

APPENDIX I

Environmental Scan: Population and Labor Projections 2010-2020

NEED TO ADD PENNSYLVANIA AND NEW YORK CITY IN ALL THESE PROJECTIONS PLUS ANY OTHER STATES WHERE ESU HAS RECRUITMENT OPPORTUNITIES AND ESU GRADUATES HAVE WORK OPPORTUNITIES

Population Projections to 2020

Population projections for the period between 2015 and 2020 predict a substantial change in how American colleges and universities will translate the meaning of “traditional” in the future. The current “traditional” college-bound age group of 18-to-22 will still exist but in smaller numbers as the 25-34 and 55-plus age sets increase quite dramatically. Racial and ethnic diversity will similarly outstrip in growth the “traditional” Caucasian population. It is likely that what the G.I. Bill began after World War II when older students began to enroll in associates and baccalaureate degree programs across the country will finally turn that deeply rooted definition of “traditional student” on its ear.

National Population Trends

In their publication of “Projections Overview” on March 29, 2012, the U.S. Bureau of Labor Statistics anticipates that there will be a slow-down in the nation’s population growth from 12.4 percent (1990-2000) and 11.9 percent (2000-2010) to **10.6 percent from 2012-2020**. Accompanying this period of slower growth will be a shift of population from younger to older with:

- Stagnation in the 16-to-24-year-old population;
- **An increase by as much as 10.5 percent in the 25-34-year-old age group;**
- A decrease by 7.6 percent in the 45-to-54 age group due to the decline of the birth rate following the baby-boomers; and
- **An increase of 29.1 percent in the 55-plus age group.**

During the same time period, it is also anticipated that the so-called “minorities” (the racially and ethnically diverse population of Americans by birth and immigrants) will

constitute a larger share of the U.S. population with Asians and Hispanics continuing to grow much faster than other racial and ethnic groups:

- Asians at a rate of 34 percent and
- Hispanics at a rate of 37 percent.

Pennsylvania, New York and New Jersey Population Trends

How will these national population changes translate in New York and New Jersey? The website of Cornell University's Program on Applied Demographics (September 8, 2011) projects that **New York's** overall population will be fairly stagnant between 2015 and 2020 with only a 1 percent rate of growth. These age group rates mirror the national projections with:

- 15- and 24-year-olds decreasing by -0.94 percent;
- **25- to 44-year-olds increasing by +1.02;**
- 44-to-65-year-olds decreasing by -.96 percent.
- **65-to-85-year-olds increasing by +1.09 percent.**

The State of New Jersey's Department of Labor and Work Force Development projects a similar picture for **New Jersey** as the one described for New York, although there is no bump in population growth projected for the 25-44 age set. New Jersey's population is projected to grow by 1.02 percent between 2015 and 2020, and the age group growth rates are anticipated to:

- Decrease by -0.988 percent for 15-to-19-year-olds;
- Decrease by -0.976 percent for 20-to-24-year-olds;
- Decrease by -1.11 percent for 25-to-29-year-olds;
- Decrease by -1.03 percent for 30-to-34-year-olds;
- Decrease by -1.04 percent for 35-to-39-year-olds;
- So on until the 55-to-59 age set.
- **Increase by +1.01 percent for 55-to-59-year-olds;**
- **Increase by +1.13 percent for 60-to-69-year-olds;**
- **Increase by 1.25 percent for 70-to-75-year-olds; and**
- **Increase by +1.19 percent for 75-79-year-olds.**

In both states, the projected change in the racial and ethnic composition of the population will be even greater than that of the nation as a whole. Cited by *The Chronicle of Higher Education* in its January 9, 2013 issue, the "Condition of Education," published in 2012 expects that there will be increases in New Jersey between now and 2021 of:

- 42 percent for the Hispanic population;
- 25 percent for the Black population; and
- 20 percent for the Asian/Pacific Island population.

In contrast the Caucasian population is projected to increase by just 4 percent.

The bottom line for all of these projections is that what has been called the “traditional” college-bound population (high school graduates between the ages of 16 and 22) in New York and New Jersey will decrease by about 1 percent. The Caucasian population will slightly decrease while other racial and ethnic groups increase. There will be many opportunities to serve the growth that will occur for New York in the 22-44-year age set and for both states in the 55-plus age set.

Labor Projections to 2020

National Projections

The U.S. Bureau of Labor Statistics’ March 2012 “Projections Overview” expects slower growth in the “civilian noninstitutional population who either are employed or are unemployed but available and looking for work”—164.4 million by 2020, an increase of 6.8 percent. In keeping with the population projections:

- Caucasians will comprise a decreasing share of the labor force;
- Blacks, Asians and other racial and ethnic groups will increase their share; and
- Hispanics will substantially increase their share from 14.8 percent to 18.6 percent.

It is also anticipated that women will make up a slightly larger percentage than men in the labor force—6.3 percent growth for men between 2010 and 2020 and 7.4 percent for women—and in keeping with overall population growth per age set, workers aged:

- 16-to-24 will decrease from 13.6 percent in 2010 to 11.2 percent in 2020;
- 25-to-54 (the major working-age group) will decrease from 66.9 percent in 2010 to 63.7 percent in 2020; and
- **55-plus will “leap” from 19.5 percent in 2010 to 25.2 percent of the labor force in 2020.**

Employment Changes by Industry

The Bureau of Labor Statistics expects the following employment changes by industry (and note especially the *reasons why* these changes are anticipated).

Goods-producing Industries: Increase of 1.7 Million New Jobs between 2010 and 2020 (In order of number of increased jobs)

I include the following chart, because while ESU’s graduates will not be miners or extractors, they might very well be involved in some of the scientific and management aspects of these industries.

INDUSTRY	2020	Growth	Reasons for Change
	Jobs	Rate (%)	
Mining, quarrying, and oil and gas extraction	25,000	+4	Oil and gas extraction/nonmetallic mineral mining/quarrying expected to account for most of growth

Service-providing Industries: Increase of Nearly 18 Million New Wage Jobs between 2010 and 2020 (In order of numbers of jobs)

INDUSTRY	2020	Growth	Reasons for Change
	Jobs	Rate (%)	
Healthcare and Social Assistance	5,704,000	+28	Aging population and longer life expectancies, new treatments and technologies
Professional, Scientific and Technical Services:	2,100,000	+29	Computer systems design and related services (+ 47 percent) and management, scientific, and technical consulting services (+58 percent)—Growing demand for sophisticated computer network and mobile technologies and businesses' continued need for advice on planning and logistics, the implementation of new technologies, and compliance with workplace safety, environmental, and employment regulations
Educational Services	1,845,000	+14	Rising student enrollments at all levels of education
Retail Trade	1,800,000	+12	Increasing population and projected rise in personal consumption
Accommodation and Food Services	1,000,000	+9	Increase in the population and the desire of time-conscious individuals to eat out
Transportation and			Expansion of global trade and the need for more goods to be transported in and around the country

Warehousing	853,000	+20	
Wholesale Trade	744,100	+14	Growth in wholesale electronics and agents and brokers
Finance and Insurance	505,100	+9	Recovery of jobs from loss during recession, a wide range of financial assets available for trade, the number of baby boomers reaching retirement age and seeking advice on retirement options, the globalization of the securities markets, credit intermediation, new insurance products (banking), population growth
Arts, Entertainment and Recreation	341,000	+18	Public participation in arts, entertainment (amusement and gambling), and recreation activities, reflecting increasing incomes, leisure time and awareness of health benefits of physical fitness
Real Estate and Rental and Leasing	275,000	+14	Recovery of jobs lost during recession, increased demand for housing, population expansion
Government	180,000	+2	Budgetary constraints and outsourcing of government jobs to private sector
Information	143,000	+5	Shift from newspapers, periodicals, books, and directory publishing (-12) to software publishing (+35), internet publishing and broadcasting (+16) and wireless and satellite telecommunications services (+8)
Management of Companies and Enterprises	103,000	+6	Relatively slow growth as companies focus on reorganization to increase efficiency

Employment Changes by Occupation

Again from the “Projections Overview” from the U.S. Bureau of Labor Statistics, the following occupations will be impacted by the growth of the industries listed above, which will include, “among other factors, productivity increases and changes in business practices.”

OCCUPATIONS WITH THE FASTEST GROWTH, PROJECTED 2010-20				
OCCUPATION	Percent Change	# of New Jobs Added	Entry-level Education	On-the-Job Training
Biomedical Engineers	62	9,700	Bachelor's	None
Veterinary Technologists and Technicians	52	41,700	Associate's	None
Physical Therapist Assistants	46	30,800	Associate's	None
Meeting, Convention and Event Planners	44	31,300	Bachelor's	None
Diagnostic Medical Sonographers	44	23,400	Associate's	None
Occupational Therapy Assistants	43	12,300	Associate's	None
Interpreters and Translators	42	43,300	Bachelor's	Long-term on-the-job training
Market Research Analysts and Marketing Specialists	41	116,600	Bachelor's	None
Marriage and Family Therapists	41	14,800	Master's	Internship/Residency
Physical Therapists	39	77,400	Doctoral or Professional	None
OCCUPATIONS WITH LARGEST NUMERIC GROWTH, PROJECTED 2010-20				

OCCUPATION	Percent Change	# of New Jobs Added	Entry-level Education	On-the-Job Training
Registered Nurses	26	711,900	Associate's	None
Postsecondary Teachers	17	305,700	Doctoral/Professional	None

Elementary School Teachers (Except Special Education)	17	248,800	Bachelor's	Internship/Residency
Source: BLS Occupational Employment Statistics and Division of Occupational Outlook				

National Summary

“Recovery: Job Growth and Education Requirements through 2020,” issued by Georgetown University’s Georgetown Public Policy Institute, Center on Education and the Workforce projects that the economy will grow from 140 million to 165 million jobs (as similarly forecast by the Bureau of Labor Statistics). This will include 55 million job openings with 24 million openings from new jobs and 31 million from the retirements of baby boomers.

At this rate of growth and if the current rate of production in higher education remains the same, the report expects that there will be a shortfall of 5,000,000 workers with the postsecondary credentials needed for some of these jobs. Of the 55 million job openings available, the following educational attainment will be required:

- 11 percent: A master’s degree
- 24 percent: A bachelor’s degree
- 12 percent: An associate’s degree
- 18 percent: Some college, no degree
- 10 percent: Postsecondary vocational certificates*
- 24 percent: High school diploma
- 12 percent: Less than a high school diploma

*”Postsecondary vocational certificate holders are often included in the ‘some college’ category and sometimes in the ‘high school diploma’ category, which means

that the [numbers above] total 61 million job openings due to double-counting. Nevertheless, [the Georgetown Center on Education and the Workforce estimates] the number of postsecondary certificates separately. The number of job openings, however, will be 55 million in the economy through 2020.”

The Center mirrors the BLS by predicting that jobs in healthcare, STEM and community services will be some of the fastest growing in the economy, and these will require postsecondary education and training. Communications (active listening, speaking, reading comprehension), analysis (critical thinking, monitoring, coordination) and leadership (social perceptiveness, judgment and decision-making) are and will continue to be the most valued skills.

New Jersey and New York

New Jersey

New Jersey Employment Changes by Industry, 2010-20 (Projected)

INDUSTRY	2010 Jobs	2020 Jobs	Growth Rate (%)
Mining, Quarrying, and Oil and Gas Extraction	3,160	4,460	41
Finance and Insurance	281,170	363,060	29
Real Estate and Rental Leasing	220,060	276,310	26
Education Services	100,770	123,460	23
Healthcare and Social Assistance	472,390	573,010	21
Professional, Scientific and Technical Services	344,190	406,580	18
Arts, Entertainment and Recreation	85,270	99,600	17
Management of Companies and Enterprises	64,810	73,330	13
Other Services (Except Public Administration)	175,600	198,790	13
Accommodation and Food Services	251,410	281,570	12
Retail Trade	421,580	457,440	9
Wholesale Trade	190,000	205,870	8
Government	493,910	532,520	8
Information	78,140	76,940	-2

Utilities	12,280	11,960	-3
Manufacturing	223,830	201,260	-10

Source: "Recovery: Job Growth and Education Requirements through 2020," State Report, Georgetown University, Georgetown Public Policy Center, Center for Education and the Workforce

***New Jersey's New Job Openings by Occupation and Education Level: 2020
(Noted in Bold with an Asterisk) & New Jersey's Total Jobs by Occupation and
Education Level: 2020 (Noted in Plain Face)***

OCCUPATION	Some College/ No Degree	Associate's Degree	Bachelor's Degree	Master's Degree or Better
Managerial and Professional Office*	28,000	15,000	110,000	65,000
Management	53,510	22,260	137,490	86,870
Business Operations	16,710	9,160	75,480	31,490
Financial Services	10,130	10,350	109,830	44,700
Legal	3,790	3,680	10,650	51,150
STEM*	8,000	5,000	30,000	26,000
Computers and Mathematical Sciences	5,560	2,680	19,310	14,570
Architecture	11,810	14,690	75,660	22,650
Engineering	2,190	1,300	6,480	6,250
Life & Physical Sciences	1,920	1,270	11,030	19,990
Social Sciences*	1,000	0	1,000	7,000
Social Sciences	1,840	0	3,970	22,510
Community Services and Arts	8,000	6,000	35,000	15,000
Community and Social Services	4,260	1,280	9,650	9,290
Arts, Design, Entertainment, Sports &				

Media	27,660	29,440	173,030	42,550
Education, Training & Library*	7,000	3,000	41,000	42,000
Education, Training & Library	8,970	4,490	56,830	58,210
Healthcare Professional and Technical*	8,000	11,000	23,000	26,000
Healthcare Professional and Technical	24,480	33,800	70,080	76,840
Healthcare Support*	13,000	4,000	4,000	2,000
Healthcare Support	38,980	12,110	11,950	5,940
Food and Personal Services*	48,000	16,000	30,000	4,000
Food Preparation & Serving-related	24,240	11,520	16,270	1,970
Building and Grounds Cleaning & Maintenance	32,160	9,570	11,740	360
Personal Care and Services	25,000	5,660	14,480	2,470
Protective Services	78,600	29,180	66,160	11,520
Sales and Office Support	109,000	38,000	129,000	25,000
Sales & Related	136,110	52,120	248,420	49,260
Office & Administrative Support	190,060	61,620	139,050	25,340

Source: "Recovery: Job Growth and Education Requirements through 2020," State Report, Georgetown University, Georgetown Public Policy Center, Center for Education and the Workforce

New York

New York Employment Changes by Industry, 2010-20 (Projected)

INDUSTRY	2010	2020	Growth
	Jobs	Jobs	Rate (%)
Mining, Quarrying, and Oil and Gas Extraction	11,130	14,350	+29

Education Services	362,350	447,290	+23
Real Estate and Rental Leasing	434,400	535,440	+23
Healthcare and Social Assistance	1,260,550	1,536,440	+22
Finance and Insurance	672,140	797,140	+19
Professional, Scientific, and Technical Services	691,700	817,200	+18
Arts, Entertainment, and Recreation	256,110	302,320	+18
Administrative and Support and Waste Management and Remediation Services	448,270	524,950	+17
Other Services	415,860	479,940	+15
Management of Companies and Enterprises	120,430	137,470	+14
Accommodation and Food Services	532,940	607,090	+14
Wholesale Trade	297,560	316,980	+7
Transportation and Warehousing	306,480	325,490	+6
Retail Trade	844,490	889,430	+5
Information*	238,240	241,110	+1
Utilities	32,860	32,350	-2
Manufacturing	402,990	365,640	-9
<p>Source: "Recovery: Job Growth and Education Requirements through 2020," State Report, Georgetown University, Georgetown Public Policy Center, Center for Education and the Workforce</p>			

New York's Job Openings by Occupation and Education Level: 2020 (Noted in Bold Face with an Asterisk) & New York's Total Jobs by Occupation and Education Level: 2020 (Noted in Plain Face)

OCCUPATION	Some College/ No Degree	Associate's Degree	Bachelor's Degree	Master's Degree or Better
Managerial and Professional Office*	58,000	42,000	216,000	137,000
Management	107,630	59,000	275,740	171,510
Business Operations	36,720	26,110	109,640	51,250
Financial Services	23,840	33,060	250,480	93,830
Legal	8,580	12,030	22,190	150,380
STEM*	12,000	13,000	58,000	35,000
Computers and Mathematical Sciences	12,580	12,720	64,60	23,320
Architecture	20,120	34,300	76,910	79,940
Engineering	3,790	5,240	18,320	9,480
Life & Physical Sciences	4,410	2,830	17,220	38,310
Social Sciences*	0	0	3,000	20,000
Social Sciences	360	530	7,100	43,100
Community Services and Arts*	22,000	14,000	103,000	54,000
Community and Social Services	8,750	5,720	24,740	26,180
Arts, Design, Entertainment, Sports & Media	74,330	47,510	416,260	153,800
Education, Training & Library*	14,000	8,000	43,000	169,000
Education, Training & Library	25,160	14,620	75,150	294,720
Healthcare Professional and Technical*	17,000	33,000	48,000	58,000
Healthcare Professional and				

Technical	50,960	98,200	145,310	173,470
Healthcare Support*	29,000	11,000	11,000	2,000
Healthcare Support	88,560	31,830	33,900	7,200
Food and Personal Services*	109,000	53,000	69,000	11,000
Food Preparation & Serving-related	58,340	27,660	38,290	5,790
Building and Grounds Cleaning & Maintenance	74,100	21,630	18,310	3,270
Personal Care and Services	47,870	24,620	33,630	7,120
Protective Services	182,660	103,940	136,070	15,150
Sales and Office Support*	210,000	119,000	234,000	55,000
Sales & Related	246,910	134,470	416,700	107,440
Office & Administrative Support	380,880	221,360	290,910	59,180

Source: "Recovery: Job Growth and Education Requirements through 2020," State Report, Georgetown University, Georgetown Public Policy Center, Center for Education and the Workforce