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Executive Summary

The major findings of this report are:

- From 2000 to 2007, the CAMWC region—Gratiot, Ionia, Isabella, and Montcalm counties— experienced a modest decline in employment, and a steady rise in unemployment.
- During this time period, employment in manufacturing dropped by 35.8 percent in the region, a loss of 5,540 jobs. The loss of these jobs triggered a round of additional job reductions in retail trade and other consumer services due to the loss of earned income.
- Despite these current losses in manufacturing, the four-county area maintains an above-average concentration in manufacturing. In 2006, manufacturing still accounted for 11.2 percent of all the region’s nonfarm jobs and 18 percent of its total earnings compared to 8.4 percent and 12 percent, respectively nationwide.
- The region is not an island. Except for Isabella County, the regional economy is dependant upon workers commuting to jobs outside the region and bringing their earnings back into the region. Additionally, the region’s businesses are affected by the growth or decline of the economies in the greater Grand Rapids and Lansing areas. Typically, between 1 and 5 percent of employment growth or decline in one of these neighboring urban regions will be replicated in the CAMWC region.
- The CAMWC region’s workforce is less educated than the state’s or nation’s workforce as a whole. In 2000, only 14.3 percent of its residents 25 years or older completed at least a four-year bachelor’s degree, compared to 21.8 percent, statewide, and 24.4 for the nation. This is not unusual for a rural region with a strong manufacturing legacy; however, it still puts it at a disadvantage in attracting knowledge-based activities. Additionally, it is a bit surprising given the presence of Central Michigan University. A large state university is a rare asset for a rural region and one that currently appears to be underutilized for attracting and retaining high-skill workers.
- Although highly dependent on manufacturing in general, the region’s manufacturing sector is well diversified.
- New manufacturing jobs are being created at a rapid pace—over 1,000 per quarter during the past five years; however, layoffs and closures are occurring at an even faster rate, creating a small net-loss.
- Younger generations hold manufacturing-sector jobs at a much lower rate than the baby-boomer generation (age 45 to 54 in 2006). The largest number of workers age 25 to 34 and age 35 to 44 are in the health care sector.
- Between 2004 and 2014, the fastest growing occupations are expected to be primarily in high-skill fields such as computer software engineers, database administrators, educators, and physical therapists. However, the greatest number of openings is expected to be primarily in occupations such as cashier and retail sales. Health care occupations are found among both the fastest growing fields and those expected to offer the greatest number of openings.
- Manufacturing-related occupations are expected to experience almost no growth between 2004 and 2014 in terms of absolute number; however, there is expected to be a demand for nearly 300 workers per year to replace those who are retiring or exiting the field.

Introduction

This report examines the employment environment facing residents in the Central Area Michigan Works Consortium (CAMWC) region (the region), which consists of Gratiot, Ionia, Isabella, and Montcalm counties. Since 2000, the region has suffered severe economic setbacks, such as the closing of the large Electrolux plant in Greenville, as well as promising growth opportunities illustrated by the continued expansion of the United Solar Ovonic plant, again in Greenville.

This report is meant to provide the data and analysis needed for the development of a workforce development strategy. It is focused on three major aspects relevant to the CAMWC region:

- The economic conditions that shape the region's potential need for training and job search assistance.
- The occupational outlook and future job needs predicted for the region.
- The dynamic labor market conditions both within the region itself, as well as across boundaries into neighboring areas.

Not surprisingly, the dominant manufacturing sector and its occupational demands will invariably play a major role in the development of a regional workforce development strategy. However, as this report shows, the decision as to how best to support both a manufacturing environment and a changing economy will not be a simple one. A successful strategy will have to take into account an economic environment that is facing difficult immediate circumstances, while at the same time rapidly changing and growing more dependent on a broader regional, and even global, economy.

Current Economic Conditions

Region Overview

In general, the region is characterized by a relatively high unemployment rate and a slow-growth, manufacturing-centric economic environment. Over the past seven years since the start of the most recent economic cycle, the region has suffered many of the same problems that have plagued the state of Michigan as a whole: high employment concentration in industries, and even firms within these industries, that are suffering economic losses at above-average rates. Compared to the national average, the region is concentrated in manufacturing and basic service industries such as retail and government, while other large-scale service-providing sectors such as professional and technical services are under-represented.

As such, the region has underperformed the nation on most measures since the 2001 recession.

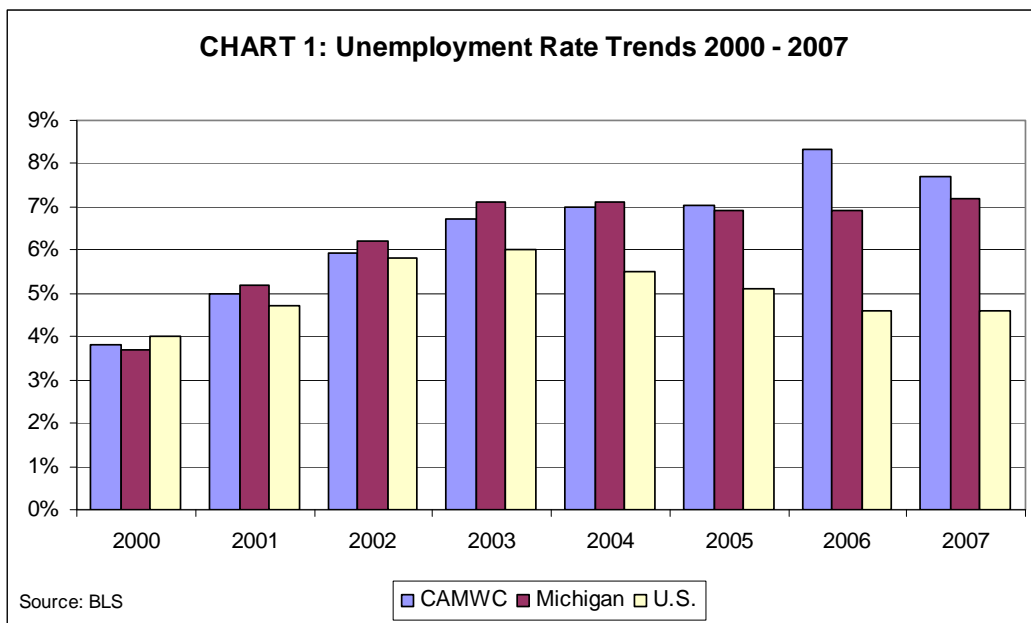
Employment Trends

The percentage of the region's workforce unable to find work has increased over the past few years, as shown in Table 1 and Chart 1. In 2000, the region's unemployment rate was lower than both the state and national average rates. Until 2004, the region's unemployment rate remained

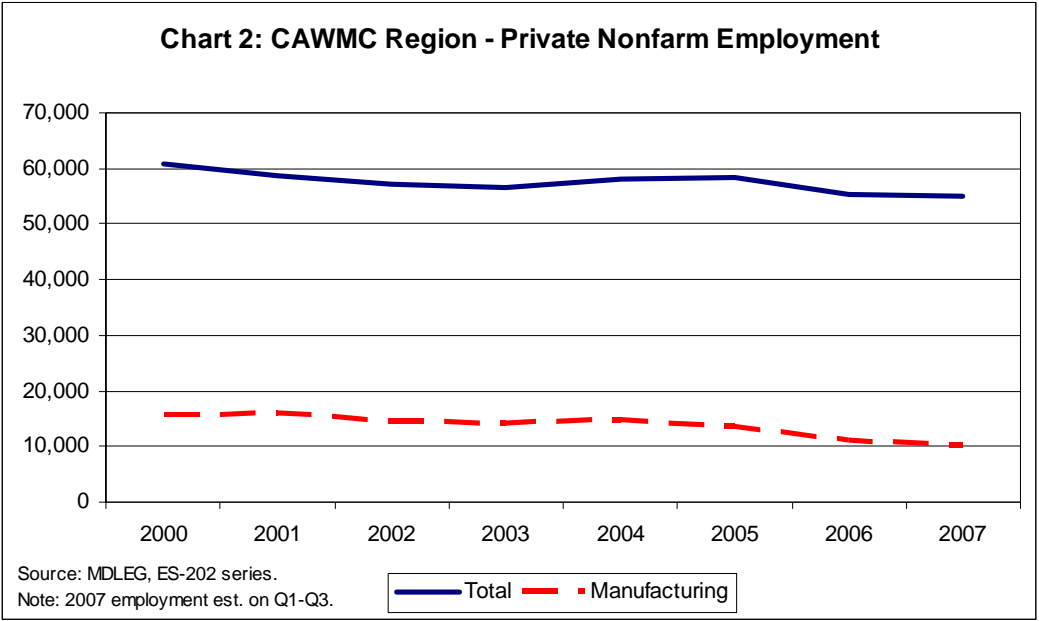
lower than the overall Michigan unemployment rate. Unfortunately, local unemployment increased significantly during 2006 and now remains above the national and statewide rates.

Table 1
Annual Unemployment Rate Trends

	2000	2001	2002	2003	2004	2005	2006	2007
CAMWC	3.8%	5.0%	5.9%	6.7%	7.0%	7.0%	8.3%	7.7%
Michigan	3.7%	5.2%	6.2%	7.1%	7.1%	6.9%	6.9%	7.2%
U.S.	4.0%	4.7%	5.8%	6.0%	5.5%	5.1%	4.6%	4.6%

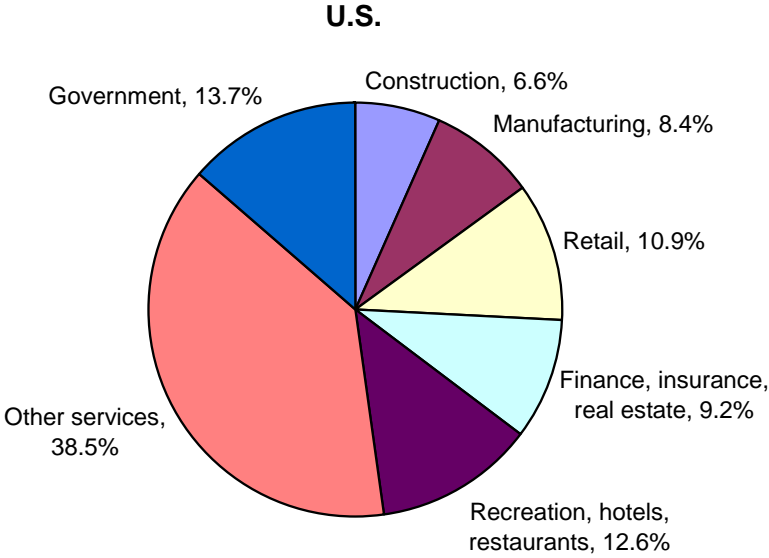
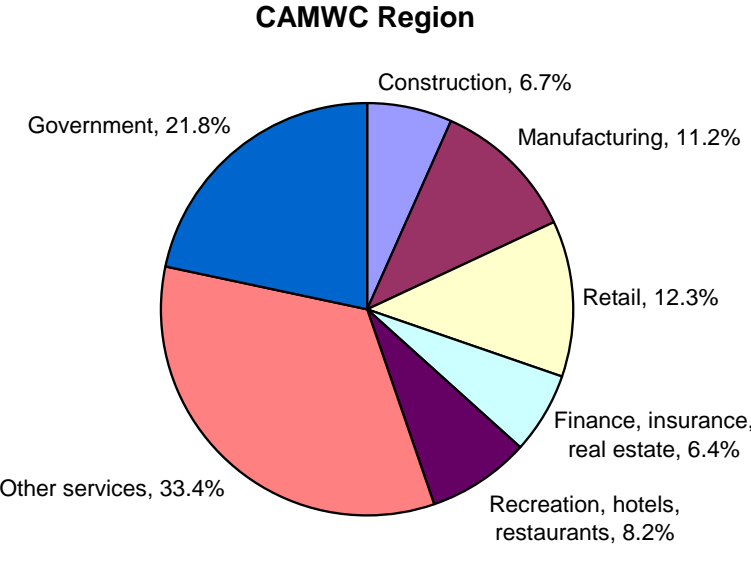


Not surprisingly, the rising unemployment rate corresponds with a decrease in the number of jobs located in the CAMWC region. As shown in Chart 2, despite a slight job recovery in 2004-2005, overall employment decreased by 9.8 percent—a loss of nearly 600 jobs—between 2000 and 2007. Much of this decline can be attributed to the weakness of the region’s manufacturing sector. Between 2000 and 2007, manufacturing sector employment declined 35.8 percent in the region, which is equal to a loss of 5,540 jobs (Chart 2).



Declining employment in the manufacturing sector has been taking a major toll on overall economic conditions in the CAMWC region—as well as the rest of Michigan and other parts of the Midwest—for several reasons. For one, the manufacturing sector represents a disproportionate share of nonfarm employment and income in the region, which means that even a small percentage decline in employment has a larger impact locally than it does in other locations where the economy is more diversified. As shown in Chart 3, the CAMWC region is home to a larger-than-average share of manufacturing, retail, and government jobs than the nation as a whole. At the same time, the region is relatively lacking in many of the service-providing industries that represent a large share of national employment. In recent years, the overall service-providing sector has provided the greatest job growth nationwide

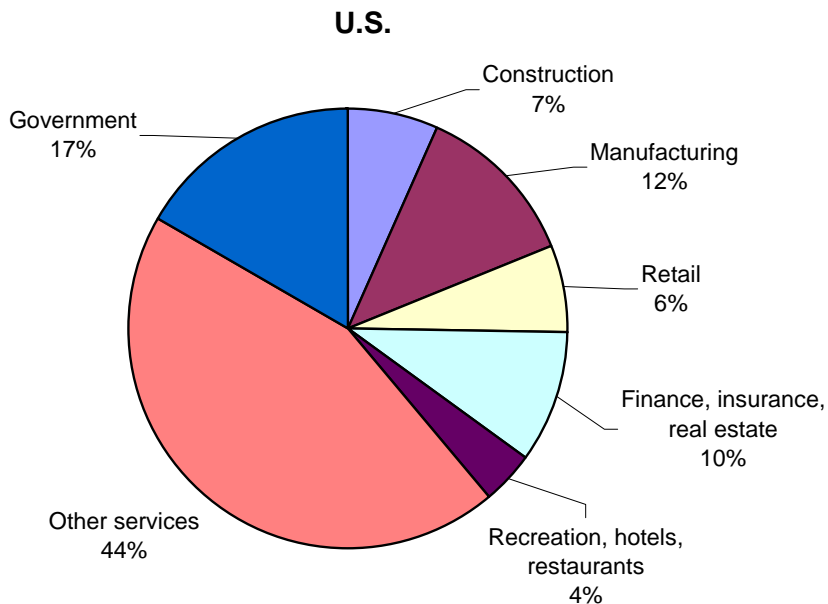
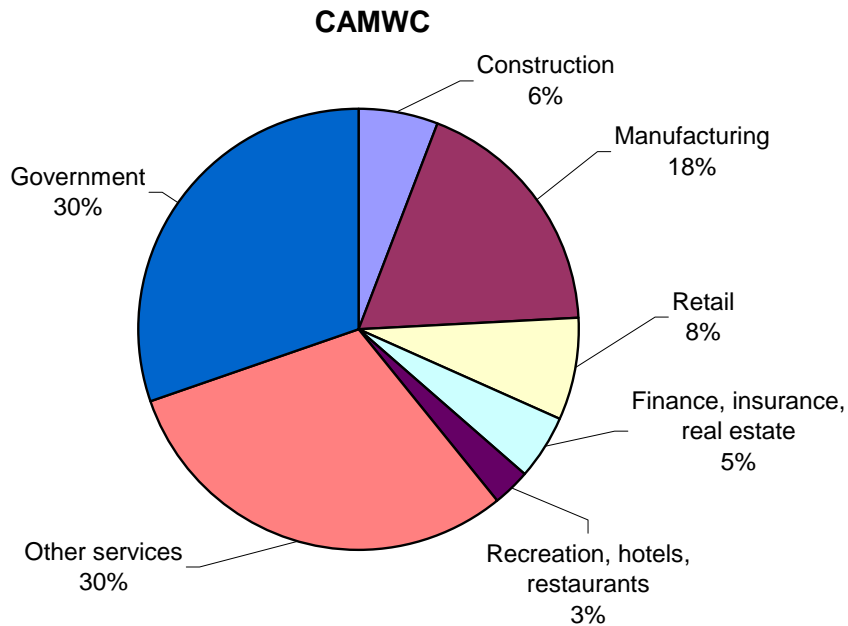
Chart 3: 2006 Nonfarm Employment Concentration by Industry



Source: BEA-REIS.

The manufacturing sector is also especially important to the region because of the relatively high earnings that the industry provides for local workers. On this same measure, government employers—including public K-12 schools, Central Michigan University, and the state prison facilities in Ionia—also provide a disproportionately high share of the region’s gross earnings. Combined, government and manufacturing sectors account for nearly half of all regional earnings, despite representing only about 22 percent of nonfarm employment.

Chart 4: Gross Earnings by Major Industry



Source: BEA-REIS

The concentration and importance of only two sectors—government and manufacturing—has a great deal to do with the economic conditions faced by the overall community. Many of the other sectors in the CAMWC region, such as retail and construction, are dependant on these core

economic base¹ industries. Additionally, as we will see later, the types of businesses operating in the region can have very different levels of economic impact on the region, depending on what kind of supplier linkages they have with other local businesses.

Population Change

Another component of the regional economy is its population that supports local businesses and provides the workforce for employers located in the area. The counties that make up the CAMWC region have experienced moderate or negative population growth during recent years. As shown in Table 2, the CAMWC region’s population grew by 8,303 residents between 2000 and 2006, a 0.6 percent annual average rate of change. Overall, this is a faster rate than the state of Michigan as a whole; however, it is a significantly slower rate than nationwide. The rate of population change has also varied significantly within the counties that make up the region. The faster growing counties, Ionia and Montcalm, benefit from their close proximity to employment opportunities in the larger Grand Rapids urbanized area. In 2000, 26.6 percent of Ionia’s workforce commuted to Kent County for work as did 24.6 percent of Montcalm County workers.² However, Isabella County also managed respectable employment gains during the same period, despite being more economically independent. Gratiot County, on the other hand, experienced a net loss of residents between 2000 and 2006. This may become a point of concern for the workforce development community if Gratiot County is facing economic challenges that other locations in the region are not.

Table 2 Population Change 2000 to 2006

CAMWC Total	CAMWR Total	Individual Region Counties			
		Gratiot	Ionia	Isabella	Montcalm
2006 Population	236,723	42,107	64,821	65,818	63,977
2000 Population	228,420	42,285	61,518	63,351	61,266
Change	8,303	-178	3,303	2,467	2,711
Annual Avg Rate	0.6%	-0.1%	0.9%	0.6%	0.7%
Michigan AAR	0.3%	0.3%	0.3%	0.3%	0.3%
U.S. AAR	1.0%	1.0%	1.0%	1.0%	1.0%

Source: U.S. Census Bureau, population estimates.

Population change is both a driver of economic growth and a response to labor market demand. New residents can spur employment growth by increasing demand for local goods, services, and housing. This type of development is generally seen in regions that are close to growing metro areas or offer specific amenities, such as climate, arts and entertainment, major bodies of water, or outdoor recreation activities that can attract retirees, self-employed workers, and other individuals who have greater flexibility in choosing where to live independent of a specific

¹ Economic base industries sell their goods or services to customers located outside the region. Normally, government is not considered an “economic-base” industry, since most public sector activities are supported by, and provide service to the a local population. However, in the case of the CAMWC region, there are several concentrated government industries, state prisons and a major state university, which effectively bring in funds and employment opportunities from outside the area. This is very different from typical activities such as municipal administration or public K-12 education.

² Montcalm County would have been included in the Grand Rapids-Wyoming MSA if only 115 more workers commuted into Kent County, a tiny 0.4 percent of its overall workforce. It is highly likely that Montcalm County will be classified as part of the Grand Rapids metropolitan area, following the 2010 U.S. Census.

employment location. Typically, however, regional population growth is driven by employment demand as new job opportunities and rising wages attract job-seekers from other areas.

In the CAMWC region overall population growth has been relatively slow, which reflects both the stagnant employment conditions and the lack of specific major-scale amenities to make the area an attractive retirement or recreation community. However, the area has grown at a faster overall rate than Michigan—due to its lesser reliance on the hard-hit automotive industry—and it appears that at least some parts of the region have established themselves as bedroom communities to surrounding urban areas. Becoming a commuter community can be advantageous for future workforce development, since the new residents act as both a source of support for local retailers and service-providers, as well as a potential workforce pool that new firms locating in the region can draw upon.

Migration

The primary reason for the region’s slow population growth is out-migration. Like most other places in Michigan, more people and households leave than move into the region during a typical year. Additionally, although the CAMWC region does receive a net gain in migrants from other parts of Michigan, primarily due to its proximity to the Grand Rapids and Lansing metro areas, there is a net loss with other U.S. states.³ As shown in Table 3, between 2005 and 2006, the region lost 452 households and 450 persons—a strange situation that reflects the fact that on net the region attracted larger size households than those that left.

Table 3
2005-2006 Migration Between Region and Rest of World

County	Unit	In from:		Out to:		Net
		Rest of Michigan	Rest of World	Rest of Michigan	Rest of World	
Gratiot	Households	411	126	469	197	-129
	Persons	785	264	855	351	-157
Ionia	Households	929	165	921	307	-134
	Persons	1,827	338	1,597	541	27
Isabella	Households	1,223	353	1,079	581	-84
	Persons	1,903	584	1,751	939	-203
Montcalm	Households	924	199	865	363	-105
	Persons	1,859	414	1,695	695	-117
CAMWC	Households	3,487	843	3,334	1,448	-452
Region Net	Persons	6,374	1,600	5,898	2,526	-450

Source: IRS

Additionally, migration patterns also reflect the dynamic relationship between the counties within the region itself. The data in Table 4 shows the movement of households between the four counties in the region during the 2005-2006 time period. Migration within the region is not

³ Note that the migration data table reports migration with the “rest of the world”, which includes international migration. However, foreign migration flows between counties in the region are extremely small. Almost all of the migration in this category is between other U.S. states.

substantial and in the case of Isabella and Ionia counties, essentially non-existent⁴. This is somewhat surprising given that Isabella has the largest migration flows with the other two counties in the region—most likely as an effect of students moving in to attend Central Michigan University. In general, there is limited movement within the region and much greater movement between the region and other counties in Michigan.

Table 4
Intra-regional Household Migration 2005-2006

Destination County	Source County			
	Gratiot	Ionia	Isabella	Montcalm
Gratiot		14	125	115
Ionia	49		<10	194
Isabella	158	<10		66
Montcalm	94	214	59	

Source: IRS

Workforce Demographics

Ultimately, the economic potential of a region is not measured by gross population change, but by the characteristics of its workforce. In general, there has been a nationwide increase in demand for skilled workers in both the service-providing and manufacturing sectors, while at the same time the number of jobs paying decent wages for jobs that do not require specific skill training or educational credentials has stagnated. This has created a situation where the characteristics of the local workforce play a larger role in attracting new companies to the area, as well as supporting the survival and expansion of existing companies.

The CAMWC region, like many other parts of Michigan, has been home to an economy that is concentrated in traditional manufacturing activities. This legacy is reflected in the composition of the local population, which is geared toward manufacturing production and other traditional occupations that do not require formal education beyond high school. As shown in Table 5, although the CAMWC region has a smaller share of adult dropouts than the statewide or nationwide averages, the portion of the workforce holding a college degree at any level is far below average. As a whole, only 14.3 percent of adults age 25 and older in the CAMWC region held a bachelor's degree or higher in 2000, compared to 21.8 percent statewide and 24.4 percent nationwide. This illustrates that the local workforce is extremely limited for high-tech manufacturers and other businesses that need at least a portion of their employees to have high-level technical or other training.

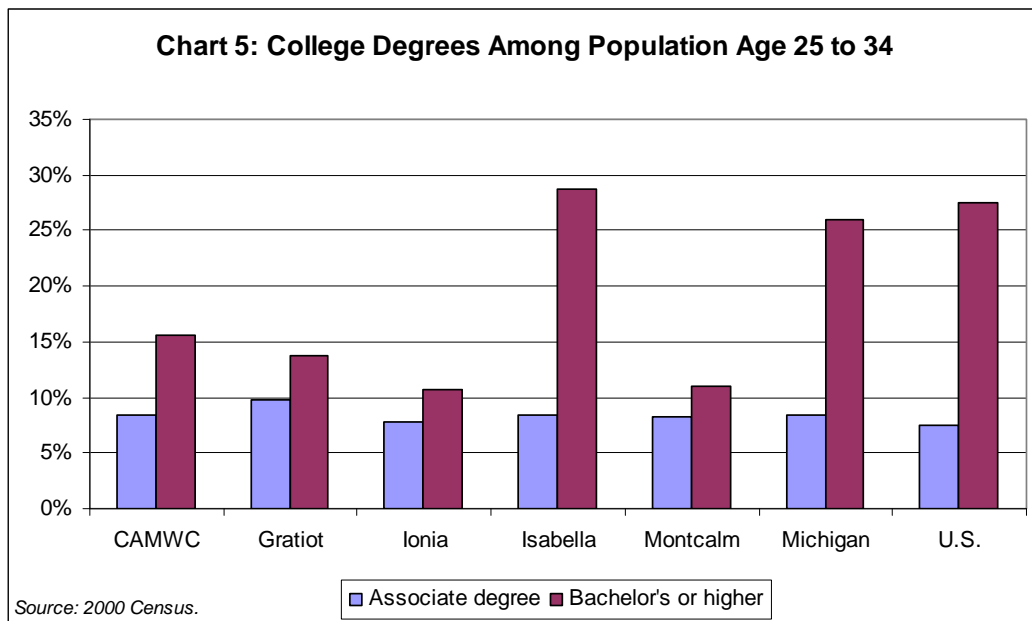
⁴ The IRS does not disclose inter-county movements when fewer than 10 households are moving in a given year. The actual number of households moving from Ionia to Isabella and from Isabella to Ionia is between 0 and 9 households in either direction.

Table 5
Educational Attainment of Adults Age 25 and Older

Highest Level of Educational Attainment	CAMWC	Individual Region Counties				Michigan	U.S.
		Gratiot	Ionia	Isabella	Montcalm		
Dropouts	16.6%	16.5%	16.6%	13.9%	18.8%	16.6%	19.6%
H.S. Diploma	39.1%	42.1%	40.4%	33.9%	39.9%	31.3%	28.6%
Some college	23.7%	22.6%	25.8%	22.4%	23.6%	23.3%	21.0%
Associate degree	6.3%	5.8%	6.5%	5.9%	6.8%	7.0%	6.3%
Bachelor's degree	9.2%	8.8%	7.6%	13.7%	7.2%	13.7%	15.5%
Graduate degree	5.1%	4.1%	3.2%	10.2%	3.6%	8.1%	8.9%

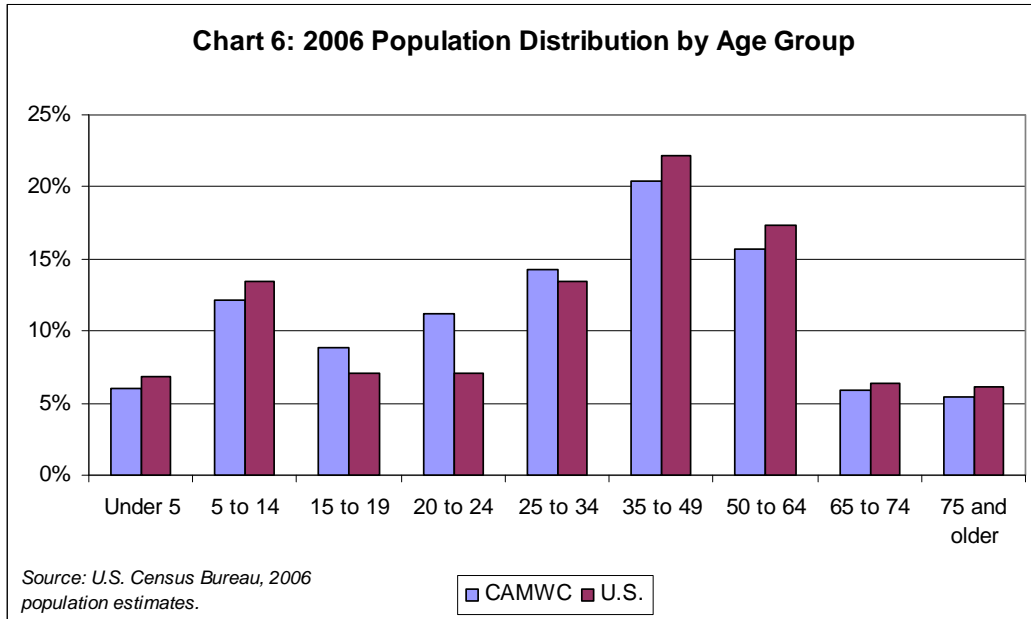
Source: 2000 Census.

The low level of adult educational attainment is somewhat surprising given the presence of a major state university, Central Michigan University (CMU), within the region, as well as the proximity of other major universities and small colleges in the neighboring urban regions of Grand Rapids and Lansing. Chart 5 shows the percent of post-college adults age 25 to 34 with a college degree. Clearly, the presence of CMU does have an impact in Mount Pleasant where it is located; however, the share of the 25-to-34 age group with a bachelor's degree or higher only barely exceeds the national average in Isabella County, while the other CAMWC counties have education attainment rates that are far below average. In the share of young adults with an associate degree, the region is roughly equal to state and U.S. average rates.



In terms of the age distribution of its residents, the CAMWC region looks fairly similar to the national average. Chart 6 shows the distribution by age group of persons in the region who reside in households, compared to persons nationwide who live in households. Excluded are persons who reside in group quarters—which includes prisons, mental institutions, assisted living facilities, and college dormitories—since Ionia is home to a substantial number of prisoners who are relatively young, but not part of a potential workforce for the region. Not surprisingly, the region has a higher concentration of persons age 18 to 24 than the U.S., which is due to the presence of CMU in Isabella County. Although many of these students may not be a

very active part of the local labor pool while attending college, they could potentially be pulled into the region’s workforce after graduation. In general, the presence of a potential pool of college-educated workers already familiar with the region is an untapped asset for retaining and attracting firms in need of a young, educated talent pool from which to hire.



A Regional Connection

The commuting ties between the CAMWC counties and surrounding areas are, in several instances, stronger than among the four counties. As shown in the Table 6, the commuting ties between the CAMWC counties can be very weak, as between Ionia and Isabella counties. In addition, the ties between Ionia and Montcalm counties to the greater Grand Rapids area are very strong. In fact, Montcalm County would have been included in the Grand Rapids-Wyoming MSA if only 115 additional residents, 0.4 percent of the county’s workforce, had commuted to Kent County in 2000. As it stands, more than a quarter of the Montcalm County’s residents commute to Kent, Muskegon, or Ottawa counties to work.

The lack of strong ties between the CAMWC counties should not be surprising because they are all very similar to each other. In other words, there is little differentiation between the economic environment and amenities available in the four counties of the region, which suggests there is little reason to lengthen one’s commute within the region to either access a different living environment or stronger job market. In addition, there is not a strong highway network that connects the CAMWC counties together.

Of all the counties, Isabella County is the most independent with nearly 80 percent of its residents working within the county’s boundaries.

Table 6

2000 Commuting Patterns- Number of Workers

Reside In	Work In								
	Gratiot	Ionia	Isabella	Montcalm	CAMWC	Kent/ Muskegon/ Ottawa	Ingham/ Clinton/ Eaton	Midland/ Saginaw/ Bay	Total
Gratiot	12,070	131	1,466	683	14,350	156	1,858	657	17,428
Ionia	35	12,855	7	1,341	14,238	7,320	4,182	3	26,669
Isabella	1,178	18	24,420	416	26,032	157	351	1,451	30,755
Montcalm	855	1,413	576	14,967	17,811	6,698	515	56	25,927
CAMW	14,138	14,417	26,469	17,407					
Total	16,360	18,269	32,705	21,571					

2000 Commuting Patterns - Percentage of Residents

Reside In	Work In								
	Gratiot	Ionia	Isabella	Montcalm	CAMW	Kent/ Muskegon/ Ottawa	Ingham/ Clinton/ Eaton	Midland/ Saginaw/ Bay	Total
Gratiot	69.3%	0.8%	8.4%	3.9%	82.3%	0.9%	10.7%	3.8%	100.0%
Ionia	0.1%	48.2%	0.0%	5.0%	53.4%	27.4%	15.7%	0.0%	100.0%
Isabella	3.8%	0.1%	79.4%	1.4%	84.6%	0.5%	1.1%	4.7%	100.0%
Montcalm	3.3%	5.4%	2.2%	57.7%	68.7%	25.8%	2.0%	0.2%	100.0%

The economic importance of the surrounding regions is also seen in the share of each county's net earned income that is earned outside its borders. For example, in 2005, 36.3 percent of net earned income in Ionia County was earned outside the county as shown in Table 7. Isabella County is the only county that has a net loss in earned income due to more of its workers taking their paychecks outside the county than its residents brought into the county. When considered in light of the region's education levels, it seems likely that a sizable number of CMU faculty and staff live outside the region.

Table 7
Net Commuting Income as a Share of Net Earnings

County	2001	2002	2003	2004	2005
Gratiot	12.5%	12.4%	13.7%	11.4%	11.0%
Ionia	37.4%	37.3%	36.1%	36.1%	36.3%
Isabella	-2.0%	-2.0%	-0.9%	-2.0%	-3.0%
Montcalm	17.0%	17.4%	16.4%	14.9%	15.7%

Source: BEA-REIS

Finally, economic developments in neighboring regions are of importance to the CAMWC region since local manufacturers, wholesalers, and service providers are often part of a larger regional supply chain. In short, when new jobs are created in larger neighboring metropolitan areas, the four-county area benefits not only from commuting opportunities for its residents, but also in the form of direct jobs at local companies that supply or service the firms in these faster growing, neighboring areas. Table 8 illustrates the supply-linkages between select major industries in the greater Grand Rapids and Lansing areas, with businesses in the CAMWC

region. So, for example, when 1,000 new jobs are created at a motor vehicle parts manufacturing plant in the Grand Rapids region⁵, an estimated 42 additional jobs will be generated in the CAMWC region. If the same event were to occur in the greater Lansing area⁶, the estimated impact would be even slightly larger still: 59 jobs.

Table 8
Employment Impact in CAMWC
of 1,000 Jobs in a Neighboring Region

Select Industry Sector	Metro Area	
	Grand Rapids	Lansing
Construction	13	18
Fab Metals	18	26
Elec. Equip & Appliances	31	47
Motor Vehicles	42	59
Food Mfg	22	36
Plastics	22	33
Prof & Tech Svcs	15	18
Administrative Support Svcs	7	8
Hospitals	14	21

Of course, the degree of impact varies across industries, depending on the unique local supplier linkages and number and complexity of the inputs required by the industry. Still, even hospitals—which produce health care primarily through human capital and not regionally-manufactured goods—generate a local employment spin-off. If 1,000 new hospital jobs are created in the greater Lansing area, we estimate that as a result 8 jobs or nearly 1 percent of the 1,000 new jobs will also be created in the CAMWC region. This is yet another indicator of the interconnectedness of the region; the neighboring urban areas are a source of jobs for commuters, as well as business sales (which ultimately translate into jobs) within the local community.

Additionally, the converse employment impact to that shown in the above table would be also expected to occur if a similar 1,000 job loss occurs in either of the neighboring regions. This should serve as a reminder that although the region may feel geographically isolated at times, its economic health is dependent on the well-being of companies located throughout a much larger region.

Summary of Current Economic Conditions

The Central Area Michigan Works region faces many of the same difficult economic conditions confronting the rest of the state of Michigan. Total employment levels have fallen since the economic peak in 2000, largely as a result of the regionally dominant manufacturing sector,

⁵ For the purposes of this specific analysis, the “Grand Rapids region” refers to the old metropolitan area boundaries, which include the counties of Allegan, Kent, Ottawa, and Muskegon. It would not be appropriate to use the current Grand Rapids MSA definition, since Ionia is included and would cause an overlap between the two regions and an overestimation of the impact effect.

⁶ The “Lansing area” still refers to the Lansing MSA: Clinton, Eaton, and Ingham counties.

which accounts for a large share of total employment and income. Not surprisingly, unemployment has increased during the same period as well, even though some areas of the region, such as Ionia County, have grown closer economic ties to neighboring urban areas.

The contributions of the local workforce to a future economic recovery appear to be mixed. On the plus side, the region's population has grown and the age distribution of potential workers is comparable to the nation's unlike many rural areas that are disproportionately skewed toward older workers and retirees. Additionally, the region is home to a major university (CMU) that attracts thousands of students from around the state and could serve as a source of workers with advanced skills training for regional employers.

Unfortunately, the skill set and educational level of the local labor pool is still highly skewed toward traditional roles in "old-line" manufacturing. The percentage of adults age 25 and older with a college degree is lower in the region than it is in Michigan or nationwide. More importantly, it appears that despite the presence of CMU, college-educated young adults are not remaining in the region after graduation, as demonstrated by the fact that the share of persons age 25 to 34 with at least a bachelor's degree is also much lower in the region than in Michigan or the nation. Indeed, even in Isabella County, where CMU is located, the share of college degree holders amongst the 25 to 34 year-olds is not significantly different from statewide or national rates.

Competitiveness and Emerging Industries

Regional competitiveness is supported by numerous factors including lower costs, innovation, entrepreneurship, a highly productive workforce, newer machines, efficient management, and/or an abundance of natural resources. Whatever the cause, the measure is clear; a regional firm or industry is competitive when it takes market share from its rivals.

In this section we examine the competitiveness of local industries that are heavily concentrated in the region. This second criteria is important for it suggests that the industries are part of the region's economic base. Economic base industries sell goods or services to customers outside the region, and by doing so generate new dollars that are then re-circulated through the region. This is the basis of the often-cited economic multiplier effect that is discussed in a following section of the report.

The standard measure used in identifying an industry's regional concentration is its location quotient (LQ), which is calculated as the ratio of industry's percentage of the regional workforce to the same industry's percentage of the national workforce. If a regional industry's LQ equals one, then its concentration in the region is the same as in the nation. Grocery stores, gas stations, and doctor offices are activities that are available most everywhere and thus have a location quotient of around 1. If the industry's LQ is 1.5 or higher, then it means that it is, at least, 50 percent more concentrated in the region than nationally, and is likely to be apart of the region's economic base.

In the following analysis we use a highly-detailed, county-level, industrial employment base developed by economists at the University of Illinois. Based on the U.S. Department of Commerce *County Business Patterns*, the database provides 1998 and 2005 employment estimates on the county level for industries at the 6-digit NAICS level.⁷ Most other databases rarely get below the 3-digit level of detail. Of course, the database is vulnerable to errors at this level of detailed estimation; still, it can offer a richness of detail that is very informative.

In brief, this analysis shows that the economic base of the CAMWC region is highly diversified. We first examine all NAICS 6-digit industries that were presented in one or more of the CAMWC counties from 1998 and 2005, and that had a LQ of greater than 1.5 in 2005. There were an estimated 340 such industries in the four counties. It should be noted that an industry can be counted four times if it has a LQ greater than 1.5 in each of the four counties. This finding itself illustrates the richness of the four-county economic base.

The second step in the analysis was to identify among these industries those that were more competitive than their national rivals. In other words, we selected only those industries whose percentage employment growth in the county was greater than that of industry's national performance during the 1998 and 2005 period.

⁷ NAICS is the North American Industrial Classification System and has replaced the Standard Industrial Classification system (SIC).

Table 9 Highly Competitive Industries that are Concentrated in the CAMWC Region

County	Industry	Employment		Location Quotient	Pct. Change 1998 to 2005		
		1998	2005		County	U.S.	Difference
Gratiot	Motor Vehicle Body and Trailer Manufacturing	6	190	13.1	3067%	36%	3031%
Gratiot	Community Care Facilities for the Elderly	25	477	5.5	1808%	45%	1763%
Montcalm	Warehousing and Storage	7	107	1.9	1429%	222%	1206%
Ionia	Sawmills and Wood Preservation	7	78	11.1	1014%	-9%	1023%
Ionia	Residential Mental Retardation, Mental Health and Substance Abuse Facilities	15	169	5.1	1027%	47%	980%
Isabella	Services to Buildings and Dwellings	66	495	1.7	650%	11%	639%
Isabella	Industrial Machinery Manufacturing	79	598	8.1	657%	35%	622%
Isabella	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	192	1,191	8.2	520%	19%	502%
Montcalm	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	55	292	6.5	431%	-4%	435%
Gratiot	Accounting, Tax Preparation, Bookkeeping, and Payroll Services	37	204	1.9	451%	19%	433%
Gratiot	Support Activities for Air Transportation	14	78	6.2	457%	33%	424%
Gratiot	Motion Picture and Video Industries	24	124	4.3	417%	0%	417%
Montcalm	Waste Collection	56	287	19.9	413%	14%	398%
Montcalm	Specialized Freight Trucking	38	175	3.6	361%	11%	349%
Montcalm	Cement and Concrete Product Manufacturing	12	50	1.8	317%	30%	287%
Ionia	Electronics and Appliance Stores	15	57	1.9	280%	29%	251%
Isabella	Special Food Services	53	187	3.0	253%	22%	231%
Montcalm	Outpatient Care Centers	26	82	1.5	215%	22%	194%
Montcalm	RV (Recreational Vehicle) Parks and Recreational Camps	7	21	2.4	200%	24%	176%
Isabella	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	325	783	46.8	141%	-13%	154%
Gratiot	Electric Power Generation, Transmission and Distribution	78	176	4.1	126%	-6%	131%
Ionia	Death Care Services	20	41	3.7	105%	-18%	123%
Gratiot	General Rental Centers	7	14	4.7	100%	-11%	111%
Gratiot	Animal Food Manufacturing	7	14	3.5	100%	-9%	109%
Ionia	Other Food Manufacturing	106	122	12.8	15%	-86%	101%
Isabella	Employment Services	736	1,280	3.0	74%	-22%	96%
Ionia	Other Miscellaneous Store Retailers	30	41	2.2	37%	-53%	89%
Isabella	Direct Selling Establishments	45	104	3.0	131%	42%	89%
Ionia	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	30	54	1.7	80%	-4%	84%
Montcalm	Health and Personal Care Stores	75	148	1.5	97%	15%	82%
Gratiot	Metalworking Machinery Manufacturing	165	234	16.1	42%	-36%	78%
Montcalm	General Medical and Surgical Hospitals	726	1,341	3.3	85%	7%	78%
Isabella	Residential Mental Retardation, Mental Health and Substance Abuse Facilities	220	481	7.6	119%	47%	72%
Isabella	Beer, Wine, and Liquor Stores	37	66	4.3	78%	7%	71%
Isabella	Traveler Accommodation	339	601	2.3	77%	9%	69%
Isabella	Full-Service Restaurants	729	1,356	2.8	86%	18%	68%
Ionia	Management of Companies and Enterprises	212	366	2.2	73%	5%	67%
Isabella	Electronics and Appliance Stores	125	243	4.2	94%	29%	65%
Gratiot	Office Administrative Services	59	109	2.8	85%	22%	63%
Montcalm	Residential Mental Retardation, Mental Health and Substance Abuse Facilities	35	73	1.6	109%	47%	62%
Montcalm	Florists	16	23	2.7	44%	-17%	61%
Ionia	Nonferrous Metal (except Aluminum) Production and Processing	200	237	66.3	19%	-39%	57%
Montcalm	Metalworking Machinery Manufacturing	347	415	28.7	20%	-36%	56%
Isabella	Furniture Stores	37	59	1.9	59%	5%	55%
Ionia	Nonresidential Building Construction	52	70	1.7	35%	-13%	47%
Montcalm	Foundries	27	32	2.3	19%	-28%	47%
Isabella	Logging	23	29	4.1	26%	-20%	46%
Ionia	Specialty Food Stores	23	32	2.2	39%	-6%	45%
Isabella	Jewelry, Luggage, and Leather Goods Stores	27	41	2.1	52%	7%	45%
Ionia	Personal Care Services	44	72	2.0	64%	19%	45%
Isabella	Residential Building Construction	98	163	1.6	66%	23%	43%
Isabella	Home Health Care Services	122	176	1.7	44%	2%	43%
Ionia	Florists	35	42	7.0	20%	-17%	37%
Montcalm	Building Material and Supplies Dealers	150	190	1.7	27%	-9%	36%
Ionia	Residential Building Construction	98	153	2.8	56%	23%	33%
Isabella	Civic and Social Organizations	64	88	2.4	38%	5%	33%
Montcalm	Natural Gas Distribution	27	29	4.6	7%	-23%	30%
Isabella	Sawmills and Wood Preservation	38	46	3.4	21%	-9%	30%
Gratiot	Foundries	180	176	12.7	-2%	-28%	26%
Gratiot	Ship and Boat Building	111	137	11.6	23%	0%	24%
Isabella	Florists	29	30	2.6	3%	-17%	21%
Montcalm	Elementary and Secondary Schools	74	103	1.6	39%	19%	20%
Isabella	Building Material and Supplies Dealers	281	306	2.0	9%	-9%	18%
Montcalm	Religious Organizations	215	275	2.0	28%	11%	16%
Ionia	Offices of Dentists	119	160	3.4	34%	19%	16%
Ionia	Other Professional, Scientific, and Technical Services	44	63	1.5	43%	30%	13%
Ionia	Forging and Stamping	44	37	4.5	-16%	-29%	13%
Gratiot	Automotive Parts, Accessories, and Tire Stores	88	96	2.1	9%	0%	9%
Isabella	Lawn and Garden Equipment and Supplies Stores	39	43	2.0	10%	3%	7%
Isabella	Sporting Goods, Hobby, and Musical Instrument Stores	105	125	2.6	19%	14%	6%

The analysis identified 59 unique industries in the four-county area that had achieved stronger-than-average employment growth and which were highly concentrated in the CAMWC region. They are listed in Table 9. Of course, it is possible that not all of these industries are a part of the region's economic base; however, the findings do suggest that the region's economic base is much more diverse than most would believe.

In Table 10, we focus on the region's manufacturing base. The analysis identifies 10 unique, highly-competitive manufacturing industries that are concentrated in the region. The most competitive sector in the region is the manufacturing of motor vehicle bodies in Gratiot County. This industry sector increased its employment by more than 3000 percent from 1998 to 2005 in the county and had a LQ in 2005 of 13.1.

Table 10 Highly Competitive Manufacturing Sectors in the CAMWC region

County	Industry	Employment		Location Quotient	Percent Change		
		1998	2005		County	Nation	Difference
Gratiot	Motor Vehicle Body and Trailer Manufacturing	6	190	13.1	3067%	36%	3031%
Ionia	Sawmills and Wood Preservation	7	78	11.1	1014%	-9%	1023%
Montcalm	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	55	292	6.5	431%	-4%	435%
Montcalm	Cement and Concrete Product Manufacturing	12	50	1.8	317%	30%	287%
Isabella	Ventilation, Heating, Air-Conditioning, and Commercial Refrigeration Equipment Manufacturing	325	783	46.8	141%	-13%	154%
Gratiot	Animal Food Manufacturing	7	14	3.5	100%	-9%	109%
Ionia	Machine Shops; Turned Product; and Screw, Nut, and Bolt Manufacturing	30	54	1.7	80%	-4%	84%
Gratiot	Metalworking Machinery Manufacturing	165	234	16.1	42%	-36%	78%
Montcalm	Metalworking Machinery Manufacturing	347	415	28.7	20%	-36%	56%
Montcalm	Foundries	27	32	2.3	19%	-28%	47%
Isabella	Logging	23	29	4.1	26%	-20%	46%
Gratiot	Foundries	180	176	12.7	-2%	-28%	26%

Unfortunately, the database ends in 2005. Since then, the region's economic base has changed substantially. For example it now includes United Solar Ovonic, which did not exist in 2005. Still, the analysis clearly shows that the region's economic base is highly competitive in a wide range of activities both in manufacturing and in the provision of services.

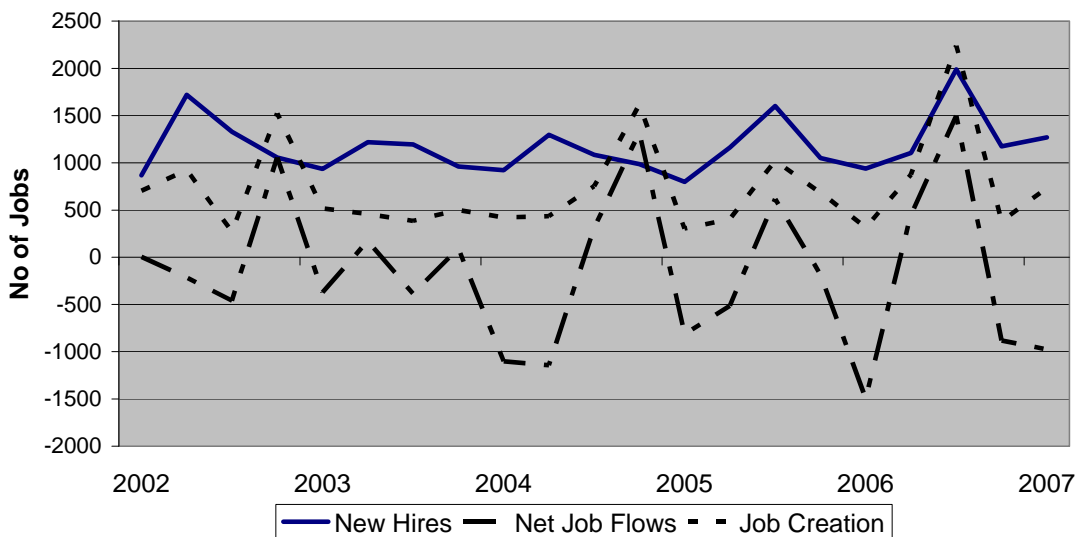
Labor Market Dynamics

The previous analysis is inadequate, however, in examining the labor market dynamics in the CAMWC region. It only captures employment openings due to growth. Jobs are also created because of the need to replace retiring workers or individuals who have moved on to different industrial settings. It is possible that a firm may be hiring workers while its overall workforce is shrinking, as it replaces some of the number of workers leaving the firm. In addition, one firm can be creating jobs at the same time that a rival firm in the same industry is laying off workers. The often reported net job flow—the change in the number of jobs from one time period to the next—hides the high level of labor market churning that can take place.

For workforce developers, job openings that arise due to former workers leaving firms are just as important as job openings that come from employment growth. Moreover, as shown in an upcoming section of the report, for many industries, job openings due to replacements are expected to substantially outnumber those created by growth in the coming years.

Chart 7 shows the quarterly number of jobs created, new hires, and net job change in the CAMWC manufacturing sector from the first quarter of 2002 to the first quarter of 2007. The source of these data is from a recently-released, establishment-level database developed by the Bureau of Labor Statistics and the U.S. Census. The quarterly net job change numbers are the ones most often reported and show that during this period, manufacturers lost jobs. In fact, according to this database, manufacturers lost 3,000 jobs. During this same period, more than 15,000 jobs were created by manufacturers in the area. Of course, some of these jobs were short-lived and were offset by job layoffs at other manufacturers in the region.

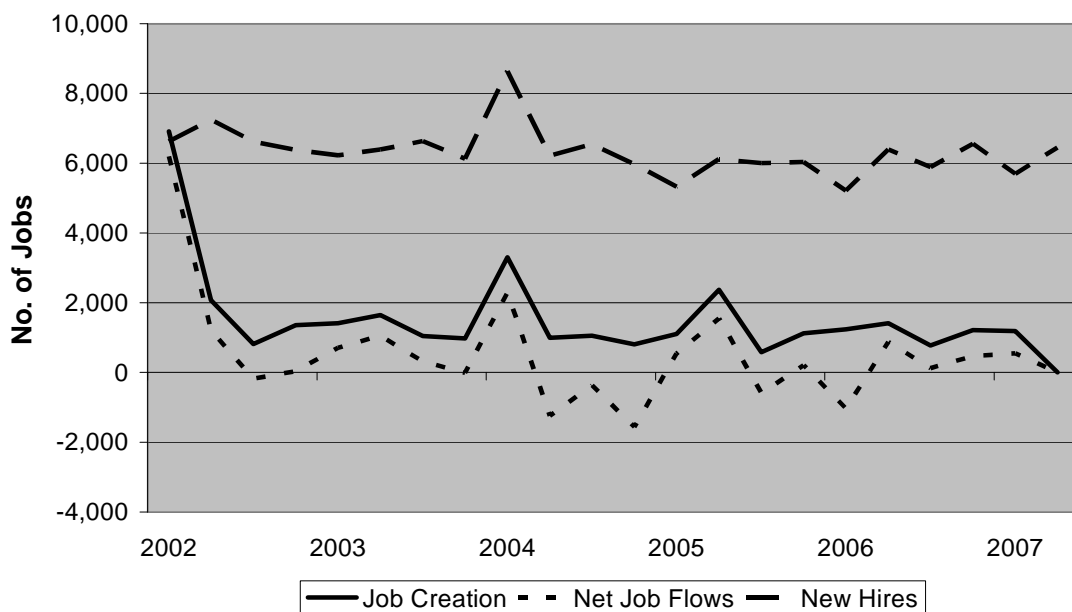
**Chart 7: Manufacturing Employment
Hires, Creation and Net Change
Number of Jobs**



Finally, the number of new hires counts the number of workers hired who had not been working for the same manufacturer for the past four quarters. This is largest and most stable data series on the chart for it includes new hires due to growth (job creation) and due to replacement. Each quarter, on average, more than 1,000 workers were hired by the region’s manufacturing sector. Not bad for an industry that many think is dying.

Of course a similar but more robust pattern of employment openings is shown in the region’s health care field as well as shown in Chart 8. The number of new hires, quarterly, remains steady at approximately 6,000 jobs which show a high level of turnover in the industry as the number of new hires each quarter is far greater than the job openings created through expansions.

Chart 8: New Hires, Job Creation and Net Flows in Health Care



Age Profile of the Region’s Workforce

Data from the U.S. Census Bureau provide a detailed, age profile of the CAMWC workforce. Tables 11 and 12 show the industrial distribution of the region’s workers by age group. What is clearly shown is that there are striking differences regarding the age profile of alternative industries. Accommodation, food service, and retail trade sectors employ nearly 50 percent of all of the region’s younger workers (under 25 years of age). Health care is the major employer of the region’s workers between 25 to 44 years of age, followed by retail trade and manufacturing. Manufacturing is the largest employer of the region’s middle-aged workers, 45 to 54 years. Manufacturing and health care are the major employers of the region’s 55 to 64 year olds. Finally, workers over the age of 65 work for retailers and health care providers.

	14-18	19-24	25-34	35-44	45-54	55-64	65 & over	Total
All NAICS Sectors	5,258	24,567	35,117	35,965	35,944	19,095	4,360	160,306
Percent of total workforce	3%	15%	22%	22%	22%	12%	3%	100%
Agriculture, Forestry, Fishing and Hunting	NA	NA	196	162	187	143	NA	688
Construction	NA	883	1,978	2,310	1,711	652	162	7,696
Manufacturing	132	1,282	3,631	5,017	6,928	3,216	531	20,737
Wholesale Trade	NA	507	1,166	1,479	1,394	682	146	5,374
Retail Trade	1,185	5,580	4,890	4,520	4,441	2,632	884	24,132
Transportation and Warehousing	114	717	1,070	1,410	1,589	863	208	5,971
Information	NA	366	751	561	514	238	118	2,548
Finance and Insurance	NA	875	2,785	3,249	3,022	1,567	181	11,679
Real Estate and Rental and Leasing	NA	642	900	755	704	434	216	3,651
Professional, Scientific Services	NA	866	2,419	2,192	1,977	1,230	216	8,900
Management of Companies and Enterprises	NA	117	512	541	287	138	NA	1,595
Administrative Services	186	1,964	2,597	2,148	1,833	989	287	10,004
Educational Services	NA	306	861	663	702	498	NA	3,030
Health Care and Social Assistance	241	2,422	5,739	6,469	6,744	3,502	568	25,685
Arts, Entertainment, and Recreation	283	693	478	412	370	221	NA	2,457
Accommodation and Food Services	2,309	5,788	3,419	2,088	1,409	652	217	15,882
Other Services (except Public Administration)	204	1,280	1,665	1,890	2,031	1,375	397	8,842

Source: U.S. Census Bureau, Local Employment Dynamics

These tables provide supporting evidence that the number of job openings in manufacturing could increase dramatically in the next 20 years due to retirements. Moreover, with many of the region's younger workers starting careers outside of manufacturing, it is unclear where these manufacturing replacement workers will come from. If the job openings expected to occur in manufacturing in the coming years are to be filled by local residents, the area's young adults will have to be lured away from other industries and likely be in need of some retraining. It may be a challenge for many individuals to accept the change from the social, people-focused environment of food services, retail trade or health care to a less social manufacturing environment. Demanding and physical challenging jobs can be found in food services (dishwashing), health care (movement of patients) and accommodations (room cleaning); nevertheless, a factory work environment can be very noisy and the pace of work can be more demanding and automated.

	14-18	19-24	25-34	35-44	45-54	55-64	65 & over	Total
All NAICS Sectors	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Agriculture, Forestry, Fishing and Hunting	NA	NA	0.6%	0.5%	0.5%	0.7%	NA	NA
Construction	NA	3.6%	5.6%	6.4%	4.8%	3.4%	3.7%	4.8%
Manufacturing	2.5%	5.2%	10.3%	13.9%	19.3%	16.8%	12.2%	12.9%
Wholesale Trade	NA	2.1%	3.3%	4.1%	3.9%	3.6%	3.3%	3.4%
Retail Trade	22.5%	22.7%	13.9%	12.6%	12.4%	13.8%	20.3%	15.1%
Transportation and Warehousing	2.2%	2.9%	3.0%	3.9%	4.4%	4.5%	4.8%	3.7%
Information	NA	1.5%	2.1%	1.6%	1.4%	1.2%	2.7%	1.6%
Finance and Insurance	NA	3.6%	7.9%	9.0%	8.4%	8.2%	4.2%	7.3%
Real Estate and Rental and Leasing	NA	2.6%	2.6%	2.1%	2.0%	2.3%	5.0%	2.3%
Professional, Scientific Services	NA	3.5%	6.9%	6.1%	5.5%	6.4%	5.0%	5.6%
Management of Companies and Enterprises	NA	0.5%	1.5%	1.5%	0.8%	0.7%	NA	1.0%
Administrative Services	3.5%	8.0%	7.4%	6.0%	5.1%	5.2%	6.6%	6.2%
Educational Services	NA	1.2%	2.5%	1.8%	2.0%	2.6%	NA	1.9%
Health Care and Social Assistance	4.6%	9.9%	16.3%	18.0%	18.8%	18.3%	13.0%	16.0%
Arts, Entertainment, and Recreation	5.4%	2.8%	1.4%	1.1%	1.0%	1.2%	NA	1.5%
Accommodation and Food Services	43.9%	23.6%	9.7%	5.8%	3.9%	3.4%	5.0%	9.9%
Other Services (except Public Administration)	3.9%	5.2%	4.7%	5.3%	5.7%	7.2%	9.1%	5.5%

Source: U.S. Census Bureau, Local Employment Dynamics

Earnings by Industry

Industry earnings are highly influenced by the level of education required. It is no surprise, therefore, that Management of Companies ranks the highest among the region's industries both in average monthly earnings and average earnings of new hires. Management positions often require advanced degrees, such as a MBA, as well as years of previous experience. At the other end of the spectrum, earnings in accommodation and food services are low, in part, because minimal training is required for many positions.

Of course, the average monthly earnings of tenured workers are significantly higher than the earnings for new hires across all industries except in mining. However, the ratio varies greatly between industries. As shown in Table 13, there is a 41 percent difference between entry earnings and average earnings in the Management of companies which reflects the growth potential of many managerial positions. At the same time, there is only 25 percent difference between the average wages and a new hire in accommodation and food services, suggesting that many positions in the sector hold little growth potential.

Table 13 Earning by Industry in the Central Area Michigan Works Region

	Avg Monthly Earnings	Avg New Hire Earnings	Ratio Average Earning/ New Hire Earnings	Ranking	
				Avg. Monthly Earnings	Avg New Hire Earnings
Management of Companies and Enterprises	\$9,960	\$7,041	1.41	1	1
Finance and Insurance	\$5,649	\$4,158	1.36	2	2
Manufacturing	\$4,982	\$2,777	1.79	3	8
Utilities	\$4,873	\$3,643	1.34	4	3
Professional, Scientific Services	\$4,540	\$2,974	1.53	5	7
Wholesale Trade	\$4,366	\$3,159	1.38	6	5
Public Administration	\$4,147	\$2,576	1.61	7	9
Construction	\$3,915	\$3,023	1.30	8	6
Information	\$3,639	\$2,220	1.64	9	10
Educational Services (exclude public)	\$3,521	\$1,204	2.92	10	16
Mining	\$3,395	\$3,433	0.99	11	4
Other Services	\$2,773	\$1,450	1.91	12	15
Transportation and Warehousing	\$2,765	\$1,895	1.46	13	11
Real Estate and Rental and Leasing	\$2,430	\$1,872	1.30	14	12
Agriculture, Forestry, Fishing and Hunting	\$2,325	\$1,559	1.49	15	13
Administrative Services	\$2,177	\$1,470	1.48	16	14
Retail Trade	\$1,973	\$1,094	1.80	17	17
Arts, Entertainment, and Recreation	\$1,717	\$779	2.20	18	20
Health Care and Social Assistance	\$1,716	\$942	1.82	19	18
Accommodation and Food Services	\$1,098	\$877	1.25	20	19

Source: U.S. Census, QWI, First Quarter 2007

Manufacturing holds one of the larger discrepancies between average earnings and the earnings of new hires. It ranks third in terms of average monthly earnings, but eighth in terms of earnings for new hires. Global pricing pressures have forced many manufacturers to adopt a formal or informal two-tier wage earning structure where new hires are put on a less generous wage and benefit plan.⁸ Given the demanding environment of factory work and the level of employment

⁸ These data do not address manufacturers who hire through employment service agencies. In some instances, a new hire may work as a "temp" for several months at a lower wage before he or she is hired by the manufacturer.

uncertainty due to harsh global competitive pressure, the added deterrence of low entry wages may be sufficient to stop young workers from exploring careers in manufacturing.

Occupational Outlook

Although total aggregate employment growth is expected to be, at best, modest in the Central Area Michigan Works region during the next few years, it is important to realize that the demand for workers by local employers will be much higher. This is the result of both shifts in the types of occupations needed to fulfill the requirements of the region's shifting industry mix, as well as the demand for replacement workers to fill positions vacated by individuals who are either retiring or moving on to jobs elsewhere. Even in industries that are declining in size, such as manufacturing, there will continue to be a demand for new workers, since retirements and other job-exits are expected to far exceed job losses associated with business closings or downsizings. Additionally, as the nature of the firms and industries continues to shift in terms of how their products and services are produced, there will be an increase in demand for new types of workers who might not formerly have been associated with a given industry. In short, workforce developers, job training facilities, and educational institutions will still have a big job to do in the future, even if total local employment levels do not actually increase.

Major Category Occupational Demand and Wages

Table 14 summarizes the occupational job forecast⁹ for the CAMWC region between 2004 and 2014. During the 10-year period, total aggregate employment across all industries¹⁰ is expected to increase by 6,444 jobs, a 6.8 percent rate of growth. However, the number of new workers needed each year in the region is much higher; on average, the Michigan Department of Labor and Economic Growth (MDLEG) forecasts that 3,216 positions will need to be filled each year. Of these openings, approximately 921 are expected to occur each year as a result of new positions created by firms opening or expanding, while the remaining 2,295 annual openings will be associated with replacing workers who retire or otherwise exit the position.

Not surprisingly, there is substantial variation in the rate of overall growth and the number of annual openings expected in the different occupational categories. For example, occupations concentrated in industries such as health care, which are both large in size and facing high demand growth, are forecast to offer a large number of job opportunities through both newly created positions and replacement openings. However, occupations that are clustered in growing tech industries may be expanding rapidly, but yet offer few job opportunities in the near future as a result of both the small size and relative newness of the occupational category.

⁹ The occupational forecasts presented in this section refer to projections created by the Michigan Department of Labor and Economic Growth (MDLEG) for the period from 2004 to 2014.

¹⁰ The occupational employment data produced by MDLEG differs from other employment estimates in that it includes self-employed individuals and farm employment, as well as standard public and private firm jobs.

Table 14

CAMWC Region Employment Forecast and Average Wages by Major Occupational Category

Occupation Title	Overall Employment Level				Annual Openings			2006 Average Wage	
	2004	2014	Change	%	Growth	Replacement	Total	Salary	Hourly
Total	94,669	101,113	6,444	6.8	921	2,295	3,216	n.a.	n.a.
Management	7,255	7,655	400	5.5	50	99	149	77,670	37.34
Business and Financial Operations	2,524	2,803	279	11.1	28	46	74	52,940	25.45
Computer and Mathematical	716	834	118	16.5	13	9	22	53,400	25.67
Architecture and Engineering	998	1,196	198	19.8	23	24	47	55,150	26.51
Life, Physical, and Social Science	434	465	31	7.1	4	10	14	54,800	26.35
Community and Social Services	901	1,005	104	11.5	10	17	27	41,150	19.78
Legal	219	252	33	15.1	3	3	6	72,840	35.02
Education, Training, and Library	7,779	8,975	1,196	15.4	120	166	286	45,170	21.72
Arts, Design, Entertainment, Sports, and Media	766	842	76	9.9	8	13	21	33,210	15.97
Healthcare Practitioners and Technical	4,011	4,582	571	14.2	58	76	134	54,950	26.42
Healthcare Support	2,471	2,915	444	18.0	44	38	82	24,220	11.64
Protective Service	3,333	3,419	86	2.6	13	81	94	36,660	17.63
Food Preparation and Serving Related	7,948	9,076	1,128	14.2	113	301	414	16,640	8.00
Building and Grounds Cleaning and Maintenance	3,473	3,990	517	14.9	52	70	122	23,340	11.22
Personal Care and Service	4,543	5,168	625	13.8	63	111	174	20,980	10.09
Sales and Related	9,035	9,902	867	9.6	90	325	415	28,430	13.67
Office and Administrative Support	11,439	11,539	100	0.9	52	279	331	28,220	13.57
Farming, Fishing, and Forestry	2,520	2,465	-55	-2.2	1	70	71	22,490	10.81
Construction and Extraction	3,814	4,273	459	12.0	48	74	122	37,680	18.11
Installation, Maintenance, and Repair	3,528	3,792	264	7.5	35	82	117	36,890	17.73
Production	11,796	10,425	-1,371	-11.6	45	299	344	30,720	14.77
Transportation and Material Moving	5,166	5,540	374	7.2	48	107	155	27,590	13.26

Source: MDLEG.

Demand may also be high within occupational categories that are concentrated in stagnant or declining industries and which are themselves predicted to shrink in overall size as a profession. This is especially true with production occupations which are exclusively tied to manufacturing activity. The 2004-2014 forecast indicates that while the total number of production occupations in the CAMWC region is projected to decline by 1,371 positions over the period, the number of opportunities in terms of openings is expected to be 344 jobs *per year*. Other large, but low- or zero-growth occupational groupings include management and office and administrative support. Both the occupational groupings will offer a substantial number of annual openings—149 and 331, respectively—despite below-average total growth; additionally, these types of professions are found across a large number of industries (manufacturing, professional services, government, health care, etc.)

Although occupations that are experiencing rapid growth or that are associated with growing industries tend to get much of the attention, the data indicate that career opportunities can be surprisingly favorable in low-growth or declining fields. Conversely, many occupational fields that are expected to add a large number of new jobs between 2004 and 2014 do not necessarily offer high wages or strong advancement opportunities. As Table 15 illustrates, many of the occupations that offer high wages are not necessarily growing quickly in terms of their absolute size. For example, management occupations offer higher salaries, on average, than any other major category but are forecast to grow in total number by only 5.5 percent between 2004 and 2014. Conversely, the lowest-paying occupational category, food preparation and serving, is one of the fastest growing and is expected to provide 414 openings per year.

Table 15
CAMWC Region Major Occupational Category Wages

Occupation Title	2006 Average Wage	
	Salary	Hourly
Management	77,670	37.34
Business and Financial Operations	52,940	25.45
Computer and Mathematical	53,400	25.67
Architecture and Engineering	55,150	26.51
Life, Physical, and Social Science	54,800	26.35
Community and Social Services	41,150	19.78
Legal	72,840	35.02
Education, Training, and Library	45,170	21.72
Arts, Design, Entertainment, Sports, and Media	33,210	15.97
Healthcare Practitioners and Technical	54,950	26.42
Healthcare Support	24,220	11.64
Protective Service	36,660	17.63
Food Preparation and Serving Related	16,640	8.00
Building and Grounds Cleaning and Maintenance	23,340	11.22
Personal Care and Service	20,980	10.09
Sales and Related	28,430	13.67
Office and Administrative Support	28,220	13.57
Farming, Fishing, and Forestry	22,490	10.81
Construction and Extraction	37,680	18.11
Installation, Maintenance, and Repair	36,890	17.73
Production	30,720	14.77
Transportation and Material Moving	27,590	13.26

Source: MDLEG. Wages are estimates for balance of non-metro lower peninsula.

Detailed Occupation Growth and Openings

Table 16 shows the occupations in the CAMWC region that are forecast to grow by at least 20 percent—or roughly three times the total projected regional increase—in total employment between 2004 and 2014. Most of the occupations that are projected to experience the fastest rate of growth tend to be high-tech, require specific skills, and pay above-average wages. Those few high-growth occupations that do not require college education or other specific training credentials are mostly at the other end of the spectrum—that is to say occupations such as fast food cook, food servers, and fitness trainers have few requirements but offer average wages that are substantially below the average and offer little opportunity for advancement or additional skill development. This reflects an economic dichotomy that is occurring nationwide, where job growth is occurring primarily in the service sector, which tends to be split between very high-skill and high-tech jobs or basic service and entry-level positions.

Unfortunately, just because the occupations listed in Table 16 are forecast to increase their total employment presence at a rapid pace, this does not mean that these occupations will generate a large number of job openings in the CAMWC region. Fewer than 10 annual openings are anticipated for most of the high-growth occupations, particularly those requiring high-tech skills or paying high wages. The few fast-growing occupations that are expected to offer a substantial number of openings on an annual basis are predominantly in entry-level, low-wage occupations such as food preparation and service, counter and rental clerks, and fast food cooks.

This situation can create a dilemma for both job seekers and workforce development planners. Certainly, occupations that are growing quickly and offer high wages are highly desirable to job seekers, who tend to be concerned about both the level and stability of future income associated with a career choice. Additionally, those involved in education and job training also want to ensure that companies experiencing rapid-growth are accommodated with the necessary workforce to fulfill current and future needs. However, the small absolute number of openings in the region makes these occupations unfeasible for workforce developers to concentrate on. Qualified job seekers are likely to prefer their odds of finding work in a larger urban environment that offers a greater absolute number of job openings. For these high-tech or high-skill positions, the region's linkages with Grand Rapids and Lansing may be helpful.

Occupations with Fastest Total Employment Level Growth 2004-2014

Table 16

Occupation Title	Overall Employment Level				Annual Openings			2006 Average Wage	
	2004	2014	Change	%	Growth	Replacement	Total	Salary	Hourly
Electrical and Electronic Equipment Assemblers	32	175	143	446.9	14	1	15	25,980	12.49
Computer Software Engineers, Applications	23	32	9	39.1	1	0	1	72,780	34.99
Network Systems and Data Communications Analysts	62	86	24	38.7	2	1	3	48,620	23.38
Database Administrators	28	38	10	35.7	1	0	1	59,540	28.63
Network and Computer Systems Administrators	99	133	34	34.3	3	1	4	50,610	24.33
Medical Assistants	260	342	82	31.5	8	5	13	23,490	11.29
Fitness Trainers and Aerobics Instructors	128	168	40	31.3	4	3	7	19,550	9.40
Social and Human Service Assistants	97	126	29	29.9	3	2	5	26,940	12.95
Physical Therapist Assistants	43	55	12	27.9	1	1	2	39,750	19.11
Counter and Rental Clerks	380	483	103	27.1	10	15	25	23,740	11.41
Paralegals and Legal Assistants	56	71	15	26.8	2	0	2	43,400	20.86
Social and Community Service Managers	73	91	18	24.7	2	1	3	46,740	22.47
Cost Estimators	94	117	23	24.5	2	2	4	60,560	29.12
Computer and Information Systems Managers	82	102	20	24.4	2	2	4	74,120	35.64
Physical Therapists	74	92	18	24.3	2	1	3	63,100	30.34
Personal Financial Advisors	38	47	9	23.7	1	1	2	95,220	45.78
Special Education Teachers, Preschool, Kindergarten, and Ele	187	231	44	23.5	4	5	9	49,780	
Preschool Teachers, Except Special Education	156	192	36	23.1	4	2	6	34,520	16.60
Community and Social Service Specialists, All Other	49	60	11	22.4	1	1	2	41,020	19.72
Budget Analysts	18	22	4	22.2	0	0	0		
Customer Service Representatives	650	793	143	22.0	14	10	24	28,810	13.85
Nursing Instructors and Teachers, Postsecondary	88	107	19	21.6	2	2	4	58,690	
Computer Systems Analysts	85	103	18	21.2	2	1	3	57,340	27.57
Cooks, Fast Food	686	830	144	21.0	14	21	35	14,670	7.05
Food Preparation and Serving Workers	1030	1244	214	20.8	21	45	66	15,990	7.69
Operating Engineers & Other Construction Equipment Operators	249	299	50	20.1	5	6	11	38,510	18.51

The occupations offering the greatest number of job opportunities in the CAMWC region are those that are projected to have an above-average¹¹ number of annual job openings between 2004 and 2014. As shown in Table 17, many of the occupations that are actually projected to need the greatest number of workers during the 10-year period are not necessarily high-growth, but are instead occupations that are both well represented locally and expected to experience significant rates of turnover and retirement in the near future. For example, cashiers represent an extremely common occupation in the region—and one that is most likely subject to above-average rates of exit. Even though the overall rate of growth is expected to be below average, job opportunities for cashiers are expected to remain robust in the region.

While it may appear that many of the occupations that offer numerous job openings pay mediocre wages, there are opportunities in large, established occupational fields as well. Perhaps the occupation that has gotten the most attention recently is that of nursing, which is not only expanding, but also facing an increasing wave of retirements nationwide. It is forecast that there will be 52 job openings per year for registered nurses, with an average salary in excess of \$52,000. Other occupations offering high average salaries and numerous annual openings include elementary and secondary school teachers, accountants and auditors, general and operations managers, and first-line supervisors of production workers.

Some of the occupations offering the most annual openings are actually even forecast to decline in terms of total employment. For example, despite projected declines in terms of total employment levels, the occupations of stock clerk and order filler, team assembler, and secretary are expected to post average annual openings of 39, 36, and 25, respectively, in the region between 2004 and 2014. This will occur as workers retire from or otherwise leave these professions at a significantly faster rate than overall employment losses from downsizing. Even though the field itself is slowly shrinking, these occupations may offer better opportunities to workers with only a high school diploma, since they pay slightly better average wages than many of the easy-entry, high-growth occupations associated with retail and food service.

Generally speaking, the most in-demand occupations are at opposite ends of the job market spectrum—they are either low-wage service occupations, or high-tech, high-wage occupations that typically require a college degree to gain entry. Conversely, many of the occupations that offer average wages to workers with more moderate credentials—such as some on-the-job experience or specific skills training, but not a full college degree—are in occupations that either offer limited opportunities in terms of annual openings, or appear high risk due to their association with a declining or unstable industry such as manufacturing. For workforce developers, the challenge will be to provide the training and direction necessary to allow workers to find the most beneficial occupational fit without oversupplying the “hot” growth fields or ignoring the hidden potential of more traditional occupations.

¹¹ The average number of total annual job openings for a detailed occupation in the CAMWC region, according to MDLEG 2004-2014 forecast, is 10. Table 17 shows all occupations projected to have at least 20 annual openings, or double the cross-occupation average rate of openings.

Table 17

Occupations with Largest Number of Projected Annual Openings

Occupation Title	Overall Employment Level				Annual Openings			2006 Average Wage	
	2004	2014	Change	%	Growth	Replacement	Total	Salary	Hourly
Cashiers	2,743	2,866	123	4.5	12	134	146	16,840	8.10
Retail Salespersons	2,666	3,047	381	14.3	38	97	135	22,230	10.69
Waiters and Waitresses	1,673	1,902	229	13.7	23	86	109	14,270	6.86
Combined Food Preparation and Serving Workers, Including Fas	1,030	1,244	214	20.8	21	45	66	15,990	7.69
Janitors and Cleaners, Except Maids and Housekeeping Cleaner	1,426	1,688	262	18.4	26	27	53	23,300	11.20
Registered Nurses	1,321	1,558	237	17.9	24	28	52	52,650	25.31
Food Preparation Workers	973	1,113	140	14.4	14	34	48	16,640	8.00
Correctional Officers and Jailers	1,870	1,933	63	3.4	6	39	45		
Office Clerks, General	1,750	1,797	47	2.7	5	39	44	24,960	12.00
Teacher Assistants	1,165	1,325	160	13.7	16	23	39	23,060	
Stock Clerks and Order Fillers	1,059	920	-139	-13.1	0	39	39	22,060	10.61
Laborers and Freight, Stock, and Material Movers, Hand	921	982	61	6.6	6	30	36	23,970	11.53
Team Assemblers	1,382	1,291	-91	-6.6	0	36	36	27,180	13.07
Cooks, Fast Food	686	830	144	21.0	14	21	35	14,670	7.05
Welders, Cutters, Solderers, and Brazers	849	950	101	11.9	10	24	34	30,850	14.83
Maids and Housekeeping Cleaners	1,076	1,151	75	7.0	8	23	31	19,410	9.33
Landscaping and Groundskeeping Workers	715	852	137	19.2	14	16	30	22,210	10.68
Cooks, Restaurant	661	750	89	13.5	9	21	30	17,010	8.18
Nursing Aides, Orderlies, and Attendants	1,249	1,379	130	10.4	13	16	29	23,490	11.30
Elementary School Teachers, Except Special Education	1,061	1,120	59	5.6	6	23	29	52,700	
Maintenance and Repair Workers, General	884	993	109	12.3	11	17	28	32,000	15.38
Tellers	410	475	65	15.9	7	20	27	20,540	9.88
Community and Social Services Occupations	901	1,005	104	11.5	10	17	27	41,150	19.78
First-Line Supervisors/Managers of Retail Sales Workers	1,069	1,149	80	7.5	8	19	27	34,560	16.62
Counter and Rental Clerks	380	483	103	27.1	10	15	25	23,740	11.41
Secretaries, Except Legal, Medical, and Executive	1,325	1,247	-78	-5.9	0	25	25	26,660	12.82
Customer Service Representatives	650	793	143	22.0	14	10	24	28,810	13.85
Accountants and Auditors	690	786	96	13.9	10	13	23	53,790	25.86
Carpenters	794	898	104	13.1	10	13	23	31,840	15.31
First-Line Supervisors/Managers of Food Preparation and Serv	610	685	75	12.3	8	15	23	25,290	12.16
Secondary School Teachers, Except Special and Vocational Edu	612	676	64	10.5	6	17	23	49,840	
Bookkeeping, Accounting, and Auditing Clerks	1,049	1,075	26	2.5	3	20	23	28,440	13.67
General and Operations Managers	727	810	83	11.4	8	14	22	85,990	41.34
First-Line Supervisors/Managers of Production and Operating	573	661	88	15.4	9	12	21	47,020	22.61
Truck Drivers, Light or Delivery Services	866	986	120	13.9	12	8	20	27,660	13.30
Truck Drivers, Heavy and Tractor-Trailer	725	806	81	11.2	8	12	20	34,430	16.56
Assemblers and Fabricators, All Other	742	750	8	1.1	1	19	20	33,810	16.26

Source: MDLEG.

Occupations Related to the Manufacturing Industry

The manufacturing sector represents a major part of the economy in the CAMWC region in terms of its employment and income impact. Unfortunately, total employment in the manufacturing industry sector has been declining in the region during recent years, as it has been throughout the nation as a whole. Indeed, most areas of Michigan have been especially hard hit as a result of the struggles of the Detroit-based automotive companies and their suppliers located throughout the rest of the state. However, the importance of the sector, as well as the opportunities that remain for occupations that are tied to the manufacturing sector should not be ignored. Even as it shrinks, the manufacturing sector remains a dominant source of employment in the region, as well as the primary source of economic-base dollars, since the CAMWC region lacks the kind of sophisticated service industry that has become an exporter of information, financing, and support services in some larger metropolitan areas.

Table 18 shows the employment levels, growth forecast, and number of openings expected to occur between 2004 and 2014 in the CAMWC region for occupations that are primarily found in the manufacturing industry. As mentioned previously, although a large increase in overall aggregate employment levels is not forecast in the manufacturing industry, there are still expected to be a significant number of job openings that will provide opportunities for workers in the local market. Indeed, nearly one-third of the occupations identified as being associated with the manufacturing sector are actually expected to shrink in size through 2014; however, the number of job openings still expected to occur and the average wages offered by these occupations—relative to other occupations that do not require extensive formal education or certification—means that these jobs can still be of great importance to the local economy. In total, about 9 percent of all regional openings are expected to be in occupations closely related to the manufacturing industry.

The greatest numbers of openings are expected in occupations that include team assembler, assemblers and fabricators, welders, and first-line supervisors of production workers. While occupations such as welding require some technical training, most openings in these occupational fields are accessible to a wide range of the region's workers—most of whom do not possess any level of college degree. Overall, this list of occupations tied to manufacturing offer a wide range of opportunities to workers at all education, experience, and skill levels. For example, occupations such as tool and die or mechanical drafter offer opportunity and wage-advancement for workers willing to gain long-term experience and undergo technical training or two-year college programs. Additionally, manufacturing-related occupations such as engineering and technical sales demand workers with bachelor's degrees and advanced levels of training and experience. In short, the mix of occupations demanded by the manufacturing sector is in some ways more varied than any other major industry sector in that there are opportunities at multiple skill levels. This situation provides a more accessible "career ladder" for workers who show aptitude and motivation to move beyond entry-level production positions and into other technical or supervisory occupations within the same industry or firm.

Projected Growth of Occupations Typically Found in the Manufacturing Industry

Occupation Title	Overall Employment Level				Annual Openings			2006 Average Wage	
	2004	2014	Change	%	Growth	Replacement	Total	Salary	Hourly
Total for Selected Manufacturing-related Occupations	9,825	10,099	274	2.8	60	233	293	34,494	16.59
Team Assemblers	1,382	1,291	-91	-6.6	0	36	36	27,180	13.07
Welders, Cutters, Solderers, and Brazers	849	950	101	11.9	10	24	34	30,850	14.83
First-Line Supervisors/Managers of Production	573	661	88	15.4	9	12	21	47,020	22.61
Assemblers and Fabricators, All Other	742	750	8	1.1	1	19	20	33,810	16.26
Sales Reps, Wholesale & Manufacturing, Non-technical	463	523	60	13.0	6	12	18	55,490	26.68
Packers and Packagers, Hand	527	589	62	11.8	6	10	16	18,130	8.72
Electrical and Electronic Equipment Assemblers	32	175	143	446.9	14	1	15	25,980	12.49
Machinists	523	541	18	3.4	2	12	14	32,890	15.81
Inspectors, Testers, Sorters, Samplers, and Weighers	585	555	-30	-5.1	0	13	13	30,470	14.65
Molding, Coremaking, Casting Machine Setters, Operators	490	484	-6	-1.2	0	12	12	26,100	12.55
Production Workers, All Other	425	414	-11	-2.6	0	10	10	27,180	13.07
Sales Reps, Wholesale & Manufacturing, Technica	180	213	33	18.3	3	5	8	75,140	36.13
Industrial Truck and Tractor Operators	444	381	-63	-14.2	0	8	8	30,070	14.46
Mechanical Engineers	177	195	18	10.2	2	5	7	54,890	26.39
Grinding, Lapping, Polishing, and Buffing Machine Tool	385	385	0	0.0	0	7	7	30,440	14.64
Production, Planning, and Expediting Clerks	187	196	9	4.8	1	5	6	37,830	18.19
Tool and Die Makers	269	239	-30	-11.2	0	6	6	40,170	19.31
Purchasing Agents, Except Wholesale, Retail, and Farm	159	171	12	7.5	1	4	5	50,120	24.10
Industrial Engineers	189	178	-11	-5.8	0	5	5	62,910	30.24
Industrial Machinery Mechanics	127	144	17	13.4	2	3	5	38,910	18.71
Shipping, Receiving, and Traffic Clerks	186	180	-6	-3.2	0	4	4	28,330	13.62
Plating and Coating Machine Setters, Operators	186	151	-35	-18.8	0	4	4		
Mechanical Drafters	85	90	5	5.9	1	2	3	43,150	20.74
Printing Machine Operators	87	92	5	5.7	1	2	3	29,600	14.23
Industrial Production Managers	71	76	5	7.0	1	1	2	81,730	39.30
Industrial Engineering Technicians	83	75	-8	-9.6	0	2	2	46,500	22.36
Forging Machine Setters, Operators, and Tenders	132	129	-3	-2.3	0	2	2	31,210	15.00
Grinding and Polishing Workers, Hand	62	63	1	1.6	0	2	2	25,740	12.38
Purchasing Managers	38	38	0	0.0	0	1	1	70,760	34.02
Rolling Machine Setters, Operators, and Tenders	23	26	3	13.0	0	1	1	30,690	14.76
Lathe and Turning Machine Tool Setters, Operators	72	60	-12	-16.7	0	1	1	32,730	15.74
Multiple Machine Tool Setters, Operators, and Tenders	27	24	-3	-11.1	0	1	1	29,950	14.40
Welding, Soldering, and Brazing Machine Operators	22	17	-5	-22.7	0	1	1	32,220	15.49
Transportation, Storage, and Distribution Managers	22	24	2	9.1	0	0	0	73,750	35.46
Mechanical Engineering Technicians	21	19	-2	-9.5	0	0	0	42,850	20.60

Source: MDLEG.

In addition to the occupations listed in Table 18, the manufacturing sector often demands workers from other general occupational sectors such as management, business and financial operations, computer and mathematical occupations, and office and administrative support. Although the proportion of openings in these occupations that will be demanded by firms in the manufacturing sector is unknown, it is clear that the overall number of positions that will need to be filled is higher than the 293 annual openings forecast in the 35 identified manufacturing-related occupations.

Unfortunately, despite some good news in terms of the absolute number of manufacturing-related occupational openings available in the future, filling these openings will not be a simple task of merely providing the right training or choosing the best way of advertising job opportunities. For one, although overall average wages in manufacturing-related occupations are still high relative to other occupations not requiring a college degree, our detailed industry analysis (see Table 13) shows that entry level salaries for new-hire positions are significantly less than prior wage levels in the manufacturing industry. Additionally, manufacturing companies that are adding jobs may have different technical and skill requirements than the firms that are reducing employment levels or closing altogether. This creates a situation where those already involved in manufacturing-related occupations lack the capabilities to fill the available openings, while young workers and individuals currently in occupations not related to manufacturing are less likely to be drawn to these opportunities, since entry-level wages are not necessarily that much higher than other positions.

Summary of Forecast Occupational Outlook

Total employment in the CAMWC region is forecast to grow at a relatively slow pace—6.8 percent—between 2004 and 2014 compared to the rest of Michigan, which is forecast to increase 7.7 percent during the period. This is primarily a factor of the occupations demanded by the region's unique mix of industries, which is skewed toward manufacturing and government activities and away from the economic-based service industries that have experienced rapid growth. However, the number of annual openings expected in the CAMWC region is roughly equal to the state rate (3.4 and 3.3 percent of estimated base year employment, respectively). In short, this means that demand for workers at a variety of skill levels and credentials will continue to be demanded in the region, even if total aggregate employment stagnates or declines.

For workers and workforce development planners alike, this situation creates a dilemma. On the one hand, the demand for workers in the region is very real. According to the MDLEG 2004-2014 forecast, the region is projected to offer over 3,200 job openings a year, of which at least 9 percent will be in manufacturing-related occupations, with an additional number in occupations that are not specifically tied to manufacturing but that will be located with firms that are in the manufacturing industry (i.e. administrative assistants, sales persons, and managers working for companies that manufacture goods). However, the attractiveness of these positions to workers is not assured, since the general decline of total employment in the manufacturing industry has led to widely-publicized layoffs and wage reductions. Job seekers, particularly those just starting their working career or considering a career change may be reluctant to invest in gaining skills or experience in a manufacturing setting if they do not feel there is long-term potential for employment.

Region-specific Occupation Demand Impacts

When planning workforce development or economic development efforts, it can be helpful to have an understanding of the magnitude of local occupational job demand associated with employment growth (or decline) in different industry sectors. While the long-term occupational forecasts generated by MDLEG provide a guide as to the number of openings and types of workers that are likely to be needed in the future based on the current trends and industrial mix, the reality is that the opening or closure of an individual firm can quickly change the dynamics of the regional workforce. To understand the relationship between industry employment change and occupational employment demand it is possible to combine the use of an economic regional input-output model, which links estimated supplier linkages between industries, with an industrial-occupational matrix. Using such an economic model, estimates can be produced of the net impact of a set job gain (or loss) in the region in terms of the number of indirect or “spin-off” jobs created in the region, as well as an estimated breakdown of the total employment impact by occupation. In short, using an economic model, the opening or closing of a firm can be simulated to produce estimates of the ripple effect throughout the community, as well as the types of different jobs that will be demanded (or no longer needed), that can then be used to plan workforce development efforts and future training needs.

The Upjohn Institute contracts with Regional Economic Modeling, Inc. (REMI) to develop and maintain custom economic modeling software¹² for select county-based regions in Michigan. For this project, a custom region of analysis was developed for the four-county CAMWC region, which allows the generation of estimates specific to this unique area of analysis. In this section of the report, model-generated estimates are used to examine the potential impact of employment changes within the region on occupational demand. Additionally, the potential economic impact of activities in neighboring regions is examined, and a long-term forecast of employment trends based on current national- and state-level forecasts is presented.

Occupational Demand from Employment Change in Specific Industries

When firms add or subtract workers, the total number and types of jobs that are either gained or lost in the community is dependant on both the composition of the industry that the firm is located in—that is to say, the mix of occupation types necessary to produce a type of good or service—and the linkage between the selected industry and other suppliers in the region. For example, when a manufacturing company employing 100 people moves into the region, additional jobs are generated through the interaction of the company and its workers with other firms in the region. Additionally, the total economic impact—the sum of direct and indirect employment impact—ultimately requires workers from a number of different occupations. To illustrate this effect, Table 19 shows the major industry category employment effect of 100 new jobs in several common industries found in the CAMWC region.

¹² For more detailed information on the REMI model, see the Appendix.

Table 19

Occupational Demand Resulting from Direct and Indirect Employment Impact of 100 Jobs, by Select Industry

Major occupation category	Industry							
	Elec equipment & appliance mfg	Motor vehicles mfg	Food Mfg	Plastics and rubber mfg	Prof & technical services	Hospitals	Retail *	Restaurants and bars *
Mngmnt, businness, financial occupations	14.0	13.1	8.6	9.7	20.7	7.9	1.4	1.4
Computers, math, architecture, engineering	11.9	10.3	2.5	4.7	26.0	2.0	0.3	0.1
Life, physical, and social science	0.8	0.6	1.1	0.5	4.1	0.8	0.0	0.0
Community & social service workers	1.0	1.0	0.7	0.6	0.4	2.6	0.1	0.1
Legal occupations	0.6	0.6	0.4	0.3	8.4	0.3	0.0	0.0
Educators, training, and librarians	2.1	2.1	1.5	1.3	0.6	1.7	0.3	0.3
Art, design, media, entertainment, and sports	1.1	1.1	0.6	0.6	4.3	0.5	0.3	0.1
Healthcare occupations	3.6	3.7	2.3	2.0	4.0	67.7	1.0	0.2
Protective services	1.1	1.1	0.9	0.7	0.5	1.6	0.2	0.2
Food preparation and serving workers	8.7	8.6	7.8	5.1	2.9	7.7	1.4	34.3
Building, grounds, and personal care service workers	5.3	5.3	4.9	3.4	2.9	7.4	0.8	0.6
Sales, office, and administrative	33.2	35.0	25.3	23.5	35.6	25.4	19.5	2.7
Farm, fishing, and forestry occupations	0.1	0.1	1.5	0.1	0.1	0.1	0.1	0.0
Construction and extraction	5.6	7.7	4.0	3.6	2.1	4.5	0.6	0.4
Installation, maintenance, and repair	7.3	13.4	8.4	8.3	1.7	2.7	1.7	0.2
Production workers	60.7	67.9	55.1	61.8	2.1	1.8	0.9	0.3
Transportation and material handling workers	10.6	12.4	22.2	15.8	2.0	2.5	2.4	1.1

Note: The impact of 100 jobs in retail or restaurants and bars is less than 100 because of displacement effect. New retail and restaurant establishments generally compete with existing firms.

Typically, large and highly-concentrated manufacturing industries will have the biggest impact on the region and will generate demand for the broadest range of occupations. As shown in Table 19, the addition of 100 jobs in the motor vehicle manufacturing industry (which includes automotive parts suppliers) generates a total of over 180 jobs in the CAMWC region. These jobs are not limited to production workers, but also include a substantial number of white-collar occupation categories such as management, sales, and engineering. Additionally, because of the high-wages and large indirect “spin-off” effect of the motor vehicle manufacturing industry, a few jobs in seemingly unrelated occupations such as health care are also generated.

Conclusions

This analysis indicates there are several major challenges to the development of a comprehensive workforce strategy for the CAMWC region. One is that the region itself appears to not be a natural region but instead is divided into two or three independent economic regions. Ionia and Montcalm counties are clearly tied to the greater Grand Rapids area; however, Gratiot has stronger ties to the Lansing area, and Isabella has a primarily self-contained economic environment. Any workforce development strategy, therefore, must take into account the fact that an increasing number of local residents may be more frequently seeking work outside the four-county area than in the industries located in the region’s traditional employment centers of Ionia, Greenville, and Mt. Pleasant. Even if gas prices remain high, it is possible that this trend will continue.

Second, the region’s heavy reliance on the manufacturing sector is both an opportunity and a threat for workforce development. On the plus side, it is true that manufacturing-related occupations will continue to offer job openings that are well suited to the characteristics of the local workforce. Although starting salaries have dropped in the manufacturing, the sector still offers some of the best wages for those workers who lack a college degree or specific, high-demand technical skills. Additionally, manufacturing generally offers more of a career ladder for workers who gain experience and skills through on-the-job training and brief formal education classes. In some other industries, such as finance or professional services, a four-year college degree is sometimes the only way to move up from a very low-paying, entry-level position, to a high-paying position.

However, the dominance of manufacturing in the community will also prove to be a challenge to workforce developers—if for no other reason than the fact that, nationwide, the absolute number of workers in the sector is shrinking, with no signs of slowing down. This contributes to a multitude of factors that make jobs in manufacturing-related occupations less attractive to workers. Even with a substantial number of openings expected in manufacturing-related occupations during the next few years, the combined effect of large-scale layoffs in the region, increasing overseas competition, and the firm-specific challenges faced by Michigan’s largest manufacturing entities—the “Detroit Three” automakers—has diminished both wages and stability. This is especially apparent in the age-distribution of workers by industry (Table 11), which indicates that workers age 25 to 34 and 35 to 44 are represented in much smaller numbers in the manufacturing sector than workers age 45 to 54, despite the fact that each of the three age groups represents a roughly equal share of the regional workforce. As the overall workforce

ages, there is likely to be a shortage of workers with experience in manufacturing available to take over positions vacated by retiring baby boomers. Whether or not this will be a problem for local manufacturing firms will ultimately depend on the type of skills and experience required to perform production and other tasks in the future.

It would be risky to focus a regional workforce development strategy solely on a sector that is both shrinking and becoming less attractive in terms of wages and job stability. Yet at the same time, the manufacturing sector is of such importance to the region that it cannot be ignored. Instead, the workforce development community faces the challenge of providing a service structure that can continue to support services to the region's manufacturers, while at the same time not missing the needs of employers and workers from other industries. Unfortunately, this may be harder than it sounds, since the abilities needed for many entry-level manufacturing-related occupations—for example, working alone, completing repetitive tasks, and working with machinery—can be quite different than fields such as health care, sales, or customer service, where people skills, highly-varied tasks, and problem solving may be required. Despite these challenges, helping employers find workers who can transfer their experience and skills across fields, or assisting workers in transition between manufacturing-related and non-manufacturing occupations is likely to become increasingly necessary as the economic environment shifts.

Appendix

REMI Model Estimates

The W.E. Upjohn Institute maintains an economic computer model especially designed to estimate the economic impacts. For this project, the model was customized to a four-county area that corresponds with the boundaries of the CAMWC region, as well as several other neighboring regions of interest, including the Lansing Metro area and the Grand Rapids area. The model was constructed by Regional Economic Models Incorporated (REMI) and contains three separate components that together capture the resulting total impact on the local economy because of a change in employment and in the relative cost of doing business. These components are:

- An input-output model that estimates the impact on the local economy of changes in inter-industry purchases. This component of the model captures the impact of an increase in orders to local suppliers of goods and services as well as the impact of households increasing their purchases of consumer goods and services.
- A relative cost component that estimates the impact of the expected changes in the area's cost structure due to changes in the cost of doing business. For instance, when a major employer moves into the area, it can cause wages to increase across most all industries due to the increased demand for workers and other local resources. This boost in wages, while generating additional consumption expenditures, increases the cost of doing business in the area, making the area slightly less attractive to other industries.
- A forecasting and demographic component that forecasts the resulting changes in future employment and population levels due to a change in economic activity.

For this project, the input-output function was the primary aspect of the REMI model used to estimate both the spill-over effects of economic changes in neighboring communities, as well as the occupational employment impact of hypothetical changes in industries within the four-county region.