for Economic Growth (CEG) has identified emerging technologies as target industries for Tech Valley and the Capital Region. These emerging technologies are:

- **Nanotechnology** – There is huge potential for countless applications of nanotechnology that impact other products and manufacturing processes such as optics, semiconductors, electrical switches and sensors, etc.
- **Biotechnology** – The majority of biotech companies specialize in health care applications. These include genomics, proteomics, and related technologies. Biotechnology applications are anticipated to diversify and intersect with branches of nanotechnology.
- **Renewable Energy** – Wind and solar energy are the current focus of many ongoing energy efficiency initiatives. The high cost fossil fuels necessitate expansion of this technology.
- **Advanced Materials** – Advanced materials fall into five categories: metals, polymers (thermoplastics and thermosets), ceramics, glass, and composites. Unlike traditional materials, advanced materials can be characterized as emerging resources having a significant amount of improvement both in terms of production technology and application. Production of medical device materials is an example of advanced materials application. Companies that focus on developing materials with superconductive properties – the ability to transfer electricity across large distances with minimal loss- were identified as target industries for the Tech Valley and the Capital Region, especially if these entities specialize in nanotechnology solutions.
- **Information Technology** – As hardware and infrastructure systems have become commoditized, software applications, semiconductors and IT-related services are expected to drive growth in the industry. CEG has identified 4 emerging trends in this sector: 1) sensory computing; 2) web services and componentization of software; 3) utility computing; 4) business process outsourcing and globalization of software development, and 5) resurgence of telecommunication software.

The presence of a highly qualified workforce is a prerequisite that could deter the County from meeting its aspiration of attracting high-tech industries. While the County is at an advanced stage in meeting the *physical* needs of technology (e.g., the presence of shovel-ready land, infrastructure and telecommunications), workforce issues must be resolved to be competitive in attracting technology companies. Significant deficiencies related to the local workforce will need to be addressed either by growing the workforce internally, by attracting commuters and new residents, or both.

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Currently there is a mismatch between the course offerings at the local community college and the needs of target industries. For the community college to invest in new course offerings that will train students and workers in the emerging industries, significant interest from youth has to be present to justify such investment. As noted in the following section (Career Choices of the Emerging Workforce), the career choices of graduating high school students are focused on the arts, media and other “softer” types of professions. A cultural shift has to occur in the County to elicit sufficient interest in courses related to science and engineering.

The absence of a major research university in Greene County will make it a challenge to pursue research and development facilities in emerging technologies such as nanotechnology, biotechnology, renewable energy, advanced materials, and information technology. However, by providing a low-cost environment and a skilled workforce, Greene County could pursue the manufacturing and commercialization of products related to these emerging technologies as a mid- to long-term goal.

The Target Industry Resource Requirement prepared by MS&B for this project identified the labor and educational requirements for emerging technologies. These technologies include biotechnology (process technology), nanotechnology (process technology), energy equipment (materials forming and process technology), and microelectronics/photonics (clean room process technology).

Type of Industry	Number of Employees	Positions Required	Educational/ Training Requirement	Related Courses/Certificates Available	
				BOCES/ Questar III	CGCC
EMERGING TECHNOLOGIES	5 – 10 Employees	Limited OJT for High School Grads	High school	Tech Valley High School	NA
		Operating technicians	2-yr college	Tech Valley High School	NA
		Part-time clerical support	2-yr college	Business Information Systems	A.S./A.A.S. Business Admin.
		Engineers	4-yr college	Tech Valley High School	NA
		Scientists	4-yr college	Tech Valley High School	Liberal Arts & Science- Math & Science
	25+ Employees	Limited OJT for High School Grads	High school	Tech Valley High School	
		Operating technicians	2-yr college	Tech Valley High School	

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		Part-time clerical support	2-yr college	Business Information Systems	A.S./A.A.S. Business Administration
		Engineers	4-yr college	Tech Valley High School	NA
		Scientists	4-yr college	Tech Valley High School	Liberal Arts & Science- Math & Science
		Accountants	4-yr college	NA	A.S./A.A.S. Business Administration
		Sales Representatives	4-yr college	NA	A.S./A.A.S. Business Administration

CAREER CHOICES OF THE EMERGING WORKFORCE

A survey conducted by the Workforce Investment Office indicated that a large percentage of high school students in Greene County are interested in pursuing as career choice in more creative professions. These include professions in the following industries:

- Art
- Design/Graphics
- Media

In addition to having a large number of students interested in the above-mentioned professions, many new residents attracted to Greene County belong to creative occupations. As evidenced by the Nonemployer Statistics from the U.S. Census Bureau, as well as anecdotal information, Greene County has a growing colony of artists, writers and performers. The growing number of creative professionals in the County should be considered as a resource that could enhance tourism. Artists, writers, and performers also provide diversity to the County, an important ingredient that technology workers are looking for in a community. The presence of creative individuals in Greene County should be celebrated through art and music festivals, craft fairs, and other events that highlight their presence in the community.

The following table shows the labor and educational requirements for the above-mentioned professions.

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Type of Industry	Educational/ Training Requirement	Related Courses/Certificates Available	
		BOCES/ Questar III	CGCC
ART	High School/ 2-Yr to 4-Yr College	Cultural & Performing Arts (Arts in Education)	A.A. Fine Arts
DESIGN/ GRAPHICS	2-Yr to 4-Yr College	NA	Certificate Computer Graphics & Design
MEDIA	2-Yr or 4-Yr College	NA	A.A. Liberal Arts - Humanities

Based on the analysis of labor and educational requirements for traditional industries, emerging technologies and career choices of the emerging workforce, the following courses of study could be considered as areas for expansion for BOCES and Columbia-Greene Community College, thereby aligning course offerings with target industry requirements:

Target Industry	Courses/Certificates for Expansion
Food Processing	Certificate in Culinary Arts A.S. Food Technology & Nutrition
Printing & Related Operations	A.A.S. Mechanical Engineering Technology
Plastics & Rubber	A.S. Chemical Technician A.O.S. Manufacturing Technical Systems
Fabricated Metals & Machinery	A.O.S. Manufacturing Technical Systems A.A.S. Mechanical Engineering Technology
Electronics Components & Equipment	A.A.S. Electrical Engineering Technology – Electronics A.O.S. Electrical Construction & Maintenance A.A.S. Electrical Technology: Semiconductor Manufacturing Technology

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Target Industry	Courses/Certificates for Expansion
Medical Devices	A.O.S. Manufacturing Technical Systems A.A.S. Mechanical Engineering Technology
Warehousing/Storage	-
Financial Services	N/A – (A.A.S. Business Administration & A.A.S. Accounting available at CGCC)
Professional & Technical Services	Require 4-year college education
Emerging Technologies: Nanotechnology Biotechnology Advanced Materials Renewable Energy Information Technology	A.S. Chemical Technician A.S. Engineering Science A.A.S. Electrical Technology: Semiconductor A.S. Biotechnology A.S. Manufacturing Technology A.S. Forensic Science Studies A.A.S. Mechanical Engineering Technology A.A.S. Telecommunications Technology A.A.S. Network & Information Technology A.A.S. Computer Integrated Technology
Arts	N/A – (A.A.S. Fine Arts already available at CGCC)
Design/Graphics	Certificate in Computer Graphics & Design (already available at CGCC) A.A.S. Computer Information Systems: Web Design
Media	A.A.S. Broadcast Communications



4. Workforce Development

Existing Workforce Development Initiatives

While issues touching workforce recruitment, training, employee retention and workforce readiness were identified, existing workforce initiatives could be strengthened and enhanced that address these issues.

EXISTING TRAINING INITIATIVES

- **New York State Workforce Development Grant opportunities** – Under the Workforce Investment Act, New York State Department of Labor periodically offers local areas opportunities for incumbent worker training grants and other funding opportunities designed to address workforce issues facing local areas that cannot be funded with the WIA formula funds received by the WIBs.
- **New Employee Orientation Program/Employee Enhancement Program** – The goal of the program is to better prepare new workers and improve job retention. The program consists of four, 3-hour modules on the following topics:
 - Importance of Work Ethics;
 - Basic Employee Responsibilities;
 - Work/Life Balance;
 - Professionalism in the Workplace;
 - Benefits of Professional Behavior;
 - Success Strategies for Workplace Communication;
 - Communication for Teambuilding
 - Customer Service for Internal and External Customers.
- **Basic Skills Upgrading** – The Columbia-Greene Workforce Investment Board runs programs or classes designed to upgrade academic skills, prepare for GED, or learn computer literacy.
- **Tuition Assistance for Vocational Training** – The Workforce Investment Board provides tuition assistance through WIA Tuition IB for training and in-demand occupations. Occupational areas include: computer networking technicians, commercial truck drivers, registered nurses, licensed practical nurses, certified nurse aids, auto mechanics, accounting assistants, human service workers, armed security guards, and welders.



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EMPLOYEE RECRUITMENT AND RETENTION INITIATIVES

- **Workforce New York Career Center** – This is a One-Stop Career Center located at the Columbia-Greene Community College in Greenport, Columbia County. Both job-seekers and employers could avail of services offered by partner agencies such as the Greene County Department of Social Services; Columbia County Department of Social Services; Columbia-Greene Community College; Questar III BOCES; NYS Department of Labor; Office for the Aging; and the NYS Education Department.
- **Workforce New York Job Fairs** – Annual Job Fairs are held at Columbia-Greene Community College.

WORKFORCE READINESS INITIATIVES

- **Catskill Central School District** – An Alternative High School Equivalency Preparation Program approved by the State Department of Education is run by the Catskill Central School District. The program incorporates computer, individual and group GED instruction through a 12-hour per week class. The class assists youth in obtaining work readiness skills and helps arrange internship experiences and job placement. Students must qualify for WIA Title IB Youth services and be a Greene County resident. Priority is given to Catskill School district residents.
- **Columbia Greene Community College, Workforce Investment Office** – The Columbia-Greene Community College Workforce Investment Office serves the educational and employment needs of out-of-school youth. It provides career exploration, pre-vocational education, supportive services, internship wages and job placement services. Students must qualify for WIA Title IB Youth services.
- **Greenville School District** – The school district runs an after-school program designed for students from all high school grade levels receiving special education services. Freshman students are involved in career exploration and awareness activities, while older students learn various graphic and desktop publishing applications through operation of a graphic design school based business called Hometown Graphics. Students have developed forms to organize the business, meet with customers to take orders, submit proofs, and complete the design projects. All students are invited to attend field trips to businesses and colleges. Seniors participate in an internship aligned to their career choice. Students receive stipends for completion of after-school activities. Students must qualify for WIA Title IB Youth services.



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Best Practices in Workforce Development

PRECISION MANUFACTURING INSTITUTE, MEADVILLE, CRAWFORD COUNTY, PENNSYLVANIA

Crawford County in Northwestern Pennsylvania has strong industrial roots and is renowned as the tool-and-dye capital of the country. There are similarities in the nature of Greene County, New York and Crawford County, Pennsylvania. Like Greene County, Crawford County is mostly rural. Like Greene County, which is located at the fringe of the Albany-Troy-Schenectady MSA, Crawford County is located at the fringe of two metropolitan areas in the northwestern corner of Pennsylvania – Pittsburgh MSA and Erie MSA. To continue keeping the Northwestern Pennsylvania Region competitive in the quality of its workforce, the Precision Manufacturing Institute (PMI) was conceived and developed in 1998 by local industry representatives and tool shop owners as a place to take students and workers and provide “contextual” training on “state of the market” equipment and software.

PMI has spent considerable time and effort in developing its programs with small focus groups of incumbent workers from tool-and-die shops. It started out training only incumbent workers and recently branched out to include entry-level training programs. PMI trains people from the entry-level, whether unemployed or under employed, to the high-end toolmaker. PMI also creates a pathway that will enable individuals to apply hands-on training credits toward an Associate or Baccalaureate Degree.

PMI works closely with machine tool manufacturers and software developers to stay current with technology advances. Machine tool manufacturers and software developers provide their latest equipment and tools free-of-charge to the institute. PMI utilizes the available state-of-the-art equipment in the tooling and machining trade to train students and workers in the newest technology, techniques, and methods that will enable increased productivity. For equipment manufacturers, providing free equipment serves as a marketing platform and helps build the available workforce that will be ready to use their product. With the availability of workforce trained with such equipment, businesses are likely to purchase equipment from these companies.

Prior to PMI, the only choice for companies was to send personnel to evening classes at the local vocational-technical high school. While that program was meant to provide entry-level skills to high school students, local high schools do not have the resources to continually update their equipment and software. Through partnerships with machine tool manufacturers, software developers, Edinboro University, as well as other educational institutions, PMI provides job training with companies leasing time on the latest equipment and trained applications engineers providing assistance.

PMI offers several training programs:

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- **First Step Program** (Skills Training and Employment Program) – The main objective of the First Step Program is to prepare students for entry-level employment in the Tooling and Machining Industry. It is focused in two areas:
 - The novice that would like to learn the basics of the industry and jump into an entry-level job;
 - Students wishing to advance to specialized areas of the trades via specialized training now that they have a more focused outlook.

An introduction to the different machines is given in this program. A student gains entry level machining, milling, grinding, lathe, blueprint reading and inspection skills in this program. The combination of theory and lab training will allow students to enter the workforce at an entry level in the Tooling and Machining trade. Such positions include, but may not be limited to, Entry Level Inspectors, Machine Operators, and Tool-Die Apprentices, Machinist Apprentices, and Entry Level Management in Manufacturing. Upon Successful completion of the First Step Program, Students will receive a diploma.

- **Accelerated Training** – Accelerated Training Programs are focused contextual learning programs that concentrate all time and effort into the related field of study. The accelerated programs have been "Industry Tested" to remain in focus with what employers need.

PMI's class size is very limited for an accelerated program. For example, the Accelerated Grinding Program takes a maximum of seven students and each student has their own machine to operate. There is no waiting in line to use the machinery.

Precision tooling is utilized as much as possible. PMI programs focus only on the typical knowledge, skills, and abilities of specific job classifications in the tooling industry, i.e., Precision Surface Grinder, CNC Programmer/Operator, and EDM operator. While PMI does not provide specific job placement, PMI recommends its graduates to companies, as well as assists in developing resumes when requested.

- **Diploma Program** – Diploma is a document awarded by PMI upon successful completion of an approved program. The Precision Manufacturing Institute currently offers 14 diploma programs that are approved for VA Education Benefits (i.e. G.I. Bill). A program consists of multiple courses with a focus on broad and specific disciplines within a career cluster. They are meant to be full-time programs but may be taken part-time and in the evenings.
- **Certificate Program** – PMI currently offers certificates offers four certificate courses. A certificate course is meant to be a stand-alone course for a specific discipline and not as broad in nature as a Diploma Program. These 4 certificate programs include: a) Mold



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Polishing 1; b) Mold Polishing 2; c) Carbide Grinding; and d) Supervisory Skills Certificate Course.

- **Customized Job Training** – PMI offers customized job training programs to companies requesting this option. These are usually company specific programs that are tailored to meet the individual needs of an organization. An example of a customized program might be to upgrade manual machine operators to CNC programming and operating skills associated with a certain type of machine tool. Another example might be a request for specific software training on the numerous CAD/CAM packages available.

Some Customized Job Training Programs have funding available for companies to access. Grants up to 75% of the eligible costs are available for new job creation, retention, and upgrade training.

PMI has received \$1 million in federal grants from the Economic Development Administration (EDA) and \$1.5 million from the US Department of Agriculture to develop its training facilities.

Lessons learned from the Precision Manufacturing Institute (PMI) in Crawford County could be applied to Greene County's workforce training needs especially for industries identified in the Target Industry Report.

- Developing a training institute dedicated to the specific industry.
- Use of small focus groups from the industry to develop its training program.
- Partnering with equipment manufacturers and software manufacturers to furnish state-of-the-art equipment and tools that could be used for training.
- Partnering with the local university and other area educational institutions to provide professional accredited trainers.
- Providing a wide array of training, from basic skills for entry-level workers and students to specific training for highly skilled workers.
- Hands-on-training could be credited towards an Associate or Baccalaureate degree.
- Connecting graduates to companies.
- Promoting the use of state funds for the Customized Job Training Program to companies.
- Use of federal funds to develop training facilities.



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FULTON-MONTGOMERY COMMUNITY COLLEGE (FMCC)

John Jablonski's statement at right characterizes Fulton-Montgomery Community College's forward thinking approach regarding workforce development. Mr. Jablonski sees the role of FMCC as training technicians for existing infrastructure, as well as those that will support Research and Development for emerging technologies. He views the technology community as a pyramid with a few PhDs at the top supported by a broader base of technicians. FMCC's niche is to train those technicians for a high-tech economy. By looking at trends, FMCC is able to foresee demand for the type of education and workforce training needed by the community it serves.

"FMCC is helping to prepare people for jobs that don't even exist today."

- John Jablonski, Acting President,
Fulton-Montgomery Community College

Fulton-Montgomery Community College (FMCC) is located at the border of Fulton and Montgomery counties, two counties in the Mohawk Valley that are largely rural and yet have a strong industrial tradition. Currently, FMCC has 50 Academic Programs (both degree and certificate) and over 2,200 students in its credit programs, of which 44% are in career programs. Like other community colleges, FMCC conducts customized, non-credit training programs. Fulton-Montgomery Community College is envisioned to be a potent catalyst for economic development, as well as a vital center for cultural enrichment in the community.

What makes FMCC different is that the community college has been implementing educational and training programs that are considered cutting-edge for a small community college. Like other small community colleges that had its share of disappointments in the past, FMCC had to close some of its educational programs due to lack of funding. However, this has not deterred FMCC from pursuing initiatives that will further its vision of being an economic catalyst for the two counties it serves. Two of these initiatives have a high-technology focus: Spatial Information Technology and Alternative Energy.

The idea for creating a *Spatial Information Technology Center (SITC)* at FMCC started more than 5 years ago when one of its faculty members spent a summer internship at the Stennis Space Center in Mississippi. The faculty member established good networking with the director of the Stennis Space Center and came back energized and inspired with the idea to establish a center that will utilize spatial information technology (Geographic Information Systems) to train students.

From the time the connection was made, it took FMCC 5 years to secure federal funds through NASA. The community first had to demonstrate its commitment locally before any federal funds were earmarked for the purpose. Through the leadership of the community college, the Fulton-Montgomery Educational Initiative (FMEI) was formed, comprising of high-ranking members of the community, representatives of FMCC, school district superintendents, and BOCES. The FMEI group meets regularly to discuss ideas. Federal funds from NASA serves as a seed fund available for the first 5 years.

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Today, in addition to training students in Spatial Information Technology, the center has been used for practical applications in business and the community, such as the NYS Loggers, GPS training and survival techniques for outdoor industries, the Fulton County District Attorney's office, as well as tactical GPS training for law enforcement. SITC has conducted projects using the technology to benefit the local community. Some of these projects include locating businesses for membership in a local Chamber of Commerce; creating maps of local political districts; creating and updating trail maps for local parks; assisting local agencies with map creation and production; and mapping locations of otter sightings. SITC is also being utilized as ESRI's Upstate New York Training Center.

The availability of this technology has also helped attract businesses to the community. An example is Fage, the largest dairy manufacturer in Greece and one of the largest in Europe. Fage will be locating a \$40 million facility in Johnstown, NY, its first non-European manufacturing facility. Through SITC, a demonstration project is proposed that will use GIS to help the firm establish a supply chain and North American distribution network. The use of GIS will allow the firm to deliver its product to market faster.

Fulton-Montgomery Community College is currently developing an *Alternative Energy Program*. The idea was sparked during the massive blackout in the Northeast some years ago. Assemblyman Paul Tonko, Chair of the NYS Assembly Energy Committee saw the need to train a new crop of energy technicians to replace those that are aging and retiring. He viewed the community college as having an important role in bringing this about. The high cost of fossil fuel has led to the movement away from this energy source leading to a growing demand for alternative energy and a demand for jobs in this technology as well. Proposed funding for the program will come from the New York State Assembly. FMCC proposes to create an A.A.S. in Alternative and Renewable Energy Technology.

FMCC has been meeting the needs for customized training for businesses through its *Business and Industry Center*. The Center identifies training needs of companies through surveys and outreach to businesses. The community college has multiplied its outreach capabilities by partnering with the economic development community. The EDC provides information to existing and incoming businesses, as well as those making inquiries regarding the availability of training at the community college. The Center conducts customized training programs and has the ability to deliver training on demand. The Center provides open-enrollment business and computer courses and currently has as many as 200 online courses. The Center provides assistance to small-businesses, as well as SCORE counseling. As diverse as its roster of clientele, the Business & Industry Center has been successful in providing training on a wide variety of fields – from manufacturing to health care. With limited grants that are competitive, the Business & Industry Center is almost self-sufficient with fees derived from its customized training programs.



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Another innovative strategy is the co-location of BOCES at the FMCC campus. This co-location is the first of its kind in New York State. The co-location has allowed high school students to utilize the Spatial Information Technology Center facilities, as well as the Business and Industry Center. The co-location encourages interest in technology among high school students, as well as attracts students to pursue higher education.

FMCC views its personal and professional relationships and partnerships with different sectors of the community as important in helping achieve success.

Lessons learned from the Fulton-Montgomery Community College include the following:

- Foreseeing demand for future workforce needs by watching market trends and the economy.
- Use of federal and state grants to fund its technology training programs.
- Working closely with State Assembly Representative.
- Partnering with the local economic development agency in reaching businesses, thereby multiplying its outreach capabilities.
- Co-location with BOCES to encourage interest in technology and higher education among high-school students.
- Use of practical applications for technology to help attract businesses.
- Use of technology to help local community development.
- Identifying its special niche in the technology community.

SOUTH CAROLINA: EDUCATION AND ECONOMIC DEVELOPMENT ACT OF 2005

The Education and Economic Development Act (EEDA) of 2005⁵ was signed into legislation in South Carolina that will customize students' high school coursework to match their individual career interests, add guidance and counseling services, and establish alternatives for students at risk of dropping out. South Carolina started the process in late 2000 by forming a statewide task force to undertake a comprehensive investigation into how the demands of the 21st Century economy will necessitate changes in the high school curricula. The task force comprised of a bi-partisan coalition of government, education and business leaders.

The Education and Workforce Task Force held 10 regional meetings across the state and solicited comments and recommendations from constituents. This public outreach process led to conclusions that:

⁵ South Carolina Department of Education, "Governor signs new legislation that will sharpen schools' focus on skills, careers," <http://www.myschools.com/news/more.cfm?articleID=556>. Accessed August 25, 2005.



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- A great majority of South Carolina parents, educators and business leaders believe more needs to be done to prepare children for successful careers;
- Parents desire a rigorous curriculum with more science and math, more focused career planning, increased information in middle schools, and character education; and
- A well-educated and highly skilled workforce is the key to the development and growth of South Carolina's economy.

The Task Force drafted the legislation that organizes the state's high school curricula around "clusters of study." These clusters included Health Science; Finance; Information Technology; or Arts and Humanities. Under this program, students are required to consider a major focus of study at the 10th grade. A student's career cluster could change should there be a change in interests and career goals. The state's high school graduation requirements of 17 required credits and 7 electives would not change.

The EEDA would allow more parental involvement in their child's career choices, as well as increase the number of guidance counselors from a ratio of 1 counselor for every 500 students to 1 for every 300 students. The EEDA will also help address the needs of students at risk of failing or dropping out.

Lessons learned from South Carolina include the following:

- Creating a task force comprised of different sectors in society dedicated to identifying workforce needs.
- Conducting regional meetings and a public outreach process to determine workforce needs.
- Legislating changes in curriculum to enforce a statewide educational program (in the case of Greene County – a countywide educational program).
- Creating clusters of study that will serve as career paths for high school students.
- Increasing the number of counselors to provide guidance on career paths and to focus attention on students at risk of failing or dropping out.

TECH VALLEY HIGH SCHOOL

Tech Valley High School, established late 2005, is an innovative high school that will prepare students in a seven-county area for careers in technology. A joint venture of Questar III BOCES and the Capital Region BOCES, Tech Valley High School is anticipated to open in September 2006 with 50 ninth-graders in temporary quarters at the Rensselaer Technology Park. The school is planned to be small with no more than 400 students in grades 9 – 12. Students will be drawn from 48 school districts within Questar III and Capital Region BOCES, which serve seven counties – Albany, Columbia, Rensselaer, Schenectady, Schoharie, southern Saratoga and parts of Greene. Students will be



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selected by lottery. Graduates would receive a diploma from their home district with an endorsement that they have completed the Tech Valley program.⁶

The curriculum will be academically rigorous, combining Regent's for post-secondary education with subjects related to Tech Valley's core technologies – nanotechnology, biotechnology, energy, advanced materials, and information technology. Instruction will utilize advanced learning methods, including project-based learning, and technology.

Tech Valley High School will be co-located on a business campus, allowing interaction with business on a regular basis. Tech Valley High School will serve as a business and technology incubator, as well as a technology training site for area schools and businesses. The school is envisioned to be a model to be replicated in Tech Valley and beyond.⁷

Unlike a charter school that derives funding from school districts, the new high school will receive revenues from BOCES aid for students enrolled in the school. Tech Valley High School is also one of two-dozen around the country that has received funding from the New Technology Foundation of California. The school also received \$400,000 from the Bill and Melinda Gates Foundation.

As a model that could be replicated in other parts of the Tech Valley, a similar technology high school could be established in Greene County as an act of county legislation. This will emphasize the importance of creating a technology workforce from within the County, starting with the youth and aligning with the County's long-term focus on emerging technologies as target industries. The presence of such a school within the County could also help attract high-tech businesses looking to relocate to the Capital Region. The technology high school could focus on high-tech applications of emerging technologies. This would allow Greene County to establish its niche in the manufacturing and commercialization of high technology products.

Lessons learned from the Tech Valley High School model include the following:

- Funding outside the school district budget through a combination of BOCES, private foundations, and state.
- A rigorous curriculum focused on emerging technologies.
- Co-location on a business campus to encourage interaction between students and businesses. Co-location will also encourage practical applications of technology.
- Creation of a business incubator within the school.

⁶ John Strachan, "Planning new breed of technology school: Two BOCES to combine for 'Tech Valley' concept," Dec. 8, 2005. http://www.nysut.org/newyork_teacher/2005-2006/051208boces.html. Accessed May 8, 2006.

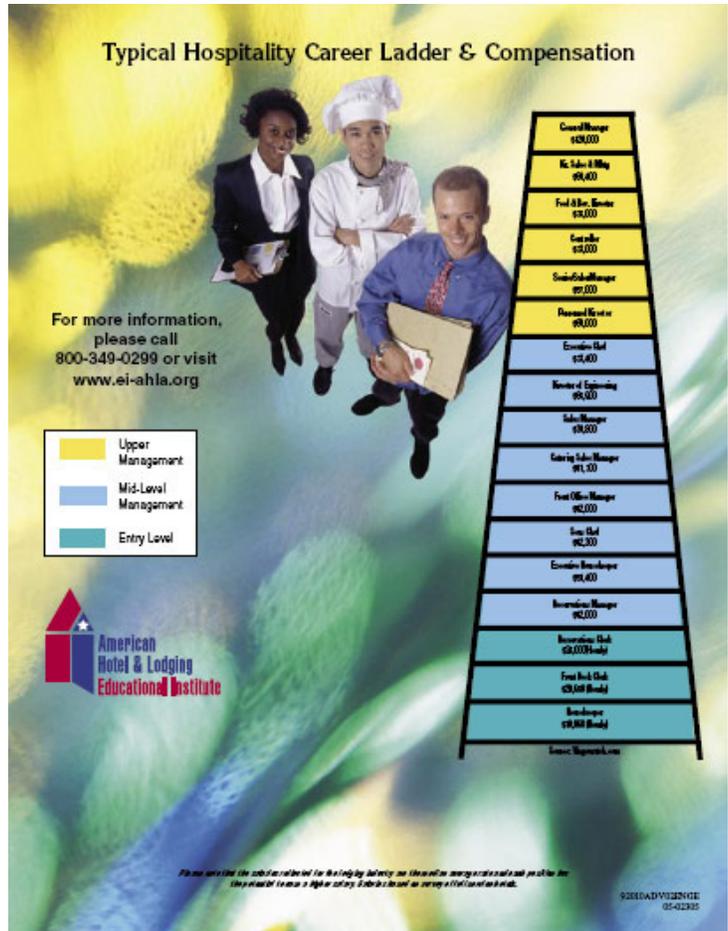
⁷ http://www.techvalleyhigh.org/about_tvhs.htm.

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START AND THE LODGING MANAGEMENT PROGRAM

The American Hotel & Lodging Association’s Educational Institute (EI) established two levels of training programs for high school students that could lead to a career in the lodging industry: the Skills, Tasks, and Results Training (START) and the Lodging Management Program. With the START and LMP programs, the American Hotel & Lodging Institute offers a range of training opportunities that provide students access to a career path in the hospitality industry.

Skills, Tasks, and Results Training (START) is a one-year, 180-hour curriculum designed specifically for workforce development to serve targeted clients such as at-risk youth, welfare-to-work, dislocated workers, and other targeted groups. START prepares students for entry-level lodging positions that lead to professional certification. START students receive training for hospitality positions in the rooms and food and beverage divisions of a lodging operation, including front desk, reservations, housekeeping, bell services, restaurant service, banquet setup and service, and other positions. START also aims to promote confidence and positive work ethics through guest service, professionalism, and career exploration.



START allows students to transition to higher-level hospitality coursework. The program is recommended for 9th and 10th grade high school students to prepare them to enter the Lodging Management Program (LMP) curriculum available to eleventh- and twelfth-grade students. The American Hotel & Lodging Association Educational Institute (EI) encourages students to move on to the next level by waiving the fee for one future line-level certification for students who successfully complete the START program.

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The Educational Institute (EI) collaborates with the American Hotel & Lodging Association and its Member State Associations to consult with workforce development agencies, community and faith-based organizations, Job Corps, community colleges and schools in order to help promote the START program and facilitate the transition of its graduates into hospitality industry jobs.⁸

The *Lodging Management Program (LMP)* trains eleventh- and twelfth-grade students for a more advanced career in the hospitality industry. LMP provides a two-year curriculum with modules touching topics such as an overview of lodging management, the front office, housekeeping, leadership and management, marketing and sales, and food and beverage service. The Educational Institute has articulation agreements with various colleges and universities that allow LMP graduates to transfer credits to college-level hospitality programs.⁹

Lessons learned from the START and LMP Programs:

- The Workforce Investment Office, as well as the local school districts could explore possibilities of collaborating with the American Hotel & Lodging Educational Institute in initiating START programs to train ninth- and tenth-grade students, as well as at-risk youth, welfare-to-work, and dislocated workers in entry-level hospitality positions. The START program could help supply the needed workforce for Greene County's tourism industry.
- The WIO and local school districts could also establish an LMP program for eleventh- and twelfth-grade students wishing to move-on to a career in the hospitality industry.
- The START and LMP programs could be developed in conjunction with plans to establish a Business and Conference Center in the Mountaintop communities.
- Articulation agreements could be established with colleges/universities in New York State, such as the Cornell University School of Hotel Administration to allow LMP graduates to transfer credits to hospitality-related courses.

⁸ START, <http://www.ei-ahla.org/start/index.html>, accessed Sept. 26, 2006.

⁹ Lodging Management Program (LMP), <http://www.lodgingmanagement.org>, accessed Sept. 26, 2006.