

**Academic Council**  
**NOTES**  
**12/2/99**

Jan Elias distributed the "Associate Degree Analysis: Improvement, Development, Expansion" interim report to the group and walked through the entire document.

**SEE ATTACHED.**

Remarks:

1. The Nursing Department is looking into reactivating the associate degree program in nursing.
2. Women are receiving more associate degrees than men and are making up more of the college population.
3. There is a 26% drop in population of 18 - 40 year old students in the area.
4. The medical records technician program may be reactivated since it is a fast growing field.

**Jan Elias would like to expand the Academic Council group and asked for suggestions of colleges, areas, etc. that should be represented. Please forward your suggestions to Roxann by the first week of January 2000.**

**ASSOCIATE DEGREE ANALYSIS:  
IMPROVEMENT, DEVELOPMENT, EXPANSION**

**INTERIM REPORT**

**NOVEMBER 1999**

**Introduction**

Youngstown State University is committed to providing education at the associate, baccalaureate, and graduate level to meet the needs of the Mahoning Valley. In the past year, the improvement, development, and expansion of associate degree programs has been a focus. This effort includes an examination of:

- the national trends in associate degree education
- national, state, and local employment demands
- local educational attainment levels in comparison to state and national norms, and
- strengths and weaknesses in existing programs and their marketing

This interim report describes the market analysis that has been completed to date and actions taken or planned to strengthen and expand associate degree and certificate programs. It is presented in four parts: the national context, the education "gap," program improvement and expansion, and next steps.

**National Context**

Today 44% of all undergraduates are community college students. However, community college students are not necessarily enrolled in occupationally-specific associate degree programs. According to the American Association of Community Colleges, the largest number of degrees is given in liberal/general studies and humanities. These studies are not designed to prepare for the job market, but for transfer to baccalaureate programs. Twice as many liberal/general studies degrees are awarded as in the next largest category: health professions and related sciences. Although YSU offers the Associate in Arts degree, which permits students to complete general education as well as an emphasis in any of the arts and sciences, there is little reason for local students to choose this option. They can directly enter a baccalaureate program, an option not available to community college students. The following table lists the ten most popular associate degree fields at community colleges and indicates whether YSU offers programs in the field.

**Table 1. Top Ten Associate Degrees Awarded by Community Colleges (1996-97)**

<b>Degree Field</b>	<b># Awarded</b>	<b>YSU Offers</b>
Liberal/general studies, humanities	167,448	Associate in Arts
Health professions & related sciences	76,848	Dental Hygiene, Dietetic Technology, Medical Assisting, Emergency Medical Technology, Histotechnology, Medical Laboratory Technology
Business management & admin. services	71,766	Business Administration: Accounting, Finance, Management, Marketing
Engineering-related technologies	20,208	Drafting & Design, Electrical Engineering Technology, Computer Engineering Technology, Mechanical Engineering Technology, Civil & Construction Engineering Technology, Instrumentation and Process Control
Protective services	17,445	Police Science Technology
Mechanics and repairers	9,747	No
Education	9,687	Pre-kindergarten Education
Visual and Performing Arts	8,757	No
Multi/interdisciplinary studies	8,246	No (Can do Individualized Curriculum Program)
Computer and information sciences	7,701	Computer Information Systems, Office Information Systems

Source: American Association of Community Colleges, 1999

In 1997 community college administrators identified the top five associate degree career fields based on earnings of graduates. As shown in Table 2, educational preparation for these fields is available in the Mahoning Valley. YSU is also initiating two new programs in the area of telecommunications technology/interactive information systems. Representatives of secondary schools, the Department of Computer Science and Information Systems, and area businesses met on November 18 to develop the Technical Competency Profile for interactive media specialists. This profile will be the foundation for a new Tech Prep articulated curriculum beginning at the high school and culminating in an associate degree at YSU.

**Table 2. Top Five Associate Degree Career Fields.**

Field	YSU
Dental Hygiene	Dental Hygiene
Manufacturing process technology	Instrumentation and Process Control
Telecommunications/interactive information specialists	Office Information Systems; Computer Engineering Technology; Two new programs in development: telecommunications technology and interactive media
Physical Therapy Assistant	No; available at Kent – East Liverpool; YSU has Physical Therapy
Registered Nursing	B.S.N.; Associate Degree Program may be reactivated

Source: American Association of Community Colleges, 1999

The number of associate degrees awarded nationwide is expected to increase by 13% by the year 2009. Women have completed more associate degrees than men have for many years, and the gap will widen. The number of earned degrees is projected to increase by 17% for women and 5% for men. This is consistent with the national pattern of more females enrolling in college than males. The number of males enrolled in college is likely to increase by 9%, females by 15% by the 2008-09 academic year (U.S. Department of Education, 1999). There are at least two implications of these projections for YSU:

- programs that have traditionally attracted high proportion of males will need to make special efforts to create a welcoming climate for women students in order to grow, and
- programs of particular interest to women are likely to attract larger enrollments than those traditionally attractive to men

The enrollment of full-time, traditional age college students is expected to grow significantly more than enrollment of part-time, adult students. Nationally full-time attendance is estimated to increase by 17%, part-time by 6% between 1998 and 2009. The largest increase will be among students 19 years and under (26%). Students aged 25 to 34 are projected to increase by 1-4%. The number of students over the age of 35 will decrease by 3%. The largest increases will be in the Southwest with much smaller gains in the Midwest. However, the number of public high school graduates in Ohio is expected to increase by 11% between 1998 and 2008 (U.S. Department of Education, 1998). Therefore, recruitment into associate degree programs is likely to be most successful when targeted at high school students who intend to enroll full-time. The current investment in the tech prep program holds great promise for the future. Local projections will differ somewhat from state and national trends and will be carefully analyzed.

## The Education Gap

Educational attainment levels in the area are below the national average and below the attainment levels of the Akron, Cleveland, and Toledo Metropolitan Statistical Areas. In order for the Youngstown-Warren area to achieve an associate degree attainment level equal to the national average, 7,538 more people in the tri-county area would need to earn an associate degree. The gap is even greater at the bachelor/graduate degree level. To reach national baccalaureate/graduate degree attainment levels would mean 32,929 additional individuals with those degrees in Mahoning, Trumbull, and Columbiana counties. These statistics for associate and higher degree attainment levels must not be considered in isolation. An associate degree can be the first step on a path that leads to higher degrees. However, for many community college students the path is not a smooth one. The higher education community has been very concerned about the low percentage of community college students nationally who are able to transfer and earn bachelor's degrees. Articulation with appropriate baccalaureate degrees should be part of the design of any new associate degree programs.

**Table 3. Educational Attainment Levels, Adults over 25, (1990)**

Region	% Associate Degree	% Bachelor's/Graduate Degree
National	6.2	20.3
Akron MSA*	4.9	19.2
Cleveland MSA*	5.2	19.9
Toledo MSA*	6.6	17.4
Youngstown MSA*	4.3	12.0

\*Metropolitan Statistical Area; Akron = Portage & Summitt counties; Cleveland = Ashtabula, Cuyahoga, Geauga, Lake, Lorain, and Medina Toledo = Fulton, Lucas, & Wood; Youngstown = Columbiana, Mahoning, & Trumbull

Source: Census Bureau

Another way of looking at the possible market for associate degree programs is to compare the ratio of current students enrolled in those programs to the population base of the area. As Table 4 indicates, the Youngstown-Warren MSA has a smaller enrollment in associate degree programs in comparison to its population base than the other regions. If this area were to equal the rate in the Akron area, the four campuses in the tri-county area would need to serve 416 more students; to equal the Cleveland rate, 2,842 more students, and to equal Toledo, 10,298 more students.

**Table 4. Number of Students Enrolled in Associate Degree Programs Compared to Population**

Metropolitan Statistical Area	Associate Degree Enrollees Fall 1997*	Population	Number per 100 population
Akron	2,806	688,952	.41
Cleveland	18,146	2,222,731	.82
Toledo	12,700	609,935	2.08
Youngstown	2,010	591,752	.34

Source: YSU Office of Institutional Research; Bureau of the Census

\* Includes students enrolled at all public institutions in the MSA

What explains this education gap? Can the enrollments in Cleveland or Toledo be used as benchmarks or targets for YSU? There are two main factors to consider in answering those questions: demographic characteristics and employment opportunities. While an in-depth demographic analysis of the other regions is beyond the scope of this report, it should be noted that the Toledo MSA has a significantly larger proportion of the population in the 18-39 age range than does the Youngstown-Warren MSA.

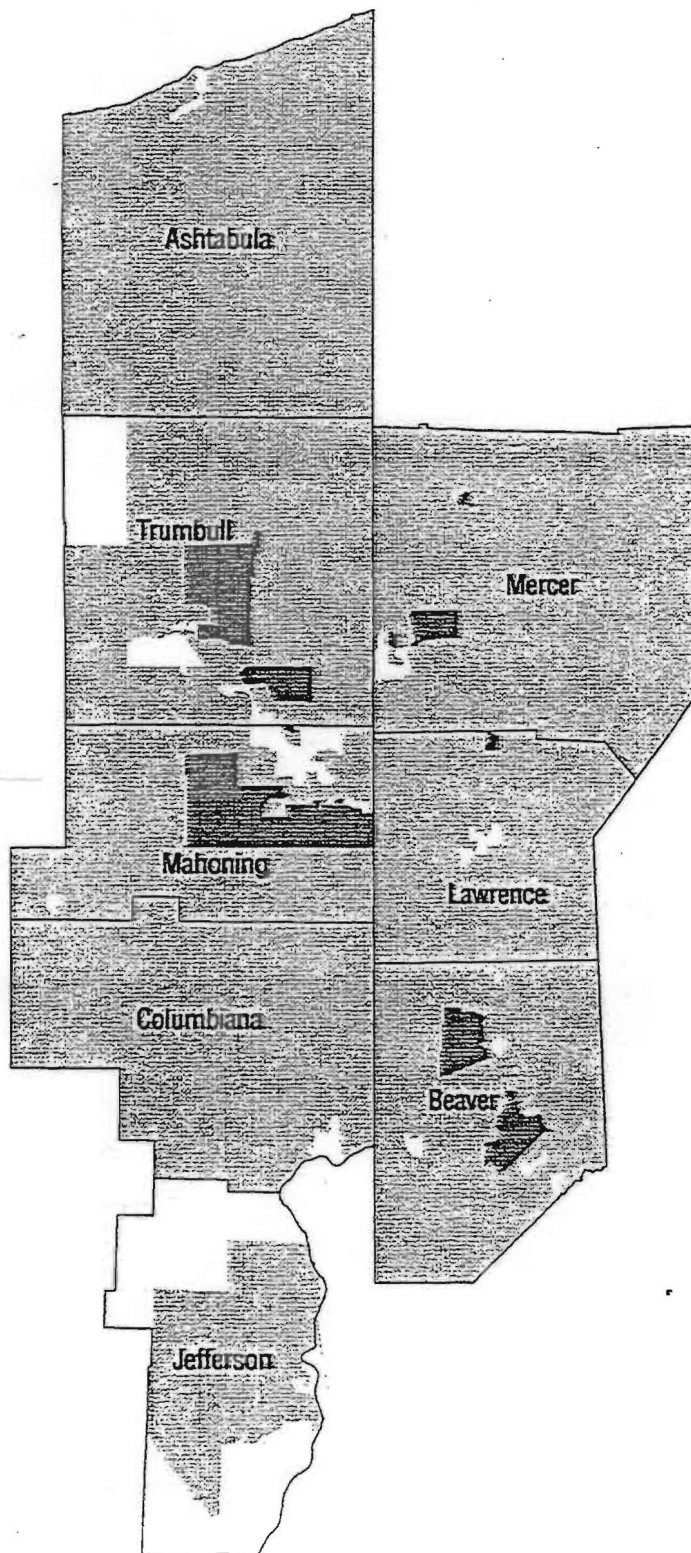
In the spring of 1999, YSU contracted with The College Board to conduct a demographic analysis of the five surrounding counties in Ohio and three in western Pennsylvania. The College Board has developed a model that predicts demand for higher education based on information available from the census such as average age, occupational and educational attainment levels. Based on this model, there are no census tracts in the entire eight-county area that are classified as high-demand for education, a few that are moderately high demand, and many more that are medium low or low demand (see map on the next page). To be more specific, the College Board estimates that fewer than 16% of adults in this region will engage in any type of educational activity in a year. Most of these individuals are people who already have a degree. Unlike other products or services, the lack of education does not necessarily motivate individuals to demand it. In fact, the opposite is true – the more education individuals have, the more they seek.

There must be very strong inducements to attract potential students from “low-demand” areas. A more highly educated population would improve the economic, cultural and civic life of the valley. However, **individuals** are not likely to seek a degree because they think it would be good for the region. They must see a personal benefit. To most, that means believing that their investment of time and money will be rewarded in the market place. The next section of this report examines the relationship between educational level and specific employment opportunities in the state and region.

# STUDY AREA

## Demographic Index

- High
- Medium High
- Medium Low
- Low



## Employment Projections

The Ohio Bureau of Employment Services has developed an employment outlook through the year 2006. According to OBES, professional occupations will grow at the fastest rate in Ohio. The next largest increases will be in service workers. "These two groups –on opposite ends of the educational attainment and earnings spectrum—are expected to provide more than half the total job growth" (*Ohio Job Outlook to 2006*, p.2). As can be seen in Table 5, occupations that normally require an associate's degree or higher are projected to grow faster than the 11.3 % average for all occupations. Although occupations requiring an associate degree are expected to grow by 18.5%, these occupations account for only 3.3% of the projected annual job openings.

Table 5.

### State of Ohio Occupational Employment Projections, 1996-2006, By Education and Training Categories

Education and Training Category	1996		2006		Change, 1996-2006		Annual Openings*	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total, All Occupations	5,814,000	100.0	6,471,900	100.0	657,922	11.3	208,279	100.0
First Professional degree	85,050	1.5	96,730	1.5	11,679	13.7	2,576	1.2
Doctor's degree	39,570	0.7	44,280	0.7	4,718	11.9	1,528	0.7
Master's degree	60,390	1.0	70,700	1.1	10,308	17.1	1,953	0.9
Work experience plus degree	400,560	6.9	459,520	7.1	58,965	14.7	14,347	6.9
Bachelor's degree	633,480	10.9	766,050	11.8	132,576	20.9	26,608	12.8
Associate degree	196,190	3.4	232,530	3.6	36,337	18.5	6,848	3.3
Postsecondary vocational training	364,330	6.3	389,580	6.0	25,248	6.9	10,540	5.1
Work experience in related occupation	431,470	7.4	470,940	7.3	39,476	9.1	13,265	6.4
Long-term on-the-job training	519,010	8.9	542,300	8.4	23,290	4.5	14,955	7.2
Moderate-term on-the-job training	788,030	13.6	833,400	12.9	45,366	5.8	24,019	11.5
Short-term on-the-job training	2,295,900	39.5	2,565,860	39.6	269,959	11.8	91,640	44.0

\*Job Openings due to growth and net replacements.

Sources: Ohio Bureau of Employment Services, Labor Market Information Division, November 1998.

In order to attract people to enroll in associate degree or post-secondary vocational programs, there must be sufficient employment opportunities available upon graduation. Programs that flourish in one area of the state may not be viable in another. For example, jobs for paralegals are expected to increase by 75% in the Toledo area but the employment outlook for paralegals is not even predicted in the Youngstown area because fewer than 100 are employed in this MSA. The outlook for travel agents is much brighter in Youngstown, with a projected growth rate of 25%, than in Akron where no growth is expected (see Appendix 1).



Occupations that offer good local employment prospects and for which no local training is available are the most logical ones for YSU to consider for additional associate degree or certificate programs. Table 6 shows the occupations requiring an associate degree or post-secondary training in which 100 or more people in the Youngstown-Warren MSA are employed. The number of jobs projected for 2006, the annual number of openings, and whether YSU offers preparation are indicated.

Table 6.

**Projected Growth in Employment\***  
**Youngstown-Warren MSA and YSU Programs**

	2006 Projected Employment	Percent Change 1996-2006	Total Annual Openings	YSU Programs
<b>Associate Degree</b>				
Chemical Technicians, Exc. Health	140	7.7	4	
Dental Hygienists	520	48.6	28	Dental Hygiene (AAS)
Engineering Technicians	1,700	3.7	41	Civil, Computer, Electrical, & Mechanical ET, Drafting & Design Tech, Instrumentation & Process Control Tech (AAS)
Health Prof., Para., Tech. (All Other)	750	11.9	21	Medical Assisting Technology (AAS)
Med./Clinical Lab. Technicians	240	4.3	3	Medical Laboratory Technology & Histotechnology (AAS), Medical Technology (BSAS)
Medical Records Technicians	270	42.1	12	
Physical and Life Science Technicians	270	12.5	9	
Radiologic Technicians & Technologists	290	7.4	6	(Available at St. Elizabeth Medical Center)
Registered Nurses	4,950	6.0	93	Nursing (BSN)
Respiratory Therapists	280	33.3	9	Respiratory Care (BSRC)
Teachers Aides, Paraprofessional	650	6.6	12	Pre-Kindergarten Associate (AAS)
<b>Postsecondary Vocational Training</b>				
Automotive Mechanics	1,870	11.3	83	(Available at Choffin Career Center)
Central Office and PBX Install/Repair	170	41.7	8	
Computer Programmer Aids	130	18.2	5	Computer Information Systems (AAS)
Data Entry Keyers, except Composing	710	4.4	6	Credit and Non-Credit Courses
Emergency Medical Technicians	740	32.1	29	Emergency Medical Technology (AAS) (Basic and Paramedic Certificates)
Legal Secretaries	440	15.8	13	Office Information Systems - Legal (AAS)
Licensed Practical Nurses	1,910	12.4	57	(Available at Choffin Career Center)
Medical Secretaries	800	27.0	28	Office Information Systems - Medical (AAS)
Sales Agents, Real Estate	440	7.3	10	Metro College - non-credit training
Secretaries, except Legal and Medical	4,860	-2.4	87	Office Information Systems (AAS)
Stenographers	240	4.3	5	
Travel Agents	200	25.0	8	Metro College - non-credit training
Welders and Cutters	1,210	-3.2	32	(Available at Choffin Career Center)

Source: Ohio Bureau of Employment Services / Ohio Job Outlook to 2006

\*Occupations with 100 or more workers.

YSU should also consider preparation for employment outside the local area in fields where there is a very strong statewide or national demand, even if local opportunities are lacking. Nine of the 30 occupations in Ohio with the most annual job openings require some form of post-secondary education. In Table 7, these fields are identified by educational level and whether YSU offers appropriate preparation. Table 8 shows Ohio's fastest growing occupations that require post-secondary education.

**Table 7. Occupations Requiring Post-secondary Education with the Most Annual Job Openings in Ohio**

Occupation	YSU Program
<b>Baccalaureate Degree</b>	
Computer programmers	Yes
Elementary and secondary teachers	Yes
General managers and executives	Yes
Financial managers	Yes
<b>Associate Degree</b>	
Registered nurses	Yes (B.S.N.)
<b>Post-secondary Vocational Training</b>	
Secretaries	Yes
Automotive Mechanics	No
Hairdressers	No

Source: Ohio Bureau of Employment Services

Maybe  
Truck diesel  
mechanics →

**Table 8. Fastest Growing Occupations in Ohio that Require Post-secondary Education**

Occupation	YSU Program
<b>Master's Degree</b>	
Speech Pathologist	No
Physical Therapist	Yes
<b>Baccalaureate Degree</b>	
Computer Engineers	Yes
Computer Support Specialists	Yes
Database Administrators	Yes
Computer Programmers	Yes
Occupational Therapists	No
Special Education Teachers	Yes
Financial Services Sales Agents	Yes
Physician Assistants	No
<b>Associate Degree</b>	
Desktop Publishing Specialists	Yes
Paralegals	No
Medical Assistants	Yes
Dental Hygienists	Yes
Medical Records Technicians	No
Respiratory Therapists	Yes (B.S.R.C.)

should we  
re-evaluate →

<b>Post-secondary Vocational Training</b>	
Manicurists	No
Surgical Technicians	No
Data Process. Equipment Repairers	No
Emergency Medical Technicians	Yes

Source: Ohio Bureau of Employment Services

In summary, YSU provides preparation for most of the growing career fields, the occupations with the most annual openings, and a majority of the occupations in the local area that require an associate degree or post-secondary vocational training.

YSU's programs are supplemented by other providers in the area. Duplication of programs would not be a wise use of public resources. Two areas appear particularly fruitful for expansion because there is both a local and state demand: medical records technician and associate degree nursing. The supply of B.S.N. graduates may not be meeting the demand for registered nurses. The College of Health and Human Services has already begun an analysis of the resources it would take to expand into these two areas.

### **Program Improvement and Expansion**

Youngstown State University has strengthened associate degree education and post-secondary training in the past year:

- The Office of Associate Degree and Tech Prep Programs was created and a director appointed. The director is charged with conducting ongoing analysis of the demand for associate degree programs and to assist departments in the development and marketing of programs.
- An Associate Degree Council was created to share information, identify challenges, and develop approaches for strengthening associate degree education. The council has begun an analysis of the strengths and weaknesses of associate degree programs at YSU.
- The Tech Prep programs articulating with associate degree programs have been expanded, and others are in development. These include an innovative program in interactive media and a business program with a focus on e-commerce.
- The Cisco Regional Academy, offering training for networking technicians, was established.
- The Medical Assisting degree is now being offered at the Southwoods site, conveniently near many medical offices.
- Two new engineering technology programs: computer engineering technology and instrumentation and process control were developed.

- A new advertising campaign for associate degree programs was launched.
- Non-credit training for medical transcriptionists was begun through Metro College
- An articulation agreement between the Winner Culinary Arts program and YSU's Hospitality Management program was signed.
- An Ohio Peace Officers Training Academy will be launched spring quarter. There will be three academy classes a year, each enrolling about 35 students for a 15 week program that will culminate in certification as well as credits that can be applied to a degree.

### Next Steps

This report was identified as an interim report because analysis of the current state of associate degree programs is not complete. A review of the strengths and weaknesses of the programs and their marketing will continue. This includes a study of retention and graduation rates of associate degree students. An analysis of the *Alumni Outcomes Survey*, comparing the responses of associate degree and baccalaureate degree graduates, is also underway. A review of the scheduling of associate degree classes is also being conducted. Combined with the insights of the Associate Degree Council, this information can be used as the basis of an action plan for the continuous improvement of associate degree programs.

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Appendix 1

Occupation	Projected Growth in Employment*							
	Akron		Cleveland-Lorraine-Elyria		Toledo		Youngstown-Warren	
	2006 Projected Employment	Percent Change 1996-2006	2006 Projected Employment	Percent Change 1996-2006	2006 Projected Employment	Percent Change 1996-2006	2006 Projected Employment	Percent Change 1996-2006
<b>Associate Degree</b>								
Chemical Technicians, Exo. Health	340	9.7	1,270	8.7	220	10.0	140	7.7
Dental Hygienists	590	59.5	2,030	51.5	630	53.7	520	48.6
Engineering Technicians	2,760	6.2	10,540	5.9	2,380	5.8	1,700	3.7
Health Prof., Para., Tech. (All Other)	1,160	19.6	4,170	17.5	1,210	13.1	750	11.9
Med./Clinical Lab. Technicians	300	11.1	1,120	8.7	340	6.3	240	4.3
Medical Records Technicians	340	47.8	1,220	40.2	380	40.7	270	42.1
Physical and Life Science Technicians	560	12.0	2,080	8.9	430	4.9	270	12.5
Radiologic Technicians & Technologists	370	5.7	2,140	20.2	450	2.3	290	7.4
Registered Nurses	6,580	12.1	24,840	10.9	7,590	9.1	4,950	16.0
Respiratory Therapists	390	44.4	1,490	44.7	480	41.2	280	33.3
Teachers Aides, Paraprofessional	770	8.5	2,680	5.9	750	10.3	650	6.6
<b>Postsecondary Vocational Training</b>								
Automotive Mechanics	2,650	16.7	7,790	11.4	2,230	9.3	1,870	11.3
Central Office and PBX Install/Repair	150	7.1	780	8.3	130	0.0	170	41.7
Computer Programmer Aids	210	16.7	790	8.2	190	11.8	130	18.2
Data Entry Keyers, except Composing	1,170	9.3	4,260	3.1	980	1.0	710	4.4
Emergency Medical Technicians	760	50.0	3,700	42.3	1,030	39.2	740	32.1
Legal Secretaries	550	0.0	3,760	13.3	730	9.0	440	15.8
Licensed Practical Nurses	2,360	16.8	8,280	11.9	2,490	11.7	1,910	12.4
Medical Secretaries	930	34.8	3,230	29.7	1,000	29.9	800	27.0
Sales Agents, Real Estate	480	4.3	2,280	7.5	500	4.2	440	7.3
Secretaries, except Legal and Medical	7,430	0.7	25,510	-1.9	7,130	-1.2	4,860	-2.4
Stenographers	420	7.7	1,570	1.3	380	2.7	240	1.3
Travel Agents	180	0.0	1,030	7.3	500	19.0	200	25.0
Welders and Cutters	1,300	14.0	5,050	13.2	1,320	11.9	1,210	-3.2

Source: Ohio Bureau of Employment Services / Ohio Job Outlook to 2006

\*Occupations with 100 or more workers.