

2008 Environmental Scan

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Harper College Environmental Scan

*Prepared for
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The findings and conclusions presented in this report are those of the authors/project team alone and do not necessarily reflect the views, opinions, or policies of the officers and/or trustees of Northern Illinois University.

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EXECUTIVE SUMMARY

Community colleges find increasing importance in focusing their resources on the strategic actions that will best position their institutions for the future. An environmental scan, such as this one, is an invaluable tool in this quest. By looking at the past and projecting into the future, college planners prepare to respond to the more predictable trends that pose opportunities or threats to the institution while at the same time keeping an eye on events that may have significant impacts on their institution.

The scan begins with a review of the economic, demographic, technological, and political/social trends in which the college is operating. The next four sections look at specific trends in education including student factors; curricula, assessment, and instruction; the needs of business and industry; and financial support. The final section lists the major issues that community colleges are currently facing.

Economic, Demographic, Technology, and Political/Social Trends

Community colleges operate in complex environments in which trends converge in interactive ways. For example, the current global economic crisis, the fluctuating price of oil, and the November elections create uncertain situations that fuel speculation about the future. The following trends and events are important for Harper College planners to consider.

Economic Trends - The Economy

Economic conditions at the global, national, and state levels are in flux. Beginning in June 2007, with the bankruptcy of Bear Stearns, the banking industry in the U.S. began to show significant signs of impending distress. When interest rates were low in the late 1990s, the mortgage industry issued risky loans with unprecedented low down payments; many families overextended themselves. To further exacerbate the situation, the housing boom inflated housing prices, leading to inflated mortgages. As interest rates climbed and housing values fell, foreclosures increased, and the banking industry faltered. On September 7, 2008, the U.S. government took over Fannie Mae and Freddie Mac.

On October 3, Congress passed a \$700 billion bailout for the banking industry. The stock market took an eight-day plunge, which rippled globally as markets worldwide fell.

On October 13, 2008, European countries, including Britain, France, Germany, and Spain, bolstered their banks by \$2.3 trillion, and the U.S. announced that \$250 billion of the \$700 billion package would be used for ownership stakes into U.S. banks. Also, Morgan Stanley approved a \$9 billion package from Japan's Mitsubishi UFJ to purchase smaller rivals.

The world responded to this news with the largest gain in the stock market since the Great Depression (936 points) and an increase in the price of oil to \$80 a barrel. The revival of the stock market was short lived, and the stock market fell again in the next

few days, creating a volatile market situation. Time will tell if the short-term interventions and bailouts will be enough to continue the upturn, or if the October 13th spike was only a blip in a downward trend.

As the economy tumbled, unemployment rates increased. The Illinois Department of Employment Security in its analysis of the June 2008 employment data concluded that “the Illinois labor market is now being fully impacted by the national economic downturn. While some areas have experienced moderate job growth, it has not been enough to absorb the number of jobs being lost” (IDES, 2008).

From September 2007 to September 2008, the unemployment rates increased in the U.S. (4.7% to a five-year high of 6.1%), in Illinois (5.2% to 6.9%), and in the Chicago metropolitan area (4.9% to 6.6%).

Seasonally Adjusted Unemployment Rates

	U.S.	Illinois	Chicago Metro
September 2007	4.7%	5.2%	4.9%
June 2008	5.5%	6.8%	6.8%
August 2008	6.1%	7.3%	7.2%
September 2008	6.1%	6.9%	6.6%

Source: Illinois Department of Employment Security, 2008.

Even though the crisis was triggered by the mortgage industry, the impact rippled quickly. Construction, manufacturing, and retail had the largest increases in unemployment. Students found difficulty in obtaining loans; housing values decreased; the number of foreclosures and evictions of tenants in foreclosed properties increased; small businesses could not get loans; voters became upset over the need to finance an industry with highly paid CEOs; and potential retirees began re-thinking their investments and retirement plans. The credit crisis has been especially hard on smaller businesses and retailers of large-purchase items. Families are holding onto funds, and unemployment and downsizing has resulted in a decrease in disposable income. On October 13, 2008, GM announced the closing of two more plants, as the automobile industry struggles. Each week, businesses across Illinois are announcing layoffs and closures.

In addition to the credit crisis, the price of oil increased significantly during the last year, and at one time gas topped \$4 a gallon. During October 2008, the price of gas fell below \$3 per gallon; however, with the increase in the price of a barrel of oil, prices could increase again.

When retail sales decrease and businesses struggle, state and local taxing bodies need to adjust budgets to accommodate unforeseen decreases in sales revenue and corporate taxes. Illinois public community colleges are feeling the pinch.

Demographic Trends - Income

Within the Harper College district, disparity is apparent when the median household incomes are compared. The highest and lowest median household incomes differ by nearly \$30,000. Barrington, with the highest percentage of households with incomes over \$100K, also has one of the highest percentages of household with incomes less than \$25K.

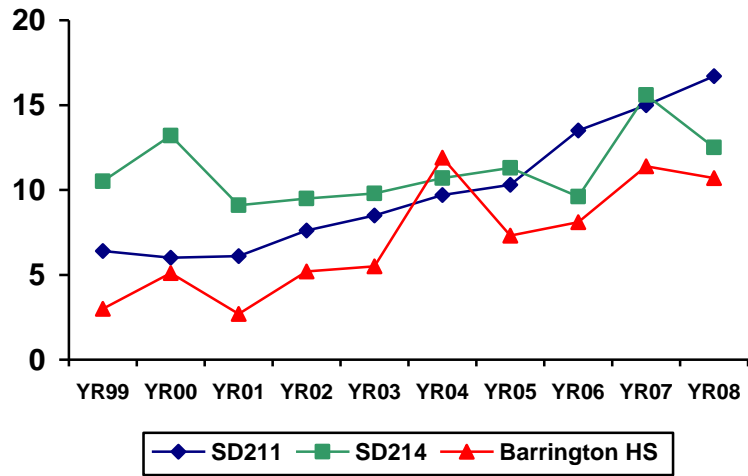
Differences in Wage Distribution in Selected Municipalities

Municipality	Median Household Income (1999)	% of Households Income > \$100K	% of Households Income < \$25K
Barrington	\$83,085	41.8%	14.7%
Buffalo Grove	\$80,525	37.1%	7.7%
Arlington Heights	\$67,807	28.6%	12.2%
Hoffman Estates	\$65,937	24.7%	10.4%
Roselle	\$65,254	22.5%	9.5%
Palatine	\$63,321	23.9%	12.7%
Elk Grove Village	\$62,132	20.5%	12.8%
Hanover Park	\$61,358	15.6%	11.3%
Schaumburg	\$60,941	20.0%	12.8%
Rolling Meadows	\$59,535	20.6%	12.7%
Mount Prospect	\$57,165	19.3%	17.0%
Carpentersville	\$54,526	11.6%	15.5%
Des Plaines	\$53,638	14.3%	18.6%

Source: U.S. Census, 2006

In addition, the percentages of low-income students in district high schools have increased since 2001. While well below many school districts, the percentages are creeping upward. As increasing numbers of low-income students complete high school, Harper College should anticipate more students with limited financial resources for college.

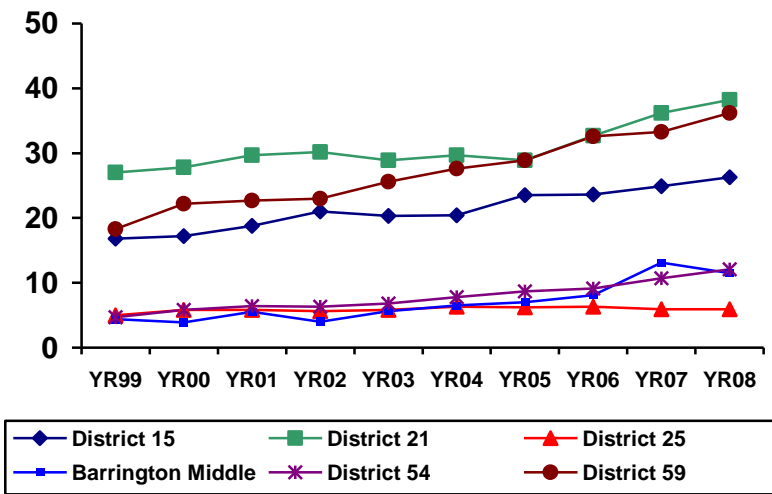
Percentages of Low-Income Students in District High Schools



Source: Interactive Illinois Report Card (Northern Illinois University, 2008)

Over 35 percent of the students in District 21 and District 59 and over 25 percent of the students in District 15 were classified as low income in 2008.

Percentages of Low-Income Students in Pre-High Schools



Source: Interactive Illinois Report Card (Northern Illinois University, 2008)

Demographic Trends - Population

The Harper College district has clusters of very different demographic populations. Two characteristics that could directly affect the college in the next ten years are the number of Baby Boomers and the increasing immigrant population.

The first wave of Baby Boomers will reach retirement in 2011-2012. Just as this generation altered lifestyles and traditions, strong indications suggest that they also will redefine retirement; in fact, nearly 80 percent of the Boomers plan to work in some capacity in retirement or to delay retirement (Roper ASW, 2004). With the current economic downturn, many Boomers are rethinking when they could retire, when they should retire, or how they can just downsize their job.

This talented, experienced pool of workers is looking for flexible, part-time employment in a job that makes a significant social impact. They are carefully watching and voting to preserve their pensions and to harness healthcare costs. Needless to say, traditional “dependency ratios” may not be sufficient in predicting the impact of the Boomers on the economy, and the allocation of public funds will be altered by this large voting block.

Because Harper College receives significant funding through local property taxes and public funds, maintaining support from the Boomers is important. This generation is already seeking additional educational programs and services in retirement.

The immigrant population is most likely to continue to increase because of the higher birth rates of the current immigrant population and an influx of new immigrants. Mount Prospect, Arlington Heights, and Palatine are considered “port-of-entry” locations (Paral & Norkewicz, 2003).

The immigrant populations within the Harper College district differ greatly. A significant number of immigrants from East Asia speak English and are educated at levels higher than the native population; however, other immigrant populations have little or no English-speaking background and an average education level below 8th grade. Harper College has challenges in meeting the differing needs of these populations.

Technology Trends

Blog, wiki, bliki, Twitter, Spink, Pownce—these free online technologies have changed how we communicate, learn, and socialize. The blog, or web log, has been used for over fifteen years in one form or another, allowing users to see what others are thinking. The wiki took the exchange further and created a way for users to collaborate through access to related web pages with entries on the pages categorized using markup language. Combine the blog with the categorization of the wiki, and you have a bliki.

Twitter allows the users to sent “tweets” of 140 characters or less to answer the question, “What r u doing?” Even though teens are heavy users of Twitter, Senator Obama in his presidential bid had a Twitter entry. Building on the Twitter concept, Spink allows the connection via other modes such as cell phone and e-mail; add file transfer capability and enter the world of Pownce.

These free social networking and micro-blogging services have changed how we communicate. Mobile devices are taking the place of e-mail on laptops. The National Science Foundation's agenda for the 21st century (National Science Foundation, 2008) includes funding projects that use cyberlearning technologies for "P through Grey" lifelong learning in ways that could make textbooks, lectures, and traditional instructional approaches obsolete.

At the federal level, technology and innovation are emphasized as the keys to pulling the U.S. out of the economic downturn and to ensuring that the country is globally competitive. Hand-in-hand with these initiatives is a national push to improve science, technology, engineering, and mathematics (STEM) education from preschool through graduate school.

Innovate America, the first national report on innovation from the Council on Competitiveness (2004), focused on building talent, investment, and infrastructure for STEM initiatives. Recently, the conversations have turned to exploring ways to create knowledge, products, and services through social-networking technologies (Bughin et al, June 2008) and ways to develop tacit interactions among unique pools of talent. These new approaches would have tremendous impacts on how faculty members and industry experts communicate and work together globally on projects.

A discussion on technology trends would not be complete without recognizing the impact of the price of oil on a resurgence of interest in green technologies and alternative energies. In fact, the alternative energy field is one of innovation. In the past, energy initiatives often came from the large utilities; however, the alternative energy field is filled with entrepreneurial enterprises that are connected through networks and just-in-time learning. One could say the alternative energy field is a case study of the newer approaches to innovative technology. During October 2008, the price of gas began to fall. Will the "green movement" be derailed as it has been in the past when gas prices decrease?

Political/Social Trends

The November election places a new president in the White House. The political arena, though filled with rhetoric and posturing, is focusing increasingly on economic issues. Bipartisan solutions are needed for the banking crisis, and the economy has overshadowed other key policy issues such as education.

Nationally, however, higher education is the spotlight or, as some college administrators describe the situation, the "hot seat". The passing of the renewal of the Higher Education Act has provided more insight into Congress's thinking.

The *Chronicle of Higher Education* (Field, August 8, 2008, p. 1) summarized the critical components of the reenactment as "crack down on conflicts of interest in the student-loan programs, press institutions and states to rein in tuition, and make it easier for for-profit colleges to become, or to remain, eligible to award federal student aid." The key provisions listed in the *Chronicle* include "create a national 'watch list' of the most expensive colleges; bar the Education Department from dictating how colleges measure

student learning; punish states that fail to maintain spending on higher education; require colleges to do more to crack down on students' illegal sharing of music and video files; and require textbook publishers to divulge more information about prices.”

Even though the reenactment did not dictate assessments, the outcome assessment issue is still in the forefront. The reenactment expands the Advisory Committee on Accreditation to include appointees from the U.S. Secretary of Education and from leaders of the Senate and House. The outcome issue has become one of accreditation. In addition, the first major clarifications required of colleges will be their acceptance of transfer credit.

In order to be more upfront about textbook costs, colleges are to display the costs of required and recommended texts as part of their online schedules; however, there are provisions under which “to be determined” may be used. Textbook-rental programs were included in the new legislation; however, no funds were allocated for implementation.

The reenactment of the Higher Education Act took five years; however, a new president was elected. Time will tell whether the recommendations of the Miller Commission on the Future of Higher Education will fade away or be resurrected.

At the state level, House Joint Resolution 69 called upon the Illinois Board of Education to create a public agenda to direct policy and resources in Illinois. In October 2008, the agenda was discussed through statewide hearings.

The agenda presented four goals and specific actions with measurable outcomes for each (ISBE, 2008):

Goal 1: Increase the educational attainment to match the best performing U.S. states and world countries

Goal 2: Ensure college affordability for students, families, and taxpayers

Goal 3: Increase number of quality of postsecondary credentials to meet demands of the economy

Goal 4: Better integrate Illinois' educational, research, and innovation assets to meet the economic needs of the state and regions.

Each goal is especially pertinent for community colleges. The final *Public Agenda* will need to be included in community colleges' strategic planning processes.

Convergent Trends for Harper College

Taken together, the economic, demographic, technology, and political/social trends point to several critical issues for Harper College to consider:

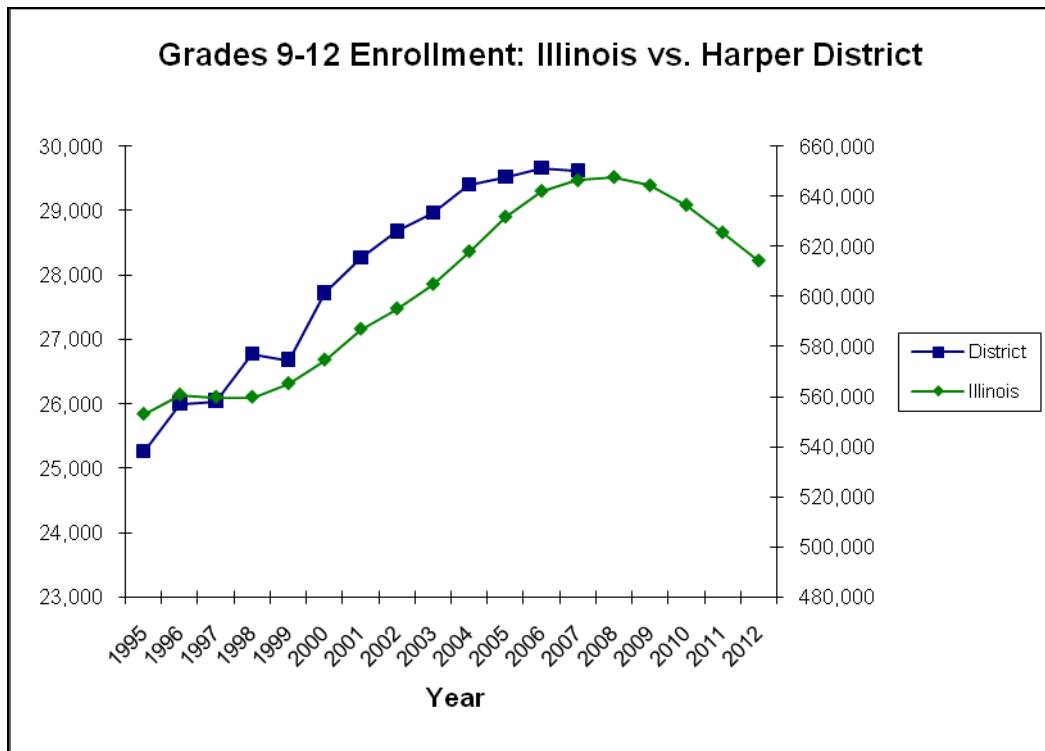
- The U.S. economy is caught in a perfect storm as challenges in the banking and oil industries affect the global economy during a time when the U.S. continues to overcome the devastation created by hurricanes and floods. Citizens are holding tight to their money and are losing more trust in the country's leaders. These attitudes will affect community colleges by making financial resources even more difficult to obtain.
- If current trends and policies do not change, by 2020 the Illinois workforce could be less educated than today's workforce, which will result in a drop in the state's per capita income.
- If the disparity in degree attainment does not change, the educational level of the Illinois worker may decrease as the population shifts to fewer white workers and more workers from populations with lower levels of educational attainment. As the Harper College district becomes increasingly Latino, recruitment and retention efforts for this segment of the population will remain important.
- By 2030, the population of the Harper College district should be close to maximum capacity. Employment, however, is outpacing the increase in population. If these predictions hold, and if the population becomes increasingly low income, the district will have even more difficult challenges in recruiting and retaining a skilled workforce. In addition, these trends could result in a lowering of the median household income.
- As employers, community colleges may face continuing shortages in areas such as nursing faculty and administration.
- The rapid changes in mobile technology will force colleges to rethink the delivery of instruction and services.
- Continually, colleges will need to show their accountability.

In addition, the oil prices may impact Harper College in three ways:

- Students may find commuting expensive, resulting in increased requests for online and hybrid courses or flexible attendance approaches.
- Recruiting and retaining faculty and staff within a nonstandard commuting distance may become more difficult if alternative transportation, flexible scheduling, and innovative work arrangements are not available.
- The operating costs of Harper College may increase and place more strain on limited fiscal resources.

Trends in Education – Students

Additional trends specific to education may affect Harper College. As in the previous 2006 scan, the enrollment will be capping for grades 9 through 12 in Illinois, and Harper College has begun to see this capping effect already.



Source: Harper College Office of Research, 2008

High school students in the Harper College district show a great disparity in their readiness for college. Overall, the academic achievement of students in the top feeder high schools equaled or surpassed the state average of percentages of students meeting or exceeding state standards. However, the schools are still a long way from meeting the *No Child Left Behind* (NCLB) standard of 100 percent of the students meeting or exceeding standards by 2014.

Percentages of High School Students Meeting or Exceeding State Standards

	Year 2002	Year 2003	Year 2004	Year 2005	Year 2006	Year 2007
Barrington	80	77	75	76	76	75
Prospect	78	73	74	79	81	80
Fremd	78	76	75	78	77	78
Hersey	69	77	70	74	76	74
Conant	67	68	69	73	72	69
Elk Grove	58	61	61	68	66	66
Palatine	60	60	58	66	64	65
Rolling Meadows	62	58	65	64	68	66
Wheeling	53	53	50	64	66	66
Schaumburg	66	65	63	63	68	64
Hoffman Estates	57	59	61	57	58	58

Source: Interactive Illinois Report Card (NIU, 2007)

In addition to the disparity among schools, low-income students score significantly lower than do their peers. Approximately, 25-30 percent fewer low-income students meet or exceed the 11th grade reading or mathematics standards than their peers in the college's feeder high schools.

In 2008, Illinois was one of six states that received permission and funding from the U.S. Department of Education to explore new strategies in how to determine student achievement under *No Child Left Behind*. It will behoove Harper College to stay abreast of the changes ISBE makes in determining and tracking how schools can determine whether or not they made Adequate Yearly Progress (AYP).

The way in which community colleges interface with high schools may be impacted by two trends as the focus on improving high schools across the nation continues. First, within Illinois, the charter school approach is being advanced within larger metropolitan areas. Nationally, the quality of charter schools was addressed in *A Framework for Academic Quality: A Report from the National Consensus Panel in Charter School Academic Quality* (www.publiccharters.org). Second, a resurgence in career academies at the secondary level has emerged.

Trends in Education – Curriculum, Assessment, and Instruction

Harper College is well established within the district and highly regarded by its constituents. It is best known for quality education, associate's/two-year degrees, preparation for four-year colleges, low cost/affordability, and a variety of programs/flexible hours (Greystone Group, 2005).

The 21st century brings new challenges to community colleges, including Harper College. The changing skill set for the 21st century, increasing demands for accountability, changes in pedagogy, and increasing competition are a few examples.

Changing Skills for the 21st Century

The Partnership for 21st Century Skills (March 2006) involved educators, employers, parents, community members, and students in identifying the 21st century skills. The proposed curriculum included skills to be taught in an integrated, balanced approach and learning evaluated through authentic assessments:

- Core Subjects - English, reading or language arts, mathematics, science, foreign languages, civics, government, economics, arts, history, and geography
- 21st Century Content - global awareness; financial, economic, business, and entrepreneurial literacy; civic literacy; health and wellness awareness
- Learning and Thinking Skills - know how to keep learning throughout life, critical-thinking and problem-solving skills, communication skills, creativity and innovation skills, collaboration skills, contextual learning skills, and information and media literacy skills
- Information and Communications Technology - ability to use technology to develop knowledge and skills
- Life Skills - leadership, ethics, accountability, adaptability, personal productivity, personal responsibility, people skills, self-direction, and social responsibility

The 21st century workplace needs workers who can negotiate, coordinate, and facilitate rather than manage, direct, and control (GDA, 2003, p. 17). *Greater Expectations* (Association of American Colleges and Universities, 2002) emphasized the skills needed to evaluate information, to understand ethical consequences of actions, and to thrive in a global, diverse cultural environment.

Increasing Demands for Accountability

Community colleges are vital, innovative, and effective in providing high-quality and affordable education in the face of rising tuition and lower per student funding; in meeting the needs of the increasing ethnically diverse population; and in leading the way in e-learning (Rockbridge, 2006). This message, however, is not clearly articulated nor understood by the public.

The call for increased accountability for colleges and universities is coming from diverse sectors. The U.S. Department of Education formed the Miller Commission; however, other groups are clamoring as well for outcomes measures.

- The Higher Learning Commission routinely requires follow-up visits and reports for colleges not completely implementing and using student learning outcome assessments.
- The National Center for Postsecondary Improvement (2002) outlined three areas of improvement needed in higher education: improve educational quality and institutional performance; be more responsive in balancing market forces with higher education's public purpose; and use better data to document what is known about institutional structures and practices.
- A report from the National Center for Public Policy and Higher Education, *The Governance Divide* (Vanezio et al., 2005), advocated for more alignment among all segments of the P-16 educational system, including the alignment of courses, policies to connect the funding for P-16 education, coordinated data systems to track students, and an accountability system that assesses the interface between the precollege and college sectors.
- Jobs for the Future, a Boston advocacy group, chastised states which do not have specific, measurable goals and established strategies for increasing college participation, retention, and graduation rates (Collins, 2006).

At the state level, the *Public Agenda for College and Career Success* (IBHE, 2008) proposes specific outcome measures for Illinois. As the Illinois Board of Higher Education completes the public hearings, colleges should take notice of the final goals, actions, and outcome measures. Goal 3 of the Agenda called for increased accountability reporting and encourages institutions to use instruments such as the *Community College Student Engagement* survey (www.ccsse.org), which is used by many institutions across the U.S. to benchmark student learning and retention. This instrument was recommended to the Commission on the Future of Higher Education as a possible way to establish national accountability data.

Accountability is a national issue. The *National Community College Benchmark Project* (www.hccbp.org) began as a pilot project at Johnson County Community College in Kansas. It was found to be a successful way for community colleges to share comparable data and benchmark themselves against other similar community colleges while preserving the anonymity of the data.

Some businesses, however, are not waiting for colleges to provide accountability data. Boeing is conducting an internal research project to map its 35,000 engineering employees' performance evaluations to the colleges they attended in order to identify from which colleges to recruit future employees. "Boeing may make a mark where government and others have not—raising the possibility that employers could become a major force for college accountability" (Basken, Sept. 19, 2008, p. 1).

Changes in Pedagogy

Derek Bok, former president of Harvard (Bok, 2005), maintains that “lecturing remains the most common method of instruction even though much research suggests that more active forms of teaching help students learn more and remember better what they learn.” Even though lecturing is the norm, the gap between the low-tech and high-tech faculty members is increasing. Wiki, blog, and bliki are three tools used by college faculty to help students interact, to quickly find instructional resources, and to manage the class. These approaches, however, are just the beginning. The National Science Foundation is supporting research using cyberlearning, instructional social networking, and the use of mobile learning devices (National Science Foundation, 2008).

Converging media technologies are creating new, innovative, effective learning environments referred to as the third dimension. The first dimension is face-to-face instruction; the second dimension is online courses through platforms such as Moodle, WebCT, or Blackboard; and the third dimension is interactive, virtual environments such as those in Webkinz, Club Penguin, Google Lively, Second Life, and the Croquet Consortium. Even though Linden Research’s Second Life is in the infant stage as an instructional approach, over 1.5 million logins from around the world were reported in the last 60 days (www.secondlife.com).

We are beginning to see a shift in instructional practice. Printed textbooks are being replaced with electronic textbooks with modules which can be easily updated and customized for different learners. The Amazon Kindle may hasten this approach.

Rather than face-to-face or online instruction, podcasting is being used more frequently. E-mobile learning was unleashed when Apple Computer Inc. piloted the use of iTunes U with six universities to enable students to access course lectures via the iTunes software.

Transitioning from printed page to podcasting requires more than changing the delivery of the curriculum. “Perhaps is it time to consider a blank sheet approach to learning, by setting aside existing educational systems, policies, and practices, and instead first focusing on what knowledge, skills, and abilities a person will need to lead a productive and satisfying life in the century ahead. Then, by considering the diversity of ways in which people learn, and the rich array of knowledge resources emerging in our society, designing a new ecology of learning for the 21st Century” (Duderstandt, October 2004, p. 20).

The Open Content Initiative funded through the Hewlett Foundation provides another new perspective on education and the infrastructure needed to make course materials accessible to anyone with web access. The University of California at Irvine, the University of California at Berkley, MIT, Utah State, Johns Hopkins School of Public Health, Rice, and Carnegie Mellon have free materials online—no tuition, no fees, just use the material how you wish.

Instructional Competition

Instructional competition is increasing both within the U.S. and globally. Students go between institutions to find courses and programs that meet their scheduling and financial needs. With increasing costs of tuition, fees, and books, students are more sensitive to the quality of the instruction and the net benefit provided to the student.

Delivering instruction was once the purview of accredited or state-recognized educational institutions. The alternative credentialing being offered online through sites such as Brainbench are challenging that concept. Non-credit certifications are granted through passing online tests, and remedial instruction is readily available through the site to help those not quite ready pass the test.

China, India, and South Korea are ramping up their colleges to prepare engineers and science graduates. The for-profit, post-secondary institutions are increasing market share by focusing on niche markets and providing convenient, responsive, customer-oriented programs that are based on an applied pedagogical approach and that culminate in student graduation and employment. Even though tuition is higher, students like the convenient scheduling of courses, accelerated degree completion through year around study, and coordinated, intensive student services (Bailey & Badway, 2001).

Local competition around Harper College is increasing. Appendix A lists some of the programs offered by competitors within 10 miles of the 60067 zip code.

Trends in Education – Meeting the Needs of Business and Industry

A goal of higher education is to prepare a skilled workforce to meet the economic development needs of the region served. Nearly 98,000 workers commute into the northwest suburbs daily resulting in an “exporting” of the management workforce and an “importing” of the construction and production workforce.

The Workforce Boards of Metropolitan Chicago (2008) analyzed the impact of the maturing workforce on the region, especially for workers over the age of 50 in *Impact of a Maturing Workforce in the Metropolitan Chicago Region*. “The regional occupations with the highest percentage of workers 50+ include Secondary School Teachers, Registered Nurses, Elementary School Teachers, Licensed Practical and Vocational Nurses, and Machinists. Occupations with the largest numbers of workers in the 50+ cohort include Elementary School Teachers, Truck Drivers, Registered Nurses, Retail Sales Persons, and Customer Service Representatives. More than half of the metropolitan Chicago’s workforce of teachers, nurses, and machinists are over the age of 50” (p. 3).

The Workforce Board of Northern Cook County (2008) authored *Science, Technology, Engineering, and Math Skills: The Foundation for a Highly Skilled Workforce*. Their top ten high-demand STEM occupations with the largest number of new and replacement jobs (2008-2013) were accountants and auditors, postsecondary teachers, computer applications software engineers, automotive service technicians, computer support specialists, computer systems analysts, construction managers, computer systems

software engineers, computer specialists, and network systems and computer and data communications analysts.

When all occupations are examined in terms of growth, seven of the top 20 (based on percent of growth) occupational classification openings in the Chicago metropolitan area are in health-related fields. Four of the top 20 were in technology fields (IDES, 2008).

Demand, however, is one part of the equation; supply is the other. Gordon (2005) summarized the problem with workforce preparation: "In contemporary America there are just too many people training for the wrong jobs and not enough people preparing for the jobs we are creating....The career aspirations of much of the population in the U.S. are at serious odds with the increasingly high-tech needs of the economy." Strong academic advising and career counseling is needed to provide a balanced mix of student majors and regional need.

The standard workforce data projections do not include new jobs created for emerging fields. College academic planners need to assess their district's need for the following new fields:

- Alternative energy and the environmental greening sector
- Translating information into usable forms, data warehousing, and data mining
- Consumer financial services as Boomers and the younger generation grapple with the declining economy, pending retirements, and soaring healthcare costs
- Biotechnology, pharmaceutical studies, and stem cell research to address the need for drugs and advanced research
- Bioscience including astrobiology, biomaterials, and biomechanics
- Homeland security and the industries around defense and safety, such as biodefense and bioinformatics
- Advanced manufacturing including biopolymers, celestial mining, nanotechnology, and smart materials

Trends in Education – Financial Support

The reauthorization of the Higher Education Act made major changes in the financial support provided for college students and advocated year-round Pell funding, simplification of the financial aid process, efforts to contain textbook costs, and the continuation of most federal grant and loan programs. At the same time, private institutions benefited by the definitions which will allow them to provide more support to their students. Coupled with the new Veteran's benefit program, these changes may well increase the number of students attending private institutions. Currently, the University of Phoenix accounts for the largest portion of veterans continuing their education.

With the current credit crisis in the banking industry, funding for education is becoming more difficult to obtain. Some parents planned on second-mortgages to acquire funds for college; however, they may not qualify for those loans at this time. As banks work through the credit crisis, funds are not always available for student loans. The bottom

line: the credit crisis has left many students without sufficient funding to attend college. Many colleges are looking for ways to help students through programs such as deferred payments and/or direct lending.

In addition to the overall credit crisis, the student loan industry has its own problems. Recent reports claim loopholes in legislation allowed student lenders in a six-year period to claim \$1.2 billion in improper payments.

The financial repercussions of the credit crisis on higher education are beginning to show: endowments losing value, capital bonds more difficult to attain, state and local tax revenues decreasing, difficulty in accessing funds when accounts are frozen as did Wachovia, fewer student loans affecting enrollment, etc. The effects on higher education will be uneven depending on the revenue streams available to the institution.

Major Issues Facing Community Colleges

The following issues emerged as needing the most strategic attention from community college planners.

Economic Impacts

The downturn of the U.S. economy is impacting community colleges in multiple ways, such as:

- decreased financial stability because credit crisis impacts colleges through less student loan funding available, difficulty in obtaining capital bonds, fluctuations in endowment funds, funds frozen by some financial institutions, decreasing state and local tax revenues, etc.
- increased numbers of dislocated workers
- increased numbers of retirees returning to work to cover healthcare costs
- increased college operating costs due to increases in price of oil
- increased difficulty in recruiting and retaining quality staff who must commute distances
- increased demands to provide support to economic development of the region
- decreased enrollments of students who are unable to commute to the campus and due to the decrease in the college-age population

At the same time, national initiatives call for innovation and STEM technologies as the answer to improving the economy and global competitiveness of the U.S. The *Public Agenda for College and Career Success* spearheaded by IBHE (2008) calls for a better alignment of education to the economic needs of the state and regions. The community college plays a major role in these initiatives.

Community colleges will be challenged to grow enrollments, to maintain fiscal stability, and to continue to build collaborative relationships with business and industry to address the economic development of their service regions.

Demands for Accountability and Affordability

The demand for accountability at all levels of education continues. *No Child Left Behind* appears to have bipartisan support, as does the continuation of modified provisions of the Miller Commission. The reauthorization of the Higher Education Act has been described as being not visionary but being a statement on how higher education should conduct itself to improve.

In a recent press conference (www.ed.gov/news/pressreleases/2008/07/07182008.html), U.S. Secretary of Education Margaret Spellings asserts that higher education does not have to wait for external events to change: “consumer needs and demands are not threats to quality. They are catalysts for innovation.”

She continued, “To meet this challenge, we must improve the ‘Three As: access, affordability, and accountability.’”

1. Lack of coordination between high schools and higher education
“Too often high school coursework is not rigorous or varied enough to act as a springboard to success in college.”
2. “Need to knock down barriers to progress—like an opaque accreditation process that often inhibits innovation instead of encouraging it or discourages new players from entering the system.”
3. “Need to build human capital by educating more people from diverse economic and cultural backgrounds.”
4. “Need to use technology and innovation to advance change and empower students.”
5. “Expect us to continue our traditional emphasis on excellence in research and scholarship as well as to nurture and cultivate partnerships with private and philanthropic sectors.”

According to Spellings, “Simply put, higher education must become more agile, transparent, and student centered.” She also chastised higher education for not turning their critical thinking inward and not making more progress on the recommendations from the Miller Commission. She painted the future for higher education, “I feel honor-bound to remind you that in the absence of continued leadership in education, others will step in. When public demand reaches critical mass, policymakers are compelled to act whether they’re in the Congress or on state boards or in state legislatures.... In Washington, even as we speak, the Congress is contemplating actions that many in the Academy view as micromanagement and mandates.”

Assessment of Outcomes

Even though the reauthorization of the Higher Education Act did not dictate a national outcomes assessment instrument, the onus was placed on the accreditation bodies to monitor quality. The Higher Learning Commission routinely requires follow-up visits and reports for colleges not completely implementing and using student learning outcomes assessments. Assessment of outcomes will be a continuing quality issue for accreditation.

Competition

Community colleges will experience increasing competition from the private and not-for-profit sectors. Within the last year, the number of competing educational programs offered within the Harper College district increased again. Changes in student loan policies at the national level will increase the competition from not-for-profit and profit educational institutions. The downturn in the economy may see some smaller competitors closing shop.

As more institutions enter the higher education market, public institutions are finding themselves with the more expensive programs. For-profit institutions tend to offer the programs which turn a profit and need minimal or easily obtained external accreditation or licensure. As more institutions pull the more lucrative programs and enrollments, the public institutions no longer can use low-expense courses to help defray the costs of the higher-expense courses, thus increasing the need for course fees and/or support from industry to offer high-cost programming required for the economic development of the region.

Diversity and Globalization

The global world is evidenced through the increasing immigrant populations and the increase in global trade of companies with connections to the region.

The U.S. is one of many economies competing in the global market. Countries such as South Korea, China, India, and Singapore as well as counties in Latin America have entered the global market. "Five qualified chemists can be hired in India for the cost of just one in America.... For the cost of one engineer in the United States, a company can hire eleven in India.... Given such enormous disadvantages in labor cost, we cannot be satisfied merely to match other economies in those area where we do enjoy strength; rather we must excel ... markedly" (Augustine, 2006, p. 3).

The off-shoring of jobs has continued to increase and to include furniture manufacturing, information technology, tutoring, and other personal assistance services.

On the other hand, as the value of the dollar continues to decrease, countries such as China are moving operations requiring innovation and high-tech processing to the U.S.

The community college of the 21st century will need to find ways to build on the diversity and globalization. The solution goes beyond access to education to those in under-represented groups; colleges need to look at innovative ways that will successfully recruit, retain, and graduate these students.

Campus Safety and Emergency Management

Within northern Illinois, the need for colleges to have effective campus safety and emergency management plans became very real with the February 14, 2008, shootings at Northern Illinois University. In addition, the tornados, flooding, and food-born illnesses add to the need for institutions to have implementable plans in place and the appropriate people well trained.

HARPER COLLEGE ENVIRONMENTAL SCAN

The 21st century has been characterized by unprecedented change, and community colleges are considering the best courses of action to take in light of these changes. The global economic crisis of 2008 is only one example of the uncertainties that community colleges face. Another is the rapid changes in integrated, mobile technologies that are changing how colleges communicate with their students, provide instruction, and conduct college business.

Planners who understand the internal and external changes that impact their institutions are prepared to move quickly in strategic ways. This environmental scan provides a look at the most critical issues facing Harper College. The scan begins with a review of the economic, demographic, technology, and political/social trends in which the college is operating. The next four sections look at specific trends in education including student factors; curricula, assessment, and instruction; the needs of business and industry; and financial support. The final section lists the major issues which community colleges are currently facing.

Economic, Demographic, Technology, and Political/Social Trends

Community colleges operate in complex environments in which trends converge in interactive ways. The U.S. economy is in a severe crisis resulting in bailouts for the banking industry world wide. The price of gas fluctuates from \$2.00 to over \$4.00 a gallon as natural disasters, the economy, and demand affect the price of a barrel of oil. The November election adds to the uncertainty of the situation and fuels speculation. The following trends and events are the most important for Harper College to consider.

Economic Trends –The Economy

Since September 2008, the U.S. economy and the worldwide ramifications of the downturn have taken center stage. The *New York Times* provided the following summary ([//topics.nytimes.com/top/reference/timestopics/subjects/c/credit_crisis/index.html](http://topics.nytimes.com/top/reference/timestopics/subjects/c/credit_crisis/index.html)):

In the fall of 2008, the credit crunch, which had emerged a little more than a year before, ballooned into Wall Street's [biggest crisis](#) since the Great Depression. As hundreds of billions in mortgage-related investments went bad, mighty investment banks that once ruled high finance [have crumbled or reinvented themselves](#) as humdrum [commercial banks](#). The nation's [largest insurance company](#) and [largest savings and loan](#) both were seized by the government. The channels of credit, the arteries of the global financial system, have been constricted, [cutting off crucial funds](#) to consumers and businesses [small](#) and [large](#).

In response, the federal government adopted a [\\$700 billion bailout plan](#) meant to reassure the markets and get credit flowing again. But the crisis began to spread to Europe, where governments scrambled to prop up banks, broaden guarantees for deposits and agree on a coordinated response.

Origins

The roots of the credit crisis stretch back to another notable boom-and-bust: the tech bubble of the late 1990s. When the stock market began a steep decline in 2000 and the nation slipped into recession the next year, the Federal Reserve sharply lowered interest rates to limit the economic damage.

Lower interest rates make mortgage payments cheaper, and demand for homes began to rise, sending prices up. In addition, millions of homeowners took advantage of the rate drop to refinance their existing mortgages. As the industry ramped up, the quality of the mortgages went down.

And turn sour they did, when home buyers had to leverage themselves to the hilt to make a purchase. Default and delinquency rates began to rise in 2006, but the pace of lending did not slow. Banks and other investors had devised a plethora of complex financial instruments to slice up and resell the mortgage-backed securities and to hedge against any risks — or so they thought.

The Crisis Takes Hold

The first shoe to drop was [the collapse in June 2007 of two hedge funds](#) owned by [Bear Stearns](#) that had invested heavily in the subprime market. As the year went on, more banks found that securities they thought were safe were tainted with what came to be called toxic mortgages. At the same time, the rising number of foreclosures helped speed the fall of housing prices, and the number of prime mortgages in default began to increase.

The Federal Reserve took unprecedented steps to bolster Wall Street. But still the losses mounted, and in March 2008 the Fed staved off a Bear Stearns bankruptcy by assuming \$30 billion in liabilities and [engineering a sale to JPMorgan Chase](#) for a price that was less than the worth of Bear's Manhattan skyscraper.

Sales, Failures and Seizures

In August, government officials began to become concerned as the stock prices of [Fannie Mae](#) and [Freddie Mac](#), government-sponsored entities that were linchpins of the housing market, slid sharply. On September 7, the Treasury Department announced it was taking them over.

Events began to move even faster. On September 12, top government and finance officials [gathered for talks to fend off bankruptcy for Lehman Brothers](#). The talks broke down, and the government refused to step in and salvage Lehman as it had for Bear. Merrill Lynch, which had not been previously thought to be in danger, [sold itself to the Bank of America](#) to avoid a similar fate.

On September 16, [American International Group](#), an insurance giant on the verge of failure because of its exposure to exotic securities known as [credit default swaps](#), was [bailed out by the Fed](#) in an \$85 billion deal. Stocks dropped anyway, falling nearly 500 points.

The Government's Bailout Plan

The bleeding in the stock market stopped only after rumors trickled out about a huge bailout plan being readied by the federal government. On September 18, Treasury Secretary [Henry M. Paulson Jr. publicly announced](#) a three-page, \$700 billion [proposal](#) that would allow the government to buy toxic assets from the nation's biggest banks, a move aimed at shoring up balance sheets and restoring confidence within the financial system.

Congress eventually [amended the plan](#) to add new structures for oversight, limits on executive pay, and the option of the government taking a stake in the companies it bails out. Still, [many Americans were angered](#) by the idea of a proposal that provided billions of dollars in taxpayer money to Wall Street banks, which many believed had caused the crisis in the first place. Lawmakers with strong beliefs in free markets also opposed the bill, which they said amounted to socialism.

President Bush pleaded with lawmakers to pass the bill, but on Sept. 29, the House [rejected the proposal](#), 228 to 205, with an [insurgent group](#) of Republicans leading the opposition. Stocks plunged, with the Standard & Poor's 500-stock index losing nearly 9 percent, its worst day since October 19, 1987.

Negotiations began anew on Capitol Hill. A series of [tax breaks were added](#) to the legislation, among other compromises and earmarks, and the [Senate passed](#) a revised version October 1 by a large margin, 74 to 25.

On October 3, the House [followed suit, by a vote of 263 to 171](#). When the bill passed, it was [still unclear](#) how effective the bailout plan would be in resolving the credit crisis, although many analysts and economists believed it would offer at least a temporary aid. Federal officials promised increased regulation of the financial industry, whose structure was vastly different than it had been just weeks before.

The first reactions were not positive. Banks in England and Europe had invested heavily in mortgage-backed securities offered by Wall Street, and England had gone through a housing boom and bust of its own. Losses from those investments and the effect of the same tightening credit spiral being felt on Wall Street began to put a growing number of European institutions in danger. Over the weekend that followed the bailout's passage, the German government moved to guarantee all private savings accounts in the country, and [bailouts were arranged](#) for a large German lender and a major European financial company. When stocks markets in the United States, Europe and Asia continued to plunge, the world's leading central banks on October 8 [took the drastic step of a coordinated cut in interest rates](#), with the Federal Reserve cutting its two main rates by half a point.

On October 13, 2008, European countries, including Britain, France, Germany, and Spain, bolstered their banks by \$2.3 trillion, and the U.S. announced that \$250 billion of the \$700 billion package would be used for ownership stakes in banks. Morgan Stanley approved a \$9 billion package from Japan's Mitsubishi UFJ to purchase smaller rivals.

The world responded to this news with the largest gain in the stock market since the Great Depression (936 points) and an increase in the price of oil to \$80 a barrel.

After the November elections, speculators differ on whether the market will continue to recover or further setbacks will occur and on the longer-term policies that might be enacted. A general consensus among economists is that more regulation will be enforced regardless of who lives in the White House.

The economic crisis directly affected unemployment. The Illinois Department of Employment Security in its analysis of the June 2008 employment data concluded that “the Illinois labor market is now being fully impacted by the national economic downturn. While some areas have experienced moderate job growth, it has not been enough to absorb the number of jobs being lost” (IDES, 2008).

From September 2007 to September 2008, the unemployment rates increased in the U.S. (4.7% to a five-year high of 6.1%), in Illinois (5.2% to 6.9%), and in the Chicago metropolitan area (4.9% to 6.6%).

Exhibit 1. Seasonally Adjusted Unemployment Rates

	U.S.	Illinois	Chicago Metro
September 2007	4.7%	5.2%	4.9%
June 2008	5.5%	6.8%	6.8%
August 2008	6.1%	7.3%	7.2%
September 2008	6.1%	6.9%	6.6%

Source: Illinois Department of Employment Security, 2008.

Even though the crisis was triggered by the mortgage industry, the impact rippled quickly.

- Construction, manufacturing, and retail had the largest increases in unemployment.
- Students found difficulty in obtaining loans.
- Housing values decreased.
- The number of foreclosures and evictions of tenants in foreclosed properties increased.
- Small businesses found it difficult to get loans to help their cash flow.
- Voters became upset over the need to finance an industry with highly paid CEOs.
- Potential retirees began re-thinking their investments and retirement plans.

The credit crisis has been especially hard on smaller businesses and retailers of large-purchase items. Families are holding onto funds, and unemployment and downsizing have resulted in a decrease in disposable income. On October 13, 2008, GM announced the closing of two more plants, as the automobile industry struggles. Each week, businesses across Illinois are announcing layoffs and closures.

When retail sales decrease and businesses struggle, state and local taxing bodies need to adjust budgets to accommodate unforeseen decreases in sales revenue and corporate taxes. Illinois public community colleges are feeling the pinch.

In addition to the credit crisis, the price of oil increased significantly during the last year, and at one time gas topped \$4 a gallon. During October 2008, the price of gas fell below \$3 per gallon; however, with the increase in the price of a barrel of oil, prices could increase again.

Traditionally, enrollments in community colleges increase during economic downturns. At this time, however, the price of gas and the difficulty in obtaining student financial aid could lower the increases in enrollment.

SCUP Summary of Economic Trends

The Society for College and University Planning (www.scup.org) annually tracks trends for higher education; however, in August they submitted an additional list for this year. The following table summarizes the economic issues they deemed as most relevant to college planning and their interpretation of these issues from 2006 through 2008.

Exhibit 2. SCUP Economic Trends from 2006 through 2008

Date	Trend	SCUP Thoughts
Aug. 2008	Global economic indicators could hardly be more dire and economists are forecasting more of the same, some say for as long as two years.	There are more wild cards in play than normal, so institutions that have done scenario planning may wish to revisit their assumptions about enrollment. Costs are rising faster than adjustments can be made.
Aug. 2008	The relationships between campuses and communities are likely to grow stronger on a number of counts due to these economic shifts. Joint projects to save costs on energy are probably among the first we'll see.	The changed landscape for energy costs is likely to continue driving campuses to find ways to be more sustainable in many areas.
2008	The world's economy has become considerably less predictable, although a slowdown now seems far more likely than continued growth.	A confluence of forces is likely to make for a bumpy road over the next few years. Economic swings have varied and delayed effects on campuses. That a downturn is arriving along with the highest number of applicants ever only compounds the problems.
2008	Increasingly, higher education is suffering from the same inequities in funding that have plagued K-12 education for decades—the rich become richer and the others scramble for what's left. Postsecondary education, however, has options that K-12 does not.	We've noticed before that the trend in declining funding pushes all institutions to look like private ones when it comes to diversifying funding sources. Unfortunately, it seems that every time campuses think they are catching up with new revenue streams, a reliable one is put at risk.

Date	Trend	SCUP Thoughts
2007	The world's economy continues to grow, even with looming environmental and infrastructure issues in China and India. The U.S. economy, however, is likely to slow down or grow only marginally.	Many factors continue to threaten the global economy and some tumble down with local effects. The construction supply and labor markets are no longer just local or regional, as Hurricanes Katrina and Rita have shown.
2007	Even if the U.S. Congress increases financial aid, as both Houses appear set to do, it's hard to say if that will help higher education more broadly or even access for students individually.	A mixed picture in the economy nationally is decidedly unmixed in some states. States simply don't have the revenues to meet all of their obligations and higher education is among the easiest to justify cutting.
2006	The for-profit industry has had growing pains, but has made strides in removing barriers to further growth and is trying new tactics.	Overall, traditional higher education has been competing well. Small, poorly funded, less-known institutions continue to face the possibility of folding. On the other hand, some for-profits might lend a hand by purchasing a traditional institution or part of it.
2006	Value and Costs. The public is confused about the costs and benefits of higher education.	Each institution needs to understand the various "customer" perspectives on the value equations: students, parents, state officials, and alumnae.
2006	Non-Tuition Funding. The public situation varies widely from state to state and within states by the type of institution.	Will the Higher Education Reauthorization Act finally be passed and how will it reflect the Spellings' Commission's findings? (Note: It was passed as mentioned later under <i>accountability</i> .)

Demographic Trends - Income

Within the Harper College district, disparity is apparent when the median household incomes are compared. The highest and lowest median household incomes differ by nearly \$30,000. Barrington, with the highest percentage of households with incomes over \$100K, also has one of the highest percentages of household with incomes less than \$25K.

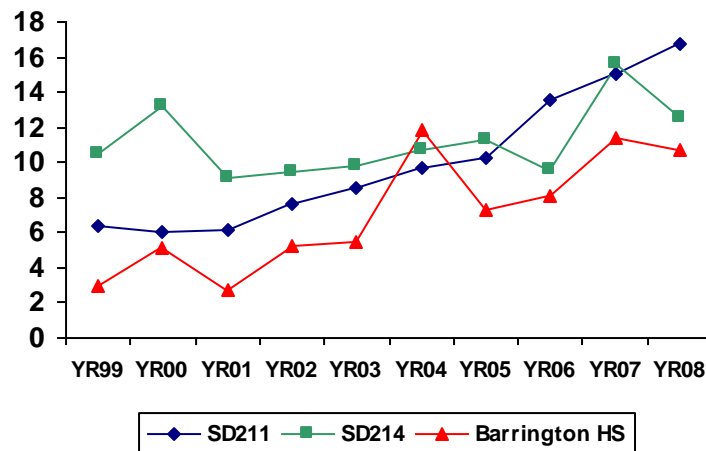
Exhibit 3. Differences in Wage Distribution in Selected Municipalities

Municipality	Median Household Income (1999)	% of Households Income > \$100K	% of Households Income < \$25K
Barrington	\$83,085	41.8%	14.7%
Buffalo Grove	\$80,525	37.1%	7.7%
Arlington Heights	\$67,807	28.6%	12.2%
Hoffman Estates	\$65,937	24.7%	10.4%
Roselle	\$65,254	22.5%	9.5%
Palatine	\$63,321	23.9%	12.7%
Elk Grove Village	\$62,132	20.5%	12.8%
Hanover Park	\$61,358	15.6%	11.3%
Schaumburg	\$60,941	20.0%	12.8%
Rolling Meadows	\$59,535	20.6%	12.7%
Mount Prospect	\$57,165	19.3%	17.0%
Carpentersville	\$54,526	11.6%	15.5%
Des Plaines	\$53,638	14.3%	18.6%

Source: U.S. Census, 2006

In addition, the percentages of low-income students in district high schools have increased since 2001. While well below many school districts, the percentages are creeping upward. Because “income disparities are increasingly being recognized as the most significant barrier to access and graduation for all students” (SCUP, 2008, p. 1), Harper College should anticipate more students with limited financial resources for college and more students who are at-risk of not completing their college programs.

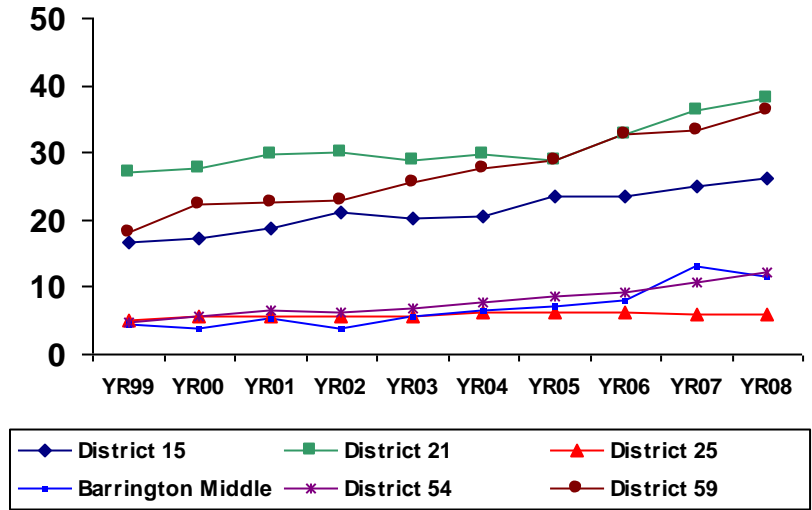
Exhibit 4. Percentages of Low-Income Students in District High Schools



Source: Interactive Illinois Report Card (Northern Illinois University, 2008)

Over 35 percent of the students in District 21 and District 59 and over 25 percent of the students in District 15 were classified as low income in 2008. As students approach the middle-school years, attitudes towards education become more ingrained. Historically, low-income students often opt out of courses that would prepare them for college. Colleges are finding it important to interact with students during the middle school years to help them select college as a choice.

Exhibit 5. Percentages of Low-Income Students in Pre-High School



Source: Interactive Illinois Report Card (Northern Illinois University, 2008)

Historically, the northwest suburbs were a mix of affluence and poverty and were not as affected by economic conditions as was Illinois and the nation. Given the current economic downturn and layoffs, this region has been impacted and will continue to be so. The first signs are the decreases in sales revenue and decreases in income. In addition to decreases in income, citizens are beginning to experience decreases in health insurance benefits, retirement benefits, and lower wages. Job projections for Illinois do not paint a promising picture of recovery. The middle class will continue to erode (Reich, 2005; Center for Tax and Budget Accountability & NIU, 2005).

Demographic Trends - Population

The Harper College district has clusters of very different demographic characteristics. Two of these characteristics could directly affect the college in the next ten years: generational changes and the increasing immigrant population.

Generational Changes

The first wave of Baby Boomers will reach retirement in 2011-2012. Just as this generation altered lifestyles and traditions, strong indications suggest that they also will redefine retirement. In fact, nearly 80 percent of the Boomers plan to work in some capacity in retirement or to delay retirement (Roper ASW, 2004). However, with the

current banking crisis, many Boomers are beginning to rethink their retirement plans, especially as housing prices are falling and their retirement funds erode away.

The Boomers are looking for flexible, part-time employment in a job that makes a significant social impact. Employers will have three to four active generations co-existing in the workplace. The philosophical orientations, work styles, modes of interacting, and social dynamics differ among the generations, often creating challenges for employers.

The Boomers carefully watch and vote to preserve their pensions and to harness healthcare costs. Needless to say, traditional “dependency ratios” may not be sufficient in predicting the impact of the Boomers on the economy, and the allocation of public funds will be altered by this large voting block.

Because Harper College receives significant funding through local property taxes and public funds, maintaining support from the Boomers is important. This generation is seeking additional educational programs and services in retirement. So far, Harper College has been fortunate in its continued support by the voters.

Demographic Shifts

The immigrant population is most likely to continue to increase because of the higher birth rates of the current immigrant population and an influx of new immigrants. Mount Prospect, Arlington Heights, and Palatine were considered “port-of-entry” locations (Paral & Norkewicz, 2003). The Latino population settled within the Harper College district mostly in the northeastern area and along Interstate 80.

The immigrant populations within the Harper College district differ greatly. A significant number of immigrants from East Asia speak English and are educated at levels higher than the native population; however, other immigrant populations have little or no English-speaking background and an average education level below 8th grade. Harper College has challenges in meeting the differing needs of these populations.

The next few years could see a change in the median age of the suburbs. Boomers will need to decide where to live. The current economic situation could greatly impact their decisions. If retirement savings dwindle, housing values fall but taxes remain high, Boomers may seek out other places to live. Harper College needs to monitor the flight of the exurbanites.

Technology Trends

The world of communication has changed forever, according to Gillin (2008). In 2007, 20 percent of the journalists in the U.S. lost their jobs, and the hardcopy newspaper is considered soon to be a thing of the past. Everyone is a potential publisher and online media has become the major source of information. The average age of those watching the evening news is now around 60. In the past, communication of information was predicated on the assumption that information was scarce and that “gatekeepers” such as newspapers would provide the necessary information. In an online society, this is no

longer true. Extreme quantities of information are available through search engines, and the task becomes one of aggregating and filtering the information. The “readers” become attached to trusted sources.

The nature of work is changing as technology tools help improve productivity. For example, digital recorders allow you to record your voice dictating a report while commuting. The file can be sent through voice recognition software such as Dragon Naturally to create electronic documents.

For colleges, future students will be increasingly techno-literate and expect their favorite communication devices to be used in the delivery of instruction. On the other hand, colleges have the opportunity to reach critical masses of potential students 24/7 through the current mobile technologies. The issue becomes one of innovation and change.

Approaches to Innovation

At the federal level, technology and innovation are emphasized as the keys to pulling the U.S. out of the economic downturn and to ensuring that the country is globally competitive. Hand-in-hand with these initiatives is a national push to improve science, technology, engineering, and mathematics (STEM) education from preschool through graduate school (P through Grey).

Innovate America and *A Roadmap for American Innovation* (Council on Competitiveness 2004, 2005) focused on building talent, investment, and infrastructure for STEM initiatives. Recently, the conversations focused on ways to create knowledge, products, and services through social-networking technologies (Bughin et al, June 2008) and on ways to develop tacit interactions among unique pools of talent. In essence, online communities of experts collaborate on projects through professional conversations and create a learning community without geographic boundaries. “Communities are productive when they have clear rules, clear leadership, and transparent processes for setting goals and resolving conflicts among members” (Bughin et al, June 2008, p. 4). Whether or not this approach will be effective for higher education and governance models of leadership needs to be seen. Presently, however, online communication software has proven effective in the management of grant projects with an international participation.

SCUP Summary of Technology Trends

The following summary shows the shift from access to a computer, to access to a fast computer with Internet access, to access via smart mobile devices that rival desktop computers. These technology advancements have created new forms of communication and new approaches and platforms for education and learning.

Exhibit 6. SCUP Technology Trends from 2006 through 2008

Date	Trend	SCUP Thoughts
Aug. 2008	Hardware has essentially become ubiquitous, particularly now that mobile devices are nearly as capable as desktop computers were a few years ago.	Funding for IT on campuses has switched its focus over the years from hardware for computer labs to server farms and wireless routers. The business of higher education wouldn't happen as efficiently without the operating systems that make electronic transactions possible. Those investments are the easy part of IT.
Aug. 2008	There is no question that a large percentage of students engage in what can be loosely called online social networking activities. Initial results of an EDUCAUSE survey found that 89 percent of students have a presence on Facebook.	Higher education needs to find ways to leverage learning within the boundaries of students' engagement with social networking. Students are willing to use course management systems to keep up on grades and assignments, but they do their collaborative learning on Facebook.
2008	Technology doesn't dominate the headlines or the concerns of presidents as it once did in higher education. Nevertheless, shifting needs are changing where dollars and people are placed.	Technology use on campus has become part of the way that the institutional mission is accomplished. Campuses have come a long way in the last 20 years, to the universal acceptance of electronically mediated communication, research, and teaching.
2008	While campuses, and the economy in general, increasingly rely on technology, the interest in computer science as a career is dropping.	Social networking, open-source programs, the convergence of hardware, and the essential globalization of communication are all ways that technology may solve its own problem with regenerating expertise.
2007	Speed and access to the Internet matter to productivity, not just to individuals' satisfaction with their technology interactions. Campuses have been at the forefront of	The digital divide continues to widen, but for access to wireless and broadband (high-speed) connections not for access to hardware. Nearly every K-12 school

Date	Trend	SCUP Thoughts
	providing access and speed for their students, faculty, and staff, but the nation that invented the Internet as a whole lags behind the rest of the world in speed.	has computers in it, but getting to the web isn't always as easy.
2007	EDUCAUSE's annual survey of Chief Information Officers offers some important insights into IT on campuses.	It's no surprise that EDUCAUSE created the Learning Initiative and that it includes a focus on the design of facilities for learning. SCUP members know that the physical environment has a significant effect on learning.
2006	At the same time as concerns about protection of personal information rise, institutional secrets are becoming more difficult to keep.	NCES will have more publicly available data, if the Secretary of Education's plans materialize.
2006	Technology continues to change what we recognize as pedagogy. The implementation of learning methods may change more in the next 15 years than in the last 150; especially as the line between "real" and "virtual" continues to blur for young people.	Even adult professional learners will be demanding changes in delivery, not to mention military veterans who have experienced distance learning while serving.
2006	The tools, venues, and methods of communication used by people vary greatly based on generational, as well as cultural and socioeconomic access.	What method of communication most quickly and inexpensively reaches your constituencies? The text-messaging and other kinds of mass communication systems being looked at by institutions may well grow from "there in case of a crisis" to everyday use.

Environmental Movement

An environmental scan would not be complete without recognizing the growing environmental movement. A new "green" rating will be included in the Princeton Review of Colleges, and 526 leaders have signed the American College and University Presidents Climate Commitment (SCUP, August, 2008).

The price of oil has resulted in a resurgence of interest in environmental-friendly technologies and alternative energies. In fact, the alternative energy field is one of innovation. In the past, energy initiatives often came from the large utilities; however, the alternative energy field is filled with entrepreneurial enterprises which are connected through networks and just-in-time learning.

One could say the alternative energy field is a case study of the newer approaches to innovative technology and partnerships.

- Colleges and schools are forming partnerships with industry and communities to implement technology to reduce fuel costs and the toll on the environment.
- As with all emerging fields, colleges often cannot enroll a critical mass of students to make a new program feasible. Madison Area Technical College has formed a consortium of colleges to implement a model that combines instruction delivered by faculty from multiple institutions and by professionals through alternative energy associations. Students from around the world are completing the alternative energy certificates through this consortium called CERET (www.ceret.us).
- The environmental movement combined with increasing transportation costs and food safety concerns has seen the increasing interest in producing and buying local food.

“Green” gained momentum in the 1970s; however, when energy costs decreased, the alternative energy focus also declined. Will that be the case again if gas prices continue to decrease?

Political/Social Trends

The major political/social trends include the upcoming November 2008 presidential election and the federal and state legislation focusing on accountability, affordability, and access to higher education.

Elections

The presidential election, filled with the usual rhetoric and posturing, has focused on the economic crisis. As the new president-elect enters the White House, the electorate will pay close attention to that person’s approach to the economy, Bush’s “War on Terror,” soaring healthcare costs, the potential reauthorization of *No Child Left Behind*, funding of key educational programs for higher education, among many other issues.

Locally, non-partisan elections have increased in visibility through the media and Internet. These communication channels provide a forum for those running on a platform aligned with a specific issue or political party.

Higher Education Still under the Microscope

As in the previous 2006 environmental scan, higher education is still in the “hot-seat” according to some college administrators. The passing of the renewal of the Higher Education Act has provided more insight into Congress’s thinking. The August 8, 2008,

Chronicle of Higher Education (p. 1) summarized the critical components of the reenactment as “crack down on conflicts of interest in the student-loan programs, press institutions and states to rein in tuition, and make it easier for for-profit colleges to become, or to remain, eligible to award federal student aid.” The key provisions listed in the Chronicle include “create a national ‘watch list’ of the most expensive colleges; bar the Education Department from dictating how colleges measure student learning; punish states that fail to maintain spending on higher education; require colleges to do more to crack down on students’ illegal sharing of music and video files; and require textbook publishers to divulge more information about prices.”

Even though the U.S. cannot dictate assessments, the outcome assessment issue is still in the forefront. The reenactment expands the Advisory Committee on Accreditation to include appointees from the U.S. Secretary of Education and from leaders of the Senate and House. The outcome issue has become one of accreditation. In addition, the first major clarifications required of colleges will be their acceptance of transfer credit.

In order to be more upfront about textbook costs, colleges are to display the costs of required and recommended texts as part of their online schedules; however, there are provisions under which “to be determined” may be used. Textbook rental programs were included in the new legislation; however, no funds were allocated for implementation.

The reenactment of the Higher Education Act took five years; however, in November 2008, a new president of the U.S. was elected. Time will tell whether the recommendations of the Miller Commission on the Future of Higher Education will prevail.

At the state level, House Joint Resolution 69 called upon the Illinois State Board of Education to create a public agenda to direct policy and resources in Illinois. In October 2008, the *Public Agenda for College and Career Success* was discussed through statewide hearings. The agenda presented four goals and specific actions with measurable outcomes for each:

- Goal 1: Increase the educational attainment to match the best performing U.S. states and world countries.
- Goal 2: Ensure college affordability for students, families, and taxpayers.
- Goal 3: Increase number of quality of postsecondary credentials to meet demands of the economy.
- Goal 4: Better integrate Illinois’ educational, research, and innovation assets to meet the economic needs of the state and regions.

Each goal is especially pertinent for community colleges and the final Public Agenda will need to be included in strategic planning processes.

SCUP’s Summary of Political Trends

The following table directly quotes SCUP’s political trends (www.scup.org). The overriding theme of accountability is discussed within the body of this paper in several sections.

Exhibit 7. SCUP's Political Trends from 2006 through 2008

Date	Trend	SCUP Thoughts
Aug. 2008	After ten years the U.S. Higher Education Act (HEA) has finally been renewed. Accreditation stayed largely unchanged. Financial aid changes occurred last year in a special bill, the College Cost Reduction Act of 2007.	Accrediting agencies have made changes over the years to better reflect institutional outcomes instead of just their inputs. However, they'll need to go further and faster if they are to keep up with the quality efforts being undertaken in Europe.
Aug. 2008	Higher education is facing more challenges than ever as federal and state legislators push accountability, even as they provide fewer public funds. Much is likely to stay unclear until after the election, but some issues will remain.	Few of the initiatives coming forward are likely to come with more funding, although some may. How higher education will pay for the likely legislative mandates is as uncertain as is general funding for many institutions.
2008	The Spellings Commission's report raised some hackles and some awareness of issues related to funding, accountability, and access. While accreditation remained a political hot potato, student financial aid legislation actually passed.	For four years we've been writing about the stalled Higher Education Reauthorization Act, which expired in 2003. Now with at least seven extensions, it's difficult to believe that postsecondary education is actually valued in face of continued political game playing.
2008	As with other areas of political interest, states are picking up slack on higher education policy and funding where the federal government sees needs, but doesn't act.	States are tackling a diverse array of opportunities and problems in their higher education institutions. Creative and workable solutions can move more quickly there, as well as to other states.
2007	For years institutions have been waiting for the reauthorization of the Higher Education Act to occur. The Senate and House have each passed their versions, including budget recommendations, but they still have until September to reach reconciliation.	The Spellings' Commission report didn't help the reauthorization process with the controversies it raised, particularly about accreditation. With less than two years to accomplish changes, the Department of Education sees accreditation as the best place to really make a difference.
2007	At the heart of many of the accountability debates is the reality that no one really knows how a	Individual unit records are a major issue because in order to be most helpful they need to follow individuals

Date	Trend	SCUP Thoughts
	student progresses, or doesn't, through higher education. Unit records, as they've known, may still be a long way off on a national basis, but that doesn't mean the Integrated Postsecondary Education Data System isn't trying to get to that level.	into the workplace, as well as throughout their academic careers. If we're promoting lifelong learning, shouldn't we all be registering our educational activities?
2006	Not a week goes by without extensive media coverage of some kind of "reputational" crisis, sometimes related to a physical disaster, at an institution of higher learning.	Katrina, disaster planning, continuity planning, etc.
2006	The form of the engagement between the Department of Education and the Academy is taking shape and will be a constant federal pressure on much of campus leadership.	Battle lines have been drawn and the Academy is watching to see what Democratic control of the House and Senate means for the Department of Education's plans.

Convergent Trends for Harper College

Taken together, the economic, demographic, technology, and political/social trends point to several critical issues for Harper College to consider:

- The U.S. economy is caught in a perfect storm as challenges in the banking and oil industries affect the global economy during a time when the U.S. continues to overcome the devastation created by hurricanes and floods. Citizens are holding tight to their money and are losing more trust in the country's leaders. These attitudes will affect community colleges by making financial resources even more difficult to obtain.
- If current trends and policies do not change, by 2020 the Illinois workforce could be less educated than today's workforce, which will result in a drop in the state's per capita income.
- If the disparity in degree attainment does not change, the educational level of the Illinois worker may decrease as the population shifts to fewer white workers and more workers from populations with lower levels of educational attainment. As the Harper College district becomes increasingly Latino, recruitment and retention efforts for this segment of the population will remain important.

- By 2030, the population of the Harper College district should be close to maximum capacity. Employment, however, is outpacing the increase in population. If these predictions hold, and if the population becomes increasingly low income, the district will have even more difficult challenges in recruiting and retaining a skilled workforce. In addition, these trends could result in a lowering of the median household income.
- As employers, community colleges may face continuing shortages in areas such as nursing faculty and administration.
- The rapid changes in mobile technology will force colleges to rethink the delivery of instruction and services.
- Continually, colleges will need to show their accountability.

In addition, the oil prices may impact Harper College in three ways:

- Students may find commuting expensive, resulting in increased requests for online and hybrid courses or flexible attendance approaches.
- Recruiting and retaining faculty and staff within a nonstandard commuting distance may become more difficult if alternative transportation, flexible scheduling, and innovative work arrangements are not available.
- The operating costs of Harper College may increase and place more strain on limited fiscal resources.

Trends in Education – Students

Community colleges serve a multi-diverse population. For example, students from all ethnicities, races, socio-economic backgrounds, ages, and genders use community college resources. The reasons students attend the community college are as diverse as well. In addition to serving individual students, the community college plays an integral role in the economic development of its region through services to the entire private and public sectors.

This section looks at selected demographic characteristics of students and their preparedness for college. The Harper College *Fact Book*, which is updated each year, provides the following analyses and trends on credit and non-credit students:

Chapter III Credit Students

- Applicants
- Fall Semester (10th Day)
- Annual Credit Enrollments
- Retention Analysis
- Degrees and Certificates Awarded
- Profile of Students Awarded Degrees and Certificates

Chapter IV Noncredit Students

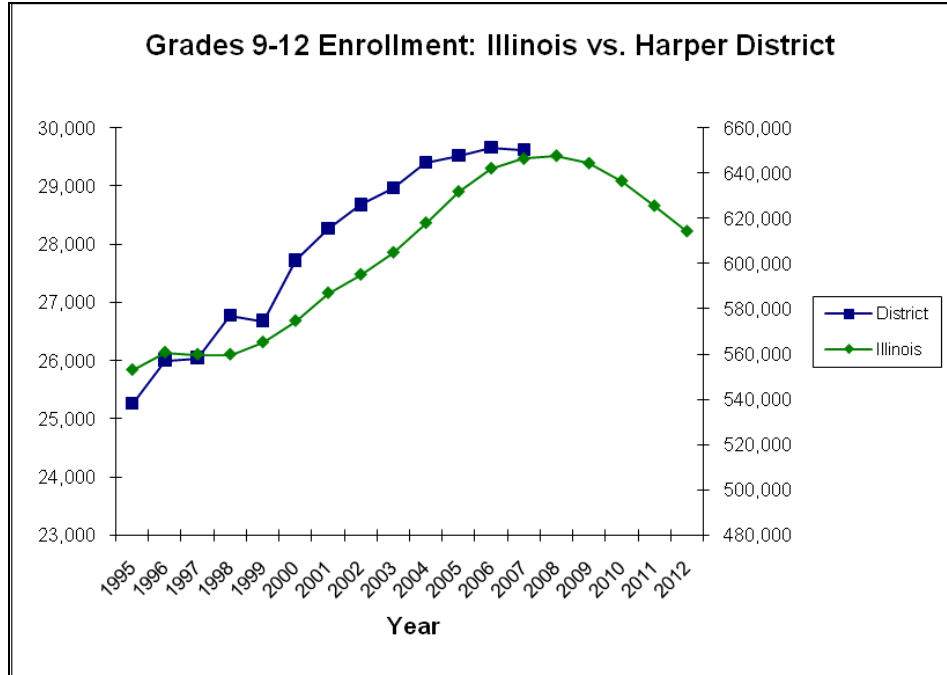
- Continuing Education Students
- Harper College for Businesses

Student Demographics

Since 2003, Illinois public community colleges have experienced decreases in their credit enrollments. Approximately 5 percent fewer credit students attended a community college in fall 2007 compared to fall 2003. In addition the number of credit hours generated by these students decreased approximately 3 percent (ICCB, 2008).

Community colleges draw significant enrollments from recent high school graduating classes. Across the state, the number of students enrolled in grades 9 -12 is beginning to decrease. As in the previous 2006 scan, the enrollment will be capping for grades 9 through 12 in Illinois, and Harper College has begun to see this capping effect already.

Exhibit 8. Enrollments in Grades 9-12 in Illinois versus Harper College District



Source: Harper College Office of Research, 2008

Student Academic Preparation and College Readiness

High school students in the Harper College district show a great disparity in their readiness for college. Overall, the academic achievement of students in the top feeder high schools equaled or surpassed the state average of percentages of students meeting or exceeding state standards. However, the schools are still a long way from meeting the *No Child Left Behind* (NCLB) standard of 100 percent of the students meeting or exceeding standards by 2014.

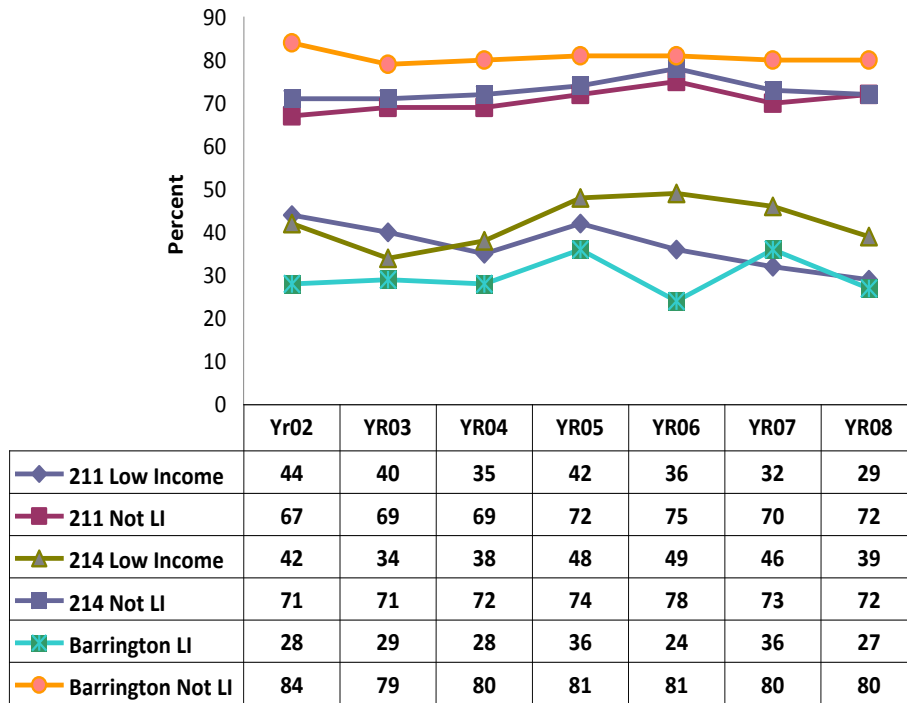
Exhibit 9. Percentages of HS Students Meeting or Exceeding State Standards

High School	Year 2002	Year 2003	Year 2004	Year 2005	Year 2006	Year 2007
Barrington	80	77	75	76	76	75
Prospect	78	73	74	79	81	80
Fremd	78	76	75	78	77	78
Hersey	69	77	70	74	76	74
Conant	67	68	69	73	72	69
Elk Grove	58	61	61	68	66	66
Palatine	60	60	58	66	64	65
Rolling Meadows	62	58	65	64	68	66
Wheeling	53	53	50	64	66	66
Schaumburg	66	65	63	63	68	64
Hoffman Estates	57	59	61	57	58	58

Source: Interactive Illinois Report Card (NIU, 2008)

In addition to the disparity among schools, significantly fewer low-income students meet or exceed the 11th grade reading or mathematics standards than their peers in the Harper College’s feeder high schools.

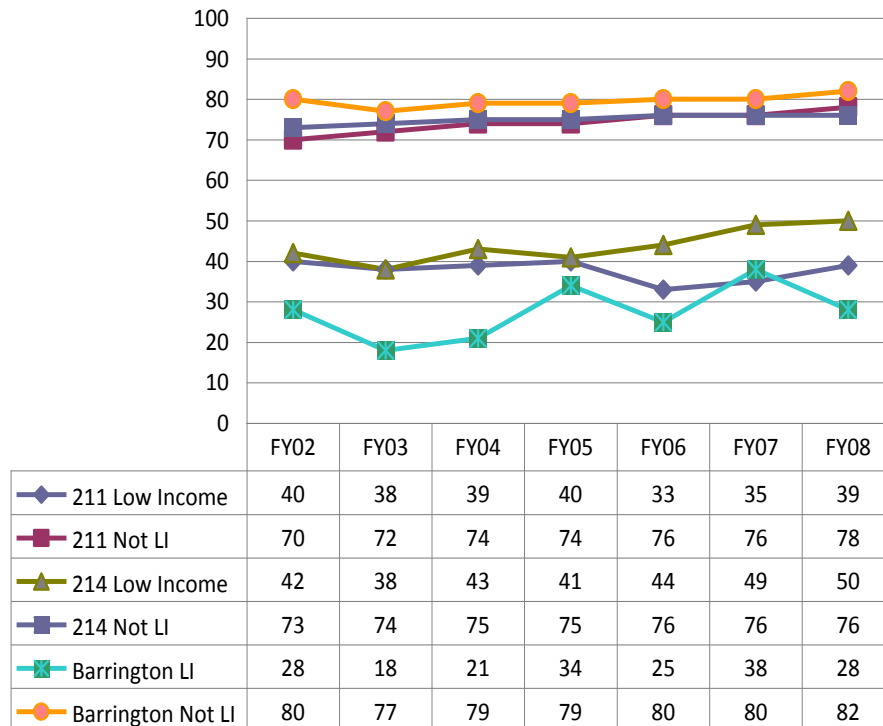
Exhibit 10. Percentages of HS Students Meeting or Exceeding Reading Standards



Source: Northern Illinois University, Interactive Illinois Report Card, 2008

In 2008, Illinois was one of six states that received permission and funding from the U.S. Department of Education to explore new strategies in how to determine student achievement under *No Child Left Behind*. Harper College should stay abreast of the changes ISBE makes in determining and tracking how schools can determine whether or not they made Adequate Yearly Progress (AYP).

Exhibit 11. Percentages of HS Students Meeting or Exceeding Math Standards



Source: Northern Illinois University, Interactive Illinois Report Card, 2008

Nationally, “between 28% and 40% of first-time freshmen in four-year public institutions, and between 42% and 63% of first-time freshmen in two-year public institutions, enroll in at least one remedial course” (Olson, 2006). The need for remediation decreases the chances the student will graduate. A national study found that 75 percent of students not needing remediation will graduate; however, only 46 percent of students needing one or two remedial mathematics courses will graduate (Adelman, 2004). If this holds true, over 45,000 Illinois community college students enrolled in remedial mathematics courses will not persist to graduation. Unfortunately, the students in most need of remediation are often those of low income.

The way in which community colleges interface with high schools may be impacted by two trends as the focus on improving high schools across the nation continues. First, within Illinois, the charter school approach is being advanced within larger metropolitan areas. Nationally, the quality of charter schools was addressed in *A Framework for Academic Quality: A Report from the National Consensus Panel in Charter School Academic Quality*. Second, a resurgence in career academies at the secondary level has emerged.

Hovering Parents

Parents continue to be more involved in their college students' lives, often disregarding FERPA and demanding to be heard. Sometimes the college personnel are caught between the student and parent, a rather uncomfortable place to be. Colleges are providing professional development to staff on how to deal with the irate parent and/or student. Colleges are changing student orientations to help parents realize their role and provide them with appropriate avenues of keeping involved in their students' education.

SCUP Summary of Demographic Trends

The SCUP demographic trends are presented verbatim from www.scup.org. They include trends on increasing numbers of students seeking mental health services, a shift in focus away from race to income as a way of viewing under-represented groups, and labor shortages in education.

Exhibit 12. SCUP's Demographic Trends from 2006 through 2008

Date	Trend	SCUP's Thoughts
Aug. 2008	The mental health of students attending college is increasingly becoming a cause for concern, in both the U.S. and Canada.	The number of students who seek and need mental health services is only likely to rise. Increased awareness and decreased stigmatization for treatment contribute to this trend, but don't explain it all. How can campuses provide appropriate help?
Aug. 2008	Institutional financial aid has become a vital link to recruitment and retention as public funding for higher education, including federal grants, cannot keep pace with costs, particularly for first-generation students.	The realities of paying for college education are starker than ever. The costs of transportation, books, housing, and meals, along with tuition and fees, are pricing even more students out of a full-time education.
2008	Income disparities are increasingly being recognized as the most significant barrier to access and graduation for all students, although they clearly hit minority students hardest.	The focus on minority recruitment has begun to shift to acknowledge the broader issues involved in access for low-income students of all ethnicities.
2008	The mix of graduate students in the U.S. continues to change.	A complex set of changes is underway in who attends and succeeds at graduate school. The Patriot Act immediately, and it appears irrevocably, changed the ease with which international students choose the U.S. as the

Date	Trend	SCUP's Thoughts
		place to go. Increasing numbers of women and minority students have also changed the playing field.
2007	Labor shortages are predicted across the educational landscape.	How will institutions respond to this looming change in its talent pool of students, faculty members, and administrators? Immigration discussions in Washington, the stock market, the baby "boomlet", and the rise of global education all play a role in how these questions will be answered.
2007	Incoming students are not making decisions about college attendance in the same ways their parents did.	Everyone agrees that the Millenials are more than just digital natives. They bring explicit values to college, including increased volunteerism and a sense that college should lead to a fulfilled life, not just a monetarily successful one.
2006	Student Loan Debt. Students are graduating with debts that would astonish the previous generation.	Access takes another hit when debt keeps students from graduating.
2006	Near-campus living for faculty and staff. With higher education institutions now such obvious drivers of economic growth, institutions outside traditional urban areas are beginning to experience housing issues that affect recruitment of faculty and staff.	Several thoughts were given including public-private partnerships to create affordable living situations, work with surrounding communities, and discussions on sustainable practices.
2006	Affirmative action is taking a beating, politically, and is less easily useful as a tool for achieving institutional diversity.	Watch University of Michigan, retaining minorities becomes more important, and who is hurt most by the loss of affirmative action.

Trends in Education – Curriculum, Assessment, and Instruction

The 21st century brings new challenges to community colleges, including Harper College. The changing skill set, increasing demands for accountability, changes in pedagogy, and global education are a few examples.

Changing Skills for the 21st Century

The Partnership for 21st Century Skills (March 2006) and the National Governors Association (2007) are two of many organizations clamoring for curricular changes. The focus of both groups is on expanding the traditional core to include interdisciplinary, higher-level thinking within the context of rapid technology changes.

The Partnership for 21st Century Skills (March 2006) included educators, employers, parents, community members, and students in a process to identify the 21st century skills. The proposed curriculum included skills to be taught in an integrated, balanced approach and learning evaluated through authentic assessments:

- Core Subjects - English, reading or language arts, mathematics, science, foreign languages, civics, government, economics, arts, history, and geography
- 21st Century Content - global awareness; financial, economic, business, and entrepreneurial literacy; civic literacy; health and wellness awareness
- Learning and Thinking Skills - know how to keep learning throughout life, critical-thinking and problem-solving skills, communication skills, creativity and innovation skills, collaboration skills, contextual learning skills, and information and media literacy skills
- Information and Communications Technology - ability to use technology to develop knowledge and skills
- Life Skills - leadership, ethics, accountability, adaptability, personal productivity, personal responsibility, people skills, self-direction, and social responsibility

The 21st century workplace needs workers who can negotiate, coordinate, and facilitate rather than manage, direct, and control (GDA, 2003, p. 17). *Greater Expectations* (Association of American Colleges and Universities, 2002) emphasized the need for skills to evaluate information, to understand ethical consequences of actions, and to thrive in a global, diverse cultural environment.

The National Governors Association (2007, p. 7) in *Innovation America: Building a Science, Technology, Engineering and Math Agenda* saw the need to increase STEM literacy or “an individual’s ability to apply his or her understanding of how the world works within and across four interrelated domains.” The domains are scientific literacy, technological literacy, engineering literacy, and mathematical literacy. The four domains are inter-related.

A hallmark of a STEM classroom is emphasis on design and problem-solving in ‘intellectual messy’ learning situations that weave together the

disciplines through topics such as nanotechnology, biomedical engineering, and astrobiology. Thus, for example, a STEM classroom might pose a problem and then require students to do original research inspired by a classwide inquiry project, where they must use technology to gather and analyze data, design, test, and improve upon a proposed solution, and then communicate their findings to their peers in another country. A STEM student might spend after-school time, mentored by a local engineer, building a robot that can walk up stairs (NGA, 2008, p. 7).

These new approaches would have tremendous impacts on how faculty members and industry experts communicate and work together globally on projects. Instructional practices throughout the educational system would undergo shifts as well.

Increasing Demands for Accountability

Community colleges are vital, innovative, and effective in providing high-quality and affordable education in the face of rising tuition and lower per student funding; in meeting the needs of the increasingly ethnically diverse populations; and in leading the way in e-learning (Rockbridge, 2006). This message, however, is not clearly articulated nor understood by the public.

The call for increased accountability for colleges and universities is coming from diverse sectors. The U.S. Department of Education formed the Miller Commission; however, other groups are clamoring as well for outcomes measures.

- The Higher Learning Commission routinely requires follow-up visits and reports for colleges not completely implementing and using student learning outcome assessments.
- The National Center for Postsecondary Improvement (2002) outlined three areas of improvement needed in higher education: improve educational quality and institutional performance; be more responsive in balancing market forces with higher education's public purpose; and use better data to document what is known about institutional structures and practices.
- A report from the National Center for Public Policy and Higher Education, *The Governance Divide*, advocated for more alignment among all segments of the P-16 educational system including the alignment of courses, policies to connect the funding for P-16 education, coordinated data systems to track students, and an accountability system that assesses the interface between the pre-college and college sectors.
- Jobs for the Future, a Boston advocacy group, chastised states which do not have specific, measurable goals and established strategies for increasing college participation, retention, and graduation rates (2006).

On the other hand, the *Community College Student Engagement* survey is used by many institutions across the U.S. to benchmark student learning and retention (www.ccsse.org). This instrument was recommended to the Commission on the Future of Higher Education as a possible way to establish national accountability data.

The *National Community College Benchmark Project* began as a pilot project at Johnson County Community College in Kansas. It was found to be a successful way for community colleges to share comparable data and benchmark themselves against other similar community colleges while preserving the anonymity of the data (www.hccbp.org).

For sure, the relationship between higher education institutions and the state, districts, and constituents are becoming more complex and visible (SCUP, 2006). For example, some businesses are not waiting for colleges to provide accountability data. Boeing is conducting an internal research project in which it maps its 35,000 engineering employees' performance evaluations to the colleges they attended in order to identify from which colleges to recruit future employees. "Boeing may make a mark where government and others have not—raising the possibility that employers could become a major force for college accountability" (Basken, Sept. 19, 2008, p. 1).

Changing Pedagogy

Derek Bok, former president of Harvard (2005), maintains that lecturing remains the most common method of instruction even though much research suggests that more active forms of teaching help students learn more and remember better what they learn. This quote is still true; however, the gap between the low-tech and high-tech faculty members is increasing. Wiki, Blog, and Bliki are three tools used by college faculty to help students interact, to quickly find instructional resources, and to manage the class.

Technology is changing the way education is delivered and perceived. In 2003, the megatrends for education (GDA Inc., 2003) included the following:

- increased use of technology for interacting with students for instruction and student services
- wireless telecommunication networks around campus
- rapid growth of wireless networks and device capabilities, increasing the need for expanded bandwidth and concerns about security
- student support services delivered via technology
- more virtual instruction
- increased fiscal strain on institutions to provide state-of-the-art technology

Since 2003, technology continued to change. iPhones and mobile technology are the newest instructional delivery mechanisms and are taking cyberlearning to new levels. Pre-secondary students are well versed in the use of a cell phone and have taken social networking to a new level. The popularity of Facebook, MySpace, and text messaging shows that the younger generations have passed the e-mail stage of communication and have re-defined social networking and collaborative learning.

The cell phone and PDAs have morphed into mobile devices that rival the desktop computer, thus creating a new mode of accessibility to education. SCUP (August, 2008, p. 13) predicts, "We anticipate legislators will start demanding that courses be available not just online, but on any device." The applications are limitless.

Currently, parents give pre-school children phones in order for them to access the Internet to play instructional games during commutes. The students of tomorrow will be techno-skilled and expect instruction to use the tools with which they communicate. "Perhaps it time to consider a blank sheet approach to learning, by setting aside existing educational systems, policies, and practices, and instead first focusing on what knowledge, skills, and abilities a person will need to lead a productive and satisfying life in the century ahead. Then, by considering the diversity of ways in which people learn, and the rich array of knowledge resources emerging in our society, designing a new ecology of learning for the 21st Century" (Duderstadt, 2003, p. 20).

How will the next generation of pedagogy look? The National Science Foundation is supporting research using cyberlearning, instructional social networking, and the use of mobile learning devices (NSF, 2008, p.5):

Imagine a high school student in the year 2015. She has grown up in a world where learning is as accessible through technologies at home as it is in the classroom, and digital content is as real to her as paper, lab equipment, or textbooks. At school, she and her classmates engage in creative problem-solving activities by manipulating simulations in a virtual laboratory or by downloading and analyzing visualizations of real-time data from remote sensors. Away from the classroom, she has seamless access to school material and homework assignments using inexpensive mobile technologies. She continues to collaborate with her classmates in virtual environments that allow not only social interaction with each other but also rich connections with a wealth of supplementary content. Her teacher can track her progress over the course of a lesson plan and compare her performance across a lifelong "digital portfolio," making note of areas that need additional attention through personalized assignments and alerting parents to specific concerns. What makes this possible is *Cyberlearning*, the use of networked computing and communications technologies to support learning. Cyberlearning has the potential to transform education throughout a lifetime, enabling customized interaction with diverse learning materials on any topic—from anthropology to biochemistry to civil engineering to zoology. Learning does not stop with K-12 or higher education, cyberlearning supports continuous education at any age.

Converging media technologies are creating new, innovative, and effective learning environments referred to as the third dimension. The first dimension is face-to-face instruction; the second dimension is online courses through platforms such as Moodle, WebCT, or Blackboard; and the third dimension is interactive, virtual environments such as those in Webkinz, Club Penguin, Google Lively, Second Life, and the Croquet Consortium. Even though Linden Research's Second Life is in the infant stage as an instructional approach, it had over 1.5 million logins from around the world over the last sixty days.

Printed textbooks are being replaced with electronic textbooks with modules that can be easily updated and customized for different learners. Rather than face-to-face or online instruction, podcasting is being used more frequently. E-mobile learning was unleashed last year when Apple Computer Inc. piloted the use of iTunes U with six universities to enable students to access course lectures via the iTunes software.

The Open Content Initiative funded through the Hewlett Foundation provides a new perspective on education and the infrastructure needed to make course materials accessible to anyone with web access. The University of California at Irvine, the University of California at Berkeley, MIT, Utah State, Johns Hopkins School of Public Health, Rice, and Carnegie Mellon have free materials online—no tuition, no fees, just use the material how you wish.

In summary, higher education faculty members are faced with new challenges: the new generation of students learns in multiple ways and through new modes of communication. Students expect instruction to be delivered in convenient, flexible, just-in-time modes that use the latest technology that they are accustomed to using every day. A myriad of competitors is chomping at the bit to teach these students.

SCUP Summary of Learning Trends

The following summary reiterates the challenges and opportunities higher education faces in a range of issues affecting learning including accountability and technology.

Exhibit 13. SCUP Learning Trends from 2006 through 2008

The following trends and thoughts are quoted directly from SCUP’s trends available at www.scup.org.

Date	Trend	SCUP Thoughts
Aug. 2008	There is increasing public skepticism about the quality of the U.S. K-12 public education system and its ability to prepare students for either employers or postsecondary institutions. The percentage of 25- to 29-year olds with high school diplomas has not moved in 20 years.	<i>No Child Left Behind</i> is up for reauthorization and so far most of what it’s done is label thousands of schools as failing and slowed growth in reading and math scores. Are there any solutions that are scalable or are we willing to again leave higher education to an elite?
Aug. 2008	The clash between digital natives and immigrants continues as Facebook study groups and Internet access in law classes challenges.	The design of learning spaces can provide access to the digital natives’ preferred technology and foster changes in faculty/student interactions. Focusing on physical design could offer the middle-ground for helping instructors make better

Date	Trend	SCUP Thoughts
		use of technology for learning.
2008	Community colleges have long had to wrestle with what constitutes 'student success', since their students come with many goals.	Determining how to measure 'student success,' much less how to encourage it, is likely to occupy all types of institutions in the foreseeable future. The 2007 <i>National Survey of Student Engagement (NSSE)</i> and the <i>Community College Survey of Student Engagement (CCSSE)</i> have moved into the mainstream as methods of learning what makes success happen.
2008	Electronically mediated learning continues to thrive and increase the ways in which our technological toys and tools are used for this purpose.	As the use of technology for learning spreads, its ability to advance access in some unanticipated places is likely to continue to push the creativity of faculty and staff.
2007	Online learning continues to grow for both secondary and postsecondary education. Some are seeing it as one of the few relatively unrestricted avenues for innovation in teaching and learning.	Digital natives will continue to demand that more learning be delivered asynchronously, via whatever electronic device they have handy.
2007	The increasing use of contingent faculty is not just limited to for-profit and community/technical colleges. Every campus uses them, from Harvard with 56 percent of faculty outside the tenure system to the University of Maryland with nearly 70 percent.	Budget issues have led to the increased use of contingent or adjunct faculty to teach, as department chairs struggle to meet their obligations with reduced resources. Contingent faculty can add to a student's learning when they bring experience from their profession, but when students have more than half of their classes taught by adjuncts, experience loses its potency.
2006	Divisive perceptions of private benefit and public good create tension around admissions.	Look to even more defined articulation relationships between two-year and even the most prestigious four-year colleges, even though "back door" transfer-admissions will be increasingly scrutinized.

Date	Trend	SCUP Thoughts
2006	How young people learn continues to change, more affected by technology and culture, than by institutional decision making.	It's not completely ludicrous to imagine a future where even highly educated people do not have a mastery of reading, unless they are in niche professions that rely on text.
2006	"Learner-centered" has not reached the end of its life space as a concept, but institutions are finding it worthwhile to pay attention to the teacher end of things.	A growing focus on institutional mission is highlighting inherent tensions between such dichotomies as teaching and research, or faculty loyalties to academic disciplines versus institutions.

Global Education

Instructional competition is increasing both within the U.S. and globally. China, India, and South Korea are ramping up to prepare engineers and science graduates. In fact, according to *The Chronicle of Higher Education*, the number of private engineering colleges in India increased from 222 to 1,116 from 1991 through 2005.

At a policy level, the Bologna Process should be watched. "Europe's move to a uniform system of accounting for student learning will push the rest of the world to comply....As Europe moves to make the Bologna Process a reality, it may well be creating the standard of global portability....Countries outside of Europe are looking to adopt the Bologna frameworks and as they do, U.S. accrediting agencies may have no choice but to judge U.S. institutions on how well their students meet these quality standards" (SCUP, 2008, p. 8, 11). The Bologna Process could become the standard for quality and the transfer mechanism for a globally awarded degree.

SCUP's Summary on Global Education

Online and mobile technology, the Bologna Process, and restrictive U.S. policies are factors that can impact the United States' role in global education.

Exhibit 14. SCUP's Summary of Global Education from 2006 through 2008

Direct quotes from www.scup.org.

Date	Trend	SCUP Thoughts
Aug. 2008	The effects of the Patriot Act continue to be felt in U.S. higher education institutions through reduced numbers of global applicants. Meanwhile, the European Higher Education Area is moving nearer to reality, and it represents a model being considered by many other nations.	Higher education is seen as a major economic driver and an economic asset throughout the world and the U.S. may see its position eroding as the most trusted supplier.
Aug. 2008	Online education has long been portrayed as the key to access for developing countries. While everyone wants to play—existing tertiary institutions and new for-profits—the ability to enter markets may be more constrained than many assume.	Students who already have access to on-campus or in-person educational opportunities are the ones most likely to be able to use online educations. They have computers, existing infrastructure, and know the culture of formal education.
2008	Without a doubt, China's influence on global postsecondary education is increasing. More and more countries see it as a touchstone for determining economic health and social well-being.	The lure of China appears to have downside risks for most Western higher education institutions. It's hard to tell if the Chinese market will stabilize anytime soon.
2008	Canada is likely to continue to attract highly qualified students from the U.S. and across the globe, as it is increasing its investments in higher education.	In the fluid global education market, Canada could play a vital role in balancing European and U.S. influence on models of higher education delivery. Europe's move to a uniform system of accounting for student learning will push the rest of the world to comply.

Date	Trend	SCUP Thoughts
2007	China and India are experiencing significant problems in their higher education systems.	The lack of graduates qualified for global jobs is reducing the desire for businesses to locate in India and China. When combined with generally poor infrastructure and an emphasis on the number of grads not the quality of its education, these economic juggernauts could be heading for hard times.
2007	Global competition for students continues unabated and international rankings do have an effect on students outside of the U.S. In 2004, the Organization for Economic Cooperation and Development (OECD) reports that twice as many students as in 1995 attended institutions outside of their home country – over 2.7 million students.	Cost and access are in a balancing game worldwide. Countries that seek to attract foreign students to boost revenues are beginning to face the reality that quality may become the determining factor in enrollment, not just getting out of your home country.
2006	Higher education and its relationship to government (and other) funding sources is in an increasing state of flux, not just in the U.S., but around the world.	It is becoming clearer that for any country or government to function well in the information economy it must have a well educated populace.
2006	American higher education remains the benchmark by which leaders in other higher education systems measure themselves.	The U.S. will continue to miss opportunities in international higher education due to restrictive federal policies.
2006	Speaking of benchmarks, getting apples to apple comparisons of postsecondary institutions across national boundaries is much more difficult than many think.	If you want to know what's happening in other countries, you've got to dig deeper than tables, charts, and executive summaries.

Trends in Education – Meeting the Needs of Business and Industry

A goal of higher education is to prepare a skilled workforce to meet the economic development needs of its service region. For Harper College, the region is not clearly defined. Nearly 98,000 workers commute into the northwest suburbs daily resulting in an “exporting” of the management workforce and an “importing” of the construction and production workforce. For this reason, the labor market data on the Chicago-Naperville-Joliet region was used in this environmental scan.

This section discusses labor market projections, the workforce skills needed for the 21st century, and the aging workforce. Please keep in mind while reading this section that the information presented was from sources prior to the economic downturn and its aftermath of unemployment and business closures.

Labor Market Projections

The Illinois Department for Employment Security provides labor market projections for 2004 to 2014. The following tables look at four ways employment is projected to change: job titles with the most annual openings due to replacements and/or growth, job titles with the most annual openings due to growth, job titles in which the percentage of growth is high, and job titles predicted to lose the most annual jobs.

Many of the reports on the economic future of the U.S. focus on the need for more students to obtain baccalaureate and/or advanced degrees. Growing the U.S. economy requires a larger pool of workers in the advanced science, engineering, and technology fields and in education to replace the retiring Boomers. Each of these issues is discussed further in the report.

On the other hand, the four tables show that many of the job openings require lower- or middle-level skills and less than a college degree. *America’s Forgotten Middle-Skill Jobs: Education and Training Requirements in the Next Decade and Beyond* (Holzer & Lerman, 2007) use employment projections to argue that nearly half of the open jobs in the future do not require a 4-year degree, rather 2-years of post-secondary training. Their research led to the following conclusions:

- Substantial demand remains for individuals to fill skilled jobs in the middle of the labor market, with many of these jobs paying quite high wages. This is particularly true for jobs that require an associate’s degree or some particular vocational training and certification (p. 4).
- Reports that the middle of the job distribution has “hollowed out,” creating an “hourglass economy,” have been overstated. Nearly half of the jobs in the labor market today remain in the middle-skill occupational categories (such as clerical, sales, construction, transportation, production, and installation/repair jobs). Job growth and wage growth in a variety of middle-skill jobs in construction, health care, and other sectors have remained strong (p. 4).

- BLS projections indicate, at a minimum, that demand for middle-level skills and occupations will remain robust in the future, with jobs requiring post-secondary education or at least moderate-term training growing substantially over the next decade. Demands for skilled labor in construction, health care, computer use, transportation, and elsewhere are projected to grow at above-average rates. Replacement needs for retiring workers will also be strong, generating even more job openings in the middle than the top of the skills spectrum (p. 5).

As a side note, the State of Ohio is addressing the middle-skill issue through an initiative in which selected courses from their adult education centers will be granted college credit in five targeted programs: automotive technology, computer networking, electrical and mechanical engineering technology, medical assisting, and nursing. The courses must show their rigor and comparability to credit-bearing courses.

The following chart displays the top twenty job titles with the largest number of projected annual openings, whether replacements or new jobs. The second chart shows the top twenty positions with the largest number of projected annual openings due to growth. A significant number of the open positions are at the low- and middle-skill levels.

Exhibit 15. Largest Number of Annual Openings

CHICAGO-NAPERVILLE-JOLIET MSA TOP 20 JOB TITLES		# OF ANNUAL OPENINGS
1	Retail Salespersons	5,586
2	Laborers & Freight/Stock/Material Workers	4,806
3	Cashiers	3,685
4	Waiters and Waitresses	3,120
5	Combined Food Prep/Serving Workers	2,661
6	Registered Nurses	2,526
7	Janitors & Cleaners	2,491
8	Office Clerks, General	2,045
9	Secondary School Teachers, excluding Special/Voc Education	1,958
10	Customer Service Representatives	1,954
11	Sales Reps	1,836
12	Business Operations Specialists, AO	1,690
13	General and Operations Managers	1,652
14	Accountants and Auditors	1,518
15	Truck Drivers, Heavy and Tractor Trailer	1,504
16	Team Assemblers	1,405
17	Elementary School Teachers, excluding Special/Vocational Education	1,376
18	Executive Secretaries/Administrative Assistants	1,339
19	Receptionists and Information Clerks	1,313
20	Bookkeeping/auditing Clerks	1,220

Source: Illinois Department of Education, 2008

Exhibit 16. Largest Number of Job Openings Due to Growth

CHICAGO-NAPERVILLE-JOLIET MSA TOP 20 JOB TITLES		# OF ANNUAL OPENINGS DUE TO GROWTH
1	Laborers/Freight Stock Movers	1,384
2	Registered Nurses	1,224
3	Retail Salespersons	1,210
4	Janitors & Cleaners, except Maids/Housekeepers	1,152
5	Customer Service Representatives	1,013
6	Business Operations Specialists, AO	991
7	Secondary Teachers, except Special/Voc Ed	807
8	Accountants and Auditors	770
9	Truck Drivers, Heavy and Tractor Trailer	744
10	General and Operations Managers	700
11	Elementary School Teachers, except Special/Voc Ed	690
12	Waiters and Waitresses	626
13	Combined Food Prep/Serving Workers, Fast Food	625
14	Nursing Aides, Orderlies and Attendants	586
15	Teacher Assistants	568
16	Computer Systems Analysts	564
17	Receptionists and Information Clerks	497
18	Truck Drivers, Light Delivery	492
19	Management Analysts	489
20	Landscaping/Grounds keeping Workers	463

Source: Illinois Department of Education, 2008

The third table presents the difference in the number of jobs in 2004 and the number projected for 2014 as a percentage of the base year. In other words, which job titles are associated with the largest relative changes? Choreography has the largest percentage of growth; however, this represents a relatively low number of additional jobs. On the other hand, the need for computer software engineers is projected to increase significantly and generate a large number of new jobs. The job titles in the table in blue are those associated with large increase in growth and in the number of jobs.

Exhibit 17. Largest Percentage of Change Relative to Base Year 2004

CHICAGO-NAPERVILLE-JOLIET MSA TOP 20 JOB TITLES		BASE YEAR 2004	PROJECTED YEAR 2014	#	% OF CHANGE
1	Choreographers	660	1,010	350	53.00
2	Network Systems & Data Communication Analysts	6,303	9,442	3,139	49.80
3	Farm and Home Management Advisors	364	545	180	49.51
4	Rock Splitters, Quarry	113	166	53	47.17
5	Computer Software Engineers, Applications	10,165	14,520	4,355	42.84
6	Computer Software Engineers, Systems	10,213	14,515	4,302	42.12
7	Medical Assistants	5,918	8,150	2,232	37.72
8	Forensic Science Technicians	468	644	176	37.57
9	Dental Hygienists	3,101	4,256	1,155	37.24
10	Dental Assistants	8,151	11,171	3,020	37.05
11	Slot Key Persons	84	115	31	36.72
12	Gaming Surveillance Officers	41	56	15	37.19
13	Gaming Managers	47	64	17	36.25
14	Nuclear Medicine Technologists	882	1,201	320	36.26
15	Gaming Service Workers, All Other	36	49	13	35.43
16	Physician Assistants	742	1,000	258	34.74
17	Special Ed Teachers, Preschool /Elementary	5,469	7,352	1,884	34.45
18	Biomedical Engineers	291	390	99	33.96
19	Dentists, All Other Specialists	193	258	65	33.47
20	Employment/Recruitment/Placement Specialists	9,407	12,534	3,127	33.24

Source: Illinois Department of Education, 2008

Some jobs will decrease in need. The following labor market exhibit shows the twenty job titles associated with the largest numbers of jobs to be eliminated annually. Clerks and the less-skilled machine operators will see the largest decreases in jobs.

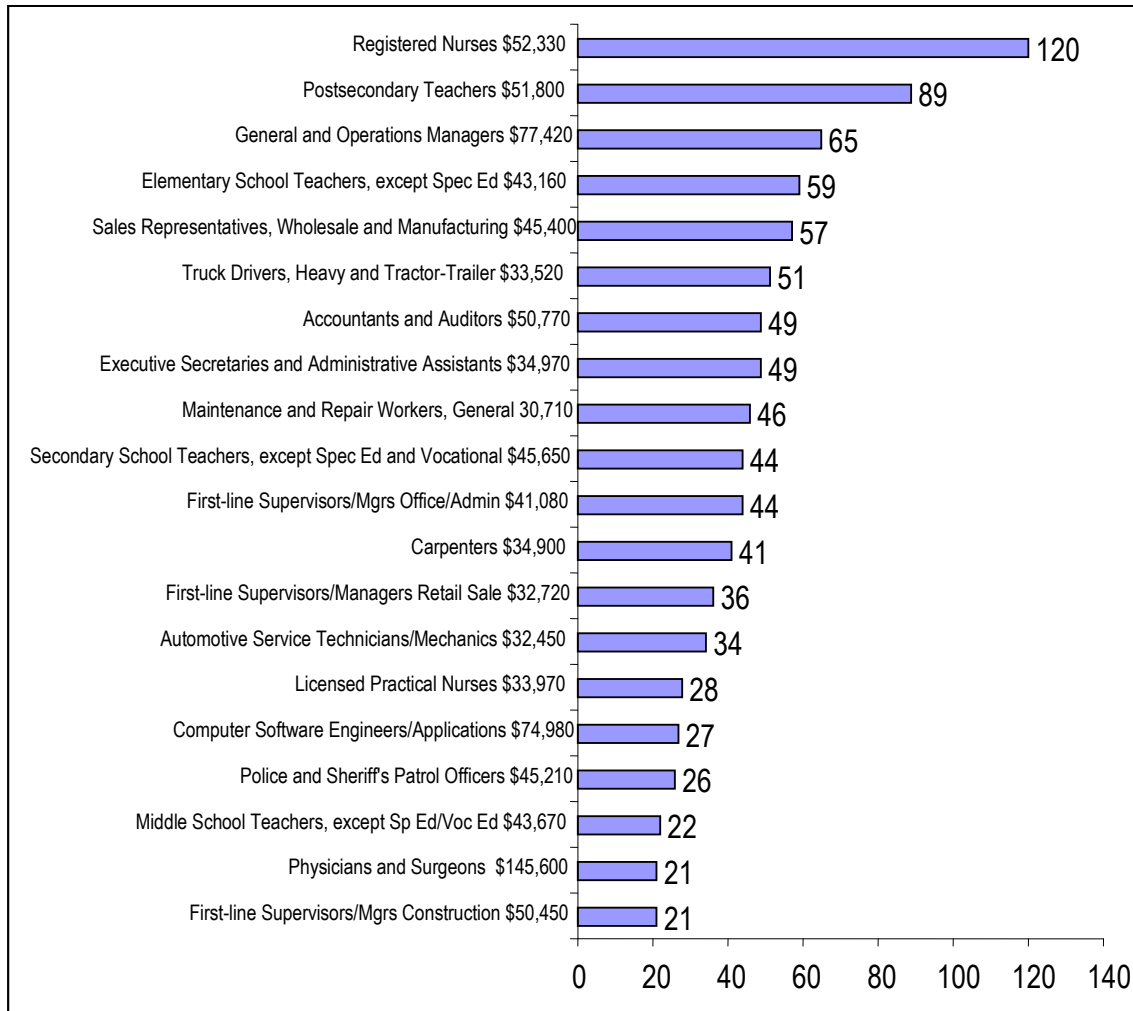
Exhibit 18. Largest Annual Decreases in Number of Jobs

CHICAGO-NAPERVILLE-JOLIET MSA BOTTOM 20 OCCUPATIONS		# JOBS ELIMINATED ANNUALLY
1	Stock Clerks and Order Fillers	-545
2	File Clerks	-295
3	Secretaries, excluding Legal/Medical/Executive	-276
4	Mail Clerks/Machine Operators, excluding Postal	-248
5	Order Clerks	-218
6	Cashiers	-196
7	Cutting/Punching/Press Mach Operators	-188
8	Computer Operators	-141
9	Telemarketers	-126
10	Production Workers, All Other	-100
11	Switchboard Operators, including Answering	-93
12	Sewing Machine Operators	-92
13	Machine Feeders and Offbearers	-80
14	Credit Authorizers/Checkers/Clerks	-79
15	Office Mach Operators, excluding Computer	-79
16	Travel Agents	-71
17	Electric/Electronic Equipment Assemblers	-70
18	Billing/Posting Clerks & Machine Operators	-70
19	Photographic Processing Machine Operators	-69
20	Meter Readers, Utilities	-69

Source: Illinois Department of Education, 2008

Demand, however, is one part of the equation; supply is the other. Gordon (2005) summarized the problem with workforce preparation as follows: “In contemporary America there are just too many people training for the wrong jobs and not enough people preparing for the jobs we are creating....The career aspirations of much of the population in the U.S. are at serious odds with the increasingly high-tech needs of the economy.” Strong academic advising and career counseling is needed to provide a balanced mix of student majors and regional need. The following chart may be helpful in advising students.

Exhibit 19. High-Paying Occupations with Many Illinois Job Openings 2004-2014



Source: U.S. Bureau of Labor Statistics: <http://www.bls.gov/opub/ooq/oochart.htm>

Workforce for the 21st Century

The standard workforce data projections do not include new jobs created for emerging fields. The *Illinois Survey of Critical Technologies* (ISBE & NIU, 2006) identified 26 emerging technologies in five growth areas in Illinois' economy. The implementation of these critical technologies requires a citizenry and workforce with strong mathematics and science skills: bioscience, environmental and energy technologies, human health and development, information technology and communication, and materials science and advanced manufacturing.

College academic planners may want to assess their districts' need for the following new fields:

- Alternative energy and the environmental greening sector
- Translating information into usable forms, data warehousing, and data mining
- Consumer financial services as Boomers and the younger generation grapple with retirement and soaring healthcare costs
- Biotechnology, pharmaceutical studies, and stem cell research to address the need for drugs and advanced research
- Bioscience including astrobiology, biomaterials, and biomechanics
- Homeland security and the industries around defense and safety, such as biodefense, bioinformatics
- Advanced manufacturing including biopolymers, celestial mining, nanotechnology, and smart materials

In another approach, the Workforce Board of Northern Cook County authored *Science, Technology, Engineering, and Math Skills: The Foundation for a Highly Skilled Workforce* (2008). Their top ten high-demand STEM occupations with the largest number of new and replacement jobs (2008-2013) were as follows:

- accountants and auditors
- postsecondary teachers
- computer applications software engineers
- automotive service technicians
- computer support specialists
- computer systems analysts
- construction managers
- computer systems software engineers
- computer specialists
- network systems and computer and data communications analysts.

The Aging Workforce

The aging workforce is receiving national attention. In Illinois, the relationship between the number of “entry-age” workers (18 to 24 years old) and the number of “exit-age workers” (65 years and older) is projected to remain rather constant from 1996 through 2015. However, once the Baby Boomers reach retirement, nearly twice as many citizens will be “exit-age” as will be “entry-age” (Woods and Pool, 2008).

The Workforce Boards of Metropolitan Chicago (2008) analyzed the impact of the maturing workforce on the region, especially for workers over the age of 50, in *Impact of a Maturing Workforce in the Metropolitan Chicago Region*. “More than half of the metropolitan Chicago’s workforce of teachers, nurses, and machinists are over the age of 50” (p. 3).

In 2001, employees aged 55 to 64 comprised 10.1 percent of the metropolitan workforce; however, by 2006, this age cohort increased to 12.6 percent of the workforce.

The following occupations had the *highest percentage* of workers in the 50+ age category in the Chicago region:

:

- secondary school teachers
- elementary school teachers
- registered nurses
- licensed practical and vocational nurses
- machinists

The occupations with the *largest numbers* of workers in the 50+ age category included:

- elementary school teachers
- truck drivers
- registered nurses
- retail sales persons
- customer service representatives

Employers are concerned about replacing retirees. To help businesses with this concern, AARP's website created a Workforce Assessment Tool to look at how the aging population will affect employers and learn how to attract and retain senior employees. Downsizing or redesigning jobs, flexible hours, phased retirements, telecommuting or alternative work locations, compressed work weeks, retention bonuses, and flexible benefits are some approaches employers are using to entice the seniors to stay in hard-to-fill positions.

The Workforce Board of Metropolitan Chicago (2008) recommended that employers look to Generation Y, which will comprise 12 to 23 percent of the workers between 2005 and 2025. "Companies who form partnerships with educational institutions to recruit Generation Y-ers before they complete their educational programs and offer internships during summer months will be positioned to access their future workforce. Those companies that are successful in transforming their business culture and practices to accommodate Generation Y will have a competitive advantage" (p. 6). According to the report, attracting and engaging the generation born between 1982 and 1993 involves a work environment based on multiple experiences that are meaningful, work flexibility, a tech-savvy work environment, and open social networks that embrace sharing of ideas.

Trends in Education – Financial Support

Higher education budgets are being decreased across the nation – Massachusetts by 5.6%, Pennsylvania by 4.35%, Virginia by 5 to 7%, Utah by 4%, Tennessee by 3.4%, Nevada by 14%, and Arizona put \$1 billion construction projects on hold. Higher education can predict further financial woes as revenues from state tax revenues, corporate income taxes, and motor fuel taxes fall. In summer 2008, higher education in Illinois watched nearly \$100 million be cut from the Illinois budget. Illinois is not alone. The Center on Budget and Policy Priorities identified 21 states expecting budget shortfalls of \$9 billion with even more predicted with the economic downturn and low consumer spending.

With the credit crisis in the U.S., colleges' fund-raising and foundations may well be affected. Investments are vulnerable, depending on how they were invested; college bond ratings may fall; and fund-raising efforts need to take different approaches than in the past. A group of fund-raising consultants and college development officials recommended that colleges keep in contact with their best donors, even if a gift is not being solicited. Realize donors may need to take a break, but keep in contact with them for when they are ready to start giving. Focus on smaller gifts, what the gift will do, and who is giving it. Arrange flexible payment plans. Cut back on special events and ask current donors to help find new prospects.

Colleges often partner with the public and private sector for internships for students. Since the economic crisis, colleges are finding it difficult to obtain commitments for internships from some of their strongest partners.

Student Financial Assistance

The reauthorization of the Higher Education Act made major changes in the financial support provided for college students and advocated for year-round Pell funding, simplification of the financial aid process, efforts to contain textbook costs, and the continuation of most federal grant and loan programs. At the same time, private institutions benefited by the definitions which will allow them to provide more support to their students. Coupled with the new Veteran's benefit program, these changes may well increase the number of students attending private institutions. Currently, the University of Phoenix accounts for the largest portion of veterans continuing their education.

With the current credit crisis in the banking industry, funding for education is becoming more difficult to attain. Some parents planned on second-mortgages to acquire funds for college; however, they may not qualify for those loans at this time or the value of their home has eroded. As banks work through the credit crisis, funds are not always available for student loans. Financial institutions are analyzing which student loans are not repaid. They are looking to cut loans at colleges where students tend to not graduate. "Student-

loan companies are warning colleges that they may find too few lenders to offer government-subsidized loans” (Basken, February 29, 2008, p. A23).

The bottom line: the credit crisis has left many students without sufficient funding to attend college. “To avert a crisis, some colleges are developing contingency plans to help students enroll even if bank loans fall through” (Gose, 2008, P. 1). In the first week of October, Wachovia and Commonfund partially froze withdrawals from its Short Term Fund, affecting about 1,000 colleges and private schools (Christoffersen, Oct. 1, 2008).

In addition to the overall credit crisis, the student loan industry has its own problems. Recent reports claim loopholes in legislation allowed students lenders in a six-year period to claim \$1.2 billion in improper payments (Basken, September 26, 2008).

Major Issues Facing Community Colleges

Several themes emerged in the environmental scan as important for college planners to consider. This section provides further discussion on a selection of these themes.

Economic Impacts

The downturn of the U.S. economy is impacting community colleges in multiple ways:

- decreased financial stability because credit crisis impacts colleges through less student loan funding available, difficulty in obtaining capital bonds, fluctuations in endowment funds, funds frozen by some financial institutions, decreasing state and local tax revenues, etc.
- increased numbers of dislocated workers
- increased numbers of retirees returning to work to cover healthcare costs
- increased college operating costs due to increases in price of oil
- increased difficulty in recruiting and retaining quality staff who must commute distances
- increased demands to provide support to economic development of the region
- decreased enrollments of students who are unable to commute to the campus and due to the decrease in the college-age population

Colleges need to implement strategies to retain students and employees, such as reducing the number of trips students and employees are required to make to campus, expanding articulation agreements so students can go between institutions to find courses and programs that meet their scheduling and financial needs, and using mobile technology for learning and working.

Community colleges will be challenged to grow enrollments, to maintain fiscal stability, and to continue to build collaborative relationships with business and industry to address the economic development of their service regions.

Demands for Accountability and Affordability

The demand for accountability at all levels of education continues. *No Child Left Behind* appears to have bipartisan support if key issues over testing are resolved. The reauthorization of the Higher Education Act has been described as not visionary rather a statement on how higher education should conduct itself to improve.

In a recent press conference (www.ed.gov/news/pressreleases/2008/07/07182008.html), U.S. Secretary of Education Margaret Spellings asserts that higher education does not have to wait for external events to change: "consumer needs and demands are not threats to quality. They are catalysts for innovation."

In the press conference, Spellings continued to describe the situation for higher education, “The National Center for Higher Education Management Systems estimates that to keep up with international competition, at least 20 million more Americans must access higher education by 2025....That’s twice as many as the GI Bill aimed to serve....The U.S. Chamber of Commerce and other leading business groups reiterated that we are far from meeting their needs. We’re nowhere near the goal of doubling the number of bachelor’s degrees awarded in the STEM fields—science, technology, engineering, and math.... To meet this challenge, we must improve the ‘Three As: access, affordability, and accountability.’”

1. Lack of coordination between high schools and higher education
“Too often high school coursework is not rigorous or varied enough to act as a springboard to success in college.”
2. “Need to knock down barriers to progress—like an opaque accreditation process that often inhibits innovation instead of encouraging it or discourages new players from entering the system.”
3. “Need to build human capital by educating more people from diverse economic and cultural backgrounds.”
4. “Need to use technology and innovation to advance change and empower students.”
5. “Expect us to continue our traditional emphasis on excellence in research and scholarship as well as to nurture and cultivate partnerships with private and philanthropic sectors.”

According to Spellings, “Simply put, higher education must become more agile, transparent, and student centered.” The federal government is taking specific actions to help with access, affordability, and accountability:

1. The largest increase in Pell awards in 30 years
2. New tools to help students choose colleges and apply for federal aid: college.gov, FAFSA4caster, College Navigator, and Federal Aid First brochure
3. Recognition of innovative higher education institutions such as Miami Dade, the nation’s leader in graduating low-income, first generation students; MIT’s open courseware and Stanford’s podcasts of free courses; and James Madison University’s website of information.

Secretary Spellings also chastised higher education for not turning their critical thinking inward and not making more progress on the recommendations from the Miller Commission. She painted the future for higher education, “I feel honor-bound to remind you that in the absence of continued leadership in education, others will step in. When public demand reaches critical mass, policymakers are compelled to act whether they’re in the Congress or on state boards or in state legislatures....In Washington, even as we speak, the Congress is contemplating actions that many in the Academy view as micromanagement and mandates....To meet our need for 20 million by 2025, we must broaden and elevate the conversation.”

Higher education should expect continued public scrutiny of access, affordability, and accountability. Because of their cost effectiveness and ties to communities, community colleges are better prepared on all three aspects than are other higher education institutions.

Assessment of Outcomes

Even though the reauthorization of the Higher Education Act did not dictate a national outcomes assessment instrument, the onus was placed on the accreditation bodies to monitor quality. The Higher Learning Commission routinely requires follow-up visits and reports for colleges not completely implementing and using student learning outcomes assessments. Assessment of outcomes will be a continuing quality issue for accreditation.

Competition

Community colleges will experience increasing competition from the private and not-for-profit sectors. Within the last year, the number of competing educational programs offered within the Harper College district increased again (Appendix A). Changes in student loan policies at the national level will increase the competition from not-for-profit and profit educational institutions. The downturn in the economy, however, may result in some smaller competitors closing shop.

As more institutions enter the higher education market, public institutions are finding themselves with the more expensive programs. For-profit institutions tend to offer the programs which turn a profit and need minimal or easily obtained external accreditation or licensure. As more institutions pull the more lucrative programs and enrollments, the public institutions no longer can use low-expense courses to help defray the costs of the higher-expense courses, thus increasing the need for course fees and/or support from industry to offer high-cost programming required for the economic development of the region.

Diversity and Globalization

The global world is evidenced through the increasing immigrant populations and the increase in global trade of companies with connections to the region. Due to rapid changes in technology and political relationships, traditional boundaries are of far less importance than historically. Real-time communication, instant messaging, and virtual labs allow scientists from around the world to collaborate on research and development. The barriers once associated with time, location, language, and culture have been reduced (NIU, 2006. p. 6).

The U.S. is one of many economies competing in the global market. Countries such as South Korea, China, India, and Singapore as well as counties in Latin America have entered the global market. "Five qualified chemists can be hired in India for the cost of

just one in America....For the cost of one engineer in the United States, a company can hire eleven in India....Given such enormous disadvantages in labor cost, we cannot be satisfied merely to match other economies in those area where we do enjoy strength; rather we must excel...markedly” (Augustine, 2005, p. 3).

The off-shoring of jobs has continued to increase and to include furniture manufacturing, information technology, tutoring, and other personal assistance services. On the other hand, as the value of the dollar continues to decrease, countries such as China are moving operations that require innovation and high-tech processing to the U.S.

In tandem with economic globalization, there is an increasing need for citizenry to better understand global cultures, language, and customs. The entry of China and India into the higher education and economic arenas, the religious and political issues surrounding issues the War on Terror, the expansion of U.S. companies abroad, and the increase in foreign-owned companies in the U.S. are only a few of the issues which require citizens to have a broad-based understanding of other cultures. Some educators advocate that this type of understanding be built into education programs at all levels (Yankovitch, 2005). Some colleges, such as Harper College, include a diversity course as part of the degree program.

Locally, the increasing Hispanic demographic in the Harper College district could lead to higher enrollments from this segment of the population, because Hispanic students are much more likely to attend two-year colleges (Glenn, 2005). According to a 2006 survey of community college executives, 16 percent of the community colleges are highly prepared, 57 percent are somewhat prepared, and 10 percent are not at all prepared for a rise in their minority student body. About 16 percent reported this was not an issue at their college (Rockbridge, 2006).

The community college of the 21st century will need to find ways to build on the diversity and globalization, both in the classroom and as part of the work of the college. One part of this challenge is increasing access to under-represented groups of potential students; however, access must include support programs if the students are to be successful.

Campus Safety and Emergency Management

Within northern Illinois, the need for colleges to have effective campus safety and emergency management plans became very real with the active shooter on February 14, 2008, at Northern Illinois University. In this case, the shooter was a former student with ongoing psychological problems. The 2007 National Survey of Counseling Directors reported “over 90 percent of campus counseling centers report that the recent trend toward greater numbers of students with severe psychological problems continues to be true on their campuses with 8.5 percent of enrolled students seeking counseling in 2007 (SCUP, August 2008, p. 1). In 2005, the National College Health Assessment reported 16 percent of students had been diagnosed for depression. Even though active shooters are extremely rare, colleges face a future of increasing probability of an active

shooter, suicide attempts, and other violent and non-violent behaviors related to untreated mental illness.

In addition, the tornados, flooding, and food-born illnesses add to the need for institutions to have implementable plans in place and the appropriate people well trained. Often plans exist but are not accessible to those needing them or the plans are not accessible during the emergency.

In 2008, the Illinois legislators passed Senate Bill 2691 requiring all higher education institutions to develop emergency response plans compliant with the National Incident Management Systems standards and a violence prevention plan with annual training and exercises.

In conclusion, Harper College has many opportunities even though much uncertainty surrounds the economic status of the nation and world. Strategic planning that leads to integrated, institutional actions will help Harper College remain a driving force in education.

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APPENDIX A: ACADEMIC PROGRAMS NEAR 60067

The following table is a list of organizations within 10 miles of zip code 60067 that provide educational services through the Illinois Workforce Development Program.

Provider Name	Course of Study	Address
A.J. Gallagher & Company	Property/Casualty Insurance – Claims Skills (10003532)	Second Floor Two Pierce Place Itasca, IL 60143
ABV Bartending Schools	Bartending Training Certificate (1003286)	1699 Wall St. Mt. Prospect, IL 60056
Academy of Dog Grooming Arts Ltd	Professional Pet Grooming (1532 and 1003286))	1742 West Algonquin Rd. Arlington Heights IL, 60005
Algor, Inc.	906/916 Professional Combination (5805) Algor Professional (5804) Heat Transfer, Linear Dynamics/CAD (5803)	Learning Tree International, 1501 Woodfield Road Schaumburg IL, 60173
Americare Institute	Practical Nursing Program or LPN Program (1002731)	1834 Walden Office Square Suite 250 Schaumburg, IL 60173
Argosy University	B.S. Business Administration (1002861)	999 Plaza Dr 8 th Floor Schaumburg, IL 60173
Arlington Academy Cosmetology Career Center	Cosmetology (1003000)	1300 W. Dundee Buffalo Grove, IL 60089
Building and Fire Code Academy	Code Enforcement Career Development Program (1003516) Commercial Building Inspector Certificate (1003513) Commercial Mechanical Inspector Certificate (1003514) Illinois Commercial Plumbing Inspector (1003515) Property Maintenance Inspector Cert (1003512) Residential Inspector Multi Discipline Cert(1003505) Residential Inspector Single Discipline (1003504)	2401 West Hassell Rd., Suite 1550 Hoffman Estates IL, 60195
Chicago Professional Center	HVAC Technician (1003446) Industrial HVAC Technician (1003347) Residential HVAC Technician (1001705)	310 N. Wolf Wheeling IL, 60090
Computer Aided Technology, Inc.	Basic PDMWorks User (6440) CAD Productivity Tools (6592) CATalyst SolidWorks Cert Professional (6294) COSMOS FloWorks (10000081) COSMOS Motion (1000082) COSMOS Works Designer (1000083) Industrial Design Modeling (1000925) SolidWorks Administrator (6389) SolidWorks Advanced Assembly Modeling (6624) SolidWorks Advanced Part Modeling (6532) SolidWorks Animator (6359) SolidWorks Essentials: Drawings (6366) SolidWorks Essentials: Parts and Assemblies-CATI SolidWorks - File Management-CATI (6481) SolidWorks - PDMWorks Training (6440) SolidWorks - PhotoWorks (6482) SolidWorks – Sheet Metal and Weldments (6616) SolidWorks - Translation Techniques (6530)	165 Arlington Heights Road Suite 101 Buffalo Grove IL, 60089

Provider Name	Course of Study	Address
Computer Training Source, Inc.	Desktop Publishing Specialist Program (1000185) Microsoft Certified Application Specialist (MCAS) 2007 (4123) Microsoft Certified Application Specialist/QuickBooks (1003744) Microsoft Office Master Instructor (10000188) Microsoft Office Specialist (MOS) / Computerized Accounting Microsoft Office Specialist (MOS)/Computer Repair (A+) Microsoft Office Specialist (MOS)/Desktop Publishing Microsoft Office Specialist Microsoft Project (1003743) Microsoft Office Specialist MOS QuickBooks (1003745) Microsoft Office Specialist MOUS Basic (1001561) Microsoft Project Specialist (1000184) QuickBooks Specialist Program (4122) Web Design Graphic Design (1000186) Web Designer Program - Intermediate (37) Web Designer Program (34)	1320 Tower Rd Suite 109 Schaumburg IL, 60173
Creative Market Solutions, Inc.	Biz Starters Business Planning Program (1125)	126 E. Wing St, Suite 321 Arlington Heights, IL 60004
DeVry University- Lincolnshire Center	Associate of Applied Science, Electronics and Comp Tech (5599) Associate of Applied Science, Web Graphic Design (1003123) Bachelor of Science in Business Administration (5600) Bachelor of Science in Computer Information Systems (712) Bachelor of Science Game and Simulation Programming (1003122) Bachelor of Science in Technical Management (3726) Graduate Certificate Business Administration (1003127) Graduate Certificate Electronic Commerce Mgmt (1003124) Graduate Certificate Entrepreneurship (1003125) Graduate Certificate Health Services Mgmt (1003126) Graduate Certificate in Information Systems Management (1001601) Master of Accounting and Financial Management (1001263) Master of Business Administration (1000594) Master of Human Resource Management (1001264) Master of Information Systems Management (1001265) Master of Network and Communications Management (1001266) Master of Project Management (1001268) Master of Public Administration (1001267)	25 Tri-State International Center Suite 130 Lincolnshire IL, 60069
DeVry University- Schaumburg Center	Associate of Applied Science, Electronics and Comp Tech (5599) Associate of Applied Science, Web Graphic Design (1003123) Bachelor of Science in Business Administration (5600) Bachelor of Science in Computer Information Systems (712) Bachelor of Science Gaming and Simulation Programming Bachelor of Science in Technical Management (3726) Graduate Certificate Business Administration (1003127) Graduate Certificate Electronic Commerce Mgmt (1003124) Graduate Certificate Entrepreneurship (1003125) Graduate Certificate Health Services Mgmt (1003126) Graduate Certificate in Information Systems Management Master of Accounting and Financial Management (1001263) Master of Business Administration (1000594) Master of Human Resource Management (1001264) Master of Information Systems Management (1001265) Master of Network and Communications Management (1001266) Master of Project Management (1001268) Master of Public Administration (1001267)	Woodfield Executive Plaza 1051 Perimeter Drive, 9th Floor Schaumburg IL, 60173
Eagle Training Services	CDL Semi Tractor Trailer Driver Training (1002526)	Harper Northeast Center 1375 South Wolf Rd Prospect Heights, IL 60070

Provider Name	Course of Study	Address
Environmental Technical Institute	Heating, Air Conditioning, Refrigeration and Basic (585) Heating, Air Conditioning, and Refrigeration Technology (584)	1101 W. Thorndale Ave. Itasca IL, 60143
Global Knowledge	BCMSN - BUILDING CISCO MULTILAYER SWITCHED NETWORKS (3824) BCRAN - BUILDING CISCO REMOTE ACCESS NETWORKS BSCI - Building Scalable Cisco Internetworks (2430) CCNA e-Camp (1003649) MCSA (1003648) MCSA/CCNA Self Paced Boot Camps (1003729) Securing Wireless Networks (6671)	1500 McConnor Parkway, Suite 500 Schaumburg IL, 60173
Image Designer School of Nail Technology	Nail Technician Teacher course (1002109) Nail Technology course 101 (1002108)	1045 W. Golf Rd. Hoffman Estates IL, 60195
International Training Academy	English as a Second Language (1002139) Esthetics Training Program (1002892) Professional Massage Therapy Program (1002138)	2050 E. Algonquin Rd, Suite 604 Schaumburg, IL 60173
JCM III Corporation	Basic Nurse Assistant Certification Program (1000221) EKG TECHNICIAN BASIC AND ADVANCE (1001967) PATIENT CARE TECHNICIAN (1002421) PHARMACY TECHNICIAN (1001968) PHLEBOTOMY TECHNICIAN (1001969) Physical Rehabilitation Aide (1002696)	1355 Remington Rd Suite Q Schaumburg IL, 60173
Microhard Technical Institute	Certified Netware Administrator (2719) Certified Novell Engineer 6.5 (2722) Cisco Certified Network Administrator (2743) Cisco Certified Network Professional (2726) Computerized Accounting for Beginners (3227) Database Administration CertGuru (720) Helpdesk Specialist Certguru (1857) Hotel Front Office Operations Management (1001899) IBM DB2 (1852) LAN/WAN Specialist (5693) MCSE for beginners (1858) Microsoft Certified Database Administrator (2740) Microsoft Certified Professional (2721) Microsoft Certified Solutions Developer (2746) Microsoft Certified Systems Engineer (2720) Microsoft Network and Database CertGuru (1855)	3601 Algonquin Road #605 Rolling Meadows IL, 60008
Mildun Training Center of Illinois	Dental Assistant (1000960) EKG, Phlebotomy, and Medical Billing (1000807)	309 E. Dundee Road Wheeling IL, 60090

Provider Name	Course of Study	Address
MITS Management Info Tech Solutions, Inc.	Business Intelligence Pro (1001188) C++, Visual C++ Programming (1761) CAPM and MS Project Combo (1003447) CAPM and SCM Combo (1003448) Careerpro E-commerce Comp. (1766) Certified Administrative Medical Asst (1002535) Clinical Research Associate and Six Sigma Combo (1002222) Clinical Research Associate Training (1002221) Comprehensive Masters Certificate Program (1297) Comprehensive Network and System Administration (1002097) Comprehensive Office Support and Management (1003664) Comprehensive Office Support and Medical Informatics (966) Comprehensive PC Tech Support (5948) Computer System Analysis Pro (1001189) Computerized Accounting (3017) CQE (ASQ) and Six Sigma GB Combo (1002118) E-commerce (for Programmers) Webmaster: Internet App. Devlp (1765) ESL Accelerated (1003166) ESL and Computer Office Associate (1002832) ESL Computer Office and Computerized Accounting (1002827) ESL Computer Office and Patient Care Tech (1003049) Java J2EE E-Commerce and IBM Websphere (965) ESL Medical Office Asst, Billing and Coding Combo (1003160) Junior Office Associate (1000784) Management Associate Program (3629) Manager of Quality/Organizational Excellence (CMQOE) (1002107) MCAD/ MCSD .Net Training (1002226) Medical Assistant (1001221) Medical Assistant Comprehensive (1001325) Medical Assistant, MOS and Patient Accounting Combo (1001337) Medical Coding and Billing Associate (3627) Medical Office Coding and Billing Specialist (3626) Medical Transcription Specialist (3628) Network And Systems Administration / MCSE 2003 (1760) Office Administration and Support (MOS Cert) (1128) Oracle 9i DBA and Oracle 11i Apps DBA combo (3019) Oracle Application Development Program (1763) Oracle Apps 11i DBA / Technical Foundations of Oracle Apps Oracle Database Administration (1526) Oracle DBA 10g(OCP 10g) (1001187) Oracle Dev XML J2EE Combo (3015) Oracle Internet Dev. and Oracle Financials (Apps11i) combo Oracle Internet Dev. and Oracle Financials (Apps11i) combo. Patient Care Technician (1003048) Pharmacy Tech and Customer Service Combo (1001220) Pharmacy Technician(CPhT) Professional (1001190) PMP and MS Project 2007 (1003007) PMP and Six Sigma Combo (1003008) Project Management (1762) Project Management and Computer Info Systems Management (5223) Project Management and SCM Combo (3016) Quality Assurance and Software Testing Comprehensive Six Sigma Black Belt (1002106) Six Sigma Green Belt (SSGB) (1002105) Software testing and Quality Assurance (3837) Web Design and Development (3014)	1701 E Woodfield Road Suite # 750 Schaumburg IL, 60173

Provider Name	Course of Study	Address
National-Louis University	Bachelor of Arts in Applied Behavioral Sciences (6499) ESL/Bilingual Teacher Cert Program (1003426) Illinois Teacher Certification (1842) Master of Arts in Teaching - Elementary Education (1844) Master of Arts in Teaching - Secondary Education (4714) Master of Business Administration (1003521)	1000 Capitol Drive Wheeling IL, 60090
Northwestern Community Hospital	Emergency Medical Services EMT Basic (1003104) Licensed Practical Nurse Cert (1003296) Nursing Associate in Applied Science Degree (5464)	800 W. Central Rd Arlington Heights, IL 60005
Oakton Community College	Accounting Associate, Associate in Applied Science Degree Administrative Assistant Certificate Program (961) Advanced Web Site Development Certificate (3575) Animation and Multimedia Certificate (3304) Architectural Technology Certificate Program (5562) Architectural/CAD (2379) Automation Controls Certificate (2377) Automotive Service Excellence (447) Automotive Technology (Apprenticeship) Certificate (1100) Cisco Certified Network Association (CCNA) Certificate CNC, CAM Programming (2378) Coding Certificate (2286) Computer User Certificate (3400) Computer-Aided Design (2382) Construction Management Certificate (5929) Construction Management, AAS Degree (1003488) e-Business Certificate (3302) Electronics and Computer Technology, AAS Degree (886) Electronics Computer Technician Certificate (1000434) Electronics Technology Certificate (1099) Financial Services (1002132) Fire Science Technology (1001901) Graphic Design (1002690) Graphic Design (1002744) Health Information Technology associate degree (944) Human Resource Specialist Certificate (1001910) Industrial Design Engineering (2285) Law Enforcement (associate degree) (947) Management and Supervision, AAS Degree (3226) Manufacturing Technology (1001019) Marketing Management - Associate in Applied Science Mechanical Design/CAD Certificate (3306) Medical Office Billing Certificate (450) Medical Office Management Certificate (449) Microsoft Certified Systems Engineer (MCSE) Certificate Network Administration Certificate (3401) Nursing (associate Degree) (946) Office Information Processing Specialist (3399) Paraprofessional Educators AAS (1002465) Pharmacy Technician (2284) Phlebotomy Certificate (3398) Physical Therapy Assistant program (945) Preparatory Substance Abuse Counseling Certificate (3403) Professional Accounting - CPA Preparation Certificate (967) Professional Selling Skills Certificate (2376) Radio Frequency Identification Technology Cert (1002764) Real Estate Certificate (3303) Residential Comfort Control Certificate (1000475) Residential Comfort Systems Installer (446) Tool and Die Design and Engineering Certificate (448) Transportation, Warehousing, and Logistical Mgmt Cert (1002769) Web Graphic Page Design Certificate (3305) Web Site Support and Maintenance Certificate (3301)	1600 E. Golf Rd. Des Plaines IL, 60016

Provider Name	Course of Study	Address
Professional Bartenders School	Bartending (2704)	315 W. Golf Rd Schaumburg, IL 60195
Roosevelt University	Accounting (Undergraduate) (2139) Computer Science: Bachelor of Professional Studies (3219) Graduate Certificate Performance Consulting (1002842) Non-Profit Management Certificate (Graduate level) (3600)	1400 N. Roosevelt Blvd Albert A. Robin Campus Schaumburg, IL 60173
Solex Academy Inc	AAS Accounting (3600) Auto CAD Program (1286) Certified Nurse Assistant (1281) Computerized Accounting and Bookkeeping Career program Computerized Accounting and Medical Billing (1270) Computerized Medical Billing and Coding (817) Electrocardiography (EKG) (5945) ENGLISH AS A SECOND LANGUAGE (816) ESL Accounting and Bookkeeping (1003774) ESL Accounting and Medical Billing and Coding (1003409) ESL Medical Assistant (1003401) ESL Medical Billing and Coding (1001352) ESL Patient Care Technician (1002692) ESL Real Estate Appraisal (1001350) Expert Level Medical Coding (1000490) Massage Therapy (818) MEDICAL ASSISTANT CAREER PROGRAM (5946) Medical Office Computerization, Automation and Mgmt PATIENT CARE TECHNICIAN (1000491) Phlebotomy Technician (5944) Real Estate Appraisal and Computerized Office Technology Real Estate Appraisal and Residential Loan Processing Real Estate Appraisal Licensing Program (1284)	350 E. Dundee Rd., Ste. 200 Wheeling IL, 60090
Southern Illinois University - Carbondale	Elementary Education (5017) Workforce Education and Development (274)	University Center of Lake County 175 Olde Half Day Lincolnshire IL, 60069
The Illinois Institute of Art - Schaumburg	3D Animation Principles and Techniques (1139) Advanced Web Programming (1137) Digital Graphic Design (1140) Digital Graphic Design Certificate (1000162) Digital Media Production (1138) Digital Photography (1133) Game Art and Design (1135) Image Manipulation and Design (1003748) Image Manipulation and Design/Digital Photography (100368) Interior Design (1118) Media Arts and Animation (1699) Multimedia Web Design (1701) Multimedia (1705) Residential Interior Decor Certificate of Completion (1000166) Video Editing and Graphic Design (1000346) Visual Communications (1134) Web Design (1136) Web Site Development (1700 and 1003747)	999 - 1000 Plaza Drive Suite 1000 Schaumburg IL, 60173
Uvita, Inc.	CGFNS-NCLEX Test Prep 1003079)	1040 S. Milwaukee, Suite 210 Wheeling, IL 60090
Windy City School of Pet Grooming	Professional Grooming Program (1001669)	120 Turner Ave. Elk Grove Village IL, 60007