GRAND RAPIDS COMMUNITY COLLEGE

Environmental Scan

External forces impact our work at the college in many ways. Since we are a community college what happens outside our walls in the West Michigan Region is very relevant to how we plan strategically to meet the needs of the community. The following trends and issues illustrate the forces of change which not only inform our planning processes, but also confirm our commitment to anticipate the future and by doing so; provide our community with the opportunity to explore their own preferred futures.

The following report will examine the trends which are most likely to impact the college over the next 5 – 10 years. The report format will follow the general pattern of:

- Trend Statements
- Supporting Data and;
- Implications for the College

The report will examine the following content based ongoing information scanned over the past six months:

- Demography of the combined counties of Kent, Ottawa, and Allegan
- Regional workforce trends
- Five general trends most likely to Impact the West Michigan Region, and therefore the work of Grand Rapids Community College in the community.

There has been a conscious effort to keep the new Vision, Mission, Values and Ends (Draft of August 16, 2010) in mind while creating the content of the report. It is believed in doing so the report will support the document now pending Board approval.

**Vision:**
GRCC will be a college of distinction inspiring learners to meet the needs of the community and the world.

**Mission:**
GRCC is an open access college that prepares individuals to attain their goals and contribute to the community.
Demographic Changes for Kent, Ottawa, and Allegan Counties Combined

Trend 1
The 3-county service area of GRCC will grow at a faster rate than that of the State, but slower than that of the Nation (Table 1).

<table>
<thead>
<tr>
<th>Area</th>
<th>2010 Population</th>
<th>2020 Population</th>
<th>Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>K-O-A</td>
<td>993,626</td>
<td>1,020,975</td>
<td>27,349</td>
<td>3%</td>
</tr>
<tr>
<td>State</td>
<td>10,016,946</td>
<td>10,076,519</td>
<td>59,573</td>
<td>1%</td>
</tr>
<tr>
<td>Nation</td>
<td>310,100,040</td>
<td>323,404,631</td>
<td>13,304,591</td>
<td>4%</td>
</tr>
</tbody>
</table>

Table 1

Trend 2
The percent of residents 55 and older will steadily increase over the next 10 years as the baby boomer continue to age (Figure 1).

Percent of KOA County Residents Age 55 and Older

<table>
<thead>
<tr>
<th></th>
<th>0.00%</th>
<th>10.00%</th>
<th>20.00%</th>
<th>30.00%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1

Trend 3
The number of high school graduates in Michigan is estimated to have peaked in 2007-08, at 118,208, 23% more than in 1991-92, and 17% more than in 2021-22. The numbers of graduates from area high schools show a similar pattern, however the predicted higher rate of population growth over the next ten years may moderate the statewide trend. It is interesting to note that though the overall number of graduates will decline through 2022, the number of Hispanic, Black Non-Hispanic and Asian-Pacific graduates will continue to increase over the same period (Figure 2).
Number of High School Graduates, 1992-2022: Michigan

![Graph showing high school graduates trend](source)

**Figure 2-Michigan**

Source: WICHE/The College Board

**Trend 4**

Minority populations in the 3-county area will continue to increase as the Caucasian population continues its slow decline. The **White Hispanic** will show the greatest percent change over the next 10 years while the White Non-Hispanic populations will decrease to approximately 80% of the population.

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>2010 Population</th>
<th>2020 Population</th>
<th>Change</th>
<th>% Change</th>
<th>2010 % of Cohort</th>
<th>2020 % of Cohort</th>
</tr>
</thead>
<tbody>
<tr>
<td>White, Non-Hispanic</td>
<td>806,922</td>
<td>819,491</td>
<td>12,569</td>
<td>2%</td>
<td>81.21%</td>
<td>80.27%</td>
</tr>
<tr>
<td>White Hispanic</td>
<td>82,629</td>
<td>92,205</td>
<td>9,576</td>
<td>12%</td>
<td>8.32%</td>
<td>9.03%</td>
</tr>
<tr>
<td>Non-White Hispanic</td>
<td>6,119</td>
<td>6,519</td>
<td>400</td>
<td>7%</td>
<td>0.62%</td>
<td>0.64%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>58,201</td>
<td>59,836</td>
<td>1,635</td>
<td>3%</td>
<td>5.86%</td>
<td>5.86%</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
<td>3,855</td>
<td>3,884</td>
<td>29</td>
<td>1%</td>
<td>0.39%</td>
<td>0.38%</td>
</tr>
<tr>
<td>Asian</td>
<td>20,681</td>
<td>22,422</td>
<td>1,741</td>
<td>8%</td>
<td>2.08%</td>
<td>2.20%</td>
</tr>
<tr>
<td>Native Hawaiian and other Pacific Islander</td>
<td>324</td>
<td>343</td>
<td>19</td>
<td>6%</td>
<td>0.03%</td>
<td>0.03%</td>
</tr>
<tr>
<td>Two or more races</td>
<td>14,896</td>
<td>16,276</td>
<td>1,380</td>
<td>9%</td>
<td>1.50%</td>
<td>1.59%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>993,626</strong></td>
<td><strong>1,020,975</strong></td>
<td><strong>27,349</strong></td>
<td><strong>3%</strong></td>
<td><strong>100.00%</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

Source: EMSI Complete Employment - 3rd Quarter 2010
Implications:

The GRCC student population will have the following characteristics:

- More racially and ethnically diverse
- On average older, however the age range could be quite diverse as younger learners begin their education and older students return for continued education and training.
- An increase in general population implies that the economy of W. Michigan will recover faster than the rest of the state.
- As baby boomers become a larger portion of the general population opportunities exist for GRCC to offer targeted skills training and retraining, an increased number of continuing education and leisure courses. (more in the trend on the Characteristics of the Boomer Population.

WORKFORCE TRENDS FOR THE GR COMBINED STATISTICAL AREA + MUSKEGON CO.

Trend 1: Traditional economic, industry, and occupational forecasts will become increasingly less accurate because they are based on the mathematical premise that today will be the same as yesterday.

Example: Why the Occupations with the Highest Annual Future Openings, may not be accurate. Note the chart and table below showing the latest forecast for the fastest growing occupations in the expanded geographical area bordering the Grand Rapids-Wyoming MSA. It shows that over the next 10 years Registered Nursing is not only the fastest growing occupation, but also will provide the greatest number of job openings. Now refer to Appendix 1 which ranks the jobs with the highest number of annual openings. Annual openings are determined by growth plus replacement jobs. The top five are as follows:
- Retail Salespersons
- Cashiers
- Waiters and waitresses (showing a mild decline in growth)
- Child Care Workers
- Customer Service Representatives

At number 6 is the only occupation that requires an Associate Degree among the occupations listed above.

Implications:

- The top 5 occupations above are ones most susceptible to automation or “disruptive technologies.” (e.g.; Electronic checkout, Pre-made meals at big box stores, on-line shopping, etc.)
- Low paying jobs will not offer a sustainable wage.
- Nursing and the other health care fields are susceptible to disruptive innovation (see below).
- Retraining the population that now hold those top 5 low-paying jobs is a huge opportunity for GRCC.

Region: GR CSA’s + Muskegon County

County Areas: Allegan, Michigan (26005), Barry, Michigan (26015), Ionia, Michigan (26067), Kent, Michigan (26081), Muskegon, Michigan (26121), Newaygo, Michigan (26123), Ottawa, Michigan (26139)

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate’s degree</td>
<td></td>
</tr>
</tbody>
</table>

Fastest Growing Occupations
<table>
<thead>
<tr>
<th>SOC Code</th>
<th>Description</th>
<th>2011 Jobs</th>
<th>2020 Jobs</th>
<th>Growth</th>
<th>Growth %</th>
<th>Current Median Hourly Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td>29-111</td>
<td>Registered nurses</td>
<td>10,492</td>
<td>12,532</td>
<td>2,040</td>
<td>19%</td>
<td>$27.06</td>
</tr>
<tr>
<td>29-202</td>
<td>Dental hygienists</td>
<td>1,332</td>
<td>1,692</td>
<td>360</td>
<td>27%</td>
<td>$27.31</td>
</tr>
<tr>
<td>23-201</td>
<td>Paralegals and legal assistants</td>
<td>603</td>
<td>789</td>
<td>186</td>
<td>31%</td>
<td>$21.68</td>
</tr>
<tr>
<td>15-104</td>
<td>Computer support specialists</td>
<td>1,816</td>
<td>1,955</td>
<td>139</td>
<td>8%</td>
<td>$19.52</td>
</tr>
<tr>
<td>15-208</td>
<td>Computer specialists, all other</td>
<td>1,044</td>
<td>1,178</td>
<td>134</td>
<td>13%</td>
<td>$21.95</td>
</tr>
<tr>
<td>27-1025</td>
<td>Interior designers</td>
<td>603</td>
<td>789</td>
<td>186</td>
<td>31%</td>
<td>$21.68</td>
</tr>
<tr>
<td>29-1120</td>
<td>Respiratory therapists</td>
<td>568</td>
<td>680</td>
<td>112</td>
<td>20%</td>
<td>$22.97</td>
</tr>
<tr>
<td>29-203</td>
<td>Radiologic technologists and technicians</td>
<td>818</td>
<td>928</td>
<td>110</td>
<td>13%</td>
<td>$23.96</td>
</tr>
<tr>
<td>31-202</td>
<td>Physical therapist assistants</td>
<td>390</td>
<td>489</td>
<td>99</td>
<td>25%</td>
<td>$19.75</td>
</tr>
<tr>
<td>29-2056</td>
<td>Veterinary technologists and technicians</td>
<td>221</td>
<td>316</td>
<td>95</td>
<td>43%</td>
<td>$14.16</td>
</tr>
<tr>
<td>17-3026</td>
<td>Industrial engineering technicians</td>
<td>1,361</td>
<td>1,444</td>
<td>83</td>
<td>6%</td>
<td>$20.41</td>
</tr>
<tr>
<td>29-203</td>
<td>Cardiovascular technologists and technicians</td>
<td>359</td>
<td>437</td>
<td>78</td>
<td>22%</td>
<td>$21.18</td>
</tr>
<tr>
<td>29-207</td>
<td>Medical records and health information technicians</td>
<td>485</td>
<td>560</td>
<td>75</td>
<td>15%</td>
<td>$14.14</td>
</tr>
<tr>
<td>19-4099</td>
<td>Life, physical, and social science technicians, all other</td>
<td>477</td>
<td>547</td>
<td>70</td>
<td>15%</td>
<td>$19.07</td>
</tr>
<tr>
<td>27-1022</td>
<td>Fashion designers</td>
<td>241</td>
<td>293</td>
<td>52</td>
<td>22%</td>
<td>$12.62</td>
</tr>
<tr>
<td>31-201</td>
<td>Occupational therapist assistants</td>
<td>195</td>
<td>244</td>
<td>49</td>
<td>25%</td>
<td>$19.43</td>
</tr>
<tr>
<td>17-3022</td>
<td>Civil engineering technicians</td>
<td>258</td>
<td>299</td>
<td>41</td>
<td>16%</td>
<td>$21.58</td>
</tr>
<tr>
<td>29-2013</td>
<td>Medical and clinical laboratory technicians</td>
<td>491</td>
<td>531</td>
<td>40</td>
<td>8%</td>
<td>$15.07</td>
</tr>
<tr>
<td>49-9065</td>
<td>Medical equipment repairers</td>
<td>150</td>
<td>180</td>
<td>30</td>
<td>20%</td>
<td>$15.49</td>
</tr>
<tr>
<td>29-2038</td>
<td>Diagnostic medical sonographers</td>
<td>199</td>
<td>225</td>
<td>26</td>
<td>13%</td>
<td>$26.35</td>
</tr>
</tbody>
</table>

Source: EMSI Complete Employment - 3rd Quarter 2010

**Trend 2:**

The rate and unrelenting force of change will be a more accurate indicator of the education and training needs of the West Michigan region. The needs of the region will best be determined by closely monitoring the objects of:

- Disruptive Technology, Disruptive Innovation
- Creative Destruction
- “black swans” or “wild cards”

**Example: West Michigan gears up for Health Care Industry**

West Michigan over the last ten years has become a medical magnet. Medical Research, Health Care Expansion, a new medical school and scores of medical specialties line the “Medical Mile” and adorn our highway billboards. Will we need the entire health care infrastructure we are now building?

- Baby boomers are not retiring in the numbers expected, especially from our major hospitals.
- Baby boomers in general are healthier and will live longer than the previous generation.
- The potential of technology to change the face of the healthcare workforce is extremely high.
Example: **Lab-on-a-Chip**

What if a patient did not need blood drawn, taken or sent to a lab, it analyzed, results sent to the physician’s office, and then no longer needed anyone to call or mail the results of a blood test? What if the most sophisticated blood tests could be done at the patient bedside, in the operating room, or in a physician’s office? How many jobs would not be needed or would be altered if this change were to take place?

This farfetched scenario, may not be too far off as micro electromechanical systems (MEMS) become easier and cheaper to manufacture. The lab-on-a-chip has been demonstrated to be effectively used for some blood tests and could emerge at anytime as substitute for the medical laboratory.

**Implications:**

- Destructive technologies will emerge at a greater pace, especially in the healthcare industry where cost-effectiveness is a major issue.
- The potential for new technologies (social, technological, etc.) to displace the need for many categories of traditional healthcare workers is very real.
- The nature of diseases afflicting the baby boomers will likely be related to mobility. (Joints, artificial limbs, etc.).
- GRCC has an opportunity to anticipate such changes, create flexible training programs for displaced healthcare workers, and create new educational programs for emerging occupations.
- Given the growth of medical device manufacturing, the long heritage of a manufacturing community, the W. Michigan Region may be an excellent place to manufacture MEMS.

**West Michigan Trends and Events which will shape the Workforce of the Future**

1. **Expansion of the Environmental Sustainability/Green Jobs Movement**- The presence of initiatives and discussions around environmental sustainability continue to increase, however, watch for increasing issues concerning the cost effectiveness of alternative energy vs. conventional sources, federal and state subsides, and environmental impact of alternative energy. Also watch for new and innovative approaches and technologies around environmental sustainability that may make the issues above irrelevant.

2. **Entrepreneurship a Leading Idea in West Michigan**: The momentum of educational institutions around entrepreneurship is increasing. The region is in a position to channel the area’s characteristics of design, innovation, millennial energy, and baby boomer retirements into a wave of entrepreneurial activity that may well shape the future of West Michigan.

3. **Urban transportation plans will take center stage as The Rapid embarks on a 20 year mass transit plan**: Such a plan will have environmental, economic, and social
implications which will lead to increased community dialog and many entrepreneurial opportunities.

4. **Manufacturing jobs will continue to decline, HOWEVER, manufacturing is far from dead in West Michigan.** Look for innovation in the manufacturing sector that will continue to improve productivity and create global products needed in the 21st Century.

5. **Unique Opportunities and Challenges will confront Grand Rapids Community College as it strives for Student Success.** Significant challenges and opportunities:

   - Improved delivery and success of educational methodologies designed to decrease the amount of time it takes for a learner to become “College-Ready.”
   - Increased dialog with existing and emerging workforce employers which improve the responsiveness, flexibility, and fit of our workforce development programs for West Michigan.
   - Continue to leverage information technology solutions as they become available to provide improved:
     - Instruction
     - Information analysis and informed decision-making
     - Access to higher education.

**Global Trends which will impact Grand Rapids Community College over the next 10 years.**

1. **Up to 1 Billion Women Globally are headed for higher education and the workforce.**

   According to new research from Booz & Company, presented in the Summer 2010 issue of Strategy+Business, up to 1 billion women who have remained outside of the mainstream global economy are about to make a huge impact as entrepreneurs, employees, and consumers during the next 10 years and beyond.

2. **Boomers Move into Their Golden Years** A key factor working to minimize the downside of the coming decade is the set of needs and expectations associated with the Baby Boomers. Rather than ceding control of their lives to bureaucracies and external factors, Boomers will insist upon staying in control. This, in turn, will lead people to both produce and consume much more than people at the same age did in previous generations. What is the latest research suggesting?
The unique characteristics of baby boomer will create a future quite different from that of their parents, who were born in the 1920s or 1930s. Among those characteristics are:

- Boomers have always worked hard to achieve their dreams, not those of their children.
- They have a special sense of their own value as individuals.
- They’ve always wanted to have meaning in their lives and not just hold down a job.
- They’ve wanted to make a difference and leave their mark.
- They are passionate about relationships.
- They like to work in teams, but most want to stand out from the crowd.
- More than prior generations, they value democratic leadership that works from the bottom up rather than a traditional hierarchy.
- They eagerly contribute their time and efforts to charitable and humanitarian causes.
- They are life-long learners, always looking for new ways of developing themselves.

Based on this reality, according to the *Harvard Business Review*, if the entire Boomer generation were to retire, it would completely change the workplace.

- First, there simply wouldn’t be enough people to fill the vacant jobs, because the next generation is much smaller.
- Second, all of the knowledge and experience embodied in the Boomers would vanish.
- Third, the people leaving companies would often be those who are best at leadership and at dealing with customers.

Also see: [Boomers and Millennials Define the New Workplace](#)

3. **The Huge Potential of Micro-Sensors**

Microelectromechanical systems, or MEMS, represent a midway point between the macroscopic world in which engineers have worked for centuries and the nano-scale machines that are expected to dominate late-21st century technology. While MEMS represent a "quantum leap" in efficiency and performance across many functional areas, it’s in sensory applications that they've made the most astounding contributions to date. From health care to automobiles to telecom to national defense, these sensors are changing the fundamental nature of automated sensing. What will this technology mean for you as a manager, investor, and consumer?
4. **Accelerating Innovation and the New Technology Boom** Despite the assertions of some commentators, the pace of innovation has remained strong and even accelerated in recent years. Admittedly, the full commercial revolution many expected to see has been delayed while necessary supporting technologies and business models were assembled. But finally, all the parts of the system are falling into place. As we'll highlight, a broad range of amazing, game-changing innovations is approaching large-scale commercialization. As you'll see, many of the fundamental breakthroughs reported in past issues of Trends are finally reaching the point where they could soon transform our lives. **Areas of rapid innovative change include:**

- Mobile applications
- Automated language translation
- Personalized medicine
- Neuromarketing

5. **Crowdsourcing Goes Center Stage**

When the Trends editors began talking about "crowdsourcing," some saw it as a business fad. Today, it has become a central strategy for some of the world's most creative and successful firms. What's going on, and where is it likely to lead? More importantly, what are its implications for your industry?