

# STATE OF THE WORKFORCE REPORT

Produced for: The Workforce Board of Northern Cook County, Illinois



## Letter from The Workforce Board Chair

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August 2002

Today's economy is anything but static. The 2002 *State of the Workforce Report* was developed over a year that saw national tragedy, war, steep declines in the stock market, and ethics issues emerging within the business world. While global and national problems have impacted northern Cook County, we have fared better than some other areas of the country because we have a competitive labor supply, a diverse economy, good jobs, and proactive leadership. Maintaining that edge will require identifying and filling gaps that may hinder our future success.

Community labor market analysis and planning is a strategic initiative of The Workforce Board of Northern Cook County. Because this is a *community* analysis, we involved the community in helping us present a clear and coherent picture of the area. Leaders in government, economic development, labor, education, business and industry, and workforce development devoted their time as the Advisory Committee and three local Community Planning Taskforces. Through their discussion of the data, draft reviews, and thoughtful feedback, they helped to launch this 2002 edition of *The State of the Workforce Report*. We are grateful for their participation. Our future success depends on the willingness of such concerned citizens working together to define action strategies that address workforce gaps.

As the next step, the eight Workforce Boards of metropolitan Chicago have recently entered into a new joint initiative. The product of this groundbreaking endeavor will be a Regional State of the Workforce Report and Regional Strategic Action Plan that will recognize the unique needs of each of the eight areas as well as the issues that draw us together and require collective action.

Research, planning, action, measurement, and planning again -- it's a continuous cycle that begins with a vision of what we could be. I hope you will join us in developing this on-going story, where the *2002 State of the Workforce Report* is just its first chapter.

Stephen G. Fallek

*Chair, The Workforce Board of Northern Cook County*

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# Acknowledgements

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# Introduction

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Welcome to the 2002 northern Cook County, Illinois *State of the Workforce Report*. The *State of the Workforce Report* is a planning tool published by The Workforce Board of Northern Cook County (hereafter referred to as “the Workforce Board”). The *State of the Workforce Report* provides a quantitative and qualitative analysis of the region’s labor market and workforce development challenges. More importantly, The Workforce Board views this report as a conversation starter. We invite the region’s employers, citizens, and leaders of education, government, labor and community based organizations to use this report as a way to engage in a dialogue about our workforce characteristics that will help us better understand the impacts of changing demographics, knowledge and skills needed, as well as our education and training system. As a planning tool, the report will guide the creation of goals and action steps to enhance the skills needed for success in northern Cook County and the surrounding regional labor market.

The *State of the Workforce Report* was produced as a result of funding from a U.S. Department of Labor “Community Audit” grant and a technical assistance grant from the Illinois Department of Employment Security’s Job Training Division. These resources will help engage key community stakeholders in conducting a careful analysis of the area’s workforce, the business and economic climate of the region, and the capacity of the employment, education and training systems. The *State of the Workforce Report*, an analysis of existing data and reports, is the first step in that process. Additional steps will include primary research that helps fill the gaps of information not currently available.

This report is *descriptive*, not *prescriptive*. It attempts to present a clear picture of the current status of a range of elements that are central to understanding important workforce issues. The report offers some analysis of challenges and opportunities suggested by the information examined during the research. However, the report does not define priorities or goals for northern Cook County. Rather, it is intended to inform and engage those who will do that important work.

The information contained in this report comes from several sources, detailed in the Appendix. Also in the Appendix are larger data tables that support the narrative content of the report. Additional material will be posted on our website at [www.theworkforce.org](http://www.theworkforce.org). These materials will contain the more detailed supporting material that space limitations do not allow to be contained in the report itself. Readers interested in greater detail on specific topics are encouraged to visit our website. The Workforce Board plans to update key parts of the information periodically through the two-year life cycle of the project, particularly as the project moves to the primary data collection phase, making the report a living, evolving, information tool for the coming years.

## Project Overview

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The *State of the Workforce Report* has the following objectives:

1. Differentiate northern Cook County from Cook County, the regional labor market (Chicago Primary Metropolitan Statistical Area/PMSA<sup>1</sup>), and the State of Illinois with informative and innovative data and analysis, yet at the same time recognize and address the importance of the region to the local workforce area;
2. Identify critical workforce development issues that workforce and educational leaders must focus on;
3. Build a strong and credible foundation for a local and/or regional workforce plan;
4. Provide useful information about the local workforce, including the utilization of existing reports and studies, for the active engagement of stakeholders;
5. Raise career awareness among youth;
6. Identify priorities for the region's One-Stop career centers and other employment and training service providers; and
7. Identify data gaps that can be addressed during the primary research phase of the project that follows.

### What is Northern Cook County?

Northern Cook County encompasses the jurisdictions of Arlington Heights, Barrington, Bartlett, Buffalo Grove, Des Plaines, Elgin, Elk Grove, Evanston, Glenview, Glencoe, Golf, Hanover Park, Hoffman Estates, Kenilworth, Lincolnwood, Morton Grove, Mount Prospect, Niles, Northbrook, Northfield, Palatine, Park Ridge, Prospect Heights, Rolling Meadows, Roselle, Rosemont, Schaumburg, Skokie, Streamwood, Wheeling, Wilmette, and Winnetka.

Together, these jurisdictions are commonly referred to as the “northern suburbs” and the “northwest suburbs.”

### Why Northern Cook County?

Northern Cook County is distinctly different than urban Chicago. It has different demographics, a different industrial composition, and different social issues. In the past, data for northern Cook County was combined with data from all of Cook County that clouded consideration of issues unique to the suburbs. Decision-makers need information that will help them prioritize action and investments to develop the workforce and workplaces that will help sustain and grow the quality of life we have enjoyed in the region.

This is not to say that the rest of the county is being ignored. To the contrary, employers are very much aware that their employees come from a broad labor market area that extends far beyond the borders of the county. Workers are oblivious to

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<sup>1</sup> Chicago PMSA is comprised of the following counties: Cook (65% of the 2000 PMSA population), DeKalb, DuPage, Grundy, Kane, Kendall, Lake, McHenry, and Will.

artificial political boundaries when seeking work. Policy-makers and service providers in the suburbs need to be sensitive to the issues of workers and potential workers from nearby regions.

Where possible, available data for northern Cook County is compared to Cook County data, Chicago PMSA and the State of Illinois. However, due to data limitations this report at times uses Cook County data as the most local geographic area available.

## How the Report is Organized:

The report is divided into four major sections:

- **Workforce Supply** describes the demographic characteristics of northern Cook County's population and how it has changed over time.
- **Workforce Demand** identifies which industries and sectors drive the northern Cook County economy and which occupations are most critical to employment wages.
- **The Emerging Workforce** outlines how the education system contributes to development of critical knowledge and skills for demand occupations and provides a picture of "The State of the Youth" in northern Cook County.
- **Appendix** includes some suggested next steps and detailed data tables.

### Terminology:

The term **area** refers to northern Cook County.

The term **region** refers to the Chicago metropolitan statistical area.

The term **industry** refers to the 1-digit standard industrial classification code as assigned by the U.S. Bureau of Labor Statistics (e.g. "Services").

The term **sector** refers to the 2-digit and 3-digit sub-industry levels as assigned by the U.S. Bureau of Labor Statistics (e.g. "Health Services").

## Summary of Key Indicators

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### Workforce Supply

- The population has been growing faster than the urban areas of Cook County, but more slowly than the nation.
- Northern Cook County has a higher percentage of prime working age individuals than the surrounding areas, but a smaller percentage of youth.
- Over a quarter of the northern Cook County population could potentially have English literacy needs.
- Northern Cook County is a highly affluent area with a greater percentage of “high-end” household incomes than neighboring areas.

### Workforce Demand

- Within northern Cook County, Services dominate the list of top workforce sectors by Employment in the 4<sup>th</sup> Quarter, 2001. The top five sectors are Business Services, Health Services, Engineering-Accounting-Research-Management Services, Wholesale Trade-Durable Goods, and Miscellaneous Repair Services.
- Compared to other neighboring areas, northern Cook County has higher rates of employment concentration than neighboring areas in a variety of important sectors including Business Services, Industrial and Commercial Machinery and Computer Equipment, Electronic and Electrical Equipment and Components Manufacturing, and Insurance Carriers, among others.
- Management Occupations account for the highest total annual wage (employment x wage) followed by Office and Administrative Support Occupations. Each of these two clusters nearly double the total annual wage of the next highest occupations clusters – Sales and Related Occupations, and Production Occupations.
- General Managers is the top occupation by total annual wage among those that require a bachelor’s degree or higher; Registered Nurses is the top for those occupations that require an associate’s degree or post-secondary vocational training; and Sales Representatives for Wholesale Trade and Manufacturing is the top for those occupations that require Work Experience or On-the-Job Training.
- Transferable skill requirements across six diverse sectors (including Air Transportation, Computer Services, Education Services, Electronics Manufacturing, Health Services, and Insurance Carriers) are: Critical Thinking, Information Gathering, Judgment and Decision Making, Problem Identification, Reading Comprehension, and Writing.
- Transferable knowledge requirements across the same six diverse sectors identified above are: Administration and Management, Clerical, Computers and Electronics, Education and Training, English Language, and Mathematics.
- Among the six sectors analyzed, Computer Services ranks 1<sup>st</sup> in both average knowledge and skill levels required. Across all six sectors, average skill levels exceed average knowledge levels.

- Modern manufacturing experiences numerous education and training gaps that are proving costly to employers, residents, and the regional economy including lack of accountability, assessment, and defined outcomes.
- Women and minorities are dramatically underrepresented in terms of information technology degrees. Women accounted for fewer than one in ten advanced degree graduates statewide.
- Health Services continue to experience shortages, including certified nursing assistants, radiology technologists, and specialty nurses. On average, it takes regional hospitals between six weeks and 16 months to fill a high demand position.

### **The Emerging Workforce**

- Undergraduate enrollment in professional education programs dropped 10% statewide from 2000 to 2001.
- Special Education and Elementary Education positions account for half of all teaching vacancies across the state.
- Northern Cook County exceeds the state in teacher salary, teacher experience, and teacher education.
- Northern Cook County has significantly higher educational attainment levels than do neighboring areas. The area also enjoys healthy high school graduation rates.
- Although northern Cook County test scores for 11<sup>th</sup> graders generally exceed the state average, Science scores within the county rank lowest among all subject areas.
- School enrollment is expected to decline across all grade levels in the region between 1999 and 2004.
- All seven high school districts (and one individual high school) reviewed have a lower percentage of low-income students than does the state.

## Implications for Consideration

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The following are “storylines” emerging from the data that warrant further consideration. These implications are not exhaustive but are merely intended as a starting point for discussion.

- 1. Northern Cook County differs from Cook County in the rates of employment in Manufacturing, Construction, and Trade.** Northern Cook County has a higher percentage of employment in these industries, despite northern Cook County’s leading employment sectors being Service-related, including Business Services and Health Services. For example, northern Cook employment rates exceed the other areas in Industrial Machinery and Computer Equipment, Electronics and Electrical Equipment and Components Manufacturing. The implications of this are:
  - ◆ By analyzing sub-county information for the first time, northern Cook County policy makers can finally determine what distinguishes the area from the rest of Cook County – it has higher rates of employment than its neighbors in Manufacturing, Construction, and Trade. This is good news for the area given reports that manufacturing jobs create two jobs in other sectors for every one manufacturing job, higher than either Services or Retail trade.
  - ◆ Service sectors such as Business Services (including Computer Services), Health Services, and Professional Services (i.e. Engineering) remain top employers within northern Cook County and help form the basis of the “knowledge economy.” Therefore, for those less inclined to pursue manufacturing jobs, there remains ample opportunity for high-skill, high-wage occupations.
- 2. The Chicago regional labor market is very “office-intensive,”** even given the employment trends in Manufacturing and Services. This is evidenced by strong indicators in occupational clusters (Management occupations, Office and Administrative Support occupations), specific occupations (General Managers and Top Executives), transferable skill requirements (Critical Thinking, Information Gathering, Judgment and Decision Making), transferable knowledge requirements (Administration and Management), educational attainment (high levels of bachelor’s degrees and above) and corporate headquarters (16% increase since 1990).
- 3. Regional employers have identified numerous gaps in the local education and training system that warrant consideration and action.** As the regional economic development study *Northeast Illinois Regional Development Strategy: Vision and Priorities*<sup>2</sup> analyzed, employers identified workforce development as the number one economic development priority and identified numerous workforce development priorities for action. These workforce development priorities included education in kindergarten through grade 12, technical skills training, school-to-work programs, and numerous others. In addition, a series of reports done for the Manufacturing

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<sup>2</sup> Developed by the Illinois Economic Development Board, based upon information collected and furnished by the Center for Urban Economic Development, University of Illinois-Chicago, and compiled by the Center for Governmental Studies, Northern Illinois University, under contract with the Department of Commerce and Community Affairs.

Workforce Development Project<sup>3</sup> identified numerous gaps in the education and training system in the region including a lack of accountability, little assessment, and few defined outcomes for programs. Furthermore, nearly every report analyzed mentioned the need to raise career awareness among youth. The implications are:

- ◆ Employers need to be partners with education to fill the perceived gaps. Employers must be willing to actively participate in providing work-based training and other enhancements that schools cannot do alone.
- ◆ Educational institutions must identify ways to document mastery of critical transferable knowledge and skills in a way that is usable for employers, students, and parents.
- ◆ Employers must work with education to raise awareness among students about good careers in the area.

4. **Information Technology employment is the highest among nationwide metropolitan areas, but women and minorities are being left behind.** While the area appears well positioned in the technology sector, including higher employment concentration (relative to neighboring areas) in electronics and computer manufacturing, the reality is that information technology education and training programs statewide are graduating alarmingly few women and minorities. For example, women accounted for fewer than one in ten advanced information technology degree graduates in Illinois. These statewide numbers are sure to negatively impact the northern Cook County technology sector in future years. The implications are:

- ◆ The reasons for under-representation by women and minorities should be identified to ensure interventions are appropriate to the cause.
- ◆ Women and minorities who are currently successful in information technology fields should be tapped as mentors for promising students.
- ◆ A lack of diversity in information technology could limit innovation and creativity that other regions in the country might more successfully tap.

5. **Northern Cook County's educational system enjoys educational advantages in teacher salary, teacher experience, and teacher educational level relative to the rest of the state,** despite a statewide teacher shortage expected to get worse. Given that teachers are the backbone of the "first chance" workforce development system, this bodes well for the area. The population's higher educational attainment compared to other areas furthers this educational advantage. The implication of this is:

- ◆ Teacher shortages are anticipated nation-wide. Northern Cook may be in a better position to attract qualified teachers than other parts of the country, providing the higher salaries are high enough to offset a higher cost of living.

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<sup>3</sup> Manufacturing Workforce Development Project is a partnership between the Chicago Federation of Labor and the Center for Labor and Community Research. The reports used were the *Project Report Summary* and also *Creating a Manufacturing Career Path System in Cook County*.

6. **The definition of “basic skills” is changing and evolving and is now more advanced than previously thought.** Of six critical workforce sectors analyzed (Air Transportation, Computer Services, Education Services, Electronics Manufacturing, Health Services, and Insurance Carriers), the following skills appeared in at least five of the six:

- ◆ Critical Thinking;
- ◆ Information Gathering;
- ◆ Judgment and Decision Making;
- ◆ Problem Identification;
- ◆ Reading Comprehension; and
- ◆ Writing.

All but the latter two represent a more “advanced” skill set than the previous “reading-writing-arithmetic” and “come to work on time and be a good team player” descriptions of basic skills. The implications are:

- ◆ Workforce practitioners, including One-Stop operators, must understand the implications of new skill and knowledge requirements and how to help job seekers transfer skills from one occupation to another.
- ◆ Educational institutions must include these “basic skills” in curriculum and assessment.

7. **Based on the knowledge and skills requirements of the six critical workforce sectors analyzed and noted above, a “new workforce curriculum” is necessary, and that curriculum should focus on the transferable knowledge sets of:**

- ◆ Administration and Management;
- ◆ Clerical;
- ◆ Computers and Electronics;
- ◆ Education and Training;
- ◆ English Language; and
- ◆ Mathematics.

These knowledge requirements cross nearly all sectors of the workforce and economy. The implications are:

- ◆ Education and training providers must offer a curriculum that encompasses each of these critically important knowledge sets to produce adaptable employees for a changing, complex economy.

8. **The communities of northern Cook County must consider the importance of the state assessment scores of 11<sup>th</sup> grade students in Science. Science proficiency ranks last among five subjects that also include Reading, Writing, Math, and Social Science.** At a time when the regional and national economies are becoming more knowledge and technology driven, efforts must be made to increase the area’s science scores, lest they begin to have a negative impact on the economic development of the area.



9. **There are numerous gaps in real-time, local workforce information that are rapidly being addressed by an exciting new partnership with the Illinois Department of Employment Security.** The Workforce Board, alone or in partnership with others in the region, will need to understand and prioritize such exciting new labor market information initiatives such as detailed demographic data about the labor market (through a new match between Census and Unemployment Insurance data), job vacancy surveys, improved interactive web pages, an employment tracking system, and numerous others. The implications are:
- ◆ The Workforce Board must take full opportunity to pilot at least one or two of these promising research projects.
  - ◆ Community stakeholders that include business and industry associations, economic development entities, chambers of commerce, and others must cooperate to reduce duplicative data collection, maximize limited resources and agree on how best to utilize new labor market information to make it optimally useful for the community.



# WORKFORCE SUPPLY

Workforce Development is the Number One Goal  
of Employers in the Region

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Population Growing Faster than Urban Area,  
Slower than Nation

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Northern Cook has Higher Percentage of  
“Prime Age” Workforce, but Labor Supply is Shrinking

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Increased Diversity Might Indicate English Literacy Needs

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Northern Cook has Significant Advantage  
in Educational Levels

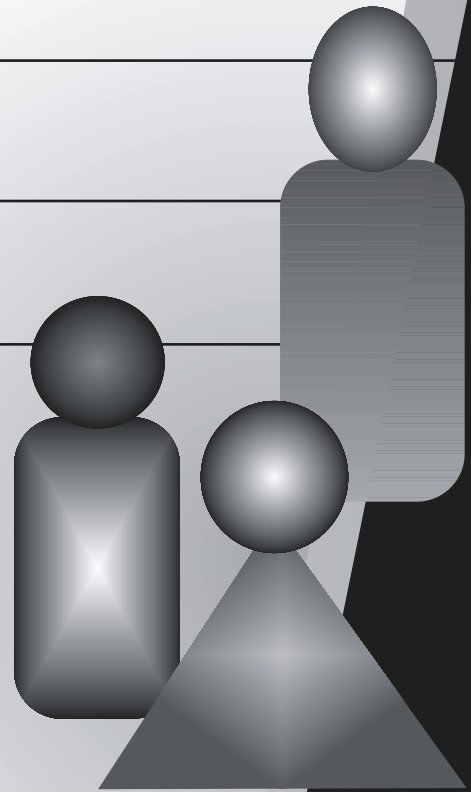
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Northern Cook County More Affluent than  
Surrounding Areas

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Transportation Strategies are Improving  
Access to Work

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WORKFORCE SUPPLY



## Workforce Development is the Number One Goal of Employers in the Region

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### *How Are We Doing?*

While it is important to consider northern Cook County-specific data, it is equally important to understand the impact that the regional labor market has on the area. The *Northeast Illinois Regional Development Strategy and Priorities* (developed by a partnership of University of Illinois-Chicago and Northern Illinois University under contract with the Illinois Department of Commerce and Community Affairs) included the following findings related to workforce development:

- Workforce development ranks 1<sup>st</sup> among economic development goals, followed by Retain Business and Recruit Business.
- Passenger air service ranks 1<sup>st</sup> among business climate strengths.
- Unemployment compensation is both a business climate weakness and a business climate strength.
- Business development weaknesses include:
  - ◆ Entrepreneurial Assistance
  - ◆ Technology Venture Programs
  - ◆ Business Incubators
  - ◆ International Trade Zones
  - ◆ Technology Development Centers
  - ◆ International Trade Offices
  - ◆ Venture Capital Programs
- Business development priority actions include manufacturing modernization and small business development.
- Workforce development strengths include higher education and community colleges.
- Workforce development weaknesses include apprenticeships, school-to-work, English as a Second Language, and technical skills training.

### **Workforce Development Priorities for Action**

The *Regional Development Strategy and Priorities* identified the following workforce development priorities for action (as noted by the percentage of employers surveyed who mentioned the priority):

1. K-12 education	71%
2. Technology skills training	69%
3. School-to-Work	66%
4. Apprenticeships	65%
5. Technology preparation	65%
6. Customized skills training	58%
7. Basic skills training	58%
8. Community colleges	58%
9. Telecommuting opportunities	53%
10. Universities	53%
11. English as a Second Language	50%

## Workforce Supply

### *Why Is This Important?*

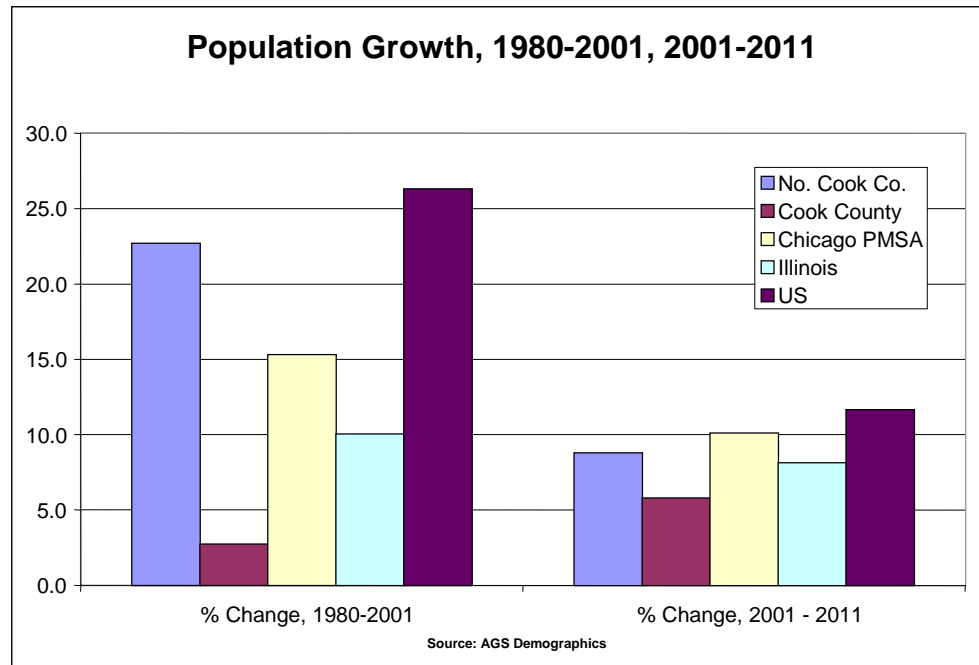
The fact that regional employers recognize the importance and value of workforce development is encouraging, however, employers perceive many weaknesses in workforce preparation systems. Priorities for action to address these perceived weaknesses are recommended to include apprenticeships, school-to-work and technical skills training. Community leaders might wish to identify the extent to which these findings are true at the local area level. Perceptions can become reality. If employers perceive there are weaknesses, they may not be supportive of local education institutions. Their support is critical to ensuring a healthy partnership between business and education.

## Population Growing Faster than Urban Area, Slower than Nation

### How Are We Doing?

The national trend has been for the heartland to be growing more slowly as young adults move to areas of the county perceived as having better jobs and better climates.

- Since 1980, northern Cook County's population



has grown at a rate faster than Cook County, the greater Chicago Metropolitan Statistical Area (PMSA), and the State of Illinois, but trailed national growth rates.

- Northern Cook County currently comprises 24% of the Cook County population, up from 20% in 1980 and 23% in 1990. The percentage is expected to increase to 25% by 2011.
- Although northern Cook County will continue to grow over the next decade, it is not projected to grow as fast as the Chicago PMSA. However, the region as a whole is expected to grow at a slower rate than between 2001 and 2011.

### Total Population 1980 – 2011

	No. Cook Co.	Cook County	Chicago PMSA	Illinois	US
<b>1980 Population</b>	1,048,847	5,250,336	7,236,506	11,353,982	224,810,186
<b>1990 Population</b>	1,160,929	5,105,071	6,734,485	10,754,229	248,032,617
<b>2001 Estimate</b>	1,286,436	5,394,072	8,344,115	12,496,568	283,960,915
<b>2011 Projection</b>	1,399,079	5,707,259	9,188,237	13,514,731	317,069,862

Source: AGS Demographics

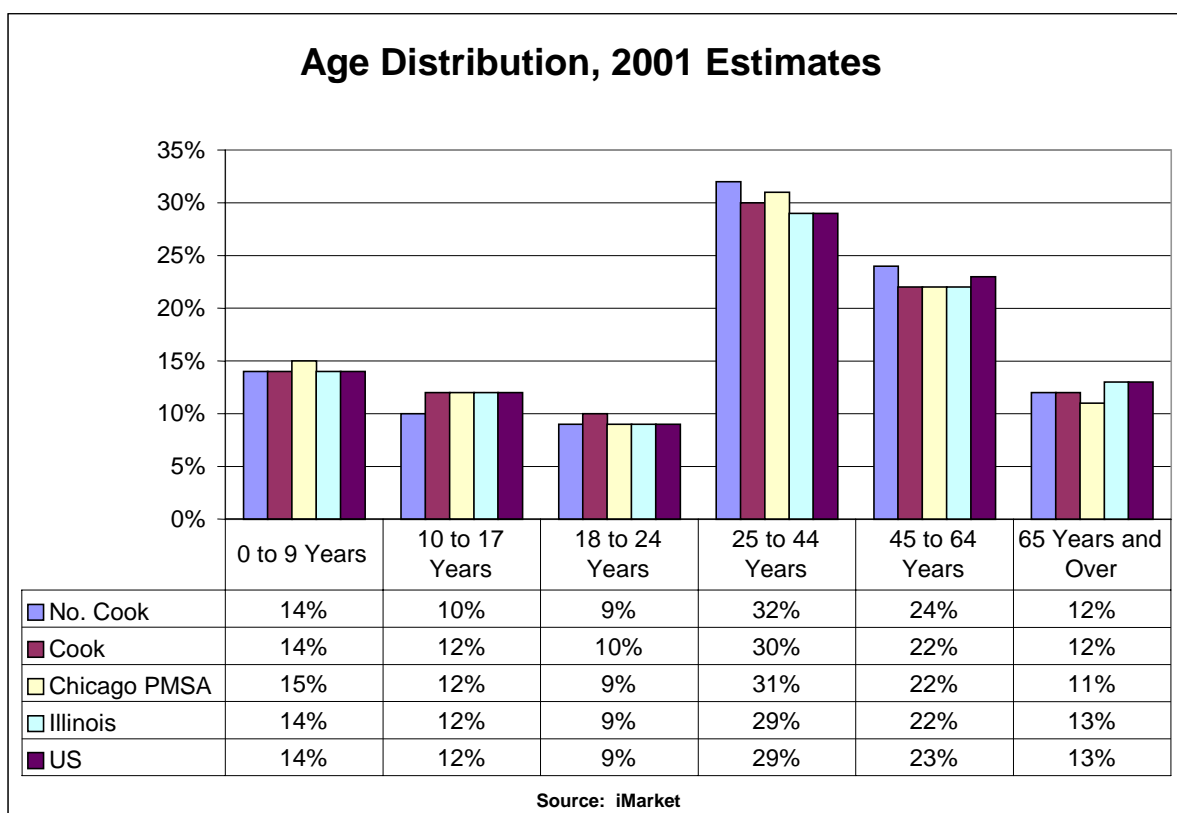
### Why Is This Important?

Population trends set a crucial context for making workforce strategy decisions. Understanding that northern Cook is growing faster than other jurisdictions but less than the nation can point policy makers towards ensuring that an infrastructure (i.e. transportation, child care, other services) is in place to help sustain steady growth.

## Northern Cook has Higher Percentage of “Prime Age” Workforce, but Labor Supply is Shrinking

### How Are We Doing?

Northern Cook County has the highest percentage of all the areas studied of individuals in their prime working years – 25 to 44 and 45 to 64 - often thought of as “mid management” and “upper management” ages, respectively. Conversely, youth under the age of 18 comprise a smaller percentage in northern Cook County than they do in other areas.



### Why Is This Important?

Given that the highest rates of population are mid to older age workers, investing in the skills of the incumbent workforce will have the greatest short-term impact on the workforce. However, the lower percentage of youth implies there may be a reduced supply of labor as older workers transition out of the workforce. This will mean that entry-level jobs will become harder to fill, making the effective use of older workers important (i.e. retooling the skill sets of older workers returning to the workforce for a second career).

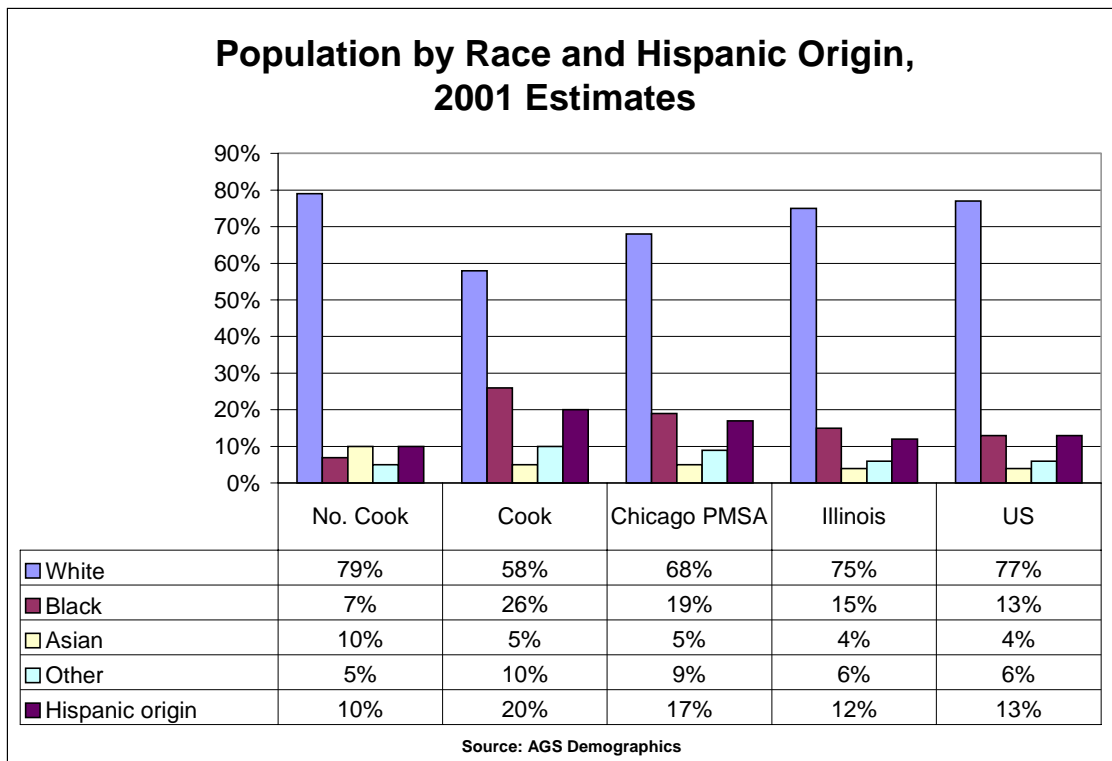


## Increased Diversity Might Indicate English Literacy Needs

### How Are We Doing?

Northern Cook County is less diverse than other areas, with a non-white population of 21% compared to 42% in Cook, 32% in Chicago PMSA, 25% in the State, and 23% across the US.

One means by which to identify potential English literacy needs is to gauge the size of the non-English speaking population. Considering Asian, Hispanic Origin, and Other as the total potential for non-English speaking, the following potential for rates of non-English speaking are: northern Cook County (26%), Cook County (35%), Chicago PMSA (31%), Illinois (22%), and U.S. (23%).



### Why Is This Important?

- Potentially a quarter of northern Cook County’s population may not speak English as their first language. Additionally, the area’s workforce includes commuters from the surrounding areas where minority populations are much higher. Stakeholders comment anecdotally that there is a significant portion of “unreported” immigration in the area, particularly among Eastern Europeans. Northern Cook County policy-makers need to devise strategies for unreported yet perhaps significant non-English speaking populations. English literacy courses and support must remain strong to ensure productive communication in the workplace.

## Workforce Supply

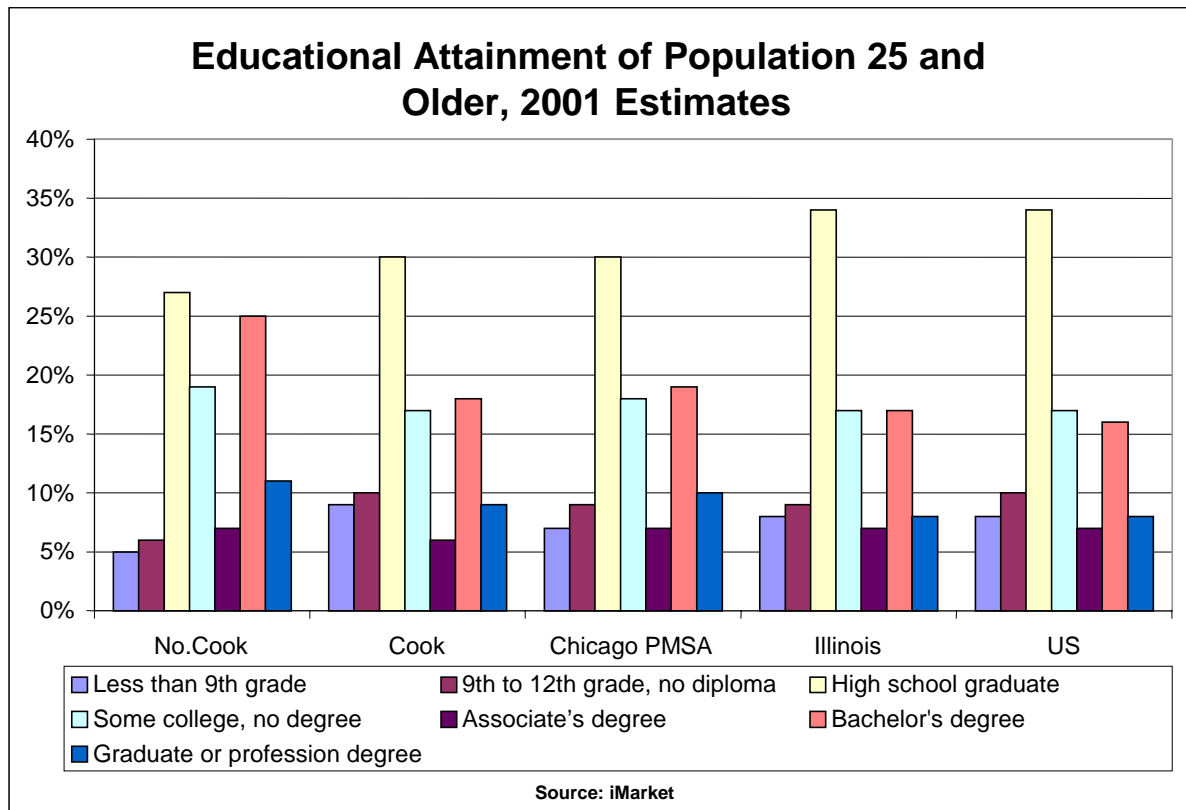
- Immigrants are important to the northern Cook County labor supply. The current trend reveals a shrinking labor supply, thus the region may need to look to populations that have not traditionally been as prevalent in high skill/high wage industries, including immigrants, women, minorities, and the disabled. The region compares very favorably to other regions in the state and nation in terms of its high per capita income and well-educated population. However, the smaller than average number of residents at the low end of the socioeconomic ladder still represent a substantial pool of prospective workers that have not been fully developed and utilized.

Creating career ladders for individuals of different cultural backgrounds will present a challenge to education and training providers and employers, but is critical to close the gap between the “have’s and have not’s.” This is particularly important in light of later data that indicate minority graduation from information technology programs is much lower than expected.

## Northern Cook has Significant Advantage in Educational Levels

### How Are We Doing?

Northern Cook County has a significantly more-educated population than do the other areas, as exhibited by the high rates of bachelor and graduate degrees.



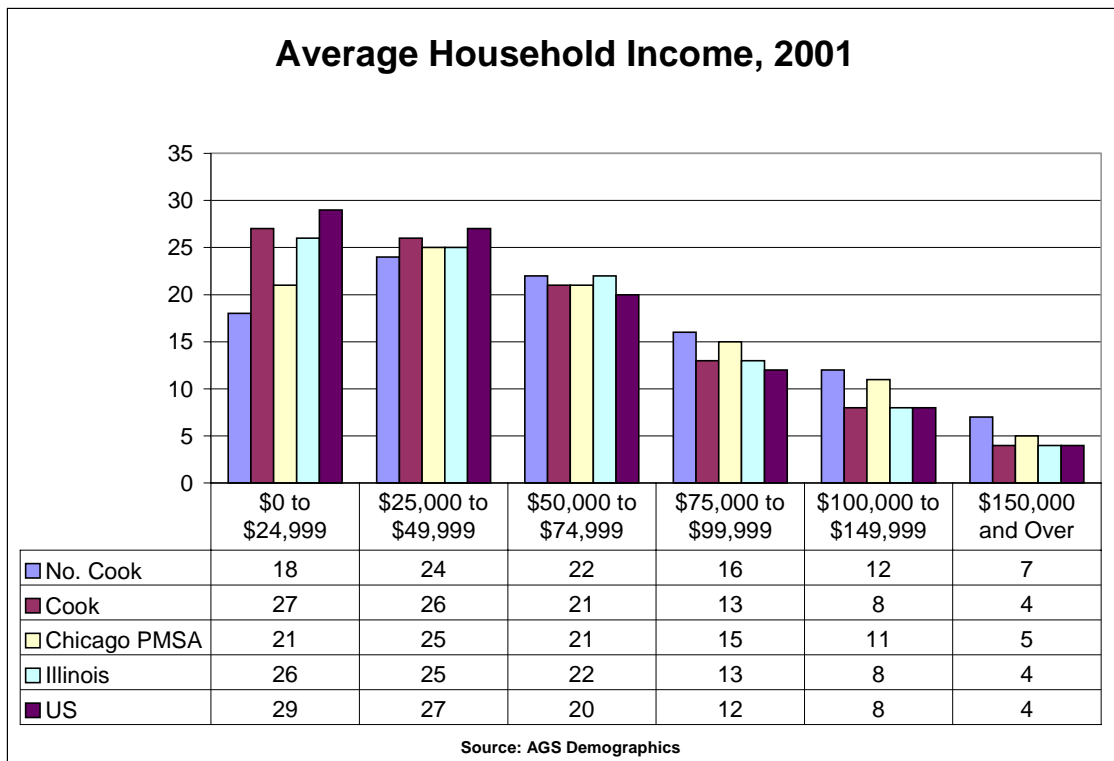
### Why Is This Important?

Northern Cook County is well positioned for the “knowledge economy” as it seeks to recruit and retain leading employers in such sectors as Information Technology, Professional Services, Advanced Manufacturing, and Business and Finance. However, efforts must be made to ensure that the occupations available align with educational attainment to maximize employee satisfaction and minimize commuting burdens by bringing workers closer to home.

## Northern Cook County More Affluent than Surrounding Areas

### How Are We Doing?

Poverty estimates are difficult to obtain at the sub-county level. Household income<sup>4</sup> is being used in this report as an indicator of relative wealth and prosperity. Northern Cook County fairs quite well compared to its neighbors, with the highest median household income among all areas in the comparison and the lowest percentage of households in the lowest two income brackets (\$0 to \$24,999 and \$25,000 to \$49,999).



### Median Household Income, 2001

Northern Cook	\$59,248
Cook County	\$47,724
Chicago PMSA	\$53,682
Illinois	\$47,485
US	\$45,297

Source: AGS Demographics

<sup>4</sup> Household income is the sum of money received in the previous calendar year by all household members age 15 and older, including household members not related to the householder.

***Why Is This Important?***

- Despite its relative affluence, over 18% of the households in northern Cook County earn less than \$25,000 per year. These residents may represent a large number of under-employed or under-skilled workers. Targeting the working poor for development may provide long lasting benefits for the economy and northern Cook families. In the northern suburbs, the annual income needed to live without any food or housing subsidies in a safe and healthy environment for one adult and one pre-schooler is estimated at \$34,583 per year (“The Self-Sufficiency Standard for Illinois,” by Diana Pearce, Ph.D., and Jennifer Brooks; prepared for Woman Employed, December 2001).
- Northern Cook County’s youth are emerging from families with a strong financial base. However, employers are finding that the “echo boomer” group learned to be big spenders and picked up poor financial habits while still in their teens. Nationally, reports indicate that young people who have been accustomed to affluence are taking on staggering amounts of debt. Financial planning skills may need to be incorporated into youth development strategies to prepare young people for their futures. This includes youth pursuing high wage careers who may not know how to translate today’s perceived riches into investments for the long-term.

## Transportation Strategies are Improving Access to Work

### *How Are We Doing?*

A Workforce Transportation Collaboration with Pace Suburban Bus, the area's workforce system partners, and business and other community leaders contributed to or supported the following:

- In the north suburbs, an expansion of two Pace bus lines enabling individuals to become employed at Lutheran General Hospital and Rush North Shore Hospital.
- In the northwest suburbs, a survey of local employers in Schaumburg in order to determine shift start times, preparation time needed for employees to arrive at their work stations, and origin points of employees.

Along with seven other Workforce Boards in the Chicago metro area and the University of Illinois- Chicago, a two-year Regional Transportation Clearinghouse is mapping alternate transportation providers. Funded by the Federal Transit Administration and the Regional Transportation Authority, this project will identify transportation gaps and best practices, and it will support an enhanced web-based transportation information system that will be assimilated into the existing database of public transit information.

### *Why Is This Important?*

Transportation is at the forefront of many metropolitan and suburban workforce challenges. For example according to, recently released data by the Metro Chicago Information Center, area residents are beginning to view public transit as a viable commuting option. Highlights of the 1998 survey include:

- 32% of suburban Cook County residents who currently commute to work using their own vehicle say they prefer to live where they can commute to work by public transit.
- Improving service frequency would encourage 38% of suburban Cook County residents to commute by public transit. The Workforce Transportation Collaboration, including the Regional Transportation Clearinghouse, should be expanded and promoted as part of the region's economic development strategy.

# WORKFORCE DEMAND

Northern Cook County has Competitive Labor Supply Advantages in Construction, Manufacturing, and Trade

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Service Sectors are Top Employers in Northern Cook County

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Companies Choosing to Headquarter in Region on the Decline Since 1997

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Management Occupations Rank 1<sup>st</sup> in Total Annual Wages

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General and Operations Managers, Registered Nurses, and Sales Reps are Top Wage Earning Occupations by Education and Training Level in the Chicago Area

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Knowledge and Skills Requirements Imply a New “Workforce Curriculum”

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Application of Skills More Important than Knowledge for Success

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Training Gaps in Modern Manufacturing Proving Costly to Employers, Residents, and the Regional Economy

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Chicago Region Ranks 1<sup>st</sup> in Metro Area Information Technology Employment but Challenges Remain

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Participation of Women and Minorities in Statewide Post-Secondary Information Technology Programs is Much Lower than Expected

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Healthcare Vacancies Impacting the Entire Region

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Average Technical Healthcare Vacancy Taking 6 Weeks to 16 Months to Fill

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WORKFORCE DEMAND



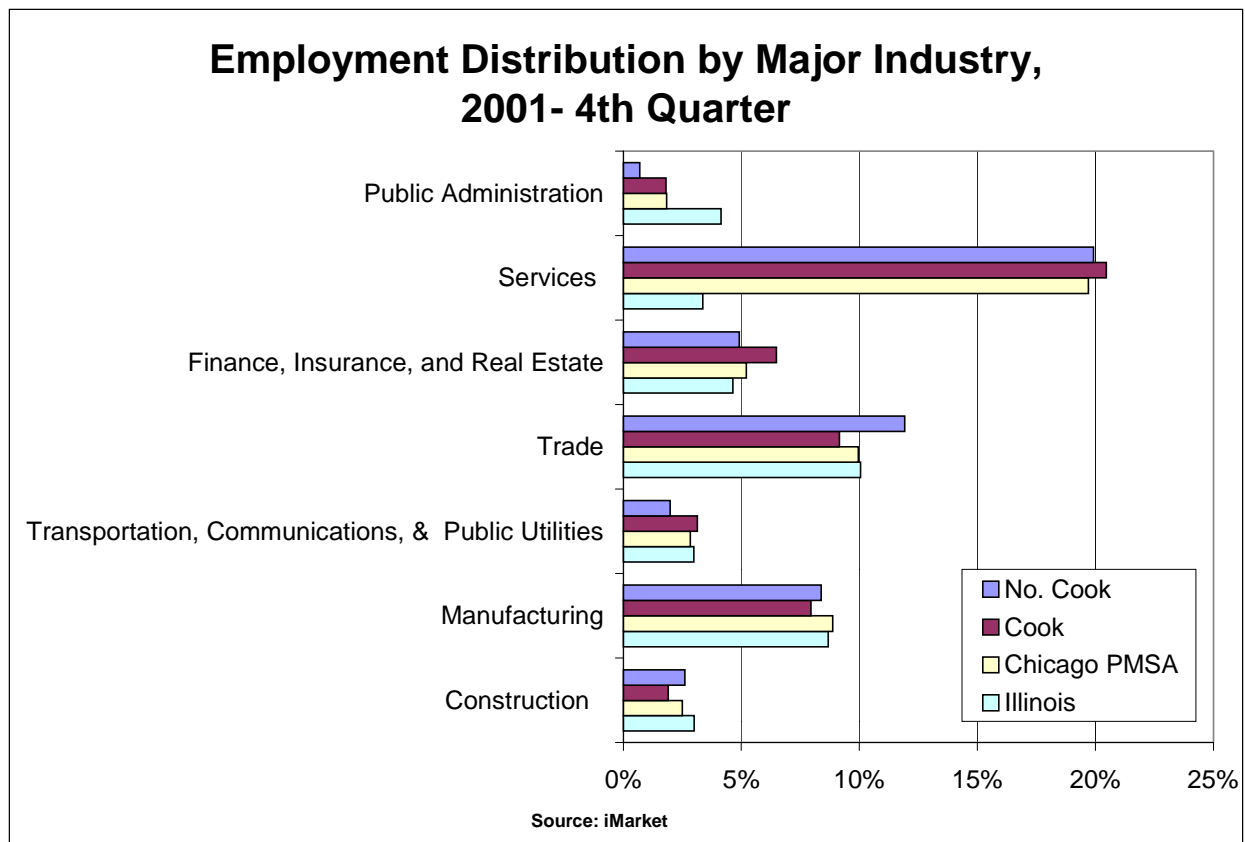


## Northern Cook County has Competitive Labor Supply Advantages in Construction, Manufacturing, and Trade

### How Are We Doing?

Of the areas studied, northern Cook County has the highest employment distribution in Trade (11.9% compared to 10.1% in Illinois, 10.0% in Chicago PMSA, and 9.2% in Cook). Like other areas analyzed, it also has high employment in Services and Manufacturing. Northern Cook County differs from the rest of Cook County through its higher concentration of employment composition in Construction, Manufacturing, and Trade and lower concentration of employment in Transportation, Communications, and Public Utilities as well as Finance, Insurance, and Real Estate; Services; and Public Administration.

Manufacturing accounts for the second largest rate of employment per business location at 36, second only to Public Administration at 51. Others include Retail Trade (17 employees per business); Transportation, Communications, and Public Utilities (17); Finance, Insurance, and Real Estate (16); Services (14); Wholesale Trade (14); and Construction (8).



### *Why Is This Important?*

The Manufacturing Workforce Development Project<sup>5</sup> estimates that for every manufacturing job created in a local economy, two other jobs are also created (Retail Trade jobs create one other job, Services create 0.75 other job). Given that manufacturing jobs tend to pay better than either Construction or Trade, local policy makers should commit to help maintain and enhance the Manufacturing base in an era when Manufacturing is declining across the nation, being replaced by Service(s) jobs.

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<sup>5</sup> The Manufacturing Workforce Development Project is a joint effort of the Chicago Federation of Labor Worker Assistance Committee and the Center for Labor and Community Research, funded by a U.S. Department of Labor grant.

## Service Sectors Are Top Employers in Northern Cook County

### How Are We Doing?

Five of the top six sectors are in the services industry including Business Services, Health Services, and Engineering-Accounting-Research-Management Services. The only Manufacturing sector to appear in the top ten list is Industrial and Commercial Machinery and Computer Equipment.

### Top Ten Industries by 2001 Fourth Quarter Employment

Workforce Sector	Employment		Percent of Employment		
	No. Cook	No. Cook	Cook	Chicago PMSA	Illinois
Business Services	91,668	<b>4.5</b>	4.0	4.0	3.4
Health Services	73,347	3.6	3.9	3.7	<b>4.1</b>
Engineering, Accounting, Research, Management & Related Services	54,256	2.7	2.7	<b>3.0</b>	2.6
Wholesale Trade - Durable Goods	52,275	<b>2.6</b>	1.7	1.9	1.7
Miscellaneous Repair Services	51,576	<b>2.5</b>	1.0	0.7	0.6
Educational Services	38,326	1.9	2.8	2.7	<b>3.0</b>
Eating and Drinking Places	37,299	1.8	2.1	2.1	<b>2.2</b>
Miscellaneous Retail	31,849	<b>1.6</b>	1.2	1.3	1.3
Construction - Special Trade Contractors	29,403	1.4	1.1	1.4	1.4
Industrial and Commercial Machinery and Computer Equipment	27,832	<b>1.4</b>	0.8	1.0	1.3

**Bold=Highest Distribution Across Areas**

Source: iMarket

- Among its top ten employment sectors, northern Cook County has a higher rate of employment concentration (as noted in bold in the table) than other areas in Business Services, Wholesale Trade-Durable Goods, Miscellaneous Retail, Construction-Special Trade Contractors, and Industrial and Commercial Machinery.
- Northern Cook County enjoys other competitive advantages relative to employment concentration, particularly among manufacturing sectors such as Fabricated Metals and Electronics. It also has a higher concentration of workers engaged in the Insurance Carrier sector than other areas.

Other sectors\* with significant employment (over 15,000 workers) and higher concentration than other areas:

- Rubber and Miscellaneous Plastic Products
- Fabricated Metal Products
- Electronic and Electrical Equipment and Components Manufacturing
- Wholesale Trade, Non-Durable Goods
- General Merchandise Stores
- Apparel and Accessory Stores
- Non-Depository Credit Institutions
- Insurance Carriers

\* A complete list of all 2-digit workforce sectors is available in the Appendix.

### *Why Is This Important?*

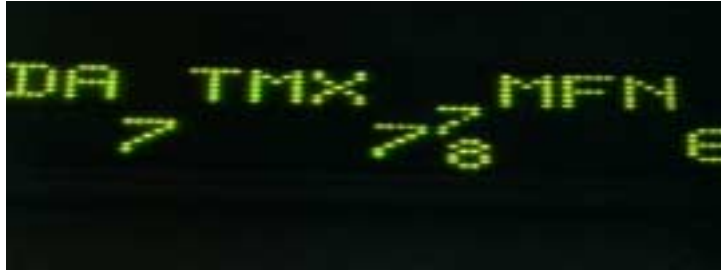
Across Services sectors, both Business Services (computer services, temporary help supply) and Health Services (doctors, nursing assistants) have large disparities in skills and wages within the sector, while Engineering-Accounting-Research-Management tends to be a good pay, high skill sector. Given that, northern Cook County policy makers and stakeholders might wish to prioritize the sectors in which it seeks to maintain or develop competitive employment advantages. For example, engineering and research companies can be targeted for economic development or skills training.

## Companies Choosing to Headquarter in Region on the Decline Since 1997<sup>6</sup>

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### *How Are We Doing?*

In 1999, 192 public companies with more than 500 employees were headquartered in the Chicago region, an increase of 16% over the 1990 figure of 166. However, the number of companies with headquarters in the region peaked in 1997 at 214 and declined since.



### *Why Is This Important?*

According to Chicago Metropolis 2020, the number of business headquarters is an indicator of a region's overall economic climate and quality because corporate headquarters locate "where the action is." This includes access to:

- Capital and financial markets,
- Skilled workers,
- Efficient and reliable transportation,
- World-class educational institutions, and
- Cultural and recreational opportunities.

The benefits of having corporate headquarters are important. Corporate headquarters generate business for providers of financial, legal, professional, and travel services.

The fact that the number of headquarters has declined since a peak in 1997 could be an early warning signal concerning the region's attractiveness, assuming the decline was due to relocation or business closures as opposed to mergers.

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<sup>6</sup> *Regional Realities: Measuring Progress Toward Shared Regional Goals*, Chicago Metropolis 2020, February 2001. Data and analysis are reproduced for the purpose of this report.

## Management Occupations Rank 1<sup>st</sup> in Total Annual Wages

### *How Are We Doing?*

In addition to looking at key industries, it is important to understand the key occupations that drive a workforce area. It is important for policy makers to consider not only the occupations that have the most employment, but also the occupations that pay good wages. How can policy makers begin to determine whether to focus on jobs that are highest paying or on jobs for which there is the most demand? In looking at the quality of jobs in a region, one might look at the employment and wages of major occupational clusters. One method to do so involves analysis of total annual wages (employment x annual earnings).

### **Top Occupational Clusters, Chicago PMSA**

<b>Occupational Cluster</b>	<b>Employment</b>	<b>Annual Wage(\$)</b>	<b>Total Annual Wage(\$)</b>
Management	306,530	68,580	21,021,827,400
Office and Administrative Support	779,650	26,250	20,465,812,500
Sales and Related	395,320	28,700	11,345,684,000
Production	439,980	25,090	11,039,098,200
Business and Financial Operations	209,330	45,080	9,436,596,400
Education, Training, and Library	204,460	40,680	8,317,432,800
Transportation and Material Moving	322,920	25,410	8,205,397,200
Construction and Extraction	178,570	45,100	8,053,507,000
Healthcare Practitioners and Technical	186,170	41,400	7,707,438,000
Computer and Mathematical	103,910	56,560	5,877,149,600
Installation, Maintenance, and Repair	125,590	37,280	4,681,995,200
Architecture and Engineering	71,980	49,890	3,591,082,200
Building and Grounds Cleaning and Maintenance	145,590	20,830	3,032,639,700
Food Preparation and Serving Related	185,910	15,960	2,967,123,600
Legal	37,840	66,210	2,505,386,400
Protective Service	84,660	29,020	2,456,833,200
Arts, Design, Entertainment, Sports, and Media	46,900	35,730	1,675,737,000
Community and Social Services	49,690	31,390	1,559,769,100
Personal Care and Service	74,030	20,470	1,515,394,100
Life, Physical, and Social Science	28,380	46,620	1,323,075,600
Healthcare Support	63,310	19,330	1,223,782,300
Farming, Fishing, and Forestry	3,030	20,180	61,145,400

Source: Bureau of Labor Statistics, Chicago PMSA

### *Why Is This Important?*

Clusters of occupations are often relevant across business industries or disciplines. Management occupations, for example, exist across all sectors of employment. Therefore, developing skills and knowledge critical to success in management occupations will benefit all industry sectors.

## General and Operations Managers, Registered Nurses, and Sales Reps are Top Wage Earning Occupations by Education and Training Level in the Chicago Area

### *How Are We Doing?*

Having identified the top occupational clusters, the same formula was applied to identify the total annual wage for specific occupations, and then the occupations were sorted by the U.S. Department of Labor-assigned education and training codes (see Appendix for full list of codes used). These data are for the Chicago Primary Metropolitan Statistical Area.

### Occupations by Education Level

Occupation Title	Employment	Annual Wage(\$)	Total Annual Wage(\$)
<b>Bachelor's Degree or Higher</b>			
General and Operations Managers	61,770	71,310	4,404,818,700
Chief Executives	25,140	109,010	2,740,511,400
Lawyers	22,450	89,760	2,015,112,000
Financial Managers	27,060	73,660	1,993,239,600
Elementary School Teachers, Except Special Education	47,410	40,660	1,927,690,600
Accountants and Auditors	36,740	41,820	1,536,466,800
Computer Systems Analysts	20,990	63,210	1,326,777,900
Sales Managers	18,010	70,900	1,276,909,000
Computer Programmers	24,960	50,230	1,253,740,800
Secondary School Teachers, Except Special & Vocational Education	22,070	55,370	1,222,015,900
<b>Associate's Degree / Post-Secondary Vocational Training</b>			
Registered Nurses	71,710	44,620	3,199,700,200
Computer Support Specialists	13,240	43,380	574,351,200
Legal Secretaries	15,370	36,720	564,386,400
Automotive Service Technicians and Mechanics	14,550	34,360	499,938,000
Licensed Practical and Licensed Vocational Nurses	14,130	30,290	427,997,700
Welders, Cutters, Solderers, and Brazers	12,060	27,480	331,408,800
Electrical and Electronic Engineering Technicians	8,920	35,270	314,608,400
Paralegals and Legal Assistants	6,100	36,190	220,759,000
Chemical Technicians	5,940	32,220	191,386,800
Bus and Truck Mechanics and Diesel Engine Specialists	4,530	39,080	177,032,400
<b>Work Experience or On-the-Job Training</b>			
Sales Representatives, Wholesale and Manufacturing	46,780	43,860	2,051,770,800
Retail Salespersons	97,680	20,370	1,989,741,600
Laborers and Freight, Stock, and Material Movers, Hand	100,920	19,570	1,975,004,400
Customer Service Representatives	74,160	26,100	1,935,576,000
Office Clerks, General	83,170	21,830	1,815,601,100
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	88,640	20,200	1,790,528,000
Truck Drivers, Heavy and Tractor-Trailer	40,370	38,520	1,555,052,400
Electricians	27,790	53,530	1,487,598,700
Executive Secretaries and Administrative Assistants	42,780	31,700	1,356,126,000
Stock Clerks and Order Fillers	63,860	20,480	1,307,852,800

Source: Bureau of Labor Statistics

### *Why Is This Important?*

Viewing top occupations in this format allows users to understand the top occupations within the area relative to educational attainment. For example, the top occupation with an educational level less than an Associate's Degree in the Chicago PMSA is Sales Representatives (Wholesale or Manufacturing). Within these lists, annual wages vary, such as the case in the first column with Chief Executives (\$109,010 per year) and Secondary School Teachers (\$55,370 per year). Policy makers should pay particular attention to the detailed table in the Appendix in order to focus on developing and retaining "good jobs" within each educational level.



## Knowledge and Skills Requirements Imply a New “Workforce Curriculum”

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### *How Are We Doing?*

This report links the critical occupations in an industry sector with the critical knowledge and skill requirements associated with those occupations. Six diverse workforce sectors<sup>7</sup> were selected based on labor market information and stakeholder feedback for analysis of top occupations and identification of knowledge and skill requirements that are transferable across sectors. The sectors chosen for review were Air Transportation, Computer Services, Educational Services, Health Services, Electronics Manufacturing, and Insurance Carriers.

#### **Transferable Skill Requirements**

Critical Thinking  
Information Gathering  
Judgment and Decision Making  
Problem Identification  
Reading Comprehension  
Writing

#### **Transferable Knowledge Requirements**

Administration and Management  
Clerical  
Computers and Electronics  
Education and Training  
English Language  
Mathematics

### *Why Is This Important?*

A rising need among Workforce Boards and other policy groups across the nation is to identify the demand for knowledge and skills in addition to occupations. “It doesn’t matter what we call them,” an employer will say. “It’s what they do that matters.” For example, many employers say “get us someone with basic skills and we’ll train them from there,” but workforce practitioners have struggled to understand what the basic knowledge and skill needs are beyond “come to work on time, dress right, and get along well with others.” It now appears as though a new set of “basic skills” is emerging that includes more advanced skills such as critical thinking, judgment and decision-making, and problem identification.

Furthermore, knowledge requirements signal a shift in necessary curriculum. For example, clerical knowledge is no longer what it used to be. Rather, it has evolved to include most computer office skills such as word processing, spreadsheet manipulation, database management, and desktop publishing applications. Education and training providers need to ensure that instruction includes the new basic “workforce curriculum” such as Administration and Management, Education and Training, Computers and Electronics, and Clerical.

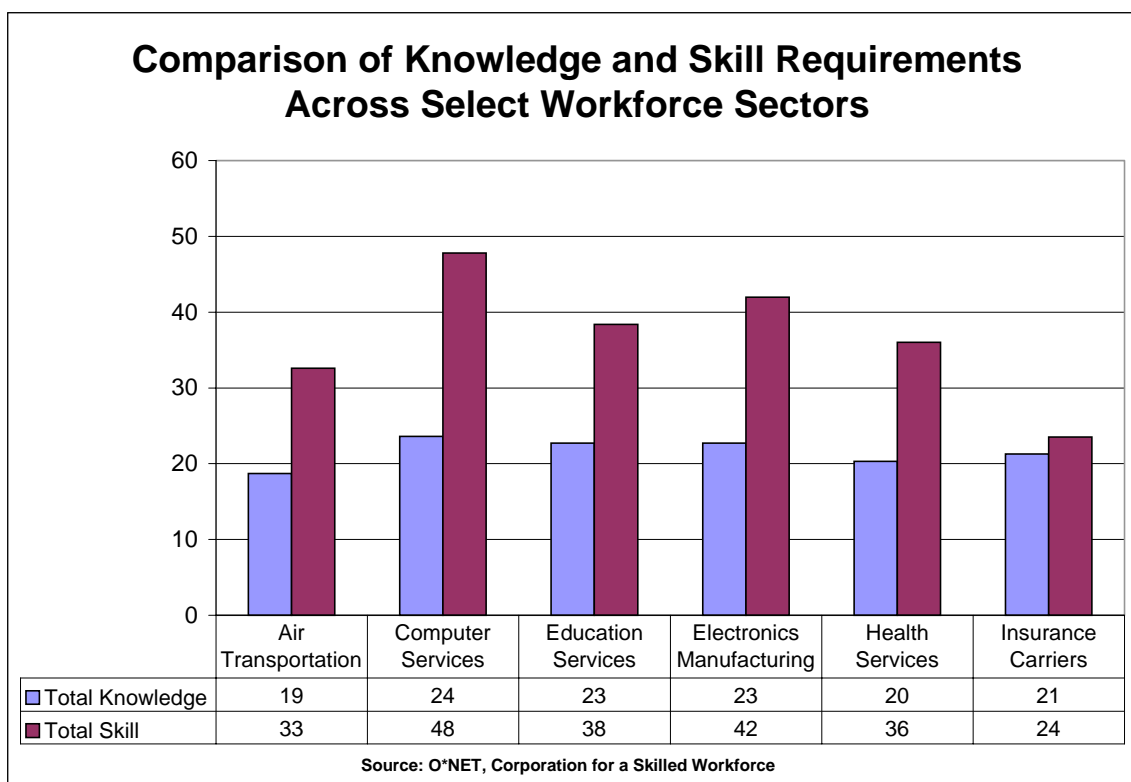
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<sup>7</sup> Sectors were chosen in order to achieve a broad cross-section of economically important workforce sectors so that levels of knowledge and skill requirements could be analyzed across varied sectors.

## Application of Skills More Important than Knowledge for Success

### How Are We Doing

Based on national staffing patterns of the top 25 occupations for each selected workforce sector and weighted for Chicago PMSA employment levels, a model was applied to compare the knowledge and skill levels of the six diverse workforce sectors. Again, sectors were not necessarily selected based on total employment, but rather based on a combination of ensuring a diverse mix (i.e. Manufacturing, Services, etc.) and a level of importance to the local economy.



Sector scores shown in the above graph reflect the average level of 33 knowledge requirements and 46 skill requirements for each of the 25 occupations in the sector, based on a 100-point scale (see Appendix for lists). Highlights across the six sectors analyzed include:

- The level of skills required exceed the level of knowledge required for each sector, indicative that “what can be done” is more important than “what is known.”
- Computer Services ranks first in the level of knowledge requirements per occupation and the level of skill requirements per occupation.
- Education Services ranks second in level of knowledge required, but only fifth in level of skills. This is not surprising given the importance of “knowledge” (i.e. education) in this industry.

*Why Is This Important?*

Understanding that a high level of skills is more in-demand than knowledge across workforce sectors is extremely important. Despite the “knowledge revolution” of the past decade, skills remain the most important aspect in the workforce. Education and training leaders must continue to focus on skills as they develop and revise curriculum.

Workforce policy makers should converse with education and training leaders in the region to determine the extent to which the top-dozen knowledge and skill requirements are being taught, as well as the extent to which students are successfully mastering these skill and knowledge sets.

## Training Gaps in Modern Manufacturing Proving Costly to Employers, Residents, and the Regional Economy

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### *How Are We Doing?*

The Manufacturing Workforce Development Project<sup>8</sup> identified numerous education and training gaps for modern Manufacturing in the Chicago region including:

- Many smaller educational programs lack direct ties with manufacturers.
- Few programs operate with defined outcomes and specifications visible to employers.
- Many programs lack accountability to either employers or the public sector.
- There is little assessment of capabilities of participants in a manufacturing environment.
- Educational and neighborhood program administrators don't know the specific needs of manufacturers.
- Labor has not played a major role in promoting training.

### *Why Is This Important?*

The Manufacturing Workforce Development Project recommends the development of a manufacturing career path system to address the education and training gaps in the area. This system includes core skill cluster descriptions, job clusters, and skill areas specific to modern manufacturing. The requirements of such a system include standards, certification, credentialing, and career paths. They also believe any system developed must be outcome based; articulated and linked; standardized and credentialed; based on a genuine partnership between employers, labor, educators, and government; and big enough to meet the demands and potential of the regional manufacturing economy.

Local leaders must determine the extent to which such a system can be built and then help build it or identify alternatives. To the extent that manufacturing remains a vital part of the economy, so too will the need to meet increasing education and training challenges in new and innovative ways.

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<sup>8</sup> Manufacturing Workforce Development Project is a partnership between the Chicago Federation of Labor and the Center for Labor and Community Research. The reports used were the *Project Report Summary* and also *Creating a Manufacturing Career Path System in Cook County*.

## Chicago Region Ranks 1<sup>st</sup> in Metro Area Information Technology Employment but Challenges Remain<sup>9</sup>

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### *How Are We Doing?*

The “Framework for Action” report developed by the Council for Adult and Experiential Learning and the University of Illinois-Chicago Great Cities Institute (cited below) helps identify trends, needs and gaps in the Chicago-area labor market, maps information technology (“IT”) career requirements based on “IT Clusters” developed by the Northwest Center for Emerging Technologies, and recommends and highlights strategies for addressing IT labor market needs, including the access of women and minorities to IT careers. Among the report’s highlights:

- Chicago ranked first across metro areas in employment (277.4 thousand) ahead of Washington D.C. (277.1), New York (262.5), Boston (218.5), and Philadelphia (180.0).
- Information technology occupations in short supply in the Chicago region include Business Systems Architect, Enterprise Systems Developer/Integrator, E-Commerce Specialist, Telecommunications Engineer, Mainframe Administrator, and Project Manager.
- There are a variety of means by which the area can meet its needs, including strong regional leadership and engaged business, a responsive education system, more accurate perception of IT careers, opportunities for potential IT workers among the existing workforce, and greater representation of women and minorities in the IT workforce.
- Employers are using a variety of recruitment methods, including employee referrals, temporary to permanent, Internet, recruiters, H-1B visas for foreign nationals, internships, and job fairs.
- There are a variety of entry points to IT careers for IT graduates including bachelors degrees, associate degrees, and advanced certificates.
- A number of strategies can be implemented for addressing shortages, including dual high-school enrollment, increased exposure activities, and others.




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<sup>9</sup> *Building a World-Class Information Technology Workforce for the Chicago Region: A Framework for Action*, as published in 2001 by the Council for Adult and Experiential Learning (CAEL) and the University of Illinois-Chicago Great Cities Institute.

### *Why Is This Important?*

The “Framework for Action” report identifies the challenges in IT education and training as:

- Keeping up with the rapid change and rising cost of IT;
- Developing and maintaining employer relationships;
- Filling the need for quick training;
- Integrating experiential learning into instruction;
- Using part-time instructors with current industry experience;
- Helping full-time faculty stay up-to-date;
- Addressing unrealistic expectations and/or poor basic skills of many entering students; and
- Improving coordination among IT-related programs at different levels.

Perhaps more importantly, the Workforce Board has an opportunity to help meet one of the great challenges identified in the CAEL and UIC Great Cities report discussed above, including helping to coordinate various IT-workforce related information such as course curriculums and inventories, business outreach and partnerships, and other vitally important aspects. In addition, local leaders should help promote the continued use of the IT Skill Standards and definitions established by the Northwest Center for Emerging Technologies and referenced throughout the “Framework for Action” report. For example, although career clusters used to define IT are growing in acceptance, labor market information continues to measure the IT sector based on its own definitions that are different than those endorsed by employers in the Northwest Center validation process.

## Participation of Women and Minorities in Statewide Post-Secondary Information Technology Programs is Much Lower than Expected

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### *How Are We Doing?*

The Great Cities Institute of the University of Illinois-Chicago recently released information to the National Science Foundation and Women Employed Information Technology Access Project Teams. Among the major findings of this information technology<sup>10</sup> study:

- Women represented a progressively smaller share of students and graduates at higher program levels. For example, women represented about half of all certificate graduates, but only a quarter of bachelor degree graduates. Women accounted for fewer than one in ten advanced degree graduates in IT in Illinois.
- Latino-Americans were underrepresented, and there were “disturbingly few” Latino students and graduates in bachelor, master’s and advanced degree programs in 1999.
- African-Americans were underrepresented, and are graduating from IT programs in Illinois at lower rates than other students in bachelors, masters, and advanced degree programs particularly.
- The top associate degree producers – DeVry, Robert Morris College, ITT Technical Institute and St. Augustine College – are all private, four-year institutions. Community Colleges in the Chicago region have opted to offer IT courses or short-term certificates as opposed to degree programs.

### *Why Is This Important?*

Despite media reports of the past few years and the recent economic downturn, the need for information technology skills will continue to increase. This is largely due to the fact that most information technology professionals (perhaps as high as 90%) work in non-information-technology intensive companies. To the extent these estimates are reflected within northern Cook County, women and minorities simply must be part of the equation and local leaders should intervene to help develop policy and programs that address the shortcomings identified. Particularly in view of the trend toward a shrinking labor supply, women and minorities will become more critical to sustaining the northern Cook County economy.

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Information Technology definition used includes instruction programs: Computer and Information Science; Computer Engineering; Electrical and Electronics Communications Engineering; Electrical Engineering Related Technology; Electro-Mechanical and Maintenance Technology; Match and Computer Science; Information Processing/Data Entry; and Business Information Systems. This was defined by the Illinois Board of Higher Education in October 2000 “Status Report on Information Technology Workers: 2000.”

## Healthcare Vacancies Impacting the Entire Region

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### *How Are We Doing?*

In January 2001 the Metropolitan Chicago Healthcare Council Human Resource Services released the *January 2001 Compensation Survey for Professional, Technical, Service and Clerical Positions in Chicago-Area Hospitals*. Highlights of the report included the following vacancy rates.

### **Highest Vacancy Rates for Clinical and Technical Positions**

<b>Position</b>	<b>Vacancy Rate</b>
Audiologists	17.8 %
Ultrasound Technologists	13.3%
Clinical Nurse Specialists	13.1%
Radiology Technologists	12.9%
Nuclear Medicine Technologist	11.9%
Occupational Health Nurses	11.1%
Speech Therapists	10.6%
Mammography Specialist	10.5%
Occupational Therapist	10.1%
Nursing Assistant	9.4%

Source: Metropolitan Chicago Healthcare Council

Among non-clinical positions, high vacancy rates were seen in Cost Accountants (13.8%) and File Clerks (12.4%).

### *Why Is This Important?*

Healthcare is both an important economic and workforce sector as well as an issue of quality of life. If the area is to sustain and enhance the importance of its workforce sector and ensure that its citizens receive the best possible healthcare, new thinking will be needed in the development of education and training curriculum. Furthermore, policy makers must work with healthcare employers to determine the extent to which these vacancies are seen in non-hospital healthcare providers and seek to understand the competitive balances between these two competing entities.



## Average Technical Healthcare Vacancy Taking 6 Weeks to 16 Months to Fill

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### *How Are We Doing?*

According to a survey of 14 hospitals across the eight Workforce Boards in the greater Chicago metropolitan area:

- Approximately 1,500 Registered Nurses are projected to be in demand over the next three years.
- Approximately 400 Certified Nursing Assistants, 100 Radiology Technologists, 85 Specialty Nurses, and 50 Respiratory Therapists and Phlebotomists are projected to be in demand over the next three years.
- On average, it takes between six weeks and 16 months to fill a high demand position, and at least one hospital spends as much as \$500,000 a year on advertising for high demand positions.
- Hospitals are using a combination of in-house training, consultants, and community colleges to address high demand position vacancies.
- 14 of 14 hospitals have employee benefits for full-time and part-time, as well as a tuition reimbursement program.
- 13 of 14 hospitals allow part-time workers to participate in the tuition reimbursement program, 13 of 14 cover credit courses.
- Tuition reimbursements range in value between \$750-\$4,000 between full and part-time employees.

### *Why Is This Important?*

Combined with previous data that identifies vacancies, this data set is extremely powerful. In anecdotal responses, hospital personnel point to a variety of reasons for vacancies, including smaller class sizes; more demand for higher salaries and flexible hours from new graduates; little interest in night positions; technical and specialty occupations leaving hospitals for free-standing provider groups; and lack of training resources, space, and clinical site rotations (particularly for radiology).

Local leaders should consider potential solutions identified by respondents, including recruitment at the high school level; tuition grants in return for service; adjusted salaries for critical shortage areas; improved college programs; and additional English Literacy and Sign Language courses for healthcare employees.

Workforce Demand

# THE EMERGING WORKFORCE

Teacher Supply Not Meeting Demand

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Teacher Salaries and Experience Exceed State Average

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Science Scores Lag Behind in Area Assessments

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School Enrollment Declining Across All Grade Levels

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Socio-Economics of Education Favor Northern Cook County

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Post-Secondary Education is a Notable Asset

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THE EMERGING  
WORKFORCE

### A Note About Methodology:

Education data is difficult to accumulate and aggregate at the northern Cook County level due to data reporting restrictions, use of percentages, and different report elements. In order to include a broad sense of the area's educational system, seven high school districts and one individual high school were selected from northern Cook County as a sample of the region. Districts used and the jurisdictions of which they are a part are identified in the table below:

#### **Districts Used for Educational Data**

<b>HS District</b>	<b>Area of Coverage</b>
District 202	Evanston
District 203	New Trier
District 207	Maine
District 211	Palatine-Schaumburg
District 214	Arlington Heights
District 219	Niles
District 225	Glenview
N/A	Streamwood High School

Streamwood High School was used to simulate the Far Northwest area, but the district in which it resides (U-46 School District) is primarily outside of northern Cook County. Users should consider the limitations of comparing high school-only data with district-wide data when reviewing Streamwood data relative to the rest.

## Teacher Supply Not Meeting Demand

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### *How Are We Doing?*

According to *Educator Supply and Demand in Illinois, 2001 Annual Report* (covering the 2000-2001 school year) , the following represents teacher trends in the Chicago region:

- There are 127,323 teachers in Chicago and Cook County as of the 2000-2001 school year.
- Statewide, demand for teachers and administrators will increase, as will student enrollment (at least through 2008). However, while student enrollment has increased about 1% annually since 1996, the need for teachers has increased by about 2.4% and administrators by 2.6%.
- Statewide, the projected demand for the 2005 school year is between 46,000 and 60,000 plus additional classroom instructors (over the 127,323 currently employed).
- Statewide, undergraduate enrollments in professional education programs used to be fairly consistent over time, but they experienced a significant drop of 10% from 2000 to 2001.
- Statewide, teaching vacancies account for 84% of all education vacancies.
- 50% of all statewide teaching vacancies are in Chicago; 28% in suburban districts of Cook, DuPage, Kane, Lake, McHenry, and Will Counties; 22% in balance of State.
- Special Education (30%) and Elementary Education (20%) account for 1 out of every 2 vacancies across the state. Other shortage areas include math teachers, guidance counselors, and physical education teachers (5% each).

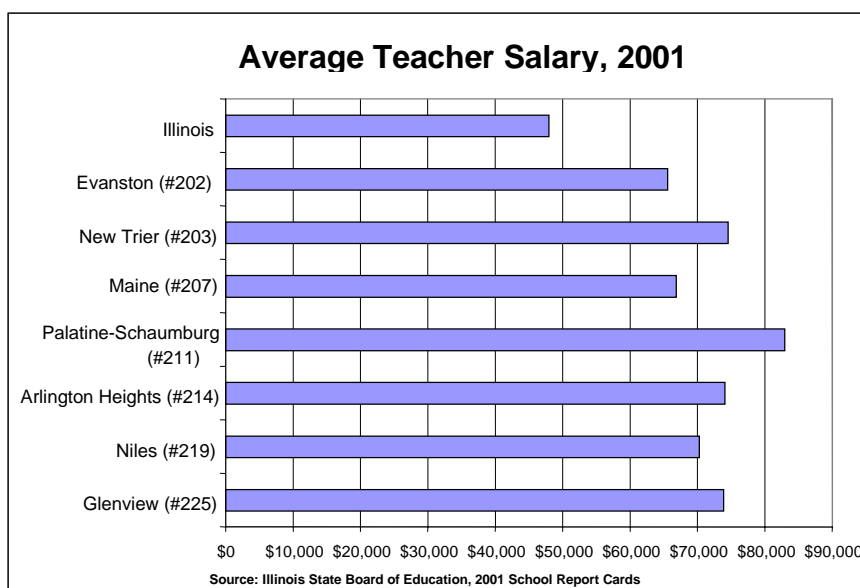
### *Why Is This Important?*

The education system remains critically important to workforce development, as defined earlier in the survey of employers (“Regional Strategies”). Teaching shortages threaten the very fabric of education across the nation, and the northern Cook County area is no different. Workforce policy makers should consider numerous best practices from around the nation in addressing teacher shortages such as interest-free mortgage payments, mentoring credits, and others.

## Teacher Salaries and Experience Exceed State Average

### How Are We Doing?

- All seven districts exceed the State of Illinois in teacher salary, with a high average annual salary of \$82,882 in District 211.
- Five of the seven districts have teachers who average more teaching experience than the Illinois state average, with a high of 17.8 years in District 211.
- All seven districts have higher rates of Teachers with Masters Degrees or above than the Illinois state average, with a high of 82.2% in District 202.



### Average Teaching Experience

	Teaching Experience (years)	Teachers with Bachelor's Degree	Teachers with Master's or Above
Illinois	14.5	53.8%	46.0%
Evanston TWP District 202	15.0	17.8%	82.2%
New Trier TWP District 203	15.7	21.7%	78.3%
Maine Township District 207	13.7	23.9%	76.1%
Palatine-Schaumburg District 211	17.8	18.7%	80.1%
Arlington Heights District 214	17.4	24.4%	75.6%
Niles Township District 219	10.8	27.1%	72.9%
Glenview District 225	16.6	19.0%	80.6%

Source: Illinois State Board of Education, 2001 School Report Cards

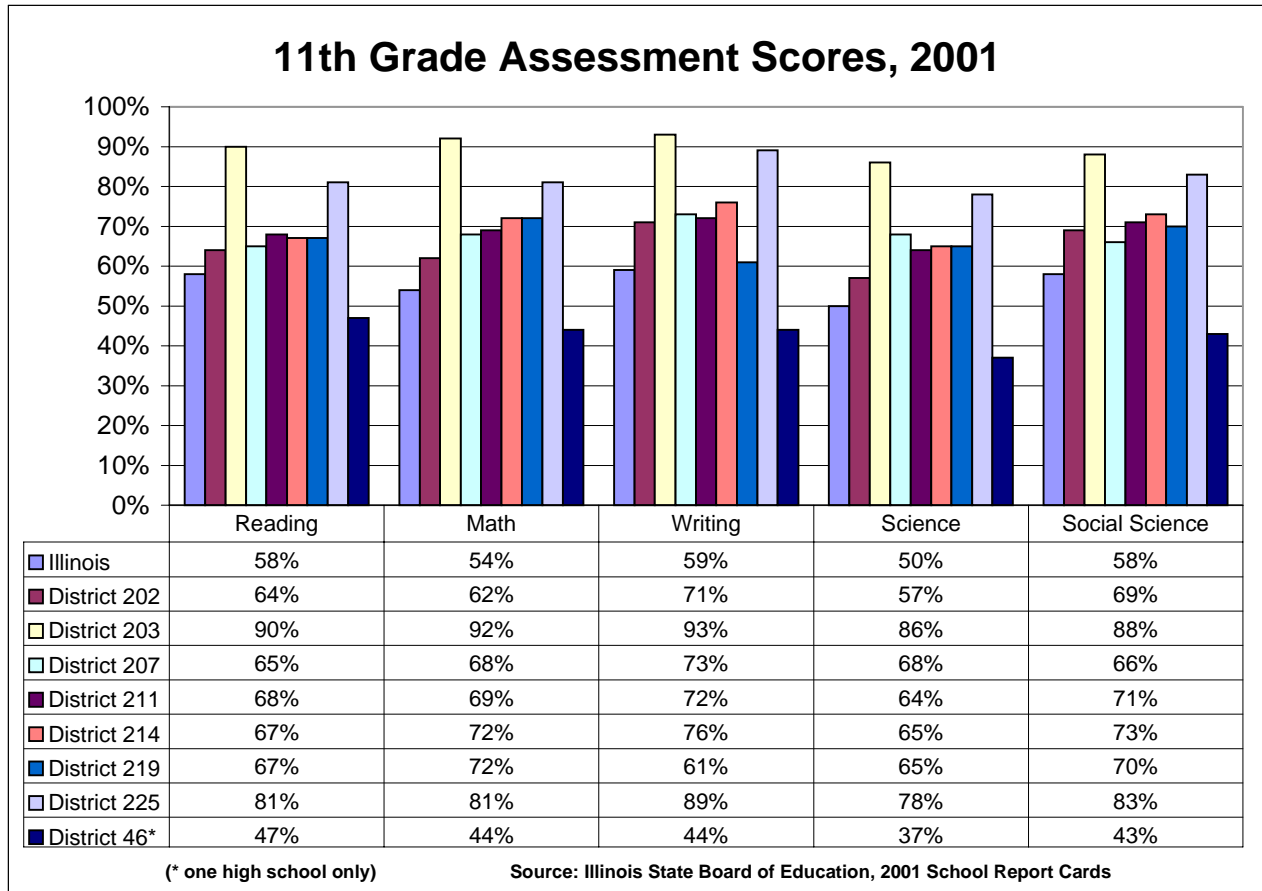
### Why Is This Important?

Quality teachers, including well-educated, well-paid, experienced teachers, can make a real difference in the education of our children. Given the impact of statewide teacher shortages, these data indicate that the area is well positioned in the competition of recruiting and retaining quality teachers.

## Science Scores Lag Behind in Area Assessments

### How Are We Doing?

With the exception of one school examined, the northern Cook County schools analyzed score better than the state average across all subjects, particularly in Writing. The lowest scores across subjects are in Science.



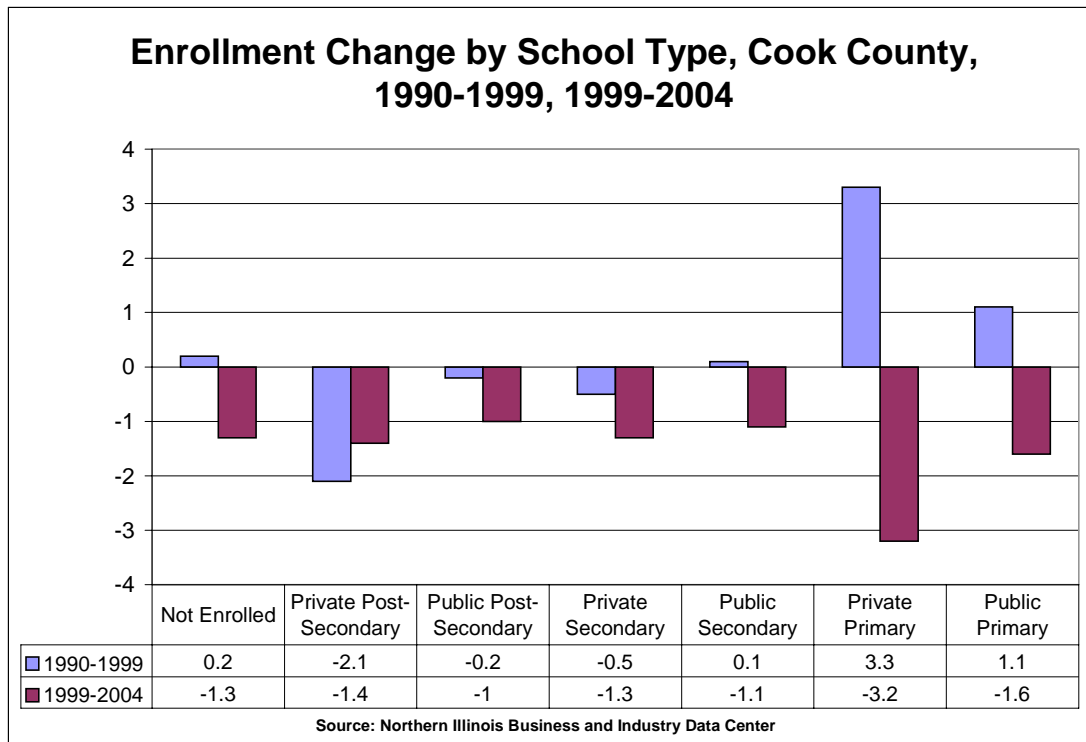
### Why Is This Important?

The Science scores deserve closer examination. As the local, national, and world economies continue to become more technical, the need for science knowledge and skills increases in importance. The emergence of biotechnology as the “hot sector” across the nation is an example. Policy leaders in the area must work to ensure that to the extent science is needed across major occupational and industry clusters, efforts are made to improve science scores in the schools. School-to-Work efforts that connect businesses to education are one example of how this can begin.

## School Enrollment Declining Across All Grade Levels

### How Are We Doing?

Over the past decade, only Private Primary Schools and Public Primary Schools enrollment (in all of Cook County) have grown. However, between 1999 and 2004, no school types are projected to see an enrollment increase. Northern Cook County specific enrollments were not available.



### Why Is This Important?

Declining school enrollments will have an impact on future labor supply, potentially forcing employers to recruit from outside of the area in order to fill critical shortages. Furthermore, the region has a number of institutions of higher education, many of them nationally and internationally recognized and therefore must identify means by which it can reclaim growth in the postsecondary market. This will help soften the blow of declining primary school enrollments that are more susceptible to regional demographics, whereas higher education can recruit from outside of the area.

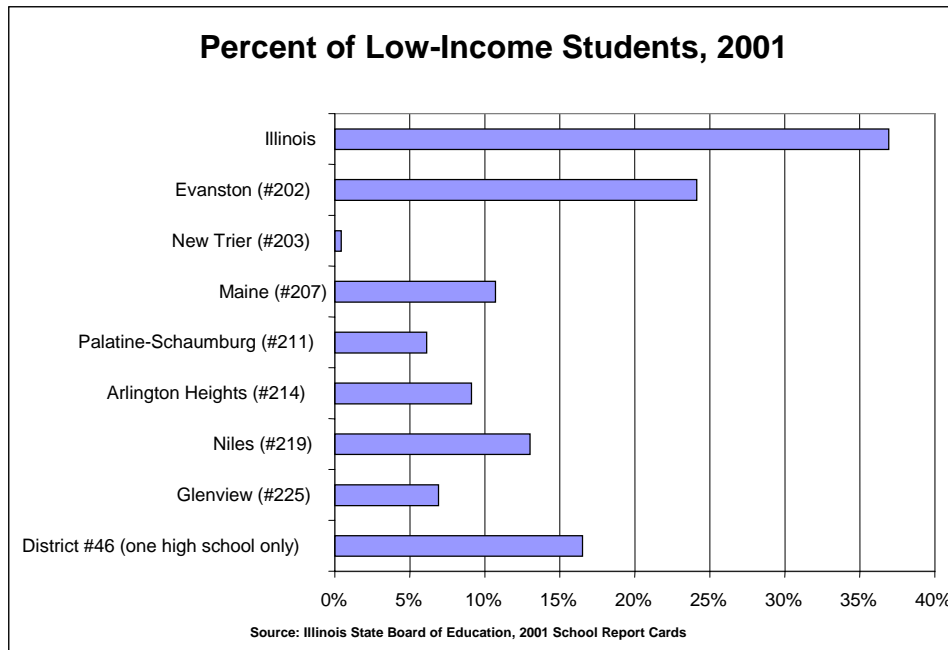


## Socio-Economics of Education Favor Northern Cook County

### How Are We Doing?

What are the socio-economic impacts on educational success? Do schools with higher tax rates perform better? Do higher income students perform better? Consider:

- All seven districts have a lower percentage of low-income high School Students than the state average.
- District 203 (in New Trier Township) leads in three educational categories including state assessments of 11<sup>th</sup> graders, graduation rates, and lowest number of low-income high school students.
- District 211 (in Palatine-Schaumburg) has the next lowest rate of low-income students and has the most-educated teaching workforce and the greatest experience among teachers.



### Why Is This Important?

The above data indicates a direct correlation between socio-economics and educational success. Given that northern Cook County is a prosperous area and has relatively fewer low-income students, it has a distinct advantage over other less-prosperous areas. However, given that there is a significant difference within northern Cook County (nearly 25% between Districts 202 and 203), attention must be given to addressing low-income students while they are still in school. Assisting economically disadvantaged students to compete successfully while in school will help them compete successfully in the job market as adults, potentially reducing the need for adult remedial efforts by employers and education and training providers.

## Post-Secondary Education is a Notable Asset

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### *How Are We Doing?*

The people in the area of northern Cook County have access to a wealth of post-secondary opportunities for developing skills and knowledge. These institutions throughout the region include:

Benedictine University	College of DuPage
Chicago City Colleges	College of Lake County
Columbia College	Richard J. Daley College
DePaul University	Elgin Community College
DeVry University	Joliet Junior College
Elmhurst College	Kennedy King College
Illinois Institute of Art	McHenry Community College
ITT	Judson College
Kendall College	Moraine Valley Community College
Lake Forest College	Morton College
Lewis University	Oakton Community College
Loyola University, Chicago	Olive-Harvey College
Robert Morris College	Rock Valley Community College
National-Louis University	South Suburban College of Cook County
North Central College	Triton College
North Park College	Truman College
Northeastern Illinois University	Harold Washington College
Northern Illinois University	Waubensee Community College
Northwestern University	William Raney Harper College
Prairie State College	Wright College
Roosevelt University	
St. Augustine College	
University of Chicago	
University of Illinois, Chicago	

### *Why Is This Important?*

Most of these institutions have information on-line about their programs and admissions standards. They may be accessed through [www.colleges-online.com/Illinois](http://www.colleges-online.com/Illinois). Postsecondary institutions cannot be defined as “Northern Cook” for purposes of this report. Unlike the K-12 system, people living in northern Cook may go to any institution in the country or world. Similarly, postsecondary institutions accept students from anywhere, and graduates may or may not remain in the area. Nevertheless, the list of schools that are reasonably accessible to northern Cook residents and employers is impressive and they play a critical role in developing the

current and future workforce. Future reports may examine this student population to determine the percentage who are enrolled in various programs or courses that develop occupational credentials or skills and knowledge that are critical to the industries that drive the northern Cook economy. Another potential research issue would be to look at the percentage of students who are local and the percentage that stay and work in the metropolitan Chicago area.

The Emerging Workforce

# APPENDIX

Stakeholders Identify Considerations for Primary Collection Phase

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New Partnership with State Workforce Information  
Leaders Promises New and Innovative Sub-County Data

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Major Data Sources

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Detailed Employment Rates by Sector, 4th Quarter 2001

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Wage Comparison by Occupational Clusters  
by Total Hourly Wage in 2000

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Detailed Knowledge Requirements  
by Workforce Sector

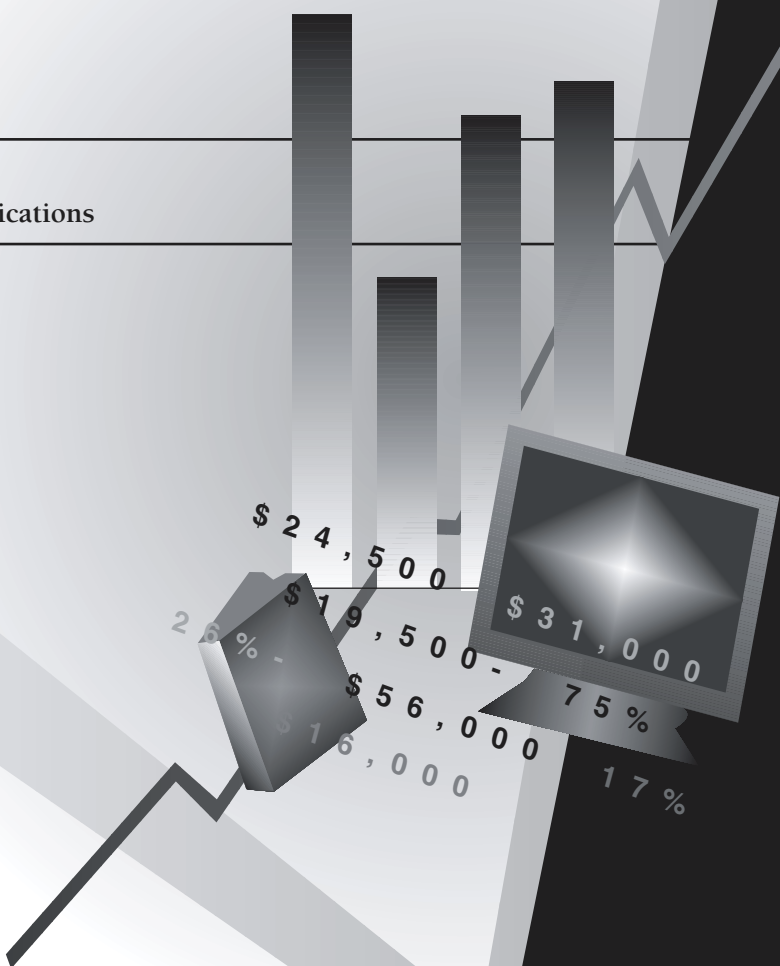
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Detailed Skill Requirements  
by Workforce Sector

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Education and Training Classifications

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**WORKFORCE APPENDIX**



## Stakeholders Identify Considerations for Primary Collection Phase

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In addition to the opportunities offered by the partnership with the Illinois Department of Employment Security, stakeholders that reviewed drafts of this report suggested the following considerations as this project moves to a primary data collection phase:

- Industrial employment and wage data at the detailed industry level including change over time, published for all detailed industries to allow for comprehensive comparisons
- Northern Cook County-specific occupational employment and wage data
- Job vacancies by industry and occupational segments
- Migration patterns at the sub-county level
- Commuting patterns at the sub-county level
- Supply of knowledge and skills. O\*NET knowledge and skills data used in this report are about jobs and not people, thus demand and not supply.
- Which knowledge and skills are “commuting in and out every day”
- Characteristics of employers who seek assistance from public intermediaries (size, industry, occupations, skill requirements) compared to those who do not use the system
- Types of skilled workers that can’t find jobs
- Career ladders that exist within companies
- Specific skills that employers are unable to find locally
- English Literacy courses needed for various groups including Hispanic, Asian, and Eastern-European
- Types of training employers provide in-house
- Capacity of our worker support systems – especially child-care and transportation – compared to the need
- Impact of housing and transportation on employment and industry trends
- Impacts of land use including development in the city (and its impact on out - migration)
- Benchmarking the area against other similar areas
- Job ladders, particularly for minorities, and job location information

## **New Partnership with State Workforce Information Leaders Promises New and Innovative Sub-County Data**

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Northern Cook County is not alone in the state or nation as a sub-county workforce investment area. Sub-county labor market information available through government remains quite limited due to national, state, and local reporting agreements; limited local financial and staff resources; and employer confidentiality concerns. In order to improve the workforce information available for northern Cook County, the Illinois Department of Employment Security has been very willing to discuss the potential for The Workforce Board of Northern Cook County (and perhaps other regional partners) to pilot several exciting new and innovative research initiatives. These initiatives include:

### **Longitudinal Employer Household Dynamics (“LEHD Program”)**

The LEHD Database is a partnership between the U.S. Census Bureau and several states to analyze combined datasets between the U.S. Census and state’s employer and wage record databases. The LEHD partners are led by Illinois. This partnership will allow for analysis of wages and labor market movement by demographics; for example, the entry level wage for youth, as well as how youth transition through the labor force (i.e. went from a first job in a department store to team assembler in electronic manufacturing). Of course, demographics are not limited to youth and could include women, middle-age workers, and others. The potential data available through this system is much anticipated.

### **A Job Vacancy Survey**

A job vacancy survey could be implemented for the entire workforce or by sector(s), tapping into industry trade associations and other stakeholders to ensure a good response rate. Based on a successful multi-year program in Minnesota, a survey can be developed that asks questions such as: job titles, full-time or part-time, education and experience levels of the positions, hourly wage or annual earnings of the position, benefits provided (health, retirement, etc.) and if the position is posted on the state’s job matching site ([www.illinoisskillsmatch.com](http://www.illinoisskillsmatch.com)).

### **Labor Market Information Web Page Template for Workforce Boards (“WIB Source”)**

“WIB Source” is a web page template for workforce boards to provide labor market information and other information about The Workforce Board in a few easy steps. The web page can be customized to aesthetics such as fonts and colors, as well as content such as workforce area profile; labor force data; industry trends; “find employers”; find local one-stop centers; real estate information, etc. For a sample of how this page can be customized, please visit the Western Illinois web page at [www.wiworkforce.com](http://www.wiworkforce.com).



## **Employment Tracking System**

One of the hottest trends across the country is to analyze wage record information to measure outcomes of various education and training programs and services. This is performed through the matching of current wage records with provider records (through a unique identifier). Through wage record matching, a school district could see the wages being earned by high school graduates five and ten years after graduation. Likewise, community colleges, universities, and private training providers can track the performance of graduates over time. This allows for extremely powerful cost-benefit analysis and can help identify programs that are and are not performing.

## **Industry and Sector Workforce Implications**

The Illinois Department of Employment Security can provide impact analysis of current events (e.g. September 11, 2001 or a tax increase), new business (e.g. Boeing) or business closings. Direct and indirect impacts can be estimated for industry and occupational employment, revenue streams, expenditures, and labor supply and demand. For example, a slight increase in local taxes could result in the need for more police and firefighters as a result of increased government spending on resources not available with fewer taxes. This type of analysis would be extremely useful to northern Cook County policy makers deciding whether to pursue a large employer with low-paying jobs (such as in retail trade) or a small manufacturer with high paying wages (or both).

## **Regional Economic Indicators**

The Illinois Department of Employment Security is developing a series of indicators that will measure various regions of the state against one another. This will allow regions to develop leading indicators using labor supply and demand, consumption spending, and housing permits.

## **Job Bank Analysis**

The Illinois Department of Employment Security is investigating the feasibility of analyzing the state and local job banks to identify occupations and skills most frequently posted by employers and the positions sought and skills self-identified most frequently by job seekers posting resumes to the job bank. There are efforts underway to do this analysis at the national level using the U.S. Department of Labor's "America's Job Bank" system. Among the efforts underway is a partnership to share transactions and trend data with the Monster.com Internet site. Again, this type of analysis is not currently underway, but based on its potential to identify true labor market alignment and gaps, it bears close watching.

## **Career Awareness**

The Illinois Department of Employment Security has plans to increase the career awareness and exploration tools available to students and youth through a comprehensive web page. The development and refinement of this page -

[www.ILWorkInfo.com](http://www.ILWorkInfo.com) - is still underway but northern Cook County and other local Workforce Boards have been invited to help advise what is needed and useful.

### ***Prioritizing Labor Market Information Projects and Products***

While the above initiatives speak to efforts being undertaken by labor market information leaders, it is important to recognize that labor market information is but one of the important elements. Another critical delivery venue is the effort of the Illinois Career Resource Network to develop and distribute career information to all stakeholders in Illinois to improve career decision-making.

It is important to improve the education and training information available to the leadership of northern Cook County, including an inventory of existing education and training programs at the elementary, secondary, and postsecondary levels, as well as information about outcomes. In order to ensure that all workforce information is improved, leaders should convene or utilize existing groups of data leaders of labor market, demographic, education, health, and other government data sources to identify what is and is not available. These should include groups like the Workforce Information Inter-Agency Team and the Illinois Career Resource Network Advisory Committee. In order to measure progress and identify resources, these data leaders will also come together to agree to a set of common data that can be presented to the policy makers and their stakeholders on a regular basis.

## Major Data Sources

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- The employer database of **iMarket** (a unit of Dunn&Bradstreet) was used for two and four-digit standard industrial classification<sup>11</sup> detailed employment estimates for the 4<sup>th</sup> quarter of 2001, the most recent data available.
- Occupational employment and wage data used for comparison of wages across major occupational classifications and areas, as well as developing the list of critical workforce occupations, is from the **Illinois Department of Employment Security**.
- **2000 U.S. Bureau of Labor Statistics** staffing patterns were used to identify top occupations in each of the critical workforce sectors (supplemented by wage data from the Chicago PMSA). This data was then combined with **O\*NET**, a national database of occupations and their characteristics developed by the U.S. Department of Labor in order to apply the **CSW Knowledge and Skills Model** that develops knowledge and skills information for northern Cook County and each critical workforce sector, including transferable (across sectors) and differentiating (within sectors) knowledge and skills.
- **AGS Demographics** was used for demographic supply information, including population, race, and income data. AGS Demographics releases data annually (the latest release was in September, 2001) and the data used include 1980, 1990, 2001 (based on 2000 Census), 2006 and 2011. AGS was used because of its ability to produce historical data as well as current and future year estimates at all geographic levels.
- **2000 School Report Cards (generally 1998-1999 school year) available from the Illinois State Board of Education** were used for education data including teacher salaries, educational attainment, and state testing scores. Due to state reporting methods and the enormous amount of schools represented in the sub-county area and difficulty in aggregating all districts to the area-level, the report uses four randomly selected schools that had all necessary comparative data types. The schools selected were Evanston, Maine, New Trier, and Glenbrook. General conclusions are drawn based on how all four schools together fare against the state total or the average of all state school districts.
- Use of Existing Studies and Reports including:
  - ◆ *Northeast Illinois Regional Development Strategy Visions and Priorities*, Illinois Economic Development Board, Illinois Department of Commerce and Community Affairs.
  - ◆ *Regional Realities: Measuring Progress Toward Shared Regional Goals*, Chicago Metropolis 2020.

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<sup>11</sup> Standard Industrial Classification System (SIC Code) developed by the U.S. Department of Labor's Bureau of Labor Statistics has four levels of details, each further level represented by an additional digit. Example: Services (7), Business Services (73), Computer Services (737), and Computer Programming Services (7371).

## Appendix

- ◆ *Building a World-Class Information Technology Workforce for the Chicago Region*, Council for Adult and Experiential Learning and UIC Great Cities Institute, University of Illinois at Chicago.
- ◆ *January 2001 Compensation Survey for Professional, Technical, Service and Clerical Positions in Chicago-Area Hospitals*, Metropolitan Chicago Healthcare Council Human Resource Services.
- ◆ *Healthcare Career Grant Hospital Survey*, Workforce Boards of metropolitan Chicago.
- ◆ *Manufacturing Workforce Development Project Summary*, Chicago Federation of Labor, AFL-CIO Workers Assistance Committee and the Center for Labor and Community Research
- ◆ *Creating a Manufacturing Career Path System in Cook County*, the Center for Labor and Community Research.
- ◆ *Analysis of Illinois Board of Higher Education on Participation of Women and Minorities in State-Approved Information Technology Degree Programs in Illinois*, Great Cities Institute, UIC.
- ◆ *The Self-Sufficiency Standard for Illinois*, Diana Pearce, Ph.D. and Jennifer Brooks, December 2001. Prepared for Women Employed.

## Detailed Employment Rates by Sector, 4<sup>th</sup> Quarter 2001

Workforce Sector	Employment		Percent of Employment		
	No. Cook	No. Cook	Cook	Chicago PMSA	Illinois
01 Agricultural Production - Crops	349	0.04	0.02	0.11	0.68
02 Agricultural Prod. - Livestock & Animal Specialties	229	0.03	0.01	0.02	0.15
07 Agricultural Services	4,465	0.55	0.31	0.51	0.55
08 Forestry	63	0.01	0.00	0.01	0.01
09 Fishing, Hunting, and Trapping	11	0.00	0.00	0.00	0.00
10 Metal Mining	3	0.00	0.00	0.00	0.00
12 Coal Mining	3	0.00	0.00	0.01	0.09
13 Oil and Gas Extraction	92	0.01	0.01	0.05	0.17
14 Mining and Quarrying of Nonmetallic Minerals, Except Fuels	945	0.12	0.05	0.05	0.08
15 Building Construction - General Contractors & Operative Builders	10,391	1.27	1.07	1.12	1.11
16 Heavy Construction, Except Building Construction - Contractors	2,189	0.27	0.17	0.28	0.35
17 Construction - Special Trade Contractors	21,894	2.68	2.09	2.72	2.66
20 Food and Kindred Products	8,664	1.06	1.89	1.49	1.47
21 Tobacco Products	30	0.00	0.01	0.01	0.01
22 Textile Mill Products	193	0.02	0.06	0.06	0.05
23 Apparel, Finished Products from Fabrics & Similar Materials	5,902	0.72	0.40	0.29	0.26
24 Lumber and Wood Products, Except Furniture	697	0.09	0.10	0.15	0.20
25 Furniture and Fixtures	777	0.09	0.32	0.34	0.30
26 Paper and Allied Products	3,247	0.40	0.55	0.86	0.71
27 Printing, Publishing and Allied Industries	11,205	1.37	2.09	1.90	1.71
28 Chemicals and Allied Products	5,660	0.69	0.91	2.16	1.71
29 Petroleum Refining and Related Industries	178	0.02	0.27	0.30	0.27
30 Rubber and Miscellaneous Plastic Products	12,517	1.53	0.80	1.07	1.01
31 Leather and Leather Products	68	0.01	0.11	0.07	0.06
32 Stone, Clay, Glass, and Concrete Products	1,829	0.22	0.30	0.28	0.33
33 Primary Metal Industries	3,422	0.42	0.62	0.55	0.70
34 Fabricated Metal Products, Except Machinery & Transport Equipment	14,721	1.80	1.69	1.73	1.70
35 Industrial and Commercial Machinery and Computer Equipment	20,137	2.46	1.48	2.04	2.63
36 Electronic, Electrical Equipment & Components, Except Computer Equipment	19,509	2.39	1.66	1.92	1.71
37 Transportation Equipment	5,155	0.63	1.25	0.98	1.16
38 Measuring, Analyzing, and Controlling Instruments; Photographic, Medical, and Optical Goods; Watches and Clocks	10,981	1.34	0.53	0.71	0.57
39 Miscellaneous Manufacturing Industries	3,354	0.41	0.54	0.51	0.45
40 Railroad Transportation	716	0.09	0.24	0.16	0.18
41 Local, Suburban Transit & Interurban Highway Passenger Transport	2,693	0.33	0.64	0.54	0.52
42 Motor Freight Transportation	7,239	0.89	1.82	1.78	1.96
43 United States Postal Service	4,155	0.51	0.34	0.31	0.36
44 Water Transportation	117	0.01	0.06	0.06	0.08
45 Transportation by Air	1,296	0.16	0.51	0.37	0.32
46 Pipelines, Except Natural Gas	23	0.00	0.00	0.01	0.01
47 Transportation Services	4,739	0.58	0.70	0.68	0.59
48 Communications	7,728	0.94	1.41	1.10	1.01
49 Electric, Gas and Sanitary Services	1,892	0.23	0.45	0.58	0.82
50 Wholesale Trade - Durable Goods	39,692	4.85	3.30	3.77	3.42
51 Wholesale Trade - Non-durable Goods	20,687	2.53	1.86	2.26	2.12
52 Building Materials, Hardware, Garden Supply & Mobile Home Dealers	4,350	0.53	0.43	0.55	0.64

## Appendix

Workforce Sector	Employment No. Cook	Percent of Employment Chicago				
		No. Cook	Cook	Cook	PMSA	Illinois
53 General Merchandise Stores	24,139	2.95	1.64	1.55	1.76	
54 Food Stores	12,301	1.50	1.74	1.70	1.82	
55 Automotive Dealers and Gasoline Service Stations	8,051	0.98	1.05	1.19	1.41	
56 Apparel and Accessory Stores	24,871	3.04	0.84	1.14	0.95	
57 Home Furniture, Furnishings and Eq. Services	8,223	1.01	0.70	0.75	0.76	
58 Eating and Drinking Places	29,304	3.58	4.16	4.06	4.25	
59 Miscellaneous Retail	26,094	3.19	2.27	2.58	2.54	
60 Depository Institutions	6,658	0.81	2.09	1.69	1.63	
61 Non-depository Credit Institutions	19,675	2.41	1.26	1.15	0.89	
62 Security & Commodity Brokers, Dealers, Exchanges & Services	2,572	0.31	1.45	1.04	0.79	
63 Insurance Carriers	23,000	2.81	2.23	1.71	1.73	
64 Insurance Agents, Brokers and Service	14,538	1.78	1.62	1.40	1.28	
65 Real Estate	15,100	1.85	2.81	2.32	2.09	
67 Holding and Other Investment Offices	5,744	0.70	1.27	0.93	0.68	
70 Hotels, Rooming Houses, Camps, and Other Lodging Places	8,654	1.06	1.16	0.98	0.98	
72 Personal Services	9,365	1.14	1.38	1.29	1.34	
73 Business Services	72,992	8.92	7.82	7.89	6.58	
75 Automotive Repair, Services and Parking	7,033	0.86	1.06	1.01	1.02	
76 Miscellaneous Repair Services	50,200	6.14	1.88	1.47	1.18	
78 Motion Pictures	2,597	0.32	0.31	0.28	0.24	
79 Amusement and Recreation Services	11,251	1.38	1.08	1.24	1.34	
80 Health Services	53,285	6.51	7.73	7.36	8.09	
81 Legal Services	4,416	0.54	2.15	1.54	1.29	
82 Educational Services	27,737	3.39	5.53	5.33	5.95	
83 Social Services	14,164	1.73	2.06	1.93	2.13	
84 Museums, Art Galleries and Botanical and Zoological Gardens	175	0.02	0.12	0.09	0.09	
86 Membership Organizations	16,686	2.04	2.50	2.34	2.89	
87 Engineering, Accounting, Research, Management & Related Services	44,443	5.43	5.34	5.89	5.01	
89 Services, Not Elsewhere Classified	435	0.05	0.07	0.06	0.06	
91 Executive, Legislative & General Government, Except Finance	3,972	0.49	1.40	1.18	1.27	
92 Justice, Public Order, and Safety	2,141	0.26	0.74	0.71	1.00	
93 Public Finance, Taxation and Monetary Policy	189	0.02	0.10	0.07	0.10	
94 Administration of Human Resource Programs	257	0.03	0.47	0.40	0.51	
95 Administration of Environmental Quality and Housing Programs	1,186	0.14	0.37	0.31	0.33	
96 Administration of Economic Programs	2,288	0.28	0.29	0.27	0.34	
97 National Security and International Affairs	19	0.00	0.19	0.68	0.83	
<b>Total/Avg</b>	<b>817,962</b>					

Source: iMarket

## Wage Comparison by Occupational Clusters by Total Hourly Wage in 2000

Occupational Cluster	Chicago Total Hourly Wage <sup>12</sup>	Chicago Employment	Chicago \$/Hr.	Springfield \$/Hr.	St. Louis* <sup>13</sup> \$/Hr.	Illinois \$/Hr.
Management	\$10,718,762.70	314,610	\$34.07	\$27.99	\$31.22	\$31.83
Office and Administrative Support	\$10,542,513.50	783,830	\$13.45	\$12.34	\$12.48	\$12.89
Sales and Related	\$5,821,906.20	404,580	\$14.39	\$11.48	\$12.90	\$13.43
Production	\$5,510,317.10	456,530	\$12.07	\$12.61	\$14.24	\$12.30
Transportation and Material Moving	\$4,506,166.50	333,050	\$13.53	\$12.21	\$12.86	\$13.20
Business and Financial Operations	\$4,491,139.00	192,340	\$23.35	\$20.34	\$21.51	\$22.79
Healthcare Practitioners and Technical	\$4,154,109.00	185,700	\$22.37	\$20.97	\$21.60	\$21.40
Education, Training, and Library	\$4,015,011.00	200,550	\$20.02	\$15.70	\$16.89	\$18.26
Construction and Extraction	\$3,776,268.10	166,870	\$22.63	\$19.35	\$20.91	\$21.38
Computer and Mathematical	\$3,038,570.00	107,560	\$28.25	\$25.11	\$26.53	\$27.85
Installation, Maintenance, and Repair	\$2,628,068.30	141,370	\$18.59	\$17.25	\$17.07	\$17.69
Food Preparation and Serving Related	\$1,930,485.00	264,450	\$7.30	\$7.56	\$8.12	\$7.22
Architecture and Engineering	\$1,867,942.00	74,420	\$25.10	\$24.66	\$24.62	\$24.79
Building and Grounds	\$1,401,989.60	137,720	\$10.18	\$9.65	\$9.19	\$9.91
Cleaning and Maintenance						
Protective Service	\$1,363,992.70	85,090	\$16.03	\$14.71	\$14.90	\$15.90
Legal	\$1,200,886.80	31,820	\$37.74	\$26.74	\$34.71	\$35.94
Arts, Design, Entertainment, Sports, and Media	\$955,766.70	50,330	\$18.99	\$17.94	\$17.54	\$17.87
Personal Care and Service	\$903,736.80	80,980	\$11.16	\$8.82	\$9.41	\$10.39
Healthcare Support	\$729,924.80	68,090	\$10.72	\$9.55	\$9.81	\$10.15
Community and Social Services	\$699,068.40	44,470	\$15.72	\$15.43	\$14.94	\$15.20
Life, Physical, and Social Science	\$684,441.60	30,720	\$22.28	\$21.31	\$21.48	\$21.90
Farming, Fishing, and Forestry	\$24,353.00	2,450	\$9.94	\$13.52	\$10.55	\$9.93

Source: U.S. Bureau of Labor Statistics

<sup>12</sup> Chicago Total Wage = Chicago Employment x Chicago \$/Hr.

<sup>13</sup> St. Louis PMSA includes parts of Illinois.

## Detailed Knowledge Requirements by Workforce Sector

	Air Transportation	Aircraft Manufacturing	Computer Services	Education Services	Electronics Manufacturing	Health Services	Insurance Carriers
Administration and Management	28.9	38.4	48.8	39.9	41.1	31.0	47.6
Biology	2.6	4.5	3.9	19.2	4.3	36.8	3.4
Building and Construction	11.4	18.8	7.5	4.6	20.0	0.7	6.2
Chemistry	9.4	12.7	5.0	17.0	10.2	33.8	2.5
Clerical	37.1	30.8	44.0	43.3	34.0	42.6	51.5
Communications and Media	20.3	22.2	33.8	29.6	25.2	22.9	30.4
Computers and Electronics	27.8	42.6	55.7	31.5	43.3	31.5	44.2
Customer and Personal Service	29.8	14.6	36.9	36.7	23.9	39.0	35.2
Design	16.0	35.2	24.1	6.6	31.9	4.4	10.2
Economics and Accounting	27.7	28.2	41.6	23.2	35.4	20.3	46.0
Education and Training	25.5	26.6	43.6	58.6	27.6	29.5	40.3
Engineering and Technology	23.3	43.4	24.0	8.3	37.3	11.2	10.7
English Language	31.9	39.6	47.0	53.2	38.8	42.1	47.0
Fine Arts	1.0	2.4	5.2	9.0	4.8	0.5	1.9
Food Production	0.4	2.9	3.2	4.4	4.4	1.8	2.1
Foreign Language	6.0	3.8	8.4	11.7	7.7	7.7	6.6
Geography	20.9	9.5	16.3	20.4	16.1	9.0	15.8
History and Archeology	2.7	5.4	8.7	18.5	7.8	4.3	7.3
Law, Government and Jurisprudence	20.6	20.8	27.6	25.8	24.7	23.0	32.9
Mathematics	39.8	52.6	56.1	40.5	51.2	36.2	50.2
Mechanical	36.4	41.7	18.0	14.0	35.3	15.0	11.4
Medicine and Dentistry	5.8	2.9	3.3	17.2	3.2	42.6	4.7
Personnel and Human Resources	23.3	22.8	28.0	21.8	24.7	21.3	35.8
Philosophy and Theology	3.2	4.4	9.0	15.6	7.0	5.4	6.8
Physics	20.0	28.6	9.9	11.8	22.5	14.7	4.0
Production and Processing	19.8	38.7	19.5	4.6	39.4	6.6	14.4
Psychology	18.8	18.6	29.1	40.2	23.5	34.9	29.7
Public Safety and Security	25.6	22.2	22.9	19.7	22.8	21.9	19.8
Sales and Marketing	18.2	15.4	32.2	12.7	27.9	11.1	26.6
Sociology and Anthropology	9.0	8.1	16.0	27.4	12.8	14.0	16.4
Telecommunications	18.1	18.3	25.5	16.0	19.1	14.8	19.6
Therapy and Counseling	6.4	3.8	7.4	33.1	6.4	28.8	10.9
Transportation	28.9	15.0	15.2	11.4	15.2	10.1	12.3
<b>Total</b>	<b>18.7</b>	<b>21.1</b>	<b>23.6</b>	<b>22.7</b>	<b>22.7</b>	<b>20.3</b>	<b>21.3</b>

Source: O\*NET, U.S. Bureau of Labor Statistics, Corporation for a Skilled Workforce



## Detailed Skill Requirements by Workforce Sector

	Air Transportation	Aircraft Manufacturing	Computer Services	Education Services	Electronics Manufacturing	Health Services	Insurance Carriers
Active Learning	34.8	53.6	59.4	50.5	53.4	45.4	53.0
Active Listening	45.6	49.5	59.5	59.2	49.3	55.1	58.3
Coordination	44.4	47.6	57.1	49.0	49.6	45.4	52.6
Critical Thinking	40.9	55.9	59.6	49.8	54.2	48.3	56.1
Equipment Maintenance	29.2	30.2	16.7	11.6	25.0	15.7	9.7
Equipment Selection	34.6	50.4	45.8	34.4	45.2	37.8	32.7
Idea Evaluation	35.4	50.0	55.4	47.4	50.3	40.8	48.8
Idea Generation	33.7	49.3	55.5	47.6	48.9	37.9	47.2
Identification of Key Causes	38.0	51.9	57.6	47.8	50.8	43.4	53.1
Identifying Downstream Consequences	32.0	46.7	53.5	35.8	46.7	32.4	47.6
Implementation Planning	33.1	47.7	56.3	47.7	47.0	37.9	46.7
Information Gathering	40.0	56.7	63.0	51.9	54.8	48.2	60.0
Information Organization	36.8	51.8	61.4	52.5	49.8	45.4	56.4
Installation	20.6	32.8	32.0	12.3	29.7	11.9	13.7
Instructing	30.9	28.4	45.9	53.0	31.5	35.8	40.6
Judgment and Decision Making	39.2	52.4	59.0	44.7	50.8	46.3	55.0
Learning Strategies	33.3	39.8	48.0	58.4	39.7	41.1	46.6
Management of Financial Resources	23.8	27.7	41.7	25.6	35.1	25.6	43.1
Management of Material Resources	28.2	38.6	48.6	29.4	42.8	30.6	36.9
Management of Personnel Resources	27.2	28.8	43.4	33.6	34.6	28.1	41.0
Mathematics	42.5	59.9	57.6	45.6	55.6	45.6	53.3
Monitoring	40.5	50.0	55.6	53.8	51.0	47.2	53.9
Negotiation	22.8	28.7	37.0	28.2	33.5	21.7	35.5
Operation and Control	37.5	37.4	31.0	25.7	33.4	34.5	24.4
Operation Monitoring	30.9	34.8	23.0	14.2	29.4	24.4	13.4
Operations Analysis	25.2	47.4	56.0	29.9	46.5	25.9	38.6
Persuasion	24.3	29.5	41.3	35.0	33.9	29.0	39.3
Problem Identification	46.3	59.4	64.8	51.8	59.3	53.5	60.9
Product Inspection	36.8	51.8	42.9	33.0	46.2	36.4	36.1
Programming	4.4	20.1	34.6	8.2	13.2	5.0	15.7
Reading Comprehension	48.8	61.1	65.7	63.6	58.0	62.4	64.2
Repairing	25.2	25.9	14.7	11.0	23.2	11.2	9.0
Science	19.2	42.0	28.1	26.1	33.5	36.0	13.0
Service Orientation	28.7	18.9	36.7	45.1	25.8	44.2	35.8
Social Perceptiveness	32.3	28.6	42.8	51.4	32.8	44.5	44.1
Solution Appraisal	37.5	53.1	60.4	49.0	51.2	45.8	55.9
Speaking	42.8	49.2	60.1	60.4	49.4	52.1	58.8
Synthesis/Reorganization	26.6	44.7	51.4	41.6	42.6	36.5	47.8

## Appendix

	<b>Air Transportation</b>	<b>Aircraft Manufacturing</b>	<b>Computer Services</b>	<b>Education Services</b>	<b>Electronics Manufacturing</b>	<b>Health Services</b>	<b>Insurance Carriers</b>
Systems Evaluation	30.5	45.1	50.7	31.2	43.3	29.9	46.9
Systems Perception	35.4	48.6	53.7	38.1	48.1	34.0	47.8
Technology Design	17.2	35.2	34.4	16.3	29.7	20.7	16.6
Testing	22.9	43.2	37.7	13.3	32.6	21.0	18.2
Time Management	34.9	37.7	45.2	42.4	40.2	37.9	45.6
Troubleshooting	29.2	39.8	36.4	12.8	32.4	17.2	19.3
Visioning	31.4	45.8	54.7	40.0	47.4	34.1	47.6
Writing	43.9	50.2	62.0	57.5	52.9	51.4	60.5
<b>Total</b>	<b>32.6</b>	<b>43.0</b>	<b>47.8</b>	<b>38.4</b>	<b>42.0</b>	<b>36.0</b>	<b>23.5</b>

Source: O\*NET, U.S. Bureau of Labor Statistics, Corporation for a Skilled Workforce

## Education and Training Classifications

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Occupations are classified into 1 of 11 categories by the Bureau of Labor Statistics based on analyses of the occupation's usual education and training requirements conducted while developing information to present in the *Occupational Outlook Handbook*. For the purpose of this report, the training categories were aggregated as follows:

### Bachelor's Degree or Higher

**1** *First professional degree.* Completion of the academic program usually requires at least 6 years of full-time equivalent academic study, including college study prior to entering the professional degree program.

**2** *Doctoral degree.* Completion of the degree program usually requires at least 3 years of full-time equivalent academic work beyond the bachelor's degree.

**3** *Master's degree.* Completion of the degree program usually requires 1 or 2 years of full-time equivalent study beyond the bachelor's degree.

**4** *Work experience, plus a bachelor's or higher degree.* Most occupations in this category are managerial occupations that require experience in a related non-managerial position.

**5** *Bachelor's degree.* Completion of the degree program generally requires at least 4 years but not more than 5 years of full-time equivalent academic work.

### Associate's Degree or Post-Secondary Vocational Training

**6** *Associate's degree.* Completion of the degree program usually requires at least 2 years of full-time equivalent academic study.

**7** *Post-Secondary vocational training.* Some programs last only a few weeks while others may last more than a year. In some occupations, a license is needed that requires passing an examination after completion of the training.

### Work Experience or On-the-Job Training

**8** *Work experience in a related occupation.* Some occupations requiring work experience are supervisory or managerial occupations.

**9** *Long-term on-the-job training.* This category includes occupations that generally require more than 12 months of on-the-job training or combined work experience and formal classroom instruction for workers to develop the skills needed for average job performance. This category includes formal and informal apprenticeships that may last up to 4 years and short-term intensive employer-sponsored training that workers must successfully complete. Individuals undergoing training are generally considered to be employed in the occupation. This category includes occupations in which workers may gain experience in non-work activities, such as professional athletes who gain experience through participation in athletic programs in academic institutions.

## Appendix

**10 Moderate-term on-the-job training.** This category includes occupations in which workers can develop the skills needed for average job performance after 1 to 12 months of combined on-the-job experience and informal training.

**11 Short-term on-the-job training.** This category covers occupations in which workers can develop the skills needed for average job performance after a short demonstration or up to one month of on-the-job experience or instruction.



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