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GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF LABOR & ECONOMIC GROWTH

KEITH W. COOLEY
DIRECTOR

Memorandum

DATE: April 1, 2008

TO: Senator Ron Jelinek, Chair
Senate Appropriations Committee

Representative George Cushingberry Jr., Chair
House Appropriations Committee

FROM: Keith W. Cooley, Director *KWC*
Michigan Department of Labor & Economic Growth

SUBJECT: PA 118 Sec. 408 Applied Baccalaureate Study

As called for by PA 118 Sec. 408, enclosed is the independent study commissioned by the Department of Labor & Economic Growth (DLEG) to investigate for need for community college baccalaureate degrees in applied sciences and technologies. Voorhees Group LLC, an independent, performance-based consulting firm out of Littleton, Colorado, conducted the study.

Section 408 also calls for a report that analyzes the study. We just received the study from Voorhees Group yesterday, which has not given us enough time to analyze it properly. For that reason, we are submitting the study today and will provide a proper analysis by April 15.

Please contact Andy Levin, DLEG Deputy Director at (517) 373-6334 with questions regarding the enclosed study or if receiving this information in two installments creates a problem for you.

cc: Bob Emerson, State Budget Director
Maria Tyszkiewicz, Senate Fiscal Agency
Mark Wolf, House Fiscal Agency
Susan Corbin
Andy Levin
Liza Estlund Olson

An Analysis of the Feasibility for the
Bachelor's Degree in Applied Science and Technology
in the State of Michigan

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Voorhees Group LLC
March 31, 2008



Executive Summary

In response to Senate Bill No. 234, Voorhees Group LLC examined the feasibility of offering bachelors degrees in applied science and technology in Michigan community colleges. The agreed definition for this degree to be used in this study was:

A degree program that builds upon the technical content gained at the associate's level. The combination of technical and higher level courses prepare graduates for higher level job opportunities related to their area of technical specialty. The Bachelor of Applied Science and Technology degree is designed to provide students with the opportunity to complete a baccalaureate program.

The primary activities conducted as part of this study were

- A survey of the 28 community colleges in Michigan to determine their level of interest in offering such degrees and, if so, in which fields;
- A telephone survey of selected employers to determine their opinions about the desirability of this degree; and
- An analysis of public databases indicating current and projected workforce needs in Michigan, especially those occupations associated with a bachelor's degree, categorized by the community colleges in each workforce region.

The results of the community college survey show that

- Twenty-one (21) community colleges express an interest in offering applied bachelor's degrees.
- The most popular field is nursing, noted by 17 community colleges.
- Other fields of interest are other health areas, other business-related fields, manufacturing technologies, computer technologies, and other technology related fields.
- The financial requirements for implementing these degrees vary across community colleges.

There are reasons for and against implementing applied bachelor's degrees. Reasons against include the potential new drain on limited state resources, perceptions of degree quality, and the length of time needed to receive approval from accreditation agencies. The reasons for implementing applied bachelor's degrees include increasing the number of bachelor's degrees through improving geographic, financial, and academic accessibility.

Taking these issues into consideration and based on analysis of capacity, workforce data, and interviews undertaken with key stakeholders, Voorhees Group LLC recommends that Michigan implement applied baccalaureate degrees in its community colleges in a deliberate way. It is recommended that Michigan consider the principles below.

- A pilot project for a set amount of time (3-4 years) and a limited number of applied baccalaureate programs with an evaluation scheduled at a specified date.
- Approve only those programs that have a certain percent of matching employer funds, for example, ten percent of program costs.
- Do not assume any additional state funding. If state funding is provided, put aside a pool of funds for which community colleges could compete. An external, out-of-state expert panel should be used to determine the awardees in a competitive process similar to that now employed by the National Science Foundation.

Background

In December of 2004 the Cherry Commission on Higher Education and Economic Growth produced its final report. Included in the report was the following recommendation:

Universities that currently grant applied baccalaureate degrees must forge new partnerships with community colleges to expand the availability of this credential. In addition, the Michigan legislature must pass enabling legislation during the 2005-06 legislative session that defines the criteria and process by which Michigan community colleges may offer applied baccalaureate degrees in response to unmet economic, employer, or community needs in their service regions where partnership arrangements have failed to meet these needs.

By October of 2007 the legislature advanced a bill that called for a process by which the state's community colleges might satisfy certain criteria to offer stand-alone baccalaureate degrees in select areas.

From Substitute for Senate Bill No. 234, Sec. 408:

(1) From the funds appropriated in part 1, it is the intent of the legislature that the department identify ways to enhance local access to baccalaureate degree opportunities in applied sciences and applied technologies through better utilizing the existing capacity of community colleges. Funds in part 1 may be used by the department to commission an independent study to determine where in Michigan these programs would be most beneficial in meeting current and projected economic and workforce development needs, and where community college capacity exists to develop baccalaureate level programs quickly. The study should consider criteria such as the following:

- a. Regions that have historically been dependent on manufacturing and automotive related industries where workers have been displaced or are in transition.
- b. Communities that are significantly below the state average of working age adults with four-year degrees.
- c. Locations served by community colleges that have a strong track record for advanced technical training, workforce development programs, and employer partnerships.
- d. Communities that do not contain a public university already offering similar degree opportunities.

e. Locations where the community college has both faculty and facilities already in place that are capable of supporting baccalaureate level programs in applied technical fields.

f. Evidence of employer support and future employment opportunities for graduates of the programs.

(2) The department may commission and receive the study and present the report, not later than April 1, 2008, analyzing the study to the appropriations committees of the house and senate, the state budget office, and the fiscal agencies.

Why Now?

One might logically ask why there is now such a strong interest in Michigan for investigating the feasibility of community colleges offering bachelor's degrees. What are the forces driving this interest? Nationwide, applied baccalaureate degrees have increased in popularity and scope.

A February 2008 report by Michigan Futures, Inc. outlines some of the major issues behind the legislative interest. To quote some conclusions of that report:

It is the broad based knowledge economy where most of the good-paying job growth is occurring in the American economy. High education attainment industries in 2005 were 41% of national employment and 54% of the wages earned by American workers. The average wage in these industries is nearly \$53,000 as compared to nearly \$32,000 in all other industries.

Most importantly, high education attainment industries accounted for 75% of the job growth in America from 2001-2005. All of the growth and then some came from the high education attainment industries in the education and health care sectors. The remaining high education attainment industries – including all the new technology industries that are the focus of so much state and regional efforts – lost employment.

Our basic conclusion: What most distinguishes successful areas from Michigan is their concentration of talent, where talent is defined as a combination of knowledge, creativity and entrepreneurship. Quite simply, in a flattening world, the places with the greatest concentrations of talent win. States and regions without concentrations of talent will have great difficulty retaining or attracting knowledge-based enterprises, nor are they likely to be the place where new knowledge-based enterprises are created.

Michigan and its largest metropolitan [areas] are lagging in the transition to a knowledge-based economy. In 2006 Michigan ranked 26th in per capita income, an unprecedented drop of 10 places in a relatively short six year period. It ranked 37th in the share of wages from knowledge-based

industries and 34th in proportion of adults with a bachelor's degree or more...

Our best guess is that unless we substantially increase the proportion of college educated adults – particularly in our biggest metropolitan areas – Michigan will continue to trend downwards in the per capita income rankings towards the mid 30s.

It is assumed that recognition of forces such as those mentioned in the Michigan Futures report, along with others such as the aging of the population, resulting in retirements of educated workers creating need for replacements and thus even more demand for educated employees, were at least some of the reasoning behind the legislation that created the study at hand.

Scope of this Study

In the proposal developed by the Voorhees Group LLC in response to the Request for Proposals (RFP) by the Michigan Department of Labor and Economic Growth (DLEG), the following elements were outlined:

- determine where programs will be necessary to support projected economic and workforce needs,
- determine where community college capacity exists to develop these programs quickly, and
- develop a framework that can be used to address the types of applied baccalaureate degrees that should be considered throughout Michigan

The major activities were a survey of Michigan community colleges to determine the capacity (and desire, if any) to offer applied baccalaureate degrees as well as existing plans to offer them. A related activity included interviewing a representative sample of employers regarding the desirability and marketability of graduates of such programs. Last, public databases were accessed to evaluate demographic and labor markets within Michigan.

A final step was to map the expressed capacities of its community colleges and compare that to future requirements for rational implementation of applied baccalaureate degrees in Michigan that match local demographic and employment needs.

Methodology

The actual methodology used in conducting the survey was to build the survey instrument itself based on the original wording of Senate Bill No. 234 after on-site consultation on February 7, 2008 in Lansing, Michigan with staff from the Michigan Department of Labor and Economic Growth, the Michigan Community College Association and member presidents, and the Presidents Council of the State Universities of Michigan. Drafts were circulated for additional input, with the Community College Association assisting institutions with their responses. When the last response was received on the cutoff date of March 10, a total of 23 out of 28 community colleges had responded to the survey regarding their interest in applied bachelor's degrees. The

definition of an applied bachelor's degree used in the survey is provided below. Appendix A provides an example of the survey.

A degree program that builds upon the technical content gained at the associate's level. The combination of technical and higher level courses prepare graduates for higher level job opportunities related to their area of technical specialty. The Bachelor of Applied Science and Technology degree is designed to provide students with the opportunity to complete a baccalaureate program.

One of the questions on the survey requested the names and contact information of employers who are supportive of offering applied baccalaureate degree programs. That was to allow some verbal feedback from a handful of such employers in order to get their impressions regarding the proposal. During the period between March 5 and March 13, many attempts were made to contact employers listed by community colleges when telephone numbers and/or e-mail addresses were provided. Only eight were successfully contacted, though two others returned telephone calls later while the final report was being written, but too late for their input to be included. One pattern that was obvious was that those who were most likely to respond at all, and quickly, were those affiliated with hospitals. However, given the very small numbers of employers contacted, it was a biased convenience sample at best.

Concurrent with the survey activity, publicly-available, federal databases were accessed to determine the current and likely future workforce needs for various regions of the state and how those might correspond to the community college service areas.

Limitations

Any study has its limitations, and this study is no different. There is always the possibility that there are issues that have not been considered or that have not been weighed heavily enough, especially depending on one's perspective, despite consultation with the parties involved. Survey methodology has its own limits; it can fail to capture nuances, subtle differences between and among institutions as an example. In this case, however, probably the greatest limitation has to do with the employer data, since they were gathered from such a small sample. The sample was quite biased in the first place, since the employers were recommended by the community colleges as supporting the concept of the bachelor's degree. They were not intended to represent a random sample of employers. Had the sample been ten times as large, it still would not have been representative of all employers in Michigan. Instead, the idea was simply to get a sense from a few as to why they supported the applied bachelor's degree, and this was accomplished. Further generalizations should be approached with caution.

Bachelor's Degrees in Community Colleges

Bachelor's programs in community and technical colleges are increasing in number throughout the country. Community colleges nationwide have evolved three primary models to provide baccalaureate level education: (1) "2+2" programs where baccalaureate institutions offer on a community college campus one or more culminating years of the baccalaureate degree; (2) higher education centers, or "university centers"

where community colleges collaborate with baccalaureate institutions in developing and offering baccalaureate degrees; and (3) community colleges that offer the total baccalaureate degree program. The last option is growing in practice as community colleges seek more control over the content of their degrees to match community and employer needs.

Late in 2005, the Carnegie Foundation broadened the definition of accredited associate granting institutions to include those institutions that award both associate's and bachelor's degrees. Entitled, "Associate's Dominant," these institutions award bachelor's degrees in select fields, but the majority of degrees they award are at the associate's level. There are 159 such institutions in the United States, 42 of which operate in the public sector.¹ Most of these public institutions are now categorized as 4-year institutions because of this new authority to grant baccalaureate degrees, although most of their degree-granting activity remains at the associate degree level. It is interesting to note that the for-profit sector constitutes nearly half of the Associate's Dominant category, suggesting that direct competition for baccalaureate degrees by institutions that are primarily associate's degree institutions is beyond public policy.

Community colleges that offer bachelor degree programs primarily use them to address workforce needs, respond to economic pressures from employers, increase access to populations underserved by traditional bachelor degree-granting institutions, and maintain college affordability.² These reasons align well with Michigan's interests. Still, the notion of a community college offering its own bachelor's degrees seriously challenges the historical definitions of the community college role, at least within the traditional higher education establishment.

Two basic models have formed to meet the baccalaureate degree challenge. One involves collaboration between two- and four-year institutions. The second is the development of native community college bachelor's degrees. The notion of community colleges serving as the prime deliverer of bachelor's degrees is tied to the needs of working adults, especially those who experience restricted mobility because of job or family commitments, and students whose lower-division technical credits do not transfer in substantial amounts to an upper-division program. Different cultures and experiences mark 4-year colleges and universities. Universities tend to cater to full-time, traditionally-aged students (18 to 22 years of age) who are chiefly interested in an on-campus experience. In contrast, community colleges specialize in service to part-time students, older students, and especially to working-aged students.

Students who aspire to the bachelor's degree for a variety of reasons often find the door shut. Community colleges have reacted by revisiting their role in higher education and examining their vision and priorities. Within this context, community colleges have

¹Carnegie Foundation for Advancement of Teaching. Undergraduate Instructional Program Tables. Retrieved March 18, 2008, at <http://www.carnegiefoundation.org/classifications/index.asp?key=800>

²Levin, John S (2002, November) "Institutional Identity: The Community College as a Baccalaureate Degree Granting Institution," pp. 13-18. Paper presented at the Annual Meeting of the Association for the Study of Higher Education. ERIC Document No. ED474578

often found themselves caught between their wish to serve students with few alternatives and the bureaucracy which often marks traditional systems of higher education. Concerns about mission drift as frequently mentioned as a counter argument to the establishment of selected bachelor's degree programs at community colleges are perhaps routed in old thinking about program duplication and institutional competition than they are in meeting the needs of employers and the aspirations of students.

The Bachelor's Degree in Applied Science or Technology at Michigan Community Colleges

Just what is a bachelor's degree in applied science or technology? And why does it make sense to consider offering one at a community college?

The first question at looks to be a simple one, but in Michigan is not as simple as it looks, in part due to the autonomy enjoyed by each of the 28 community colleges in the state which has its own board of trustees, sets its own tuition and fees, etc. For example, one logical definition that one might use is that a bachelor's degree in applied science or technology is any program that grows out of an existing associate degree of applied science or technology, i.e., one that typically is not transferable to a traditional B.A. or B.S. program. That seems to make sense in that many, if not most, community colleges in Michigan have identified their vocational degree programs by titles such as Associate of Applied Science in Automotive Technology. However, not all community colleges in Michigan conform to this terminology. A few colleges label vocational programs as Associate of Science or Associate of Applied Arts and Sciences as opposed to Associate of Applied Science. If one were to limit bachelor's degree consideration only to those programs that are labeled as associate of applied science or technology programs, a range of other associate degree programs which might be considered for the baccalaureate degree would be eliminated despite their vocational or technical nature. Consequently, care must be taken in describing associate degree programs that can serve as foundations for the applied baccalaureate.

Defined narrowly, some believe that applied baccalaureate degrees should be confined to technical areas, such as engineering technology. On the other hand, Michigan community college presidents contacted for this study have expressed the belief that a broader definition is more apt and would include nursing and the health sciences and in some cases even teacher education.

Why consider offering bachelor's degrees at community colleges? Other states and Canadian provinces do it, but for different reasons. As an example, the state of Florida allows a number of community colleges to offer bachelor's degrees in fields such as nursing, law enforcement, and education for the simple reason that its universities are overflowing with students. Nevada endorses the applied baccalaureate in technical fields because of the proximity of the community college that offers them to the place that these degrees will be used. The population dynamics in Michigan are much different. We believe the primary reason to consider its induction in Michigan is access as discussed below and economic boost they may provide the state

Access usually is linked to geography, i.e., the community college is nearby and consequently easier to reach than a more distant institution of higher education. As part of the community, it often is more culturally accessible as well; adults in particular feel more comfortable attending classes there. As part of the community, it also tends to be more sensitive to community needs and more responsive to them, a second type of access. A third type of access is economic; community college tuition on average is more affordable than that of senior institutions. Even if they have to increase tuition as a result of offering bachelor's level programs, the community colleges argue that they can do so at a lower cost than senior institutions. So, if increasing the numbers of bachelor's degrees in communities across the state is a goal, then community colleges may be considered as partners in meeting that goal in part due to their access to many of the citizens of the state, and vice versa.

Michigan community colleges are not operating in a vacuum as they consider issues of access – far from it. The universities in Michigan have been quite aggressive about offering bachelor's level programs jointly with community colleges on their campuses, and some community colleges have joint programs with several senior institutions. In addition, if Michigan is like other states, the private, for-profit institutions of higher education can be expected to be aggressive in their efforts to grow their programs to the associate and bachelor's levels as well. This will be even more likely if the community colleges are denied the ability to offer bachelor's degrees. This is simply a reflection of the experience of other states, of trends elsewhere.

Analysis

Survey Results

An online survey was made available to all Michigan community colleges in March of 2008. Responses were received from twenty-three of the state's twenty-eight community colleges. Of the twenty-three responses, twenty-one indicate an interest in developing baccalaureate programs. Response frequencies appear in Table 1 below and are summarized below.

All respondents indicated that they were dependent on manufacturing and auto-related industries to some degree or another. They indicate a loss of jobs in these sectors within their service areas between 1,000 and 40,000. At least one community college indicates that each job loss is associated with a 2.5 multiplier effect as service-related positions also disappear in proportion to each manufacturing job. Their response has been to enroll displaced workers to developing new programs to match new workforce realities.

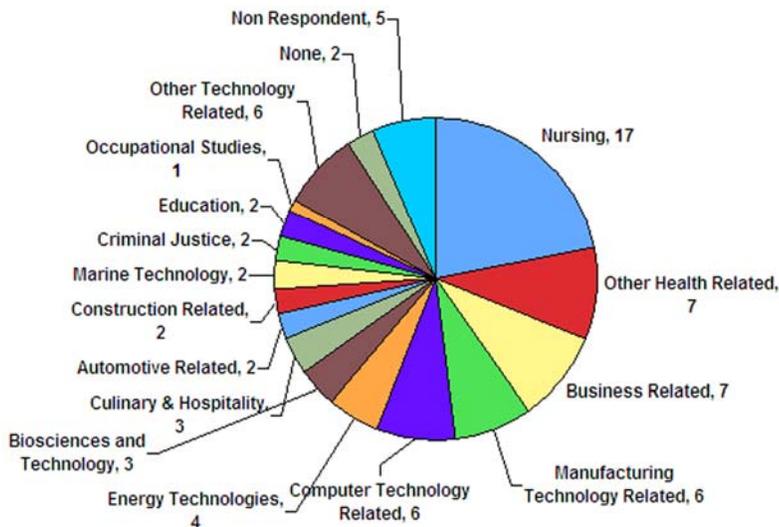
Respondents also indicate a range of education attainment within their service areas that often are less than the state average for baccalaureate degrees and higher taken from 2006 U.S. Census data (24.5 percent of those over 25 years of age). As expected, different jurisdictions within their service areas are associated with different levels of educational preparation. It appears that community colleges have a good grasp of where education needs exist in their geographical areas.

The issue of competition for bachelor's degrees with 4-year institutions also was addressed in the survey. Ten respondent community colleges indicate that there were no public universities within their service areas that currently offer baccalaureate degrees that could build on applied associate degrees. Macomb Community College in particular noted that they are one of the most populated counties in the United States lacking a public baccalaureate university. Nine community colleges further indicate they do not participate in a university center in which they cooperate with private and public universities in the areas of degree articulation.

Several community colleges also have documented student interest in earning bachelor's degrees. The proportion of their students who indicate an interest in transfer programs was also reported by several institutions and, where reported, appears to range from fifty to sixty percent.

The largest applied baccalaureate interest among Michigan community colleges is in the area of nursing (see figure below). This interest is borne out by workforce and education attainment data presented below. What this indicates is that Associate degree nurses are finding jobs, the bachelor's degree in nursing is a credential that is required for career advancement. Consideration of the category

Frequency of Applied Baccalaureate Programs Mentioned by Michigan Community Colleges



“other health-related,” degrees marks healthcare as an area of significant interest. Degrees that will require concentrated coursework in math and science (manufacturing, computer technology, energy technology, and biosciences) occupy another important niche. Education was mentioned by two colleges.

Community colleges also indicate faculty and facilities capacity to offer new applied baccalaureate programs. Most felt they met the threshold expressed by the Higher Learning Commission of the North Central Association of Colleges and Schools for the proportion of program faculty with a master's degree. In

general, those requirements are that faculty teaching in undergraduate programs should hold a degree at least one level above that of the program in which they are teaching, although limited exceptions can be made based on a case-by-case basis for faculty with significant work experience in a program's area of instruction. More than half of those community colleges expressing an interest indicated they presently had faculty who could teach in their applied baccalaureate programs. The remainder indicated that they would need to make new hires, but also indicated that they could accomplish this without huge difficulty. Most respondents indicated that new staff would have to be hired to accommodate the program. One program indicated that if it were to create a baccalaureate nursing program, that it may be difficult to find a Ph.D. program administrator.

Most indicated that technology was in place to support their choice of baccalaureate programs, however several indicated that technology would need to be updated. Only six community colleges indicated that space would present a problem for a new program, and at least one indicated that new programs could be accommodated with creative scheduling. Most indicated that other infrastructure costs could be absorbed. However, one college reported that if the program were scheduled in the evening or weekends that additional utility costs would arise. Finally, other additional costs would include marketing, recruitment, and costs associated with curriculum development. Nearly all community colleges indicated that they would incur costs for curriculum development. It should be noted, on balance, that these infrastructure issues would be present in creating any new program.

The impact on faculty contracts and workload issues would need to be addressed in fifteen of the twenty-one community colleges expressing an interest in developing applied baccalaureate programs. The underlying issue is that generally, university faculty have higher salaries and a different workload than their community college peers. The extent to which this model would carry over for faculty hired by the community college to teach upper-division courses would need consideration at each participating college. The remaining six community colleges do not anticipate any outstanding issues that would affect faculty or union contracts and indicated that such issues would be addressed through the normal negotiation or problem resolution process.

Increased tuition charges to students would vary. At least one community college indicated that introduction of baccalaureate programs themselves would not be a critical financing decision, but the overall efforts by the college to better serve its community would also need to consider the whole range of programs. Several indicated that they would need to charge a higher tuition for upper division courses but would prefer to keep lower-division tuition costs at their present levels. Even with the increased tuition costs for upper-division coursework, several indicated that the overall cost to students would be less expensive than what they would find at 4-year institutions.

Survey Topic	Yes	No	Unknown	N/A
Availability of Resources				
Sufficient Number of Faculty	14	4	3	2
Available Technology	18	3	0	2
Sufficient Space	15	6	0	2
Need to Increase Tuition	11	3	7	2
Increased Utility Cost	9	12	0	2
Need Increased Support Staff	15	2	4	2
Increased Employee Benefit Cost	14	4	3	2
Other Costs	12	7	1	2
Need to Address Specific Issues				
Union	11	8	2	2
Faculty Workload Guidelines	15	6	0	2
Support Staff	14	7	0	2
Faculty Contract	10	11	0	2
Curriculum Development	19	2	0	2
Course Availability	14	3	4	2
Other Issues	9	6	4	2

Workforce Data

The demand for baccalaureate degree workers and current population estimates were tested for each of Michigan's regions as defined by the Department of Labor and Economic Growth. The regions, community colleges, and counties used for this analysis appear below.

Detroit Area
Macomb Community College (Macomb County)
St. Claire County Community College (St. Claire County)
Oakland Community College (Oakland County)
Henry Ford Community College (Wayne County)
Highland Park Community College (Wayne County)
Schoolcraft College (Wayne County)
Wayne County Community College (Wayne County)
Monroe County Community College (Monroe County)
Grand Rapids Area
Grand Rapids Community College (Kent County)
Lansing MSA Area
Lansing Community College (Ingham County)
Ann Arbor Area
Washtenaw Community College (Washtenaw County)

Saginaw Area
Delta College (Saginaw County)
Flint Area
Mott Community College (Genesee County)
Jackson Area
Jackson Community College (Jackson County)
Kalamazoo Area
Kalamazoo Valley Community College (Kalamazoo County)
Glen Oaks Community College (St. Joseph County)
Muskegon Area
Muskegon Community College (Muskegon County)
Northwest Lower Peninsula
North Central Michigan College (Emmet County)
Northwestern Michigan College (Grand Traverse County)
Battle Creek Area
Kellogg Community College (Calhoun County)
Benton Harbor Area
Lake Michigan College (Berrien County)
Southwestern Michigan College (Cass County)
Central Michigan Area
Montcalm Community College (Montcalm County)
East Central Michigan Area
Mid Michigan Community College (Clare County)
Kirkland Community College (Roscommon County)
Upper Peninsula
Bay de Noc Community College (Delta County)
Gogebic Community College (Gogebic County)
West Central Michigan Area
West Shore Community College (Mason County)
Northeast Lower Peninsula Area
Alpena Community College (Alpena County)

Workforce data demonstrate that many regions in Michigan could benefit from access to locally determined applied baccalaureate programs. Workforce data show shortages in education--specifically special and secondary education--and business-related occupations. While these occupations are generally in demand statewide, the demand for technical baccalaureate programs is strongest for those areas with higher population density. Regional data are arrayed in Appendix B and demonstrate the variation in demand for workers holding the baccalaureate degree. We highlight these data below.

Demand for technical baccalaureates. The three Detroit-area counties (Macomb, Oakland and Wayne Counties) and the eight community colleges that serve them have the largest population of residents who have either completed some college or have an associate degree and thus would be educationally ready to begin a baccalaureate program. A key difference in the Detroit area compared to other areas is that, in addition to education and business programs mentioned

above, the demand for engineers will be high over the next ten years. The Ann Arbor region also will experience high demand for engineers over this time period. Genesee County also will have strong demand for computer and mathematical-related occupations.

Demand for business and education baccalaureates. These degrees are in the largest demand in Kent County (Grand Rapids Community College), Ingham County (Lansing Community College) and Washtenaw County (Washtenaw Community College). Business demand includes accountants, auditors, and business operations specialists.

Demand for healthcare baccalaureates. Michigan indicates an annual need for more than 3,400 registered nurses annually through 2014. The associate degree is the entry requirement for the profession, but most employers interviewed for this study (below) and comments made by individual community colleges surveyed (above) indicate a strong demand for baccalaureate degree nurses. These sources indicate that associate degree nurses do not advance into supervisory positions at the same rate as baccalaureate degree nurses.

Employer Interviews

A select number of employers suggested by the Department of Labor and Economic Growth and community college presidents were interviewed for this study to determine how the applied baccalaureate degree might fit in their future hiring plans. Representatives from these industries were interviewed: healthcare, automotive technology, manufacturing technology, and computer technology. Whereas, the receptivity to creating new bachelor's degrees varied, there was agreement expressed that many training needs go unfilled in Michigan and the demand for certain bachelor-level employees with technical skills is high. Interviewees also agreed that possession of a bachelors degree rounds out a current or prospective employee, allowing them to see the larger picture that the employer is trying to address.

Healthcare. One healthcare employer mentioned impending retirements and changing technology as factors that will drive demand over the next five years. Estimates from one healthcare employer are that upwards of twenty-five percent of their current employees will retire within five years. Another healthcare employer indicated that a baccalaureate degree in addition to a respiratory therapy degree is required for leadership teams formed in his healthcare system. This interviewee indicated that projections are that eighty percent of their leadership teams will need to be replaced over the next five to ten years.

There appears to be support among health care employers for a laddering system starting at the community college where nurses could earn the associate degree and then begin working and go on to earn a bachelor's degree. One interviewee indicated that The Proposal for Educational Advancement of the Nursing Profession in Michigan prepared by a statewide task force clearly

advocates for the BSN to be a practicing standard. The concept of applied baccalaureate degrees might also be used in other healthcare areas where, as in the respiratory therapy example above, technical skills at the associate degree would be supplemented with management skills earned at the upper division. While there is recognition that the university system has been helpful in healthcare areas, there is some skepticism among employers that it can meet future demand.

Technical areas. Based on another interview, it appears that the auto industry is very supportive of the current associate of applied science degrees turned out by community colleges. There is a perception, however, that those employees who earn an applied baccalaureate degree would get “kicked upstairs” into management positions thereby possibly causing shortages in workers with technical backgrounds. Most associate degree students in automotive areas are financed by dealers who want graduates to remain with them after they complete their studies. As it now stands, they can be promoted into management positions with the associate degree and do not need to have bachelor’s degrees.

Yet another interviewee in the manufacturing sector indicated that the associate degree is adequate at hiring but that there needs to be an allowance for growth beyond that. Manufacturing extends beyond the automotive fields to other technology areas and that these skills need to be integrated in baccalaureate programs. Employees with these skills are well compensated and in short supply. At the same time, the perception of this individual was that senior higher education institutions do not produce the numbers needed to fill the demands of the manufacturing labor market in Michigan. One underlying factor is the shift among United States manufacturers to small and medium-sized companies.

Another employer in the manufacturing field indicated that the most difficult positions for them to fill are sales engineers, because they require both technical knowledge and a sales focus. Currently they have to develop their own sales engineers in-house, but would prefer that much more of their education and training be done at the community college, perhaps at the bachelor’s level. The college could develop such a bachelor’s program tailored to a niche market such as theirs and aimed at those holding associate degrees.

Information technology. Demand for graduates with skills in this area is high, and it will continue to be a growth area among employers. One interviewee indicated that there are fifteen unfilled openings in this job classification within a single healthcare employer in the southeast portion of the state. While there is no single occupational forecast category for “information technology,” it is clear that demand is high, allowing for the 3,000 annual vacancies in the field of “computer and mathematical occupations.”

Discussion

Michigan is posed to make a fundamental decision about the future of higher education within its borders. Below we discuss the pros and cons of implementing applied baccalaureate degrees in its community colleges.

Reasons Against Bachelor's Degree Approval

- While it is not realistic to think that all 28 community colleges would launch baccalaureate programs, those that do will add to the number of programs eligible for state funding. There is some risk in spreading already scarce financial resources even thinner.
- Universities are offering bachelor's degree programs at the existing centers already. Allowing the community colleges to offer bachelor's degrees might weaken demand for those programs and damage institutional cooperative relationships.
- There is no central agency in Michigan that might oversee the quality aspects of implementing applied baccalaureate degrees.
- The process of starting new applied baccalaureate programs is likely to be quite lengthy. The time needed to gain approval from the Higher Learning Commission for change in institutional degree status and the possible time needed to receive specialized accreditation for select programs, e.g., nursing, do not bode well for the quick establishment of programs as stated in the RFP.
- This could establish a two-tiered system in Michigan for bachelor's degrees – one at community colleges and another at universities.

Reasons in Favor of Bachelor's Degree Approval

- A range of baccalaureate programs would be more geographically accessible to a much wider variety of students, including working adults, than is the case presently.
- Applied baccalaureate programs also would be accessible financially, since their costs are presumed to be below those of the senior institutions even if community colleges must charge higher rates for upper-division classes.
- The community colleges are likely to know the specific needs of their communities and to offer a narrow range of baccalaureate programs that would rely, in part, on employer support. This would lead to customized programs that fit identified employer needs.
- An applied baccalaureate at a community college might better fit student needs than those currently available at senior institutions.
- The independent nature of community college boards in Michigan may translate into tighter oversight of baccalaureate programs, since these boards would be solely responsible for approving any baccalaureate programs and would need to exercise fiscal and programmatic supervision for the program. The result may be a range of programs that more precisely meet local market needs, since each college's board is independent and must approve any new program, it is unlikely

- to do so if the program cannot be shown to be academically and financially strategic for the institution.
- The for-profit sector is nimble in meeting market needs. If the community colleges are not permitted to offer bachelor's degrees, experience in other states shows that for-profit institutions will attempt to fill part of the void that has been shown to exist in Michigan at the bachelor's level. While this may fill a need, it may not be in the interest of the public sector to forfeit this opportunity.

Meeting the Criteria of Senate Bill 234

Given the data presented above and the results of interviews with community college and university personnel, it appears that Michigan would do well to interpret Senate Bill 234 in a broad way. For example, if the geography suggested by this bill were the only jurisdictions which were permitted to offer an applied baccalaureate degree, Michigan might be limited to the southeastern part of the state and particular the Detroit metropolitan area where manufacturing jobs in the auto industry have been lost in large numbers. Still other areas in Michigan also are dependent upon manufacturing and even supplying the auto industry as indicated by the workforce data presented in the report appendices and by the responses made by individual community colleges. Other needs for baccalaureate degrees include nursing, education, and other health-related fields which are not directly dependent upon manufacturing and the auto industries.

Senate Bill 234 also appears to limit degree establishment to those areas that are significantly below the state average for working adults without 4-year degrees. This would appear to focus on communities that are now underserved by the current providers of baccalaureate degrees. However, we believe that Michigan's needs may be broader, since there is no guarantee that communities and sub-regions that are well-served by baccalaureate institutions have access to particular baccalaureate programs that meet local market need. Interviews conducted for this study indicate that community colleges and universities agree that duplication of programs is not desirable. However, it may not be realistic to force a dialog between these different levels of higher education, since the legislation clearly provides 4-year institutions and universities the upper hand in any negotiations.

Senate Bill 234 also limits applied baccalaureate degree development to those locations where capacity to offer these programs already exist. While we believe it would be most expedient to permit only those high-capacity community colleges to implement the applied baccalaureate degree, we are concerned that it may be used to limit justified degree development in other colleges based on documented need, especially if the cost for such a program could be defrayed by tuition increases and/or private support from employers or other sources of non-tax support. As an example, does it make sense to continue to import nurses from Canada rather than to educate more Michigan citizens in nursing when community colleges are willing and able to produce more of them at the bachelor's level with additional local resources?

Recommendations

Based on our analysis, we believe that an expanded menu of targeted applied baccalaureate degrees would be helpful for the state and its citizens. We also understand that it will take time for Michigan to develop applied baccalaureate degree programs and that these programs should be selected carefully to match documented market needs. We offer the criteria below for consideration to guide future decisions. We also are aware that there is no central approval agency for Michigan that will review the applicability of these criteria. Nonetheless, we believe them to be important. In brief, community colleges should expect to answer these questions prior to program implementation.

1. How the program supports the role and mission of the community college.
2. The existence of cooperating employers who will provide either hard or soft dollar resources and the extent of each source. Also, an estimate of how many program graduates will be hired by cooperating employers and/or those current employees who will advance as a result of program completion.
3. How the program's quality will be monitored.
4. How students will move through the program in an expedited fashion.
5. A timeline by which the institution will seek approval of the Higher Learning Commission of the North Central Association of Colleges and Schools.
6. How the program will provide access and success for diverse student populations.
7. A demonstration of how the need for the program is balanced against the costs it will incur, including an estimate of annual program cost, tuition to be charged, and any subsidy required to operate the program.
8. How the community college ensures that the program does not duplicate existing programs offered by other higher education institutions.

We also recommend these steps as Michigan begins to offer baccalaureate programs.

1. Offer the first programs on a pilot basis only for a set amount of time (e.g., 3 to 4 years) and a limited number of programs. Have an external evaluation done at the end of that period to determine whether or not the experiment was a success.
2. During the pilot process, allow only those programs to be started that have matching funds from employers at a predefined level, e.g., ten percent. This would guarantee that only the most serious employer-supported programs would be put forward in the initial phase.
3. Use the workforce and education data provided in this report to frame the types of programs that might be most useful in each region, but permit the market in the region to drive the demand for particular degrees given the criteria suggested above.
4. If some state funding is made available to assist in getting the bachelor's degree programs started, consider a statewide competitive process utilizing a panel of independent external evaluators from outside of Michigan to evaluate the funding proposals to eliminate political pressure, similar to the procedures used in funding by the National Science Foundation.
5. Investigate the current system of funding public higher education in Michigan for its impact on offering applied baccalaureate degrees with an eye to how to fund this model. Traditional methods of funding are predicated on sharp differences

- between public 2-year colleges and 4-year colleges; an applied baccalaureate degree will blur these distinctions creating inevitable questions about funding adequacy.
6. Similarly, pre-implementation discussions should be held about the role of financial aid in assisting students to complete these degrees. Most often students will be working adults with dependent family members. Their needs may be qualitatively different from traditional aged students (18 to 24 year-olds) since their attendance patterns will be part-time.

Appendix A

Michigan Applied Baccalaureate Degree Study Survey

(this document has been reproduced)

In October of 2007 the Michigan legislature passed legislation intending to investigate the need for community colleges to offer baccalaureate degrees in applied sciences and technologies in the state. The Bureau of Career Education Programs of the Department of Labor and Economic Growth (DLEG) has contracted with Voorhees Group LLC to conduct a study of the need for these programs based on the six criteria specified in the legislation. Since the legislation does not specifically define applied science and technology programs, it should be assumed for the purposes of this survey that a bachelor's degree program in applied science and/or technology is:

“A degree program that builds upon the technical content gained at the associate's level. The combination of technical and higher level courses prepare graduates for higher level job opportunities related to their area of technical specialty. The Bachelor of Applied Science and Technology degree is designed to provide students with the opportunity to complete a baccalaureate program” (Source: combination of various other state definitions)

The legislation specifically states that certain criteria should be considered in determining whether or not there is a need for the degree program and if community colleges have the resources to offer such a degree. Please respond to each question below:

1. Please describe to what extent has your region been dependent upon manufacturing and automotive related industries where workers have been displaced or are in transition?
2. According to The American Fact Finder 2006, 7.4% of Michigan citizens 18-24 years of age and 24.5% of those 25 and over have obtained bachelor's degrees. Do you feel that your community falls below this level? Please explain.
3. Please describe your involvement in advanced technical training, workforce development programs, and employer partnerships.
4. How many Associate of Applied Science/Technology degrees (DO NOT INCLUDE Associate of Science Degrees) did your college award in the 2006-07 academic year? Please list the programs (separate your answers with a comma).
5. Please list up to five industry/employer partners who are supportive of offering bachelor's of applied science/technology degrees; provide contact information for them as well. These employers may be contacted to determine the need and likelihood of hiring program graduates and be asked about potential salary differentials based on employee attainment of the bachelor's degree.
6. Please list the public universities within your community which offer baccalaureate degree programs that build on applied associate degrees.
7. Do you have a university center? If yes, please list the university (ies) with which you participate and the programs that are offered.

8. As you consider the next two to three academic years, please list the programs you feel would be conducive to the Bachelor's Applied Science/Technology degree.
9. Please describe the support/interest shown by employers, industry leaders, and business representatives on your advisory committees for the Bachelor of Applied Science/Technology degree. Please note how this support has been demonstrated and in what industries/occupations.
10. Please describe the interest students have shown in wanting to obtain a bachelor's degree. Please explain how his interest has been demonstrated and in what programs.
11. Provide a brief description of the support you have received from your community for the concept of a Bachelor of Applied Science/Technology degree. Please explain how this interest has been demonstrated.
12. Do you have a sufficient number of faculty (ie., those with master's degree) who are qualified to teach higher level courses?
13. Do you have the technology available?
14. Do you have sufficient space to offer the program?
15. Will you have to increase tuition costs?
16. Will you be impacted by increased utility costs?
17. Will you need more support staff?
18. Will you need to expend more dollars for benefit costs?
19. Are there other costs not mentioned above that would impact your ability to offer the bachelor of applied science/technology degree?
20. Would you need to address Union issues?
21. Would you need to address Faculty Workload Guidelines?
22. Would you need to address Support Staff Issues?
23. Would you need to address Faculty Contract Issues?
24. Would you need to address Curriculum Development issues?
25. Would you need to address Course Availability issues?
26. Would you need to address other issues not mentioned above?
27. Please explain how the Bachelor of Applied Science/Technology fits in with your college's mission and open door policy.
28. Please list any factors that would affect your ability to offer the Bachelor of Applied Science/Technology degree.
29. Please report any data, such as student or employer survey data, that shows a demand for the proposed bachelor's degree.
30. Provide any other comments that you would like to offer to the Department of Labor and Economic Growth.
31. Please name the college and person completing the survey, along with a telephone number and e-mail address in case of the need for follow-up questions.

Thank you for your time and participation.

Appendix B
Occupational Demand Assessment
and
Adult Education Attainment Data

To Accompany

An Analysis of the Feasibility for the
Bachelor's Degree in Applied Science and Technology
in the State of Michigan

Prepared by

Voorhees Group LLC

March 2008



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Michigan State – Occupational Demand Assessment

An assessment of occupational demand in Michigan State and population estimates of residents who are likely to take advantage of a baccalaureate program indicate that a number of Community Colleges in Michigan would benefit from such a program. Education, specifically Special Ed, and Business programs are the top two curriculums that would best serve Michigan state residents.

Summary of Key Areas

- The Detroit area has three counties (Macomb, Oakland and Wayne Counties) and six community colleges which have a large population of residents who have either completed some college or have an Associates degree and thus would be educationally ready to begin a baccalaureate program. A key difference in the Detroit area compared to other areas is that in addition to education and business programs, an engineering program will be a key occupational demand over the next ten years.
- Both education and business programs would well serve the large populations of Grand Rapids Community College in Kent County, Lansing Community College in Ingham County and Washtenaw Community College in Washtenaw County.
- Mott Community College in Genesee County also will have a high demand for Computer & Mathematical Occupations.

Occupational Demand Summary

Teachers (Special Education Elementary and Secondary School Teachers and Teachers & Instructors) will be in the greatest demand over the next ten years in most areas of Michigan. **Business occupations** such as Accountants & Auditors, Business Operations Specialists and Computer & Mathematical Occupations are also in great demand in a number of areas on Michigan. Engineers are in demand in high population regions (Detroit and Ann Arbor).

Top Five Occupations (Numbers represent ranking of occupation within each area)

OCCUPATION	Elementary School Teachers, Ex Special Ed	Secondary School Teachers, Ex Spec/Voc Ed	Accountants and Auditors	Business Operations Specialists- All Other	Teachers & Instructors, All Other	Computer & Mathematical Occupations
SOC CODE	25-2021	25-2031	13-2011	13-1199	25-3099	15-0000
Ann Arbor		5	1	2	4	
Battle Creek	1	3		2	4	
Benton Harbor	1	2	5	4		
Central Michigan	1	2	3		4	
Detroit	2		3	1		
East Central Michigan	2	4			1	
Flint	2	4		3	5	1
Grand Rapids	1	3	4	2	5	
Jackson	1	3	5	2		4
Kalamazoo	1	5	4	3		2
Lansing MSA	2		3	1		
Muskegon	2	1	3	5		4
Northeast Lower Peninsula	2	1	3			4
Northwest Lower Peninsula	3	2	5		1	4
Saginaw	2	5	4	3		1
Upper Peninsula	2	1	4		5	3
West Central Michigan	1	3			2	
Total Count	16	15	13	11	9	8

OCCUPATION	Mechanical Engineers	Middle School Teachers, Ex Spec/Voc Ed	Education, Training, & Library Workers	Insurance Sales Agents	Engineers, All Other	Computer Systems Analysts	Special Ed Teachers, Pre/Kinder/ Elem Schl
SOC CODE	17-2141	25-2022	25-9099	41-3021	17-2199	15-1051	25-2041
Ann Arbor	3						
Battle Creek		5					
Benton Harbor	3						
Central Michigan							5
Detroit	5				4		
East Central Michigan		3		5			
Flint							
Grand Rapids							
Jackson							
Kalamazoo							
Lansing MSA			5			4	
Muskegon							
Northeast Lower Peninsula				5			
Northwest Lower Peninsula							
Saginaw							
Upper Peninsula							
West Central Michigan		4	5				
Total Count	3	3	2	2	1	1	1

Population Estimates for Educational Attainment

Wayne County which services three community colleges has the greatest number of residents who have completed some college or have an Associates Degree followed by Oakland and Macomb which are each serviced by one community college. In addition to a large population, Macomb County has one of the highest percentages of residents (35%) who have completed some college or hold an Associates Degree.

Completed Some College or Associates Degree (Population)*			
Geography	Community College(s) Served	Total	% of Total Population
Wayne County*	Henry Ford CC, Schoolcraft College, Wayne County CC	429,620	30%
Oakland County*	Oakland CC	266,864	29%
Macomb County*	Macomb CC	222,667	35%
Kent County*	Grand Rapids CC	140,697	32%
Genesee County*	Mott CC	111,674	34%
Washtenaw County*	Washtenaw CC	82,917	31%
Ingham County*	Lansing CC	76,214	36%
Kalamazoo County*	Kalamazoo County CC	65,560	35%
Saginaw County*	Delta College	49,771	32%
Muskegon County*	Muskegon CC	47,304	36%
St. Clair County*	St. Clair CC	45,584	35%
Monroe County*	Monroe County CC	40,330	34%
Jackson County*	Jackson CC	39,648	32%
Berrien County*	Lake Michigan College	35,348	29%
Calhoun County*	Kellogg CC	33,460	32%
Grand Traverse County*	Northwestern Michigan College	23,285	35%
Montcalm County	Montcalm CC	13,673	31%
St. Joseph County	Glen Oaks CC	12,422	27%
Cass County	Southwestern Michigan College	11,666	31%
Delta County	Bay de Noc CC	10,139	35%
Alpena County	Alpena CC	8,424	35%
Emmet County	North Central Michigan College	7,591	32%
Mason County	West Shore CC	6,723	31%
Clare County	Mid Michigan CC	6,467	27%
Roscommon County	Kirkland CC	6,067	30%
Gogebic County	Gogebic CC	4,388	32%

Spotlight on the Detroit Area

Macomb Community College (Macomb County)
 St. Claire County Community College (St. Claire County)
 Oakland Community College (Oakland County)
 Henry Ford Community College (Wayne County)
 Schoolcraft College (Wayne County)
 Wayne County Community College (Wayne County)
 Monroe County Community College (Monroe County)

Occupational Demand

Eight community colleges are located in the Detroit area. Workforce data for this area includes six counties.

- Macomb County represents **19%** of the total population in the Detroit area with one community college.
- St. Claire County represents **4%** of the total population in the Detroit area with one community college.
- Oakland County represents **28%** of the total population in the Detroit area with one community college.
- Wayne County represents **43%** of the total population in the Detroit area with three community colleges.
- Monroe County represents **4%** of the total population in the Detroit area with one community college.

Bachelor Degrees

The greatest demands for occupations which require a Bachelor Degree in the Detroit area include *Business Operations Specialists* (up 14.2%; 907 openings annually), *Elementary School Teachers* (up 3.7%; 553 openings annually), *Accountants and Auditors* (up 11.4%; 542 openings annually), *Engineers* (up 4.5%; 524 openings annually) and *Mechanical Engineers* (up 14%; 515 openings annually).

Detroit Area: Lapeer, Macomb, Monroe, Oakland, St.Clair, and Wayne Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
13-1199	Business Operations Specialists-All Other	29,060	33,180	4,120	14.2	907	412	495
25-2021	Elementary School Teachers, Ex Special Ed	21,440	22,240	800	3.7	553	79	473
13-2011	Accountants and Auditors	17,900	19,940	2,040	11.4	542	204	338
17-2199	Engineers, All Other	22,300	23,290	990	4.5	524	100	425
17-2141	Mechanical Engineers	12,440	14,190	1,750	14	515	175	340
17-2112	Industrial Engineers	11,300	12,410	1,110	9.8	384	111	273
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	10,320	11,130	810	7.9	372	82	290
15-1051	Computer Systems Analysts	10,350	12,560	2,210	21.3	338	221	117
15-1031	Computer Software Engineers-Applications	6,900	9,120	2,220	32.1	290	221	68
15-1021	Computer Programmers	10,930	11,000	70	0.6	265	7	258
25-2022	Middle School Teachers, Ex Spec/Voc Ed	7,930	8,340	410	5.1	216	40	175
15-1081	Network Systems & Data Comm Analysts	3,350	4,810	1,460	43.7	186	146	40
25-3099	Teachers & Instructors, All Other	6,990	7,890	900	12.8	176	90	86
25-2041	Special Ed Teachers, Pre/Kinder/Elem Schl	3,670	4,430	760	20.7	164	76	88
15-1071	Network & Computer Systems Administrators	3,830	5,000	1,170	30.7	160	117	43
13-2072	Loan Officers	6,500	7,020	520	7.9	156	52	104
53-2011	Airline Pilots/Copilots/Flight Engineers	3,170	3,810	640	20.4	149	65	85
13-1079	Human Resources, Training, and Labor Rels	5,860	6,360	500	8.5	149	50	100
21-1021	Child, Family, & School Social Workers	5,460	5,860	400	7.3	133	40	93
17-2071	Electrical Engineers	4,390	4,850	460	10.3	132	45	86
19-3021	Market Research Analysts	3,080	3,520	440	14.2	124	44	80
13-2099	Financial Specialists, All Other	4,390	4,820	430	9.7	120	43	77
15-1032	Computer Software Engineers-Systems Softw	2,950	3,790	840	28.4	113	84	29
41-3021	Insurance Sales Agents	4,590	4,620	30	0.6	113	3	110
27-1021	Commercial & Industrial Designers	5,150	5,550	400	7.8	109	40	69
41-9031	Sales Engineers	2,410	2,690	280	11.8	100	28	72

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

Over a million people reside in the six counties in the Detroit area and three in ten have completed some college or have an Associates Degree.

- The three largest counties are Macomb, Oakland and Wayne counties. While Wayne County has four community colleges both Macomb and Oakland have one community college in their counties.
- Monroe County has the greatest percentage (40%) of residents between the ages of 25 and 44 who either have completed some college or have an Associates Degree, followed by Macomb County and St. Claire County.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Macomb County*	222,667	35%	32,931	49%	41,804	37%	50,295	39%	77,159	36%	20,478	18%
Monroe County*	40,330	34%	5,055	36%	8,027	40%	9,458	40%	14,416	34%	3,374	19%
Oakland County*	266,864	29%	42,246	43%	36,337	28%	50,655	26%	106,069	30%	31,557	22%
St. Clair County*	45,584	35%	5,227	37%	9,160	41%	8,731	34%	17,457	38%	5,009	23%
Wayne County*	429,620	30%	57,863	35%	76,934	31%	93,169	32%	158,588	32%	43,066	19%
Total Detroit Area	1,005,065	31%	143,322	40%	172,262	32%	212,308	32%	373,689	32%	103,484	20%

*Source: American Community Survey (2006)

*Wayne County represents 42% of all completed some college and associate degrees in the Detroit area, 26% Oakland; 22% in Macomb County; St. Claire & Monroe 4%.

St. Claire County has the greatest percentage of residents between the ages of 25 and 44 who have completed some college followed by Macomb while Monroe has the greatest percentage of residents between the ages of 25 and 44 who have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Macomb County*	170,318	27%	28,543	42%	31,768	28%	34,803	27%	58,160	27%	17,044	15%
Monroe County*	30,291	26%	4,294	31%	5,579	28%	5,957	25%	11,618	28%	2,843	16%
Oakland County*	207,435	23%	38,079	39%	27,230	21%	37,510	19%	78,152	22%	26,464	19%
St. Clair County*	33,354	26%	4,263	30%	6,807	31%	6,208	24%	11,915	26%	4,161	19%
Wayne County*	338,166	24%	51,449	31%	61,593	25%	70,298	24%	119,479	24%	35,347	15%
Total Detroit Area	779,564	24%	126,628	35%	132,977	25%	154,776	23%	279,324	24%	85,859	16%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Macomb County*	52,349	8%	4,388	6%	10,036	9%	15,492	12%	18,999	9%	3,434	3%
Monroe County*	10,039	9%	761	5%	2,448	12%	3,501	15%	2,798	7%	531	3%
Oakland County*	59,429	6%	4,167	4%	9,107	7%	13,145	7%	27,917	8%	5,093	4%
St. Clair County*	12,230	9%	964	7%	2,353	11%	2,523	10%	5,542	12%	848	4%
Wayne County*	91,454	6%	6,414	4%	15,341	6%	22,871	8%	39,109	8%	7,719	3%
Total Detroit Area	225,501	7%	16,694	5%	39,285	7%	57,532	9%	94,365	8%	17,625	3%

Spotlight on the Grand Rapids Area

Grand Rapids Community College (Kent County)

Occupational Demand

Grand Rapids Community College is located in the Grand Rapids area. Workforce data for this area includes three counties (Allegan, Kent, Ottawa). Kent County, where Grand Rapids Community College is located, represents 61% of the total population in the Grand Rapids area.

Bachelor Degrees

The greatest demands for occupations in the Grand Rapids Area which require a Bachelor Degree include *Elementary School Teachers, Special Ed* (up 12.1%; 236 openings annually), *Business Operations Specialists* (up 24.1%; 173 openings annually), *Secondary School Teachers, Special/Voc Ed* (up 17.4%; 167 openings annually), *Accounts & Auditors* (up 14.9%; 147 openings annually), and *Teachers & Instructors* (up 16.1%; 107 openings annually).

Grand Rapids: Allegan, Kent, and Ottawa Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
25-2021	Elementary School Teachers, Ex Special Ed	6,910	7,750	840	12.1	236	84	153
13-1199	Business Operations Specialists-All Other	4,200	5,210	1,010	24.1	173	101	72
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	3,670	4,310	640	17.4	167	64	103
13-2011	Accountants and Auditors	4,360	5,010	650	14.9	147	65	82
25-3099	Teachers & Instructors, All Other	3,770	4,380	610	16.1	107	61	46
17-2112	Industrial Engineers	1,860	2,280	420	22.7	87	42	45
17-2141	Mechanical Engineers	2,140	2,390	250	11.8	84	25	58
25-2022	Middle School Teachers, Ex Spec/Voc Ed	2,250	2,570	320	14.5	82	33	50

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are over 140,000 individuals (32% of the total population) in Grand Rapids County who have either attended some college or have an Associates Degree.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Allegan County*	24,794	29%	4,081	42%	5,191	33%	5,021	30%	8,428	29%	2,073	16%
Kent County*	140,697	32%	26,822	46%	26,190	31%	28,386	31%	44,991	32%	14,308	23%
Ottawa County*	63,929	34%	17,970	55%	11,180	34%	10,918	30%	18,256	30%	5,605	20%
Total Grand Rapids Area	229,420	32%	48,873	48%	42,561	32%	44,325	31%	71,675	31%	21,986	21%

*Source American Community Survey 2006

*Kent County represents 61% of those who completed some college and associate degrees in the Grand Rapids area.

Close to a quarter of Kent County residents have completed some college and 8% have an Associates Degree. Twenty-one percent of resident's ages 25 to 44 completed some college and 10% have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Allegan County*	18,794	22%	3,719	38%	3,565	23%	3,692	22%	5,989	20%	1,829	14%
Kent County*	106,045	24%	24,474	42%	19,350	23%	17,861	20%	33,156	23%	11,204	18%
Ottawa County*	49,291	26%	16,284	50%	8,028	25%	7,267	20%	13,411	22%	4,301	15%
Total Grand Rapids Area	174,130	24%	44,477	44%	30,943	23%	28,820	20%	52,556	23%	17,334	17%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Allegan County*	6,000	7%	362	4%	1,626	10%	1,329	8%	2,439	8%	244	2%
Kent County*	34,652	8%	2,348	4%	6,840	8%	10,525	12%	11,835	8%	3,104	5%
Ottawa County*	14,638	8%	1,686	5%	3,152	10%	3,651	10%	4,845	8%	1,304	5%
Total Grand Rapids Area	55,290	8%	4,396	4%	11,618	9%	15,505	11%	19,119	8%	4,652	5%

Spotlight on the Lansing MSA Area

Lansing Community College (Ingham County)

Occupational Demand

Lansing Community College is located in the Lansing MSA area. Workforce data for this area includes three counties (Clinton, Eaton, Ingham). Ingham County, where Lansing Community College is located, represents **61%** of the total population in the Lansing MSA area.

Bachelor Degrees

The greatest demands for occupations in the Lansing MSA Area which require a Bachelor Degree include *Business Operations Specialists* (up 15.4%; 170 openings annually), *Elementary School Teachers, Special Ed* (up 6.9%; 63 openings annually), *Accountants & Auditors* (up 5.1%; 57 openings annually), *Computer Systems Analysts* (up 14.9%; 49 openings annually), and *Education, Training & Library Workers* (up 14%; 32 openings annually).

Lansing MSA: Clinton, Eaton, and Ingham Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
13-1199	Business Operations Specialists-All Other	5,255	6,065	810	15.4	170	81	90
25-2021	Elementary School Teachers, Ex Special Ed	2,165	2,315	150	6.9	63	15	48
13-2011	Accountants and Auditors	2,370	2,490	120	5.1	57	12	45
15-1051	Computer Systems Analysts	1,855	2,130	275	14.9	49	28	21
25-9099	Education, Training, and Library Workers,	1,080	1,230	150	14	32	15	16
25-3099	Teachers & Instructors, All Other	1,275	1,420	145	11.4	30	15	16
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	785	865	80	10.3	30	8	22

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are over 75,000 individuals (36% of the total population) in Ingham County who have either attended some college or have an Associates Degree.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Clinton County*	19,175	36%	3,098	46%	3,838	45%	3,940	39%	6,597	34%	1,702	21%
Eaton County*	31,699	38%	4,778	44%	5,270	38%	5,841	43%	12,333	39%	3,477	26%
Ingham County*	76,214	36%	30,988	61%	10,008	29%	11,088	31%	18,812	29%	5,318	20%
Total Lansing MSA Area	127,088	36%	38,864	57%	19,116	33%	20,869	35%	37,742	32%	10,497	22%

* Source American Community Survey 2006

*Ingham County represents **60%** of those who completed some college and associate degrees in the Lansing MSA area.

Almost three in ten Ingham County residents have completed some college and 6% have an Associates Degree. Twenty-two percent of residents' ages 25 to 44 have completed some college and 8% have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Clinton County*	14,446	27%	2,764	41%	2,988	35%	2,497	25%	4,819	25%	1,378	17%
Eaton County*	23,815	29%	4,010	37%	4,427	32%	4,102	30%	8,213	26%	3,063	23%
Ingham County*	62,595	29%	29,665	59%	7,959	23%	7,543	21%	13,185	20%	4,243	16%
Total Lansing MSA Area	100,856	29%	36,439	53%	15,374	27%	14,142	24%	26,217	22%	8,684	18%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Clinton County*	4,729	9%	334	5%	850	10%	1,443	14%	1,778	9%	324	4%
Eaton County*	7,884	10%	768	7%	843	6%	1,739	13%	4,120	13%	414	3%
Ingham County*	13,619	6%	1,323	3%	2,049	6%	3,545	10%	5,627	9%	1,075	4%
Total Lansing MSA Area	26,232	7%	2,425	4%	3,742	7%	6,727	11%	11,525	10%	1,813	4%

Spotlight on the Ann Arbor Area

Washtenaw Community College (Washtenaw County)

Occupational Demand

Washtenaw Community College is located in the Ann Arbor area. Workforce data for this area includes two counties (Livingston and Washtenaw). Washtenaw County represents **67%** of the total population in the Ann Arbor Area.

Bachelor Degrees

The greatest demands for occupations in the Ann Arbor Area which require a Bachelor Degree include *Accountants and Auditors* (up 15.4%; 69 openings annually), *Business Operations Specialists* (up 7.2%; 60 openings annually), *Secondary Mechanical Engineers* (up 18%; 57 openings annually), *Teachers & Instructors* (up 17.3%; 43 openings annually), and *Secondary School Teachers, Ex Spec/Voc Ed* (up 11.6%; 42 openings annually).

ANN ARBOR AREA: Livingston and Washtenaw Counties		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
13-2011	Accountants and Auditors	2,000	2,310	310	15.4	69	31	38
13-1199	Business Operations Specialists-All Other	2,470	2,645	175	7.2	60	18	42
17-2141	Mechanical Engineers	1,255	1,480	225	18	57	23	34
25-3099	Teachers & Instructors, All Other	1,450	1,700	250	17.3	43	25	18
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	1,060	1,180	120	11.6	42	12	30
15-1031	Computer Software Engineers-Applications	955	1,230	275	28.5	37	27	10
27-3031	Public Relations Specialists	690	915	225	32.9	33	23	10
17-2112	Industrial Engineers	895	1,005	110	12.2	33	11	22
15-1051	Computer Systems Analysts	840	1,065	225	26.8	32	23	10
13-2099	Financial Specialists, All Other	1,040	1,180	140	13.5	32	14	18

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are close to 83,000 individuals (31% of the total population) in Washtenaw County who have either attended some college or have an Associates Degree.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Livingston County*	50,612	36%	7,220	41%	8,245	35%	10,987	38%	19,775	38%	4,385	25%
Washtenaw County*	82,917	31%	32,396	57%	11,947	24%	12,248	24%	21,132	26%	5,194	17%
Total Ann Arbor Area	133,529	33%	39,616	53%	20,192	27%	23,235	29%	40,907	31%	9,579	20%

* Source American Community Survey 2006

*Washtenaw County represents **62%** of those who completed some college and associate degrees in the Ann Arbor area.

Over a quarter of Washtenaw County residents completed some college and 5% have an Associates Degree. A quarter of residents from ages 25 to 44 have completed some college and 6% have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Livingston County*	36,912	26%	6,342	36%	5,264	22%	7,611	26%	14,546	28%	3,149	18%
Washtenaw County*	69,030	26%	30,692	54%	10,059	20%	8,388	16%	15,379	19%	4,512	15%
Total Ann Arbor Area	105,942	26%	37,034	50%	15,323	21%	15,999	20%	29,925	22%	7,661	16%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Livingston County*	13,700	10%	878	5%	2,981	13%	3,376	12%	5,229	10%	1,236	7%
Washtenaw County*	13,887	5%	1,704	3%	1,888	4%	3,860	8%	5,753	7%	682	2%
Total Ann Arbor Area	27,587	7%	2,582	3%	4,869	7%	7,236	9%	10,982	8%	1,918	4%

Spotlight on the Saginaw Area

Delta College (Saginaw County, Bay County, Midland County)

Occupational Demand

Delta College is located in the Saginaw area and includes all three counties (Saginaw, Bay, Midland) in its legal district. Saginaw County represents **51%** of the total population, Bay represents **28%** and Midland represents **21%** in the Saginaw area.

Bachelor Degrees

The greatest demands for occupations in the Saginaw Area which require a Bachelor Degree include *Computer & Mathematical Occupations* (up 7.4%; 84 openings annually) *Elementary School Teachers, Special Ed* (up 4.4%; 56 openings annually), *Business Operations Specialists* (up 11.1%; 52 openings annually), *Accountants & Auditors* (up 9.9%; 31 openings annually), and *Secondary School Teachers, Ex Spec/Voc Ed* (up 10.4%; 27 openings annually).

Saginaw: Bay, Midland, and Saginaw Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
15-0000	Computer & Mathematical Occupations	3,550	3,815	265	7.4	84	28	56
25-2021	Elementary School Teachers, Ex Special Ed	2,120	2,210	90	4.4	56	9	47
13-1199	Business Operations Specialists-All Other	1,835	2,040	205	11.1	52	20	31
13-2011	Accountants and Auditors	1,090	1,200	110	9.9	31	11	21
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	705	780	75	10.4	27	7	20
25-3099	Teachers & Instructors, All Other	1,300	1,410	110	8.6	27	11	16
25-2022	Middle School Teachers, Ex Spec/Voc Ed	755	800	45	5.7	21	4	17

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are close to 100,000 individuals (32% of the total population) in the Saginaw area who have either attended some college or have an Associates Degree.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Bay County*	27,772	33%	4,397	46%	5,438	44%	5,656	39%	9,359	30%	2,922	18%
Midland County*	19,232	30%	4,852	56%	3,016	35%	3,106	25%	6,455	28%	1,803	16%
Saginaw County*	49,771	32%	8,084	40%	7,812	35%	10,753	38%	18,325	33%	4,797	17%
Total Saginaw Area	96,775	32%	17,333	45%	16,266	37%	19,515	35%	34,139	31%	9,522	17%

*Source American Community Survey 2006

Saginaw County represents **51%** of those who completed some college and associate degrees in the Saginaw area. Bay County represents **29%** and Midland represents **20%**.

Twenty-three percent of Saginaw Area residents have completed some college and 9% have an Associates Degree. Over a quarter of residents from ages 25 to 44 have completed some college and 11% have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Bay County*	21,067	25%	3,472	36%	4,051	33%	4,255	29%	6,845	22%	2,444	15%
Midland County*	12,917	20%	3,587	41%	2,049	24%	1,845	15%	4,032	18%	1,404	13%
Saginaw County*	36,844	24%	7,212	35%	5,592	25%	7,165	26%	13,148	24%	3,727	13%
Total Saginaw Area	70,828	23%	14,271	37%	11,692	27%	13,265	24%	24,025	22%	7,575	14%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Bay County*	6,705	8%	925	10%	1,387	11%	1,401	10%	2,514	8%	478	3%
Midland County*	6,315	10%	1,265	15%	967	11%	1,261	10%	2,423	11%	399	4%
Saginaw County*	12,927	8%	872	4%	2,220	10%	3,588	13%	5,177	9%	1,070	4%
Total Saginaw Area	25,947	9%	3,062	8%	4,574	11%	6,250	11%	10,114	9%	1,947	3%

Spotlight on the Flint Area

Mott Community College (Genesee County)

Occupational Demand

Mott Community College is located in the Flint area. Workforce data for this area includes two counties (Genesee, Shiawassee). Genesee County, where Mott Community College resides, represents **86%** of the total population in the Flint Area.

Bachelor Degrees

The greatest demand for occupations in the Flint Area which require a Bachelor Degree include *Computer & Mathematical Occupations* (up 13%; 63 openings annually), *Elementary School Teachers, Special Ed* (up 2.7%; 55 openings annually), *Business Operations Specialists* (up 11.7%; 43 openings annually), *Secondary School Teachers, Special/Voc Ed* (up 7.5%; 43 openings annually), and *Teachers & Instructors, All Others* (up 9.1%; 35 openings annually).

Flint: Genesee and Shiawassee Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
15-0000	Computer & Mathematical Occupations	2,225	2,515	290	13	63	31	32
25-2021	Elementary School Teachers, Ex Special Ed	2,210	2,270	60	2.7	55	6	49
13-1199	Business Operations Specialists-All Other	1,485	1,660	175	11.7	43	17	25
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	1,195	1,280	85	7.5	43	9	34
25-3099	Teachers & Instructors, All Other	1,610	1,760	150	9.1	35	15	20
13-2011	Accountants and Auditors	1,035	1,185	150	14.2	34	15	20
25-2041	Special Ed Teachers, Pre/Kinder/Elem Schl	605	725	120	20.4	27	12	14
25-2022	Middle School Teachers, Ex Spec/Voc Ed	920	960	40	4.7	25	4	20

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are over 110,000 individuals (34% of the total population) in Genesee County who have either attended some college or have an Associates Degree.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Genesee County*	111,674	34%	15,515	41%	23,760	41%	22,355	36%	38,552	34%	11,492	21%
Shiawassee County*	19,324	35%	2,530	41%	3,443	38%	3,794	37%	7,476	37%	2,081	22%
Total Flint Area	130,998	34%	18,045	41%	27,203	40%	26,149	36%	46,028	34%	13,573	21%

*Source American Community Survey 2006

Genesee County represents **85%** of those who completed some college and associate degrees in the Flint area.

Over a quarter of Genesee County residents have completed some college and 8% have an Associates Degree. Twenty-eight percent of residents from ages 25 to 44 have completed some college and 10% have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Genesee County*	85,727	26%	13,548	36%	18,738	32%	15,321	25%	28,664	25%	9,456	18%
Shiawassee County*	14,240	26%	2,171	35%	2,875	32%	2,676	26%	4,766	23%	1,752	19%
Total Flint Area	99,967	26%	15,719	36%	21,613	32%	17,997	25%	33,430	25%	11,208	18%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Genesee County*	25,947	8%	1,967	5%	5,022	9%	7,034	11%	9,888	9%	2,036	4%
Shiawassee County*	5,084	9%	359	6%	568	6%	1,118	11%	2,710	13%	329	4%
Total Flint Area	31,031	8%	2,326	5%	5,590	8%	8,152	11%	12,598	9%	2,365	4%

Spotlight on the Jackson Area

Jackson Community College (Jackson County)

Occupational Demand

Jackson Community College is located in the Jackson area. Workforce data for this area includes three counties (Hillsdale, Jackson, Lenawee). Jackson County represents 53% of the total population in the Jackson area.

Bachelor Degrees

The greatest demand for occupations in the Jackson Area which require a Bachelor Degree include *Elementary School Teachers, Special Ed* (up 5.4%; 40 openings annually), *Business Operations Specialists* (up 25.6%; 32 openings annually), *Secondary School Teachers, Ex Spec/Voc Ed* (up 9.7%; 28 openings annually), *Computer & Mathematical Occupations* (up 16.4%; 23 openings annually), and *Accountants & Auditors* (up 12.5%; 22 openings annually).

Jackson: Hillsdale, Jackson, and Lenawee Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
25-2021	Elementary School Teachers, Ex Special Ed	1,455	1,535	80	5.4	40	8	32
13-1199	Business Operations Specialists-All Other	745	935	190	25.6	32	19	13
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	745	815	70	9.7	28	7	21
15-0000	Computer & Mathematical Occupations	760	885	125	16.4	23	13	10
13-2011	Accountants and Auditors	705	790	85	12.5	22	9	13
17-2112	Industrial Engineers	530	605	75	13.5	20	7	13

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are close to 40,000 individuals (32% of the total population) in Jackson County who have either attended some college or have an Associates Degree.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Hillsdale County	10,232	30%	1,905	41%	1,902	35%	2,482	35%	3,034	28%	909	15%
Jackson County*	39,648	32%	4,692	32%	5,923	28%	8,475	34%	15,842	37%	4,716	23%
Lenawee County*	26,807	34%	3,856	39%	5,586	43%	5,174	36%	9,600	35%	2,591	19%
Total Jackson Area	76,687	32%	10,453	36%	13,411	34%	16,131	35%	28,476	35%	8,216	20%

Source: Census 2000; *Isabella County Source American Community Survey 2006

*Jackson County represents 52% of those who completed some college and associate degrees in the Central Michigan area.

Close to a quarter of Jackson County residents have completed some college and 8% have an Associates Degree. Just over one in five residents from ages 25 to 44 have completed some college and 9% have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Hillsdale County	8,464	25%	1,777	38%	1,558	29%	1,897	27%	2,456	23%	776	13%
Jackson County*	29,760	24%	4,489	30%	4,438	21%	5,775	23%	10,928	25%	4,130	20%
Lenawee County*	21,497	28%	3,739	38%	4,085	32%	3,804	26%	7,673	28%	2,196	16%
Total Jackson Area	59,721	25%	10,005	34%	10,081	26%	11,476	25%	21,057	26%	7,102	18%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Hillsdale County	1,768	5%	128	3%	344	6%	585	8%	578	5%	133	2%
Jackson County*	9,888	8%	203	1%	1,485	7%	2,700	11%	4,914	11%	586	3%
Lenawee County*	5,310	7%	117	1%	1,501	12%	1,370	10%	1,927	7%	395	3%
Total Jackson Area	16,966	7%	448	2%	3,330	8%	4,655	10%	7,419	9%	1,114	3%

Spotlight on the Kalamazoo Area

Kalamazoo Valley Community College (Kalamazoo County)
Glen Oaks Community College (St. Joseph County)

Occupational Demand

Kalamazoo Valley Community College, located in Kalamazoo County, and Glen Oaks Community College, located in St. Joseph County, are located in the Kalamazoo area. Kalamazoo County represents **80%** and St. Joseph represents **20%** of the total population in the Kalamazoo area.

Bachelor Degrees

The greatest demands for occupations in the Kalamazoo Area which require a Bachelor Degree include *Elementary School Teachers, Special Ed* (up 3.5%; 47 openings annually), *Computer & Mathematical Occupations* (up 14.3%; 42 openings annually), *Business Operations Specialists* (up 13.6%; 42 openings annually), *Accountants & Auditors* (up 9.8%; 30 openings annually), and *Secondary School Teachers, Ex Spec/Voc Ed* (up 7.6%; 28 openings annually).

Kalamazoo: Kalamazoo and St. Joseph Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
25-2021	Elementary School Teachers, Ex Special Ed	1,850	1,915	65	3.5	47	6	41
15-0000	Computer & Mathematical Occupations	1,450	1,660	210	14.3	42	22	20
13-1199	Business Operations Specialists-All Other	1,355	1,540	185	13.6	42	18	23
13-2011	Accountants and Auditors	1,025	1,130	105	9.8	30	10	19
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	775	830	55	7.6	28	6	22
17-2141	Mechanical Engineers	590	645	55	10	22	6	16

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are close to 78,000 individuals (34% of the total population) in the Kalamazoo area who have either attended some college or have an Associates Degree.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Kalamazoo County*	65,560	35%	19,109	54%	11,232	37%	10,925	34%	18,698	32%	5,596	20%
St. Joseph County	12,422	27%	1,467	27%	2,557	32%	3,124	33%	4,012	29%	1,262	16%
Total Kalamazoo Area	77,982	34%	20,576	51%	13,789	36%	14,049	34%	22,710	31%	6,858	19%

*Source American Community Survey 2006

*Kalamazoo County represents **84%** and St. Joseph County represents 16% of those who completed some college and associate degrees in the Kalamazoo area.

Over a quarter of residents in the Kalamazoo area have completed some college and 7% have an Associates Degree. Twenty-five percent of residents from ages 25 to 44 completed some college and 9% have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Kalamazoo County*	52,188	28%	18,026	51%	8,122	26%	7,843	25%	13,454	23%	4,743	17%
St. Joseph County	9,924	22%	1,226	22%	2,047	25%	2,324	24%	3,212	23%	1,115	14%
Total Kalamazoo Area	62,112	27%	19,252	47%	10,169	26%	10,167	25%	16,666	23%	5,858	16%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Kalamazoo County*	13,372	7%	1,083	3%	3,110	10%	3,082	10%	5,244	9%	853	3%
St. Joseph County	2,498	6%	241	4%	510	6%	800	8%	800	6%	147	2%
Total Kalamazoo Area	15,870	7%	1,324	3%	3,620	9%	3,882	9%	6,044	8%	1,000	3%

Spotlight on the Muskegon Area

Muskegon Community College (Muskegon County)

Occupational Demand

Muskegon Community College is located in the Central Michigan area. Workforce data for this area includes two counties (Muskegon, Oceana). Muskegon County represents **87%** of the total population in Central Michigan.

Bachelor Degrees

The greatest demand for occupations in the Muskegon Area which require a Bachelor Degree include *Secondary School Teachers, Special/Voc Ed* (up 10.6%; 41 openings annually), *Elementary School Teachers, Special Ed* (up 7.6%; 22 openings annually), *Accountants & Auditors* (up 13.9%; 15 openings annually), *Computer & Mathematical Occupations* (up 12%; 15 openings annually), and *Business Operations Specialists* (up 15.4%; 12 openings annually).

Muskegon: Muskegon and Oceana Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	1,065	1,175	110	10.6	41	11	30
25-2021	Elementary School Teachers, Ex Special Ed	725	780	55	7.6	22	6	16
13-2011	Accountants and Auditors	465	530	65	13.9	15	7	9
15-0000	Computer & Mathematical Occupations	570	635	65	12	15	7	8
13-1199	Business Operations Specialists-All Other	365	420	55	15.4	12	6	6
25-3099	Teachers & Instructors, All Other	505	560	55	10.7	12	5	6
17-2141	Mechanical Engineers	340	370	30	9.1	12	3	9
25-2022	Middle School Teachers, Ex Spec/Voc Ed	405	435	30	8.2	12	3	9

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are close to 50,000 individuals (36% of the total population) in Muskegon County who have either attended some college or have an Associates Degree.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Muskegon County*	47,304	36%	6,760	39%	9,906	45%	9,053	36%	16,944	38%	4,641	21%
Oceana County	5,220	27%	463	21%	887	30%	1,352	33%	1,924	30%	594	16%
Total Muskegon Area	52,524	35%	7,223	37%	10,793	43%	10,405	35%	18,868	37%	5,235	21%

Source: Census 2000; *Muskegon County Source American Community Survey 2006

*Muskegon County represents **90%** of those who completed some college and associate degrees in the Central Michigan area.

Over a quarter of Muskegon County residents have completed some college and 10% have an Associates Degree. Almost three in ten residents from ages 25 to 44 have completed some college and 11% have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Muskegon County*	34,817	27%	5,915	34%	7,450	34%	6,356	25%	11,363	25%	3,733	17%
Oceana County	3,925	20%	392	18%	618	21%	954	23%	1,436	23%	525	14%
Total Muskegon Area	38,742	26%	6,307	33%	8,068	32%	7,310	25%	12,799	25%	4,258	17%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Muskegon County*	12,487	10%	845	5%	2,456	11%	2,697	11%	5,581	12%	908	4%
Oceana County	1,295	7%	71	3%	269	9%	398	10%	488	8%	69	2%
Total Muskegon Area	13,782	9%	916	5%	2,725	11%	3,095	11%	6,069	12%	977	4%

Spotlight on the Northwest Lower Peninsula

North Central Michigan College (Emmet County)
Northwestern Michigan College (Grand Traverse County)

Occupational Demand

North Central Michigan and Northwestern Michigan Colleges are located in the Northwest Lower Peninsula area. Workforce data for this area includes 10 counties in the Northwest Lower Peninsula region of Michigan. North Central Michigan College is in the Emmet County district and represents **11%** of the total population in the Northwest Lower Peninsula area. Northwestern Michigan College is in the Grand Traverse County district and represents **30%** of the total population in the Northwest Lower Peninsula area.

Bachelor Degrees

The greatest demands for occupations in the Northwest Lower Peninsula which require a Bachelor Degree include *Teachers & Instructors* (up 15.1%; 49 openings annually respectively), *Secondary School Teachers, Ex Spec/Voc Ed* (up 15%; 48 openings annually), *Elementary School Teachers, Ex Special Ed* (up 9.9%; 40 openings annually), *Computer & Mathematical Occupations* (up 21.5%; 35 openings annually) and *Accountants & Auditors* (up 19.4%; 33 openings annually).

Northwest Lower Peninsula: Antrim, Benzie, Charlevoix, Emmet, Grand Traverse, Kalkaska, Leelanau, Manistee, Missaukee, and Wexford Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
25-3099	Teachers & Instructors, All Other	1,795	2,070	275	15.1	49	27	22
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	1,115	1,280	165	15	48	17	31
25-2021	Elementary School Teachers, Ex Special Ed	1,240	1,360	120	9.9	40	12	27
15-0000	Computer & Mathematical Occupations	980	1,190	210	21.5	35	21	14
13-2011	Accountants and Auditors	875	1,040	165	19.4	33	17	17

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are just over 7,500 individuals (32% of the total population) in the North Central Michigan College county district and just over 23,000 individuals (35% of the total population) in Northwestern Michigan College county district who have either attended some college or have an Associates Degree.

Geography	Completed Some College or Associates Degree (Population)*											
	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Antrim County	4,878	28%	368	25%	733	31%	1,120	32%	1,827	30%	830	20%
Benzie County	3,612	29%	345	35%	620	34%	811	32%	1,265	31%	571	20%
Charlevoix County	5,940	31%	500	28%	1,064	37%	1,526	36%	2,116	32%	734	19%
Emmet County	7,591	32%	899	41%	1,356	36%	1,878	37%	2,601	33%	857	19%
Grand Traverse County*	23,285	35%	2,336	31%	4,683	41%	3,701	31%	9,735	41%	2,830	24%
Kalkaska County	3,115	25%	281	22%	588	29%	760	28%	1,160	29%	326	14%
Leelanau County	5,307	33%	440	37%	695	37%	1,264	39%	2,082	35%	826	23%
Manistee County	5,306	28%	493	30%	865	32%	1,302	35%	1,936	30%	710	16%
Missaukee County	2,753	26%	309	28%	500	31%	673	29%	985	29%	286	13%
Wexford County	6,283	28%	704	30%	1,150	32%	1,581	32%	2,149	30%	699	16%
Total NW Lower Peninsula	68,070	31%	6,675	31%	12,254	36%	14,616	33%	25,856	34%	8,669	20%

Source: Census 2000; *Grand Traverse County Source American Community Survey 2006

*Emmet County represents **11%** and Grand Traverse County represents **34%** of those who completed some college and associate degrees in the Northwest Lower Peninsula area. Other Northwest Lower Peninsula county data is displayed to provide a comparison to workforce data.

Specifically, 24% of the total population in Emmet County have completed some college but do not have a degree and 8% have an Associates Degree. Close to one in four 25 to 44 year olds completed some college and 11% of this age group have an associates degree.

Over a quarter of the total population in Grand Traverse County have completed some college and 9% have obtained an Associates Degree. Twenty-seven percent of 24 to 44 year olds have completed some college and 9% have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Antrim County	3,874	22%	316	22%	594	25%	846	24%	1,396	23%	722	18%
Benzie County	2,825	23%	319	32%	455	25%	550	22%	1,009	24%	492	18%
Charlevoix County	4,409	23%	421	24%	750	26%	1,066	25%	1,567	24%	605	16%
Emmet County	5,706	24%	826	37%	993	27%	1,234	24%	1,943	25%	710	16%
Grand Traverse County*	17,384	26%	1,795	24%	3,785	33%	2,531	21%	6,869	29%	2,404	20%
Kalkaska County	2,531	21%	250	20%	483	24%	565	21%	946	23%	287	13%
Leelanau County	3,947	25%	415	35%	490	26%	838	26%	1,496	25%	708	19%
Manistee County	4,049	21%	431	26%	657	25%	931	25%	1,447	23%	583	13%
Missaukee County	2,167	21%	263	24%	358	22%	516	23%	774	23%	256	12%
Wexford County	4,891	22%	598	25%	873	24%	1,109	23%	1,680	23%	631	15%
Total NW Lower Peninsula	51,783	24%	5,634	26%	9,438	28%	10,186	23%	19,127	25%	7,398	17%

Obtained Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Antrim County	1,004	6%	52	4%	139	6%	274	8%	431	7%	108	3%
Benzie County	787	6%	26	3%	165	9%	261	10%	256	6%	79	3%
Charlevoix County	1,531	8%	79	4%	314	11%	460	11%	549	8%	129	3%
Emmet County	1,885	8%	73	3%	363	10%	644	13%	658	8%	147	3%
Grand Traverse County*	5,901	9%	541	7%	898	8%	1,170	10%	2,866	12%	426	4%
Kalkaska County	584	5%	31	2%	105	5%	195	7%	214	5%	39	2%
Leelanau County	1,360	9%	25	2%	205	11%	426	13%	586	10%	118	3%
Manistee County	1,257	7%	62	4%	208	8%	371	10%	489	8%	127	3%
Missaukee County	586	6%	46	4%	142	9%	157	7%	211	6%	30	1%
Wexford County	1,392	6%	106	5%	277	8%	472	10%	469	7%	68	2%
Total NW Lower Peninsula	16,287	7%	1,041	5%	2,816	8%	4,430	10%	6,729	9%	1,271	3%

Spotlight on the Battle Creek Area

Kellogg Community College (Calhoun County)

Occupational Demand

Kellogg Community College is located in the Battle Creek area. Workforce data for this area includes three counties (Barry, Branch and Calhoun). Calhoun County represents 58% of the total population in this area.

Bachelor Degrees

The greatest demands for occupations in the Battle Creek Area which require a Bachelor Degree include *Elementary School Teachers, Special Ed* (up 5.6%; 38 openings annually), *Business Operations Specialists* (up 16.8%; 25 openings annually), *Secondary School Teachers, Ex Spec/Voc Ed* (up 9.5%; 20 openings annually), *Teachers & Instructors* (up 9.7%; 17 openings annually), and *Middle School Teachers, Ex Spec/Voc Ed* (up 7%; 16 openings annually).

Battle Creek - Barry, Branch, and Calhoun Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
25-2021	Elementary School Teachers, Ex Special Ed	1,380	1,460	80	5.6	38	8	31
13-1199	Business Operations Specialists-All Other	730	855	125	16.8	25	12	12
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	535	585	50	9.5	20	5	15
25-3099	Teachers & Instructors, All Other	765	840	75	9.7	17	7	9
25-2022	Middle School Teachers, Ex Spec/Voc Ed	540	580	40	7	16	4	12
25-2041	Special Ed Teachers, Pre/Kinder/Elem Schl	320	395	75	22.7	15	7	8
17-2112	Industrial Engineers	360	420	60	16.1	15	6	9

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are approximately 33,500 individuals (32% of the total population) in Calhoun County who have either attended some college or have an Associates Degree.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Barry County	13,633	33%	1,465	35%	2,600	37%	3,403	35%	4,823	35%	1,342	20%
Branch County	9,641	28%	992	26%	2,012	33%	2,567	33%	3,200	30%	870	15%
Calhoun County*	33,460	32%	4,336	35%	6,901	39%	6,263	33%	11,553	32%	4,407	23%
Total Battle Creek Area	56,734	32%	6,793	34%	11,513	37%	12,233	34%	19,576	32%	6,619	21%

Source: Census 2000; *Calhoun County Source American Community Survey 2006

*Calhoun County represents 59% of those who completed some college and associate degrees in the Battle Creek area.

Close to a quarter of the population in Calhoun County have completed some college and 8% have an Associates Degree. Over a quarter (27%) of 25 to 44 year olds completed some college and 9% have an Associates degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Barry County	10,768	26%	1,279	31%	1,989	29%	2,551	27%	3,786	27%	1,163	18%
Branch County	7,617	22%	855	23%	1,553	26%	1,917	25%	2,536	24%	756	13%
Calhoun County*	25,375	24%	3,557	29%	5,426	30%	4,398	23%	8,325	23%	3,669	19%
Total Battle Creek Area	43,760	24%	5,691	28%	8,968	29%	8,866	24%	14,647	24%	5,588	18%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Barry County	2,865	7%	186	4%	611	9%	852	9%	1,037	7%	179	3%
Branch County	2,024	6%	137	4%	459	8%	650	8%	664	6%	114	2%
Calhoun County*	8,085	8%	779	6%	1,475	8%	1,865	10%	3,228	9%	738	4%
Total Battle Creek Area	12,974	7%	1,102	5%	2,545	8%	3,367	9%	4,929	8%	1,031	3%

Spotlight on the Benton Harbor Area

Lake Michigan College (Berrien County)
Southwestern Michigan College (Cass County)

Occupational Demand

Lake Michigan College and Southwestern Michigan College are located in the Benton Harbor area. Workforce data for this area includes three counties (Berrien, Cass and Van Buren). Berrien County which is the Lake Michigan College county district represents **58%** of the total population while Cass County which is the Southwestern Michigan College district represents **17%** of the total population in Benton Harbor.

Bachelor Degrees

The greatest demands for occupations in the Benton Harbor Area which require a Bachelor Degree include *Elementary School Teachers, Special Ed* (up 2.3%; 44 openings annually), *Secondary School Teachers, Special/Voc Ed* (up 6.6%; 36 openings annually), *Mechanical Engineers* (up 18.7%; 21 openings annually), *Business Operations Specialists* (up 14.4%; 15 openings annually), and *Accountants & Auditors* (up 9.3%; 15 openings annually).

Benton Harbor: Berrien, Cass, and Van Buren Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
25-2021	Elementary School Teachers, Ex Special Ed	1,795	1,840	45	2.3	44	4	40
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	1,040	1,105	65	6.6	36	7	29
17-2141	Mechanical Engineers	460	545	85	18.7	21	9	13
13-1199	Business Operations Specialists-All Other	480	550	70	14.4	15	7	8
13-2011	Accountants and Auditors	535	585	50	9.3	15	5	10

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are approximately 35,000 individuals (29% of the total population) in Berrien County and over 11,000 individuals (31% of the total population) who have either attended some college or have an Associates Degree.

Geography	Completed Some College or Associates Degree (Population)*											
	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Berrien County*	35,348	29%	4,313	30%	6,111	33%	6,966	32%	14,518	33%	3,440	14%
Cass County	11,666	31%	1,131	30%	2,176	36%	2,987	37%	4,202	32%	1,170	17%
Van Buren County*	19,378	33%	2,665	37%	3,721	40%	2,909	27%	8,260	37%	1,823	19%
Total Benton Harbor Area	66,392	30%	8,109	32%	12,008	36%	12,862	32%	26,980	34%	6,433	16%

Source: Census 2000; *Berrien and Van Buren County Source American Community Survey 2006

*Berrien County represents **53%** Cass County represents **18%** of those who completed some college and associate degrees in the Benton Harbor area.

Over one in five Berrien County residents and a quarter of Cass County residents have completed some college. Seven percent of residents in both counties have an Associates Degree. Approximately a quarter of residents in both counties from ages 25 to 44 have completed some college. Seven percent of Berrien Country residents and 10% of Cass County residents between the ages of 25 and 44 have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Berrien County*	26,571	22%	3,362	24%	5,137	28%	4,944	23%	10,089	23%	3,039	13%
Cass County	8,958	24%	979	26%	1,619	27%	2,111	26%	3,232	24%	1,017	15%
Van Buren County*	14,451	25%	2,316	32%	2,898	31%	1,912	18%	5,862	27%	1,463	15%
Total Benton Harbor Area	49,980	23%	6,657	26%	9,654	29%	8,967	22%	19,183	24%	5,519	14%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Berrien County*	8,777	7%	951	7%	974	5%	2,022	9%	4,429	10%	401	2%
Cass County	2,708	7%	152	4%	557	9%	876	11%	970	7%	153	2%
Van Buren County*	4,927	8%	349	5%	823	9%	997	9%	2,398	11%	360	4%
Total Benton Harbor Area	16,412	7%	1,452	6%	2,354	7%	3,895	10%	7,797	10%	914	2%

Spotlight on the Central Michigan Area

Montcalm Community College (Montcalm County)

Occupational Demand

Montcalm Community College is located in Central Michigan. Workforce data for this area includes four counties (Gratiot, Ionia, Isabella, and Montcalm). Montcalm County represents **25%** of the total population in this area.

Bachelor Degrees

The greatest occupation demands in Central Michigan which require a Bachelor Degree include *Elementary School Teachers, Special Ed* (up 5.6%; 29 openings annually), *Secondary School Teachers, Special/Voc Ed* (up 10.5%; 24 openings annually), *Accountants & Auditors* (up 13.9%; 23 openings annually), *Teachers & Instructors* (up 9.1%; 12 openings annually), and *Special Ed Teachers, Pre/Kinder/Elem* (up 23.5%; 9 openings annually).

Central Michigan: Gratiot, Ionia, Isabella, and Montcalm Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
25-2021	Elementary School Teachers, Ex Special Ed	1,060	1,120	60	5.6	29	6	23
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	610	675	65	10.5	24	6	17
13-2011	Accountants and Auditors	690	785	95	13.9	23	10	13
25-3099	Teachers & Instructors, All Other	535	585	50	9.1	12	5	7
25-2041	Special Ed Teachers, Pre/Kinder/Elem Schl	185	230	45	23.5	9	4	5
25-2022	Middle School Teachers, Ex Spec/Voc Ed	285	305	20	7.7	9	2	6

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are over 13,500 individuals (31% of the total population) in Montcalm County who have either attended some college or have an Associates Degree.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Gratiot County	9,823	30%	2,053	42%	2,200	38%	2,254	34%	2,563	28%	753	13%
Ionia County	13,811	31%	1,609	23%	3,335	37%	3,802	38%	4,059	32%	1,006	16%
Isabella County*	21,835	41%	12,993	67%	2,456	31%	1,962	29%	3,439	27%	985	15%
Montcalm County	13,673	31%	1,641	32%	3,064	36%	3,602	36%	4,271	31%	1,095	15%
Total C. Michigan Area	59,142	34%	18,296	50%	11,055	35%	11,620	35%	14,332	30%	3,839	15%

Source: Census 2000; *Isabella County Source American Community Survey 2006

*Montcalm County represents **23%** of those who completed some college and associate degrees in the Central Michigan area.

A quarter of Montcalm County residents have completed some college and 6% have an Associates Degree. Over a quarter of residents from ages 25 to 44 have completed some college and 8% have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Gratiot County	8,124	25%	1,941	40%	1,623	28%	1,767	27%	2,117	23%	676	12%
Ionia County	11,202	25%	1,454	20%	2,625	29%	2,920	29%	3,311	26%	892	14%
Isabella County*	19,097	36%	12,291	63%	1,792	22%	1,502	23%	2,697	21%	815	12%
Montcalm County	10,794	24%	1,458	29%	2,371	28%	2,670	26%	3,352	25%	943	13%
Total C. Michigan Area	49,217	28%	17,144	47%	8,411	27%	8,859	26%	11,477	24%	3,326	13%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Gratiot County	1,699	5%	112	2%	577	10%	487	7%	446	5%	77	1%
Ionia County	2,609	6%	155	2%	710	8%	882	9%	748	6%	114	2%
Isabella County*	2,738	5%	702	4%	664	8%	460	7%	742	6%	170	3%
Montcalm County	2,879	6%	183	4%	693	8%	932	9%	919	7%	152	2%
Total C. Michigan Area	9,925	6%	1,152	3%	2,644	8%	2,761	8%	2,855	6%	513	2%

Spotlight on the East Central Michigan Area

Mid Michigan Community College (Clare County)
Kirkland Community College (Roscommon County)

Occupational Demand

Mid Michigan Community College and Kirkland Community College are located in the East Central Michigan area. Workforce data for this area includes six counties (Arenac, Clare, Gladwin, Iosco, Ogemaw, Roscommon). Mid Michigan Community College is located in Clare County and represents **21%** of the total population in Central Michigan. Kirkland Community College is located in Roscommon County and represents **18%**.

Bachelor Degrees

The greatest demands for occupations in the East Central Michigan Area which require a Bachelor Degree include *Teachers & Instructors* (up 7.6%; 13 openings annually), *Elementary School Teachers, Special/Voc Ed* (up 2.8%; 13 openings annually), *Middle School Teachers, Ex Spec/Voc Ed* (up 4.9%; 11 openings annually), *Secondary School Teachers, Ex Spec/Voc Ed* (up 7.5%; 9 openings annually), and *Insurance Sales Agents* (up 9.6%; 8 openings annually).

East Central Michigan: Arenac, Clare, Gladwin, Iosco, Ogemaw, and Roscommon Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
25-3099	Teachers & Instructors, All Other	630	675	45	7.6	13	5	8
25-2021	Elementary School Teachers, Ex Special Ed	525	540	15	2.8	13	2	12
25-2022	Middle School Teachers, Ex Spec/Voc Ed	390	410	20	4.9	11	2	9
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	240	255	15	7.5	9	2	7
41-3021	Insurance Sales Agents	240	265	25	9.6	8	2	6

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are over 6,000 individuals living in both Clare and Roscommon Counties (27% and 30% of the total population respectively) who have either attended some college or have an Associates Degree.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Arenac County	3,436	26%	413	29%	585	32%	842	30%	1,227	28%	369	13%
Clare County	6,467	27%	728	32%	1,230	37%	1,413	32%	2,315	28%	781	14%
Gladwin County	5,528	28%	488	29%	1,031	38%	1,172	33%	2,149	30%	688	14%
Iosco County	5,606	26%	379	26%	820	33%	1,236	31%	2,109	28%	1,062	18%
Ogemaw County	4,283	26%	401	29%	766	37%	980	31%	1,621	28%	515	13%
Roscommon County	6,067	30%	516	35%	761	38%	1,227	36%	2,392	32%	1,171	19%
Total EC Michigan Area	31,387	27%	2,925	30%	5,193	36%	6,870	32%	11,813	29%	4,586	16%

Source: Census 2000

Clare County represents **21%** and Roscommon County represents **19%** of those who completed some college and associate degrees in the East Central Michigan area.

Twenty-two percent of Clare County residents have completed some college and 5% have an Associates Degree. Approximately 26% of residents between the ages 25 to 44 have completed some college and have and 7% have an Associates Degree.

Close to a quarter of residents in Roscommon County have completed some college and 6% have an Associates Degree. Approximately 28% of residents between the ages 25 to 44 have completed some college and 10% have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Arenac County	2,664	20%	369	26%	417	23%	618	22%	951	22%	309	11%
Clare County	5,183	22%	625	27%	947	28%	1,111	25%	1,816	22%	684	13%
Gladwin County	4,431	22%	423	25%	765	28%	896	25%	1,719	24%	628	13%
Iosco County	4,664	22%	340	23%	653	27%	1,035	26%	1,698	23%	938	16%
Ogemaw County	3,451	21%	373	27%	564	27%	753	24%	1,292	22%	469	12%
Roscommon County	4,802	24%	418	28%	579	29%	850	25%	1,889	25%	1,066	18%
Total EC Michigan Area	25,195	22%	2,548	26%	3,925	27%	5,263	25%	9,365	23%	4,094	14%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Arenac County	772	6%	44	3%	168	9%	224	8%	276	6%	60	2%
Clare County	1,284	5%	103	5%	283	8%	302	7%	499	6%	97	2%
Gladwin County	1,097	5%	65	4%	266	10%	276	8%	430	6%	60	1%
Iosco County	942	4%	39	3%	167	7%	201	5%	411	5%	124	2%
Ogemaw County	832	5%	28	2%	202	10%	227	7%	329	6%	46	1%
Roscommon County	1,265	6%	98	7%	182	9%	377	11%	503	7%	105	2%
Total EC Michigan Area	6,192	5%	377	4%	1,268	9%	1,607	8%	2,448	6%	492	2%

Spotlight on the Upper Peninsula

Bay de Noc Community College (Delta County)

Gogebic Community College (Gogebic County)

Occupational Demand

Bay de Noc and Gogebic Community Colleges are located in the Upper Peninsula area. Workforce data for this area includes 15 counties in the Upper Peninsula region of Michigan. Bay de Noc Community College is in the Delta County district and represents **12%** of the total population in the Upper Peninsula area. Gogebic Community College is in the Gogebic County district and represents **6%** of the total population in the Upper Peninsula area.

Bachelor Degrees

The greatest demands for occupations in the Upper Peninsula which require a Bachelor Degree include *Secondary and Elementary School Teachers, Special Ed* (up 6.7% and 1.6% respectively; 37 and 33 openings annually respectively), *Computer & Mathematical Occupations* (up 14.1%; 26 openings annually), *Accountants & Auditors* (up 10.5%; 20 openings annually) and *Teachers and Instructors* (up 7.7%; 18 openings annually).

Upper Peninsula: Alger, Baraga, Chippewa, Delta, Dickinson, Gogebic, Houghton, Iron, Keweenaw, Luce, Mackinac, Marquette, Menominee, Ontonagon, and Schoolcraft Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	1,075	1,145	70	6.7	37	7	30
25-2021	Elementary School Teachers, Ex Special Ed	1,380	1,400	20	1.6	33	2	30
15-0000	Computer & Mathematical Occupations	920	1,050	130	14.1	26	14	12
13-2011	Accountants and Auditors	680	750	70	10.5	20	7	13
25-3099	Teachers & Instructors, All Other	890	955	65	7.7	18	7	11
25-2022	Middle School Teachers, Ex Spec/Voc Ed	640	665	25	4.2	17	3	14
13-1199	Business Operations Specialists-All Other	510	585	75	15.1	16	8	9

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are just over 10,000 individuals (35% of the total population) in the Bay de Noc Community College county district and just over 4,000 individuals (32% of the total population) in Gogebic Community College county district who have either attended some college or have an Associates Degree.

Geography	Completed Some College or Associates Degree (Population)*											
	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Alger County	1,920	24%	161	24%	365	29%	526	33%	698	27%	170	10%
Baraga County	2,030	30%	159	24%	476	41%	509	38%	678	31%	208	15%
Chippewa County	10,449	34%	2,369	51%	2,000	36%	2,524	37%	2,765	33%	791	16%
Delta County	10,139	35%	1,383	46%	1,777	44%	2,574	43%	3,265	34%	1,140	17%
Dickinson County	5,795	28%	581	33%	968	33%	1,565	35%	1,901	30%	780	16%
Gogebic County	4,388	32%	546	36%	748	42%	1,013	42%	1,436	34%	645	16%
Houghton County	10,265	37%	4,820	70%	1,268	36%	1,599	35%	1,828	24%	750	13%
Iron County	2,652	25%	190	25%	446	39%	579	31%	969	29%	468	14%
Keweenaw County	502	28%	54	36%	64	38%	123	39%	191	28%	70	15%
Luce County	1,373	25%	76	13%	315	31%	313	28%	501	29%	168	16%
Mackinac County	2,480	27%	222	32%	450	36%	613	34%	859	26%	336	15%
Marquette County	17,750	35%	5,407	61%	3,122	42%	3,481	35%	4,463	28%	1,277	15%
Menominee County	5,193	27%	661	35%	990	38%	1,146	28%	1,805	29%	591	13%
Ontonagon County	1,732	28%	121	36%	262	37%	382	33%	693	29%	274	16%
Schoolcraft County	1,734	25%	217	37%	338	34%	402	30%	559	24%	218	13%
Total Upper Peninsula	78,402	32%	16,967	51%	13,589	38%	17,349	35%	22,611	29%	7,886	15%

*Source: Census 2000

*Delta County represents **13%** and Gogebic County represents **6%** of those who completed some college and associate degrees in the Upper Peninsula area. Other Upper Peninsula county data is displayed to provide a comparison to workforce data.

Specifically, a quarter of Delta County residents have completed some college and 10% have an Associates Degree. Close to three in ten residents between the ages of 18 and 44 have completed some college and 15% have an Associates Degree.

Twenty-two percent of the total population in Gogebic County have completed some college but do not have a degree and 9% have an Associates Degree. Close to one in four 25 to 44 year olds completed some college and 17% of this age group have an Associates degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Alger County	1,610	21%	147	22%	299	23%	420	26%	588	23%	156	9%
Baraga County	1,606	24%	143	22%	370	32%	393	29%	505	23%	195	14%
Chippewa County	8,827	29%	2,177	47%	1,683	30%	2,001	30%	2,240	26%	726	15%
Delta County	7,342	25%	1,164	39%	1,215	30%	1,690	28%	2,337	24%	936	14%
Dickinson County	4,365	21%	479	28%	652	22%	1,119	25%	1,443	22%	672	14%
Gogebic County	3,092	22%	401	27%	446	25%	612	25%	1,036	25%	597	15%
Houghton County	8,340	30%	4,531	66%	844	24%	1,014	22%	1,355	18%	596	11%
Iron County	2,019	19%	155	20%	318	28%	408	22%	728	22%	410	12%
Keweenaw County	396	22%	48	32%	41	24%	95	30%	146	21%	66	14%
Luce County	1,083	20%	63	11%	255	25%	259	23%	381	22%	125	12%
Mackinac County	1,990	21%	189	27%	352	28%	450	25%	693	21%	306	14%
Marquette County	14,706	29%	5,032	57%	2,250	31%	2,681	27%	3,619	23%	1,124	13%
Menominee County	4,068	21%	557	29%	723	28%	870	21%	1,424	23%	494	11%
Ontonagon County	1,324	21%	103	30%	173	24%	273	24%	542	23%	233	14%
Schoolcraft County	1,354	20%	193	33%	237	24%	287	21%	444	19%	193	12%
Total Upper Peninsula	62,122	25%	15,382	47%	9,858	28%	12,572	26%	17,481	23%	6,829	13%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Alger County	310	4%	14	2%	66	5%	106	7%	110	4%	14	1%
Baraga County	424	6%	16	2%	106	9%	116	9%	173	8%	13	1%
Chippewa County	1,622	5%	192	4%	317	6%	523	8%	525	6%	65	1%
Delta County	2,797	10%	219	7%	562	14%	884	15%	928	10%	204	3%
Dickinson County	1,430	7%	102	6%	316	11%	446	10%	458	7%	108	2%
Gogebic County	1,296	9%	145	10%	302	17%	401	17%	400	10%	48	1%
Houghton County	1,925	7%	289	4%	424	12%	585	13%	473	6%	154	3%
Iron County	633	6%	35	5%	128	11%	171	9%	241	7%	58	2%
Keweenaw County	106	6%	6	4%	23	14%	28	9%	45	7%	4	1%
Luce County	290	5%	13	2%	60	6%	54	5%	120	7%	43	4%
Mackinac County	490	5%	33	5%	98	8%	163	9%	166	5%	30	1%
Marquette County	3,044	6%	375	4%	872	12%	800	8%	844	5%	153	2%
Menominee County	1,125	6%	104	5%	267	10%	276	7%	381	6%	97	2%
Ontonagon County	408	7%	18	5%	89	12%	109	9%	151	6%	41	2%
Schoolcraft County	380	6%	24	4%	101	10%	115	9%	115	5%	25	2%
Total Upper Peninsula	16,280	7%	1,585	5%	3,731	11%	4,777	10%	5,130	7%	1,057	2%

Spotlight on the West Central Michigan Area

West Shore Community College (Mason County)

Occupational Demand

West Shore Community College is located in the West Central Michigan area. Workforce data for this area includes five counties (Lake, Mason, Mecosta, Newaygo, Osceola). Mason County, where West Shore Community College is located, represents **19%** of the total population in West Central Michigan.

Bachelor Degrees

The greatest demand for occupations in the West Central Michigan Area which require a Bachelor Degree include *Elementary School Teachers, Special Ed* (up 6.3%; 29 openings annually), *Teachers & Instructors* (up 10.6%; 24 openings annually), *Secondary School Teachers, Ex Spec/Voc Ed* (up 11%; 23 openings annually), *Middle School Teachers, Ex Spec/Voc Ed* (up 8.2%; 17 openings annually), and *Education, Training, & Library Workers* (up 10.3%; 7 openings annually).

West Central Michigan: Lake, Mason, Mecosta, Newaygo, and Osceola Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
25-2021	Elementary School Teachers, Ex Special Ed	1,040	1,105	65	6.3	29	7	23
25-3099	Teachers & Instructors, All Other	1,065	1,175	110	10.6	24	11	13
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	580	645	65	11	23	6	16
25-2022	Middle School Teachers, Ex Spec/Voc Ed	550	595	45	8.2	17	5	12
25-9099	Education, Training, and Library Workers,	265	290	25	10.3	7	3	4
25-2041	Special Ed Teachers, Pre/Kinder/Elem Schl	120	150	30	24	6	3	3
21-1021	Child, Family, & School Social Workers	220	240	20	9.5	6	2	4

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are just over 6,700 individuals (31% of the total population) in Mason County who have either attended some college or have an Associates Degree.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Lake County	2,114	24%	152	17%	330	33%	404	26%	856	27%	372	17%
Mason County	6,723	31%	629	32%	1,162	37%	1,584	36%	2,414	34%	934	20%
Mecosta County	12,059	38%	5,491	68%	1,586	37%	1,496	30%	2,429	28%	1,057	20%
Newaygo County	9,097	27%	925	26%	1,834	34%	2,254	29%	3,140	28%	944	15%
Osceola County	4,370	26%	549	29%	847	32%	1,070	30%	1,425	25%	479	15%
Total WC Michigan Area	34,363	31%	7,746	47%	5,759	35%	6,808	31%	10,264	29%	3,786	17%

Source: Census 2000

*Mason County represents **19%** of those who completed some college and associate degrees in the West Central Michigan area.

Close to a quarter of Mason County residents have completed some college and 7% have an Associates Degree. Over a quarter of residents from ages 25 to 44 completed some college and 10% have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Lake County	1,746	20%	131	15%	235	23%	327	21%	700	22%	353	16%
Mason County	5,136	24%	567	29%	850	27%	1,121	26%	1,775	25%	823	17%
Mecosta County	9,223	29%	4,395	54%	1,143	27%	919	18%	1,837	21%	929	17%
Newaygo County	7,146	21%	809	22%	1,347	25%	1,690	22%	2,439	22%	861	14%
Osceola County	3,374	20%	467	25%	632	24%	769	22%	1,105	20%	401	12%
Total WC Michigan Area	26,625	24%	6,369	39%	4,207	26%	4,826	22%	7,856	22%	3,367	15%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Lake County	368	4%	21	2%	95	9%	77	5%	156	5%	19	1%
Mason County	1,587	7%	62	3%	312	10%	463	11%	639	9%	111	2%
Mecosta County	2,836	9%	1,096	14%	443	10%	577	11%	592	7%	128	2%
Newaygo County	1,951	6%	116	3%	487	9%	564	7%	701	6%	83	1%
Osceola County	996	6%	82	4%	215	8%	301	9%	320	6%	78	2%
Total WC Michigan Area	7,738	7%	1,377	8%	1,552	9%	1,982	9%	2,408	7%	419	2%

Spotlight on the Northeast Lower Peninsula Area

Alpena Community College (Alpena County)

Occupational Demand

Alpena Community College is located in the Northeast Lower Peninsula area. Workforce data for this area includes eight. Alpena County, where Alpena Community College is located, represents **22%** of the total population in Central Michigan.

Bachelor Degrees

The greatest demands for occupations in the Northeast Lower Peninsula Area which require a Bachelor Degree include *Secondary School Teachers, Special Ed* (up 7.2%; 18 openings annually), *Elementary School Teachers, Special/Voc Ed* (up 2.5%; 18 openings annually), *Accountants & Auditors* (up 12.5%; 9 openings annually), *Computer & Mathematical Occupations* (up 16.6%; 7 openings annually), and *Insurance Sales Agents* (up 9.4%; 7 openings annually).

Northeast Lower Peninsula: Alcona, Alpena, Cheboygan, Crawford, Montmorency, Oscoda, Otsego, and Presque Isle Counties.		Employment		Change		Annual Average Openings		
SOC CODE	OCCUPATION	2004	2014	LEVEL	%	TOTAL	GROWTH	REPLACEMENT
25-2031	Secondary School Teachers, Ex Spec/Voc Ed	515	550	35	7.2	18	4	14
25-2021	Elementary School Teachers, Ex Special Ed	715	730	15	2.5	18	2	16
13-2011	Accountants and Auditors	280	315	35	12.5	9	4	5
15-0000	Computer & Mathematical Occupations	230	265	35	16.6	7	4	3
41-3021	Insurance Sales Agents	205	220	15	9.4	7	2	5

Source: Occupational Employment Forecasts 2004 -2014; Michigan Department of Labor and Economic Growth, Bureau of Labor Market Information and Strategic Initiatives

Population Estimates

There are over 8,000 individuals (35% of the total population) in Alpena County who have either attended some college or have an Associates Degree. This is greater than any other county in the area.

Completed Some College or Associates Degree (Population)*												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Alcona County	2,553	27%	136	27%	344	37%	481	31%	1,064	29%	528	18%
Alpena County	8,424	35%	1,090	44%	1,372	44%	2,213	43%	2,925	38%	824	15%
Cheboygan County	5,540	27%	466	29%	1,008	34%	1,302	34%	2,017	29%	747	16%
Crawford County	3,220	30%	235	26%	510	34%	820	36%	1,193	32%	462	20%
Montmorency County	2,082	25%	191	32%	251	31%	372	28%	888	30%	380	15%
Oscoda County	1,854	26%	164	32%	274	34%	403	30%	733	28%	280	15%
Otsego County	5,346	31%	448	28%	1,034	36%	1,477	39%	1,757	32%	630	20%
Presque Isle County	3,156	28%	312	33%	429	36%	785	39%	1,151	29%	479	15%
Total NE Lower Peninsula	32,175	30%	3,042	33%	5,222	37%	7,853	37%	11,728	31%	4,330	17%

Source: Census 2000;

*Alpena County represents **26%** of those who completed some college and associate degrees in the Northeast Lower Peninsula area.

Over a quarter of Alpena County residents have completed some college and 9% have an Associates Degree. Three in ten residents from ages 25 to 44 have completed some college and 14% have an Associates Degree.

Completed Some College (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Alcona County	1,998	21%	118	23%	242	26%	347	23%	832	23%	459	16%
Alpena County	6,273	26%	893	36%	913	29%	1,548	30%	2,171	28%	748	14%
Cheboygan County	4,389	22%	407	25%	760	25%	1,001	26%	1,557	22%	664	14%
Crawford County	2,561	24%	219	24%	421	28%	581	25%	915	25%	425	18%
Montmorency County	1,682	20%	171	28%	205	25%	285	22%	708	24%	313	13%
Oscoda County	1,448	20%	144	28%	190	24%	280	21%	579	22%	255	13%
Otsego County	4,270	25%	393	24%	833	29%	1,063	28%	1,409	25%	572	18%
Presque Isle County	2,472	22%	259	28%	319	27%	560	27%	915	23%	419	13%
Total NE Lower Peninsula	25,093	23%	2,604	28%	3,883	27%	5,665	27%	9,086	24%	3,855	15%

Associates Degree (Population)												
Geography	Total	% of Total	18 to 24	% of 18 to 24	25 to 34	% of 25 to 34	35 to 44	% of 35 to 44	45 to 64	% of 45 to 64	65 +	% of 65+
Alcona County	555	6%	18	4%	102	11%	134	9%	232	6%	69	2%
Alpena County	2,151	9%	197	8%	459	15%	665	13%	754	10%	76	1%
Cheboygan County	1,151	6%	59	4%	248	8%	301	8%	460	7%	83	2%
Crawford County	659	6%	16	2%	89	6%	239	10%	278	7%	37	2%
Montmorency County	400	5%	20	3%	46	6%	87	7%	180	6%	67	3%
Oscoda County	406	6%	20	4%	84	10%	123	9%	154	6%	25	1%
Otsego County	1,076	6%	55	3%	201	7%	414	11%	348	6%	58	2%
Presque Isle County	684	6%	53	6%	110	9%	225	11%	236	6%	60	2%
Total NE Lower Peninsula	7,082	7%	438	5%	1,339	9%	2,188	10%	2,642	7%	475	2%