

# **The Economic Impact of Chicago's Hospitals on the Metropolitan Chicago Area**



Metropolitan Chicago Healthcare Council  
222 S. Riverside Plaza  
Chicago, Illinois 60606

**The Economic Impact of Chicago's Hospitals  
on the Metropolitan Chicago Area**

A Study Commissioned by:  
The Metropolitan Chicago Healthcare Council

to Measure  
the Impact of the Hospital Sector  
on the Metropolitan Chicago Economy

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## EXECUTIVE SUMMARY

A comprehensive study of the economic impact of hospitals in the Metropolitan Chicago Area shows that the Area's 99 hospitals have a staggering impact on the Metropolitan Chicago Area economy. Study findings show the hospitals alone:

- ❖ Employ 142,347 full-time job equivalent employees;
- ❖ Generate a payroll of over \$8.9 billion per year (Over \$90 million per hospital);
- ❖ Pay an average wage (including benefits) of \$63,088; and
- ❖ Invest approximately \$1.8 billion per year in capital expenditures.

These numbers tally only a fraction of the economic impact of the hospitals on the Metropolitan Chicago Area economy. As the hospitals spend dollars for operating and capital expenditures, they create jobs and payroll in other businesses in the economy. When the jobs and payroll that are created in other businesses are added into the analysis, the total impacts of the Metropolitan Chicago Area Hospitals are:

- ❖ **8.1 percent (402,290 JOBS) of the Metropolitan Chicago Area's total labor force is employed in hospitals, working on hospital construction projects, or employed in other businesses due to the secondary spending.**
- ❖ **9.5 percent (\$23.7 BILLION) of the Metropolitan Chicago Area's total personal income is generated by the Metropolitan Chicago Area Hospitals, the hospital construction projects, or in other businesses due to secondary spending.**

The study, "The Economic Impact of Chicago's Hospitals on the Metropolitan Chicago Area," was commissioned by the Metropolitan Chicago Healthcare Council and conducted by Dr. Gerald A. Doeksen, Regents Professor and Health Economist at Oklahoma State University.

Using a computer program developed specifically for the health care industry, Doeksen analyzed not only the direct economic contribution of hospitals and other providers, but also calculated how many jobs and how much income were created as a secondary effect. The jobs and payroll generated in other businesses are measured with employment and income multipliers derived for the Metropolitan Chicago Area.

As Metropolitan Chicago Area leaders continue to consider the area's economic priorities and look for ways to create more jobs, they should keep in mind the importance of hospitals to the area's economy. This study shows that the Metropolitan Chicago Area hospitals are much more than just providing medical services. The jobs and payroll generated by the hospitals and the ripple effect in other businesses throughout the economy are enormous.

The combination of increasing population and more elderly implies that there will be growth in employment in the hospital sector over the near term. Using a study by Health Care Futures that projects hospital employment to increase by 22,500 FTEs from 2000 to 2020, the total impact on hospital operating jobs, hospital construction jobs and secondary jobs will be 50,625 additional jobs from 2004 to 2020. **NOTE: This amounts to 3,164 jobs annually.**

These numbers clearly demonstrate that the Metropolitan Chicago Area Hospitals will be a major player in future economic development in the area. Economic development agencies, business groups, and local government should play a more active role in promoting the hospital sector as a key partner and primary sector in generating new economic opportunities.

## INTRODUCTION

Across the Metropolitan Chicago Area, **hospitals provide access to vital health care services 24 hours a day, seven days a week, 365 days a year. But the role hospitals play as major contributors to the Metropolitan Chicago Area's economy is often overlooked.**

Hospitals train and employ thousands of physicians and other health care workers, which result in a significant and direct contribution to the Metropolitan Chicago Area's overall fiscal health. Additionally, the economic contributions of hospitals also result in a significant number of jobs for metropolitan residents outside the hospital sector. The objective of this report is to measure the economic importance of the Metropolitan Chicago Area hospitals on the economy. More specifically, the report will:

1. Review economic trends of hospital employment and payroll for the U.S. and the Metropolitan Chicago Area;
2. Present economic data for the Metropolitan Chicago Area Hospitals;
3. Measure the economic impact of the Metropolitan Chicago Area Hospitals from operational activities;
4. Measure the economic impact of the Metropolitan Chicago Area Hospitals from construction activities;
5. Measure the economic impact by geographic divisions; and
6. Project future hospital employment growth.

## TRENDS IN THE HEALTH CARE INDUSTRY

### National Trends

**The health care sector is an extremely fast growing sector, and based on the current demographics, there is every reason to expect this trend to continue.** Data in Table 1 provides selected expenditure and employment data for the United States. Several highlights from the national data are:

- In 1970, health care services as a share of the national gross domestic product (GDP) was 7.0 percent. This increased to 15.3 percent in 2003;
- Per capita health expenditures increased from \$348 in 1970 to \$5,808 in 2003;
- Employment in the health sector increased 250 percent from 1970 to 2002; and
- Annual increases in employment from 1995 to 2002 ranged from 1.3 percent to 3.6 percent.

In addition, the Bureau of Labor Statistics projects substantial increases in health care expenditures from 2003 through 2013; in fact, it is predicted that health care expenditures will account for 16.7 percent of GDP by 2008 and increase up to 18.4% of GDP in 2013. Per capita health care expenditures are projected to increase to almost \$8,000 in 2008 and up to \$10,709 in 2013. Total health expenditures are projected to increase to over \$3 trillion in 2013.

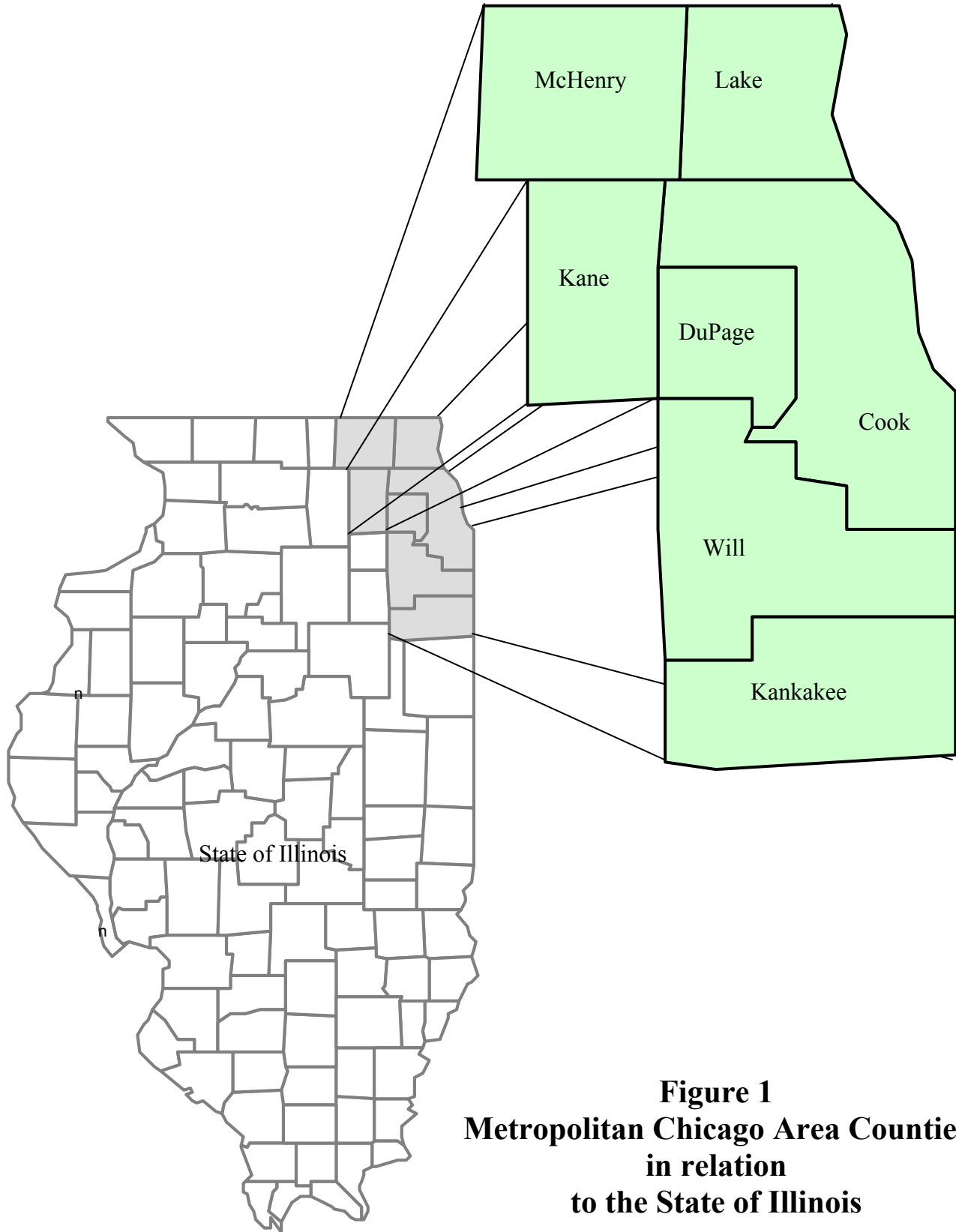
### Metropolitan Chicago Area Trends

The Metropolitan Chicago Area is depicted in Figure 1. It consists of the seven counties of **McHenry, Lake, Kane, Cook, DuPage, Will, and Kankakee**. Data relative to the health sector for the metropolitan area are provided on Tables 2 through 5. Two secondary data sources are utilized to illustrate trends and the magnitude of the importance of the health sector on the

**Table 1**  
**United States Health Expenditures and Employment Data**  
**1970-2003; Projected for 2005, 2008, & 2013**

Year	<u>National Data</u>				
	Total Health Expenditures (\$\$ Billions)	Per Capita Health Expenditures (\$\$)	Health Expenditures as % of GDP (%)	Health Sector Employment (000)	Annual Increase in Employment (%)
1970	\$73.10	\$348	7.0%	3,052	
1980	245.8	1,067	8.8%	5,278	7.3%
1990	696.0	2,738	12.0%	7,814	4.8%
1995	990.2	3,698	13.4%	9,230	3.6%
1996	1,039.3	3,847	13.3%	9,478	2.7%
1997	1,092.8	4,007	13.1%	9,703	2.4%
1998	1,150.3	4,179	13.1%	9,853	1.5%
1999	1,222.6	4,402	13.2%	9,977	1.3%
2000	1,309.4	4,670	13.3%	10,103	1.3%
2001	1,420.7	5,021	14.1%	10,381	2.8%
2002	1,553.0	5,440	14.9%	10,673	2.8%
2003	1,673.6	5,808	15.3%	N/A	
<b>Projections</b>					
2004	1,793.6	6,167	15.5%	N/A	
2008	2,387.7	7,928	16.7%	N/A	
2013	3,358.1	10,709	18.4%	N/A	

SOURCES: Bureau of Labor Statistics; Bureau of Economic Analysis; Centers for Medicare & Medicaid Services, National Health Expenditures 1980-2002 and National Health Expenditure Projections 2003-2013, website: <<http://cms.hhs.gov>>  
N/A - Not Available



**Figure 1**  
**Metropolitan Chicago Area Counties**  
**in relation**  
**to the State of Illinois**

Metropolitan Chicago Area economy. These sources use different definitions and thus cannot be directly compared with each other. However, both sources demonstrate the importance of the health sector and hospitals on the Metropolitan Chicago economy. Data in Table 2 are from County Business Patterns (U.S. Census Bureau data) and illustrate how the health sector is growing over time in the metropolitan area. From 1988 through 1997, the health services sector employment grew 34.4% and payroll 89.9%. From 1998 through 2001, employment grew another 6.3% and payroll 17.2%. The health services sector accounted for 7.7% of the economy's employment in 1988. In 2001, employment in health services comprised 10.7% of the economy's employment.

Hospital specific data from County Business Patterns are not available for hospitals in all seven counties in the study area, but such data are available for Cook County. These data are presented in Table 3. Again, there was a change in definition in 1998 and the two periods are not directly comparable. Regardless, both data sources demonstrate that hospital payroll and average payroll have increased over the time periods.

Data in Tables 4 and 5 are from the Bureau of Economic Analysis and are for the year 2002. This data source has a broader definition of employment than does County Business Patterns. The purpose of Tables 4 and 5 is to demonstrate the importance of the health sector as compared to the entire economy. In 2002, the health care sector (which includes hospitals) accounted for 469,055 full-time and part-time employees, or 10.6% of the private employment in the seven-county study area (Table 4). In 2002, the health care sector also accounted for \$19.01 trillion in total earnings, or 8.6% of total earnings for the metropolitan counties (Table 5). The health care sector was the third largest sector with 10.6% of the private employment; which was slightly smaller than manufacturing with 11.4% and retail trade with 11.0%.

**Table 2**  
**Employment and Payroll for Metropolitan Chicago Area\***

	Employment			Payroll (\$1,000)		
	Health Services	Percent of Total	Total Employment	Health Services	Percent of Total	Total Payroll
1988	244,701	7.7%	3,180,802	\$5,671,610	7.2%	\$78,264,156
1989	278,010	8.4%	3,302,067	\$6,834,221	8.2%	\$83,498,534
1990	288,318	8.5%	3,376,575	\$7,525,865	8.5%	\$88,817,422
1991	294,083	8.8%	3,353,627	\$7,929,124	8.8%	\$90,584,697
1992	305,120	9.1%	3,347,975	\$8,838,957	9.4%	\$94,416,450
1993	311,979	9.2%	3,380,545	\$8,977,233	9.1%	\$98,349,949
1994	326,648	9.5%	3,444,427	\$9,444,218	9.1%	\$103,629,402
1995	322,822	9.1%	3,549,676	\$10,015,494	9.0%	\$111,248,084
1996	315,903	8.8%	3,585,682	\$10,238,585	8.6%	\$118,443,063
1997	328,834	8.9%	3,675,806	\$10,768,090	8.5%	\$127,232,259
% Change from 1988 to 1997	34.4%	n/a	15.6%	89.9%	n/a	62.6%
1998	395,898	10.5%	3,774,352	\$12,590,535	9.1%	\$138,278,953
1999	403,745	10.4%	3,877,490	\$13,081,189	8.8%	\$148,888,167
2000	410,180	10.3%	3,984,035	\$13,726,455	8.6%	\$160,005,566
2001	420,901	10.7%	3,926,892	\$14,757,345	9.1%	\$162,211,870
% Change from 1998 to 2001	6.3%	n/a	4.0%	17.2%	n/a	17.3%

Source: U.S. Census, County Business Patterns; 1988-1997 based upon SIC code and 1998-2001 based upon NAICS code.

\* The seven counties included in the Metropolitan Chicago Area are Cook, DuPage, Kane, Kankakee, Lake, McHenry, and Will Counties.

The major (SIC) group includes establishments primarily engaged in furnishing medical, surgical, and other health services to persons. Establishments of associations or groups, such as Health Maintenance Organizations (HMOs), primarily engaged in providing medical or other health services to members are included, but those which limit their services to the provision of insurance against hospitalization or medical costs are classified in Insurance, Major Group 63. Hospices are also included in this major group and are classified according to the primary service provided.

The Health Care and Social Assistance NAICS sector comprises establishments providing health care and social assistance for individuals. The sector includes both health care and social assistance because it is sometimes difficult to distinguish between the boundaries of these two activities. The industries in this sector are arranged on a continuum starting with those establishments providing medical care exclusively, continuing with those providing health care and social assistance, and finally finishing with those providing only social assistance. The services provided by establishments in this sector are delivered by trained professionals. All industries in the sector share this commonality of process, namely, labor inputs of health practitioners or social workers with the requisite expertise. Many of the industries in the sector are defined based on the educational degree held by the practitioners included in the industry.

\*Data are excluded for self-employed persons, employees of private households, railroad employees, agricultural production workers, and for most government employees (except for those working in wholesale liquor establishments, retail liquor stores, Federally-chartered savings institutions, Federally-chartered credit unions, and hospitals).

**Table 3**  
**Number of Hospitals, Employment, Payroll, and Average Payroll**  
**in Cook County, Illinois**

	No. of Hospitals	Employment	Payroll (\$1,000)	Average Payroll
1988	91	107,787	2,442,864	\$22,664
1989	99	134,458	3,224,973	\$23,985
1990	100	137,660	3,424,521	\$24,877
1991	114	134,003	3,463,219	\$25,844
1992	105	129,886	3,687,581	\$28,391
1993	93	132,631	3,796,798	\$28,627
1994	94	141,504	3,867,048	\$27,328
1995	95	130,486	4,024,322	\$30,841
1996	87	124,959	3,989,024	\$31,923
1997	87	128,926	4,319,060	\$33,500
% Change from 1988 to 1997	-4.4%	19.6%	76.8%	47.8%
1998	91	127,219	4,534,558	\$35,644
1999	95	129,002	4,577,621	\$35,485
2000	94	129,896	4,797,924	\$36,937
2001	98	127,176	4,944,792	\$38,881
% Change from 1998 to 2001	7.69%	-0.03%	9.05%	9.08%

Source: U.S. Census Bureau, County Business Patterns; 1988-1997 based upon SIC code and 1998-2001 based upon NAICS code.

The major (SIC) group includes establishments primarily engaged in furnishing medical, surgical, and other health services to persons. Establishments of associations or groups, such as Health Maintenance Organizations (HMOs), primarily engaged in providing medical or other health services to members are included, but those which limit their services to the provision of insurance against hospitalization or medical costs are classified in Insurance, Major Group 63. Hospices are also included in this major group and are classified according to the primary service provided.

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\*Data are excluded for self-employed persons, employees of private households, railroad employees, agricultural production workers, and for most government employees (except for those working in wholesale liquor establishments, retail liquor stores, Federally-chartered savings institutions, Federally-chartered credit unions, and hospitals).

**Table 4**  
**Full-Time and Part-Time Employment**  
**by Type of Employment and Major Industry (NAICS)**  
**Metropolitan Chicago Area\* for 2001 and 2002**

	2001			2002		
	No. of Jobs	% of Total	% of Private	No. of Jobs	% of Total	% of Private
Total Employment	5,046,320	100.0%		4,997,380	100.0%	
Wage and salary employment	4,363,677	86.5%		4,272,508	85.5%	
Proprietors employment	682,643	13.5%		724,872	14.5%	
Farm employment	7,467	0.1%		6,802	0.1%	
Nonfarm employment	5,038,853	99.9%		4,990,578	99.9%	
Private employment	4,495,176	89.1%	100.0%	4,444,112	88.9%	100.0%
Forestry, fishing, & related & Mining	8,137		0.2%	7,999		0.2%
Utilities**	14,654		0.3%	14,058		0.3%
Construction	258,330		5.7%	257,408		5.8%
Manufacturing	543,949		12.1%	504,525		11.4%
Wholesale trade	257,989		5.7%	247,793		5.6%
Retail trade	496,013		11.0%	488,149		11.0%
Transportation & warehousing**	215,417		4.8%	207,076		4.7%
Information	125,495		2.8%	118,086		2.7%
Finance & insurance	334,905		7.5%	337,509		7.6%
Real estate, rental & leasing	172,686		3.8%	197,240		4.4%
Prof & technical svcs**	428,716		9.5%	410,683		9.2%
Mgmt of cos and enterprises**	66,456		1.5%	67,371		1.5%
Administrative & waste services	353,366		7.9%	343,263		7.7%
Educational services	115,048		2.6%	118,152		2.7%
<b>Health care &amp; soc asst incl HOSPITALS</b>	<b>458,201</b>		<b>10.2%</b>	<b>469,055</b>		<b>10.6%</b>
Arts, entert, & rec	96,779		2.2%	100,291		2.3%
Accommodation & food svcs	284,796		6.3%	285,505		6.4%
Other svcs, except public admin	259,733		5.8%	265,361		6.0%
Govt & govt enterprises	543,677	10.8%		546,466	10.9%	

Source: 2004 Regional Economic Information System, Bureau of Economic Analysis. The estimates of employment are based on the North American Industry Classification System (NAICS).

\* Counties include Cook, DuPage, Kane, Kankakee, Lake, McHenry, and Will.

\*\* Totals are not complete for two counties in four private employment categories due to nondisclosure to ensure confidentiality.

**Table 5**  
**Personal Income by Major Source and Industry (NAICS)**  
**Metropolitan Chicago Area\* for 2001 and 2002**

	2001			2002		
	Income (\$1,000s)	% of Total	% of Private	Income (\$1,000s)	% of Total	% of Private
<b>Earnings by place of work</b>						
Total earnings by place of work	\$247,853,732	100.0%		\$248,597,303	100.0%	
Wage and salary disbursements	185,380,703	74.8%		183,811,474	73.9%	
Proprietors' income	27,051,765	10.9%		28,234,783	11.4%	
Other	35,421,264	14.3%		36,551,046	14.7%	
<b>Earnings by Industry</b>						
Total earnings by industry	247,853,732	100.0%		248,597,303	100.0%	
Farm earnings	118,949	0.0%		84,812	0.0%	
Nonfarm earnings	247,734,783	100.0%		248,512,491	100.0%	
Private earnings	220,138,214	88.8%	100.0%	219,846,815	88.4%	100.0%
Forestry, fishing, & related & Mining	1,806,709		0.8%	1,683,981		0.8%
Utilities**	1,652,757		0.8%	1,566,272		0.7%
Construction	14,683,937		6.7%	14,966,463		6.8%
Manufacturing	32,240,867		14.6%	31,099,509		14.1%
Wholesale trade	17,551,274		8.0%	17,173,797		7.8%
Retail trade	13,561,661		6.2%	13,750,917		6.3%
Transportation & warehousing**	10,234,948		4.6%	10,035,907		4.6%
Informaton	8,719,853		4.0%	8,400,086		3.8%
Finance & insurance	25,323,298		11.5%	25,543,789		11.6%
Real estate, rental & leasing	6,491,785		2.9%	7,025,472		3.2%
Prof & techn svcs	34,062,265		15.5%	33,149,147		15.1%
Mgmt of cos & enterprises	7,125,848		3.2%	6,996,171		3.2%
Administrative & waste services	10,001,447		4.5%	9,697,716		4.4%
Educational services	3,601,679		1.6%	3,829,895		1.7%
<b>Hlth care &amp; soc asst incl HOSPS</b>	<b>17,947,659</b>		<b>8.2%</b>	<b>19,009,993</b>		<b>8.6%</b>
Arts, entertainment, & rec	2,326,003		1.1%	2,531,685		1.2%
Accommodation & food svcs	5,438,230		2.5%	5,492,601		2.5%
Other svcs, except public admin	7,200,043		3.3%	7,722,642		3.5%
Government and government enterprises	27,596,569	11.1%		28,665,676	11.5%	

Source: 2004 Regional Economic Information System, Bureau of Economic Analysis. The estimates for 2002 are based on the North American Industry Classification System (NAICS).

\* Counties include Cook, DuPage, Kane, Kankakee, Lake, McHenry, and Will.

\*\* Totals are not complete for two counties in four private employment categories due to nondisclosure to ensure confidentiality.

## STATISTICS - METROPOLITAN CHICAGO AREA HOSPITALS

The economic impact of the Metropolitan Chicago Area Hospitals, as measured by employment, payroll, operating expenses, operating revenue, and capital investment, is significant. To derive exact numbers, the Metropolitan Chicago Healthcare Council conducted a detailed survey of all hospitals throughout the region during the summer of 2004. The results are presented for several delineations. There are 99 hospitals in the seven county area and survey data were obtained from 71 percent. Using bed size information from those reporting data and the bed size of non-reporting hospitals, data were estimated for the non-reporting hospitals.

### **Results by Bed Size**

Total hospital employment throughout the region was 142,347 full-time equivalents (FTEs) and **the average employment per hospital was 1,438 positions** (Table 6). Average hospital payroll (defined as salaries and benefits) ranged from a low of \$18.4 million for the small hospitals to \$244.4 million. **Average salary and benefits per employee for all hospitals was \$63,088** while the average total operating expense per hospital were \$181.2 million.

Data were also collected relative to capital expenditures. As capital expenditure can vary by year, data were collected for the past two fiscal years. **The results document the fact that hospitals invest tremendous amounts each year to improve their physical plants. Impact of the investment on the regional economy is often overlooked.** The hospitals in the Metropolitan Chicago Area invested about \$1.9 billion and \$1.7 billion in the past two fiscal years, respectively. This is an average of about \$19 million and \$17 million per hospital in the past two fiscal years, respectively.

**Table 6**  
**Selected Statistics for Metropolitan Chicago Area Hospitals by Hospital Size**

	99 Beds or Less	100-199 Beds	200-299 Beds	300-399 Beds	400-499 Beds	500-599 Beds	600+ Beds	All Hospitals
No. of Hospitals	7	26	24	24	6	6	6	99
Employment	2,226	21,531	26,084	34,544	20,462	17,183	20,317	142,347
Avg. Employment	318	828	1,087	1,439	3,410	2,864	3,386	1,438
Payroll (Salary & Benefits)	\$126,279,993	\$1,247,049,628	\$1,611,017,907	\$2,075,240,506	\$1,466,290,083	\$1,089,596,963	\$1,364,876,000	\$8,980,351,079
Avg. Payroll	\$18,039,999	\$47,963,447	\$67,125,746	\$86,468,354	\$244,381,680	\$181,599,494	\$227,479,333	\$90,710,617
Avg. Salary	\$56,739	\$57,918	\$61,763	\$60,076	\$71,659	\$63,411	\$67,179	\$63,088
Total Oper. Exp.	\$261,243,740	\$2,461,002,158	\$3,381,396,947	\$4,324,842,036	\$2,543,725,327	\$2,145,666,682	\$2,816,014,000	\$17,933,890,891
Avg. Oper. Exp.	\$37,320,534	\$94,653,929	\$140,891,539	\$180,201,752	\$423,954,221	\$357,611,114	\$469,335,667	\$181,150,413
Total Oper. Rev.	\$452,046,018	\$5,292,760,508	\$8,630,576,720	\$11,470,160,254	\$4,291,530,461	\$5,078,245,211	\$6,205,830,000	\$41,421,149,172
Avg. Oper. Rev.	\$64,578,003	\$203,567,712	\$359,607,363	\$477,923,344	\$715,255,077	\$846,374,202	\$1,034,305,000	\$418,395,446
Capital Inv. Last Fiscal Year	\$27,655,371	\$429,834,978	\$469,666,107	\$310,914,331	\$306,702,156	\$70,820,283	\$250,083,000	\$1,865,676,225
Avg. Capital Inv. Last Fiscal Year	\$3,950,767	\$16,532,115	\$19,569,421	\$12,954,764	\$51,117,026	\$11,803,380	\$41,680,500	\$18,845,214
Capital Inv. Prior Fiscal Year	\$33,782,260	\$379,471,501	\$392,712,863	\$251,487,856	\$304,584,115	\$46,798,681	\$289,941,000	\$1,698,778,277
Avg. Capital Inv. Prior Fiscal Year	\$4,826,037	\$14,595,058	\$16,363,036	\$10,478,661	\$50,764,019	\$7,799,780	\$48,323,500	\$17,159,377

Source: Survey of Metropolitan Chicago Area Hospitals (Cook, DuPage, Kane, Kankakee, Lake, McHenry, and Will Counties) in 2004.

## **Results by County and by Congressional Districts**

Table 7 presents the Metropolitan Chicago Area Hospital data by county. The delineation by Congressional Districts is presented in Figure 2 and the data by Congressional Districts are in Table 8. As indicated earlier, most or 75% of the hospitals are in Cook County. Congressional Districts 1, 5, 7, and 9 have the largest number of hospitals.

## **THE TOTAL IMPACT OF THE METROPOLITAN CHICAGO AREA HOSPITALS**

As presented in the previous section, **the economic impact of Metropolitan Chicago Area hospitals, measured by their employment and payroll, is significant.** However, this does not tell the complete story as secondary economic impacts are created when the hospitals and their employees spend money. These secondary benefits are measured by multipliers using an input-output model and data from IMPLAN (the model and data are further discussed in Appendix A), a model that is widely used by economists and other academics across the U.S.

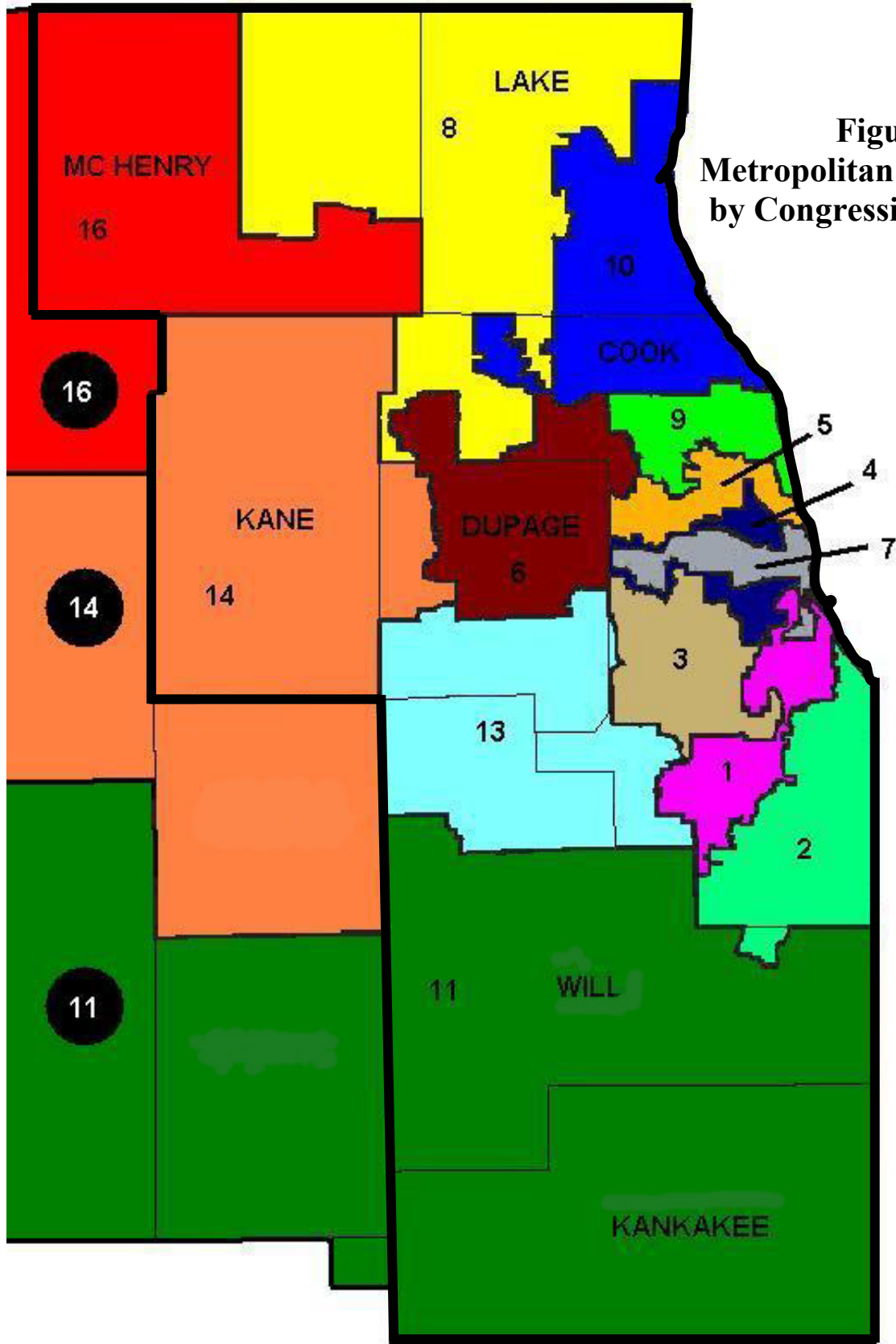
### **The Multiplier Effect**

To further explain the concept of a multiplier, consider, for instance, the closing of a hospital. The hospital can no longer pay employees, and dollars going to these households will stop. Likewise, the hospital cannot purchase goods from other businesses, and the dollar flowing to those other businesses will stop. As a result, household income and revenues for other businesses in the economy will be decreased. Since earnings would decrease, households and businesses decrease their purchases of goods and services from other businesses. This in turn, decreases these businesses' purchases of labor and inputs. Thus, the change in the economic base works its way throughout the entire economy.

**Table 7**  
**Selected Statistics for Metropolitan Chicago Area Hospitals by County**

	Cook	DuPage	Kane	Kankakee	Lake	McHenry	Will	Totals
No. of Hospitals	74	9	4	2	5	3	2	99
Employment	113,114	13,158	4,028	2,031	4,638	2,431	2,947	142,347
Avg. Employment	1,529	1,462	1,007	1,016	928	810	1,474	1,438
Payroll (Salary & Benefits)	\$7,182,797,702	\$807,281,864	\$246,526,537	\$115,228,114	\$292,379,556	\$157,474,716	\$178,662,589	\$8,980,351,079
Avg. Payroll	\$97,064,834	\$89,697,985	\$61,631,634	\$57,614,057	\$58,475,911	\$52,491,572	\$89,331,295	\$90,710,617
Avg. Salary	\$63,501	\$61,352	\$61,210	\$56,735	\$63,037	\$64,780	\$60,625	\$63,088
Total Oper. Exp.	\$14,201,061,970	\$1,629,514,677	\$535,201,433	\$245,817,310	\$624,423,682	\$295,103,311	\$402,768,508	\$17,933,890,891
Avg. Oper. Exp.	\$191,906,243	\$181,057,186	\$133,800,358	\$122,908,655	\$124,884,736	\$98,367,770	\$201,384,254	\$181,150,413
Total Oper. Rev.	\$32,251,340,361	\$4,179,119,923	\$1,372,424,731	\$572,639,943	\$1,480,816,596	\$560,467,399	\$1,004,340,219	\$41,421,149,172
Avg. Oper. Rev.	\$435,828,924	\$464,346,658	\$343,106,183	\$286,319,971	\$296,163,319	\$186,822,466	\$502,170,110	\$418,395,446
Capital Inv. Last Fiscal Year	\$1,178,823,815	\$176,248,216	\$37,757,170	\$48,337,509	\$107,441,422	\$287,116,670	\$29,951,425	\$1,865,676,225
Avg. Capital Inv. Last Fiscal Year	\$15,930,052	\$19,583,135	\$9,439,292	\$24,168,755	\$21,488,284	\$95,705,557	\$14,975,713	\$18,845,214
Capital Inv. Prior Fiscal Year	\$1,126,571,141	\$107,637,280	\$47,206,269	\$23,473,444	\$123,077,542	\$249,923,317	\$20,889,283	\$1,698,778,277
Avg. Capital Inv. Prior Fiscal Year	\$15,223,934	\$11,959,698	\$11,801,567	\$11,736,722	\$24,615,508	\$83,307,772	\$10,444,642	\$17,159,377

Source: Survey of Metropolitan Chicago Area Hospitals (Cook, DuPage, Kane, Kankakee, Lake, McHenry, and Will Counties) in 2004.



**Figure 2.**  
**Metropolitan Chicago Area**  
**by Congressional Districts**

**Table 8**  
**Selected Statistics for Metropolitan Chicago Area Hospitals by Congressional District**

	District 1	District 2	District 3	District 4	District 5	District 6	District 7	District 8
No. of Hospitals	9	7	4	3	12	6	18	8
Employment	14,797	6,986	9,469	2,407	10,994	8,802	37,150	6,507
Avg. Employment	1,644	998	2,367	802	916	1,467	2,064	813
Payroll (Salary & Benefits)	\$952,683,657	\$390,473,503	\$597,489,711	\$143,078,858	\$642,995,708	\$528,115,679	\$2,424,708,576	\$381,612,064
Avg. Payroll	\$105,853,740	\$55,781,929	\$149,372,428	\$47,692,953	\$53,582,976	\$88,019,280	\$134,706,032	\$47,701,508
Avg. Salary	\$64,382	\$55,895	\$63,097	\$59,449	\$58,487	\$59,998	\$65,267	\$58,644
Total Oper. Exp.	\$1,872,883,980	\$817,178,732	\$1,181,260,441	\$312,024,727	\$1,282,226,887	\$1,111,201,013	\$4,767,194,963	\$793,374,555
Avg. Oper. Exp.	\$208,098,220	\$116,739,819	\$295,315,110	\$104,008,242	\$106,852,241	\$185,200,169	\$264,844,165	\$99,171,819
Total Oper. Rev.	\$4,496,429,794	\$1,950,220,043	\$2,621,458,568	\$761,867,971	\$3,421,067,797	\$2,747,007,534	\$9,740,296,081	\$1,868,342,963
Avg. Oper. Rev.	\$499,603,310	\$278,602,863	\$655,364,642	\$253,955,990	\$285,088,983	\$457,834,589	\$541,127,560	\$233,542,870
Capital Inv. Last Fiscal Year	\$104,927,735	\$40,173,829	\$100,890,534	\$30,880,897	\$124,247,624	\$75,281,456	\$422,174,372	\$344,020,456
Avg. Capital Inv. Last Fiscal Year	\$11,658,637	\$5,739,118	\$25,222,634	\$10,293,632	\$10,353,969	\$12,546,909	\$23,454,132	\$43,002,557
Capital Inv. Prior Fiscal Year	\$67,483,646	\$40,504,747	\$91,760,756	\$34,457,903	\$96,021,389	\$75,036,182	\$486,661,642	\$286,448,783
Avg. Capital Inv. Prior Fiscal Year	\$7,498,183	\$5,786,392	\$22,940,189	\$11,485,968	\$8,001,782	\$12,506,030	\$27,036,758	\$35,806,098

Source: Survey of Metropolitan Chicago Area Hospitals (Cook, DuPage, Kane, Kankakee, Lake, McHenry, and Will Counties) in 2004.

**Table 8 (Continued)**  
**Selected Statistics for Metropolitan Chicago Area Hospitals by Congressional District**

	District 9	District 10	District 11	District 13	District 14	District 16	Totals
No. of Hospitals	12	6	4	4	5	1	99
Employment	18,034	9,698	4,978	6,540	5,632	353	142,347
Avg. Employment	1,503	1,616	1,245	1,635	1,126	353	1,438
Payroll (Salary & Benefits)	\$1,187,292,952	\$634,826,063	\$293,890,703	\$438,996,185	\$343,986,703	\$20,200,716	\$8,980,351,079
Avg. Payroll	\$98,941,079	\$105,804,344	\$73,472,676	\$109,749,046	\$68,797,341	\$20,200,716	\$90,710,617
Avg. Salary	\$65,838	\$65,462	\$59,038	\$67,125	\$61,080	\$57,237	\$63,088
Total Oper. Exp.	\$2,378,261,048	\$1,226,276,858	\$648,585,818	\$762,459,664	\$737,582,894	\$43,379,311	\$17,933,890,891
Avg. Oper. Exp.	\$198,188,421	\$204,379,476	\$162,146,454	\$190,614,916	\$147,516,579	\$43,379,311	\$181,150,413
Total Oper. Rev.	\$5,374,057,878	\$2,877,408,206	\$1,576,980,162	\$2,007,443,389	\$1,900,919,388	\$77,649,399	\$41,421,149,172
Avg. Oper. Rev.	\$447,838,156	\$479,568,034	\$394,245,040	\$501,860,847	\$380,183,878	\$77,649,399	\$418,395,446
Capital Inv. Last Fiscal Year	\$183,866,911	\$198,364,228	\$78,288,934	\$106,123,760	\$51,707,819	\$4,727,670	\$1,865,676,225
Avg. Capital Inv. Last Fiscal Year	\$15,322,243	\$33,060,705	\$19,572,234	\$26,530,940	\$10,341,564	\$4,727,670	\$18,845,214
Capital Inv. Prior Fiscal Year	\$210,656,007	\$154,914,118	\$44,362,727	\$40,208,098	\$58,604,960	\$11,657,317	\$1,698,778,277
Avg. Capital Inv. Prior Fiscal Year	\$17,554,667	\$25,819,020	\$11,090,682	\$10,052,025	\$11,720,992	\$11,657,317	\$17,159,377

Source: Survey of Metropolitan Chicago Area Hospitals (Cook, DuPage, Kane, Kankakee, Lake, McHenry, and Will Counties) in 2004.

A measure is needed that yields the effects created by an increase or decrease in economic activity. In economics, this measure is called the multiplier effect. An employment multiplier of 2.0 indicates that if one job is created by a new industry, 1.0 additional jobs are created in other sectors due to business and household spending. The model calculates employment, income, and output multipliers.

### **The Impact of Metropolitan Chicago Area Hospitals on Employment**

The total impact of the Metropolitan Chicago Area Hospitals on the Metropolitan economy is presented in Table 9. The Metropolitan Chicago Area Hospitals create jobs from their operating activities and from their construction activities. Employment (jobs) and income (payroll including wages and salaries and benefits) from operating activities were derived from the survey. Annual jobs and payroll from construction activities had to be estimated from capital investment data provided by the survey. **As noted from Table 6, there are 142,347 full-time equivalent employees working in the Metropolitan Chicago Area Hospitals. The hospital employment multiplier is 2.54; this means for every job in the hospital sector, another 1.54 jobs are created in other businesses in the Metropolitan area. Thus, secondary jobs created by the Metropolitan Chicago Area Hospitals equals 219,214. In total, the hospital sector generates 361,561 jobs due to operating activities.**

Survey results indicated that hospitals throughout the Metropolitan Chicago Area spend about \$1.87 billion on capital items per year. This expenditure creates significant construction employment and is part of the significant impact hospitals have on the Metropolitan Chicago Area's economy. Using the construction employment output ratio, it was estimated that the hospital capital expenditures create 18,183 jobs annually. These are the construction workers that are working directly on hospital capital projects. However, these companies and workers

**Table 9**  
**Total Employment Impact of Metropolitan Chicago Area Hospitals on the Economy\***

<u>Employment from Operating Activities</u>		
Hospital Employment		142,347
Hospital Employment Multiplier	2.54	
Jobs created in Other Businesses		<u>219,214</u>
<b>Total Employment (Jobs) from Operating Activities</b>		<b>361,561</b>
<u>Employment from Construction Activities</u>		
Construction Employment		18,183
Construction Multiplier	2.24	
Jobs created in Other Businesses		<u>22,546</u>
<b>Total Employment from Construction Activities</b>		<u>40,729</u>
<b>Total Employment from Operating and Construction Activities</b>		<u>402,290</u>

\* Counties in the Metropolitan Chicago Area include Cook, DuPage, Kane, Kankakee, Lake, McHenry, and Will

**Table 10**  
**Total Income Impact of Metropolitan Chicago Area Hospitals on the Economy\***

<u>Income from Operating Activities</u>		
		(In \$ Millions)
Hospital Income (Salaries & Benefits)		\$ 8,980
Hospital Income Multiplier	2.42	
Income Generated in Other Businesses		<u>\$12,751</u>
<b>Total Income from Metropolitan Chicago Area Hospitals</b>		<b>\$21,731</b>
<u>Income from Construction Activities</u>		
Construction Income (Salaries & Benefits)		\$1,041
Construction Income Multiplier	1.88	
Income Generated in Other Businesses		<u>\$916</u>
<b>Total Income from Hospital Construction Activities</b>		<u>\$1,957</u>
<b>Total Income from Operating and Capital Activities</b>		<u>\$23,688</u>

\* Counties in Metropolitan Chicago Area include Cook, DuPage, Kane, Kankakee, Lake, McHenry, and Will

also have secondary impacts that are measured by multipliers. **The construction multiplier is 2.24. Thus, 22,546 secondary jobs are created by the construction activities of Chicago's hospitals in other businesses. Total jobs created by hospital construction activities are 40,729.** Ultimately, the grand total number of jobs created by hospitals throughout the Metropolitan Chicago Area is 402,290.

### **The Impact of Metropolitan Chicago Area Hospitals on Income**

Data on the impact of the Metropolitan Chicago Area hospitals on income are presented in Table 10. From the survey, total wages and salaries (payroll plus benefits) from the operating activities of Metropolitan Chicago Area Hospitals was estimated to be \$9 trillion. Using the income multiplier of 2.42, the Metropolitan Chicago Area Hospitals generate income in other businesses of \$12.8 trillion. The total wages and salary (income) impact of the hospitals from operating activities is \$21.7 trillion.

Payroll and benefits generated directly by construction workers engaged in hospital construction activities was estimated at \$1,041 million. Using the income multiplier of 1.88, it is estimated that hospital construction activities (capital investment) generates income in other businesses of \$916 million. Thus, the total income generated from hospital construction activities was \$2.0 trillion. Finally, the total income from Metropolitan Chicago Area Hospitals from operating and construction activities is \$24 trillion annually.

### **Summary Statements**

In 2002 the Bureau of Economic Analysis (BEA) reported a total labor force in Metropolitan Chicago of 4,997,380 (Table 4) and total personal income of \$248,597 million (Table 5). When the Metropolitan Chicago Hospital Survey results are compared with these BEA statistics, the following results are obtained:

- 3.2 percent of the Metropolitan Chicago Area total labor force are employed in Metropolitan Chicago Area Hospitals or working on hospital construction projects;
- 8.1 percent of the Metropolitan Chicago Area total labor force are employed in hospitals, working on hospital construction projects or employed in other businesses due to secondary spending;
- 4.0 percent of the Metropolitan Chicago Area total personal income (payroll) is generated by Metropolitan Chicago Area Hospitals or by hospital construction projects;
- 9.5 percent of the Metropolitan Chicago Area total personal income (payroll) is generated by Metropolitan Chicago Area Hospitals, or hospital construction projects and in other businesses due to secondary spending.

### **THE TOTAL IMPACT BY GEOGRAPHICAL DIVISIONS**

The previous section provided the total impact of employment and wages and salaries on the Metropolitan Chicago Area. This section provides an analysis of the industries where the jobs outside the hospitals are generated and also provides an analysis by County and Congressional Districts. The hospital sector created 142,347 hospital jobs and 18,183 hospital construction jobs for a total of 160,530 jobs (Table 9). Applying the multipliers, the total number of jobs created by the hospitals was 402,290 (Table 9). The model specifies the industry in which the secondary jobs are created and these are presented in Table 11. The industries

**Table 11**  
**Number of Jobs Created by Industry**  
**for the Metropolitan Chicago Area**  
**due to Hospital and Hospital Construction Employment**

Sector	Number of Jobs
Ag, Mining, Forestry, and Utilities	881
Construction	19,911
Manufacturing	23,650
Wholesale and Retail	39,723
Transportation, Information, Finance, and Real Estate	34,100
Services	45,622
Hospital Jobs from Survey	142,347
Health Care and Social Services except Hospitals	45,653
Arts, Accommodations and Food, and Other	42,645
Government	<u>7,758</u>
<b>Total Employment from Hospital &amp; Hospital Construction Employment</b>	<b><u>402,290</u></b>

where most of the secondary jobs are created are in services (45,622) and in arts, accommodations, and food and other (42,645).

### **Impact by County**

For the county distribution, it was assumed the secondary jobs generated by the hospital industry were proportionately distributed by industry sector. For example, if Cook County had 30 percent of the people employed in the manufacturing sector in the Metropolitan area, it was assigned 30 percent of the hospital generated manufacturing jobs. Using that assumption, the county analysis of jobs is presented in Table 12.

### **Impact by Congressional Districts**

For the Congressional district distribution, it was assumed the secondary jobs generated by the hospital industry were proportionately distributed by industry sector. For example, if Congressional District 1 had 10 percent of the people employed in the services sector in the metropolitan area, it was assigned 10 percent of the hospital generated service jobs. NOTE: The Congressional District analysis included only the employment of the Congressional Districts in the seven counties. Districts 11, 14, and 16 have large areas outside the seven county area. Using these assumptions, the Congressional District analysis is presented in Table 13.

## **PROJECTED EMPLOYMENT IMPACT FOR 2010 DUE TO HOSPITAL GROWTH**

The Metropolitan Chicago Healthcare Council commissioned Health Care Futures to conduct a study on the projected demand for health care services.<sup>1</sup> The comprehensive study analyzed recent changes from 1998 to 2001 and projected changes from 2000 to 2020. Summary

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<sup>1</sup> Health Care Futures. The Chicago Regional Health Care Market: Projected Demand for Health Care Services and Impact on Providers. June 2003.

**Table 12**  
**Total Employment Impact of the Metropolitan Chicago Area Hospitals**  
**by Counties and by Major Industry (NAICS)**

Industry	Cook	DuPage	Kane	Kankakee	Lake	McHenry	Will	Totals
Ag., Forestry, Mining, and Utilities	311	142	65	57	112	63	131	881
Construction	10,973	3,220	1,327	206	1,747	904	1,534	19,911
Manufacturing	14,067	3,142	1,757	278	2,591	925	890	23,650
Wholesale and Retail trade	22,907	7,436	1,965	506	4,067	1,085	1,757	39,723
Transportation, Information, Finances and Real estate Services	24,475	4,643	1,150	277	2,233	379	943	34,100
Hospitals Employment from Survey	31,298	6,769	2,045	207	3,564	639	1,100	45,622
Other health care and social assistance	113,114	13,158	4,028	2,031	4,638	2,237	2,947	142,347
Arts, Accommodation and Food, and Other services	31,659	5,092	2,147	714	3,553	866	1,816	45,653
Government and government enterprises	28,164	5,535	2,169	479	3,343	1,027	1,928	42,645
	<u>5,110</u>	<u>720</u>	<u>392</u>	<u>94</u>	<u>869</u>	<u>184</u>	<u>389</u>	<u>7,758</u>
Total Employment Impact	282,078	49,857	17,045	4,849	26,717	8,309	13,435	402,290

Source: 2004 Regional Economic Information System, Bureau of Economic Analysis, and Metropolitan Area Hospital Survey, 2004.

**Table 13**  
**Total Employment Impact of the Metropolitan Chicago Area Hospitals**  
**by Congressional Districts and by Major Industry (NAICS)**

Industries	District 1	District 2	District 3	District 4	District 5
<b>Total Employment Impact</b>	31,777	25,317	29,499	19,725	35,208
Ag., Forestry, Mining, and Utilities	12	28	26	21	24
Construction	1,160	1,057	1,816	1,503	1,873
Manufacturing	962	1,207	1,797	2,486	1,977
Wholesale and Retail trade	2,176	2,303	3,167	2,505	3,159
Transportation, Info., Fin. and Real estate	2,581	2,847	2,696	1,632	3,177
Hospitals employment from survey	14,797	6,986	9,469	2,407	10,994
Other health care and services	6,453	7,199	6,245	4,898	9,011
Arts, Accom. and Food, and Other services	2,804	2,845	3,354	3,975	4,223
Public admin.	832	845	929	298	770

Source: U.S. Census Bureau and Metropolitan Chicago Hospital Survey and Study Results

**Table 13 (Continued)**  
**Total Employment Impact of the Metropolitan Chicago Area Hospitals**  
**by Congressional Districts and by Major Industry (NAICS)**

Industries	District 6	District 7	District 8	District 9	District 10
<b>Total Employment Impact</b>	32,123	53,147	29,634	40,153	31,116
Ag., Forestry, Mining, and Utilities	30	7	84	22	40
Construction	1,858	635	2,241	1,186	1,351
Manufacturing	2,307	1,030	2,750	1,465	2,069
Wholesale and Retail trade	4,309	2,117	4,138	3,067	3,521
Transportation, Info, Fin. and Real estate	3,116	2,937	2,848	2,722	2,631
Hospitals employment from survey	8,802	37,150	6,507	18,034	9,698
Other Health care and services	7,690	5,828	7,348	8,658	8,411
Arts, Accom. and Food, and Other services	3,555	2,787	3,205	4,363	2,962
Public admin.	456	656	513	636	433

Source: U.S. Census Bureau and Metropolitan Chicago Hospital Survey and Study Results

**Table 13 (Continued)**  
**Total Employment Impact of the Metropolitan Chicago Area Hospitals**  
**by Congressional Districts and by Major Industry (NAICS)**

	District 11	District 13	District 14	District 16	Total
<b>Total Employment Impact</b>	17,949	29,913	20,814	5,915	402,290
Ag., Forestry, Mining, and Utilities	219	45	215	108	881
Construction	1,423	1,750	1,547	511	19,911
Manufacturing	1,176	1,844	1,763	817	23,650
Wholesale and Retail trade	2,114	3,809	2,482	856	39,723
Transportation, Info., Fin. and Real estate	1,503	3,274	1,587	549	34,100
Hospitals employment from survey	4,978	6,540	5,632	353	142,347
Other Health care and services	3,974	8,959	4,832	1,769	91,275
Arts, Accom. and Food, and Other services	2,176	3,194	2,369	833	42,645
Public admin.	386	498	387	119	7,758

Source: U.S. Census Bureau and Metropolitan Chicago Hospital Survey and Study Results

results of the analysis are presented in Tables 14 and 15. Data collected from Illinois hospitals documented that health services grew rapidly from 1998 to 2001 (Table 14). During this time, inpatient discharges grew 7.7 percent and daily census 2.1 percent. Extremely rapid growth occurred in outpatient visits and outpatient surgery (15.7% and 9.1%, respectively).

The outstanding study completed by Health Care Futures projected population growth by age cohorts and combined this with health utilization data to project health service demand. Estimated percentage changes from 2000 to 2010 and to 2020 for population and selected health services are presented in Table 15. Population is forecast to increase by 7.2% from 2000 to 2010 and to increase another 7.3 percent from 2010 to 2020. Because of the increased population and the greater number of residents in the older age cohorts, selected health service demand is estimated to increase about double the growth of the population.

For example, inpatient hospital days are estimated to increase by 13.5 percent from 2000 to 2010 and by 11.4 percent from 2010 to 2020. The study also estimated hospital discharges by service line. Cardiovascular, oncology, and orthopedics were the service lines with the largest estimated percentage growth rates.

### **Projecting Impact of Growth on Hospital and Area Employment**

Projecting demand for hospital services and, in turn, hospital employment, is extremely difficult. Many demographics, health innovations, and economic forces are interacting in a very dynamic Metropolitan Chicago Area economy. The Health Care Council, using the best tools available and the best assumptions, estimated that 22,500 additional hospital FTE's (full-time equivalent employees) would be needed by 2020. The employment was allocated to employment growth from 2000 to 2010 and 2000 to 2020 by estimated increased average census for those time periods. From 2000 to 2010, an additional 11,475 FTE's are needed in the

**Table 14**  
**Percentage Changes in Health Services**  
**in Illinois**

Services	Percentage of Growth
Inpatient Discharge	7.7%*
Daily Census	2.1%*
Births	4.8%**
Outpatient Visits	15.7%**
Outpatient Surgery	9.1%**
Emergency Room	6.9%**

\* Four years for this growth percentage were 1998-2002.

\*\* Four years for this growth percentage were 1997-2001.

Source: Health Care Futures Study Titled: The Chicago Regional Health Care Market: Projected Demand for Health Care Services and Impact on Providers, June 2003, completed for Metropolitan Chicago Healthcare Council.

**Table 15**  
**Projected Percentage Growth**  
**by Population and Selected Health Services**  
**for the Metropolitan Chicago Nine-County Study Area\* from 2000 to 2020**

	2000-2010	2010-2020	2000-2020
Population	7.2%	7.3%	15.0%
Inpatient Discharges	12.5%	10.6%	24.4%
Discharges by Service Line			
Cardiovascular	16.8%	13.9%	33.0%
General Medicine	16.2%	10.6%	28.5%
General Surgery	14.1%	11.8%	27.5%
Neuroscience	15.9%	11.4%	29.1%
OB/GYN	2.1%	6.3%	8.5%
Oncology	17.6%	14.2%	34.3%
Orthopedics	18.3%	11.8%	32.3%
Rehabilitation	17.8%	15.7%	36.3%
Pulmonary	10.3%	12.0%	23.5%
Neonatology	3.4%	9.7%	13.4%
Psych/CD	11.6%	5.4%	17.6%
Inpatient Days	13.5%	11.4%	26.5%

Source: Health Care Futures Study Titled: The Chicago Regional Health Care Market: Projected Demand for Health Care Services and Impact on Providers, June 2003, completed for Metropolitan Chicago Healthcare Council

\* The nine counties included in this study included: Cook, DuPage, Grundy, Kane, Kankakee, Kendall, Lake, McHenry, and Will Counties.

hospitals and from 2010 to 2020, another 11,025 hospital FTE's are needed. Assuming that 60 percent of the employment growth from 2000 to 2010 will occur from 2004-2010, then 6,885 new hospital jobs and 881 new hospital construction jobs will be needed by 2010 (Table 16). If these jobs are added to the jobs estimated to be created from 2010 to 2020, then 17, 910 new hospital jobs and 2,292 new hospital construction jobs are needed by 2020.

Using the multipliers derived in an earlier section of this report, the number of secondary jobs is estimated. Using the multipliers assumes the relationships among industries remains fixed; this means that a fixed amount of labor, utilities, medical supplies, etc., are needed regardless of changes in technology and relative prices. Given this assumption, the total increase in employment throughout the Metropolitan Chicago Area from hospital growth from 2004 to 2010 would be 19,461 jobs. **The total number of jobs created from 2004 to 2020 from hospital employment growth throughout the Metropolitan Chicago Area would be 50,625 jobs. This amounts to an average of 3,164 jobs annually.**

In summary, hospitals act as an economic engine and generate large impacts. **The demand for health services is increasing rapidly and thus a large number of jobs are expected to be generated over the next several years due to hospital growth. Economic developers are frequently seeking manufacturing and high tech industries that will create new jobs. The Metropolitan Chicago Area Hospitals are doing just that and should not be overlooked. The Metropolitan Chicago Area Hospitals are clearly in a growth mode and creating jobs with above average wages. Policies should be adopted to enhance and encourage their growth.**

**Table 16**  
**Projected Employment Growth**  
**from Increased Health Care Demand from 2004 to 2010 and 2020**

	2010	2020
<b>Jobs from Hospital Operating Growth Activities</b>		
Hospital Growth in Employment	6,885	17,910
Hospital Employment Multiplier	2.54	2.54
Jobs Created in Other Businesses	<u>10,603</u>	<u>27,581</u>
 Total New Jobs from Hospital Operating Growth	 17,488	 45,491
<b>Jobs from Hospital Construction Growth Activities</b>		
Hospital Construction Growth in Employment	881	2,292
Construction Employment Multiplier	2.24	2.24
Jobs Created in Other Businesses	<u>1,092</u>	<u>2,842</u>
 Total New Jobs from Hospital Construction Growth	 <u>1,973</u>	 <u>5,134</u>
 Total New Jobs from Hospital Operating & Construction Growth	 <u>19,461</u>	 <u>50,625</u>

**Appendix A**  
**Model and Data Used to Estimate**  
**Employment and Income**  
**Multipliers**

A computer spreadsheet that uses state IMPLAN multipliers was developed to enable community development specialists to easily measure the secondary benefits of the health sector on a state, regional or county economy. The complete methodology, which includes an aggregate version, a disaggregate version, and a dynamic version, is presented in Measuring the Economic Importance of the Health Sector on a Local Economy: A Brief Literature Review and Procedures to Measure Local Impacts (Doeksen, et.al., 1997). A brief review of input-output analysis and IMPLAN are presented here.

**A Review of Input-Output Analysis**

Input-output (I/O) (Miernyk, 1965) was designed to analyze the transactions among the industries in an economy. These models are largely based on the work of Wassily Leontief (1936). Detailed I/O analysis captures the indirect and induced interrelated circular behavior of the economy. For example, an increase in the demand for health services requires more equipment, more labor, and more supplies, which, in turn, requires more labor to produce the supplies, etc. By simultaneously accounting for structural interaction between sectors and industries, I/O analysis gives expression to the general economic equilibrium system. The analysis utilizes assumptions based on linear and fixed coefficients and limited substitutions among inputs and outputs. The analysis also assumes that average and marginal I/O coefficients are equal.

Nonetheless, the framework has been widely accepted and used. I/O analysis is useful when carefully executed and interpreted in defining the structure of a region, the interdependencies among industries, and forecasting economic outcomes.

The I/O model coefficients describe the structural interdependence of an economy. From the coefficients, various predictive devices can be computed, which can be useful in analyzing economic changes in a state, a region or a county. Multipliers indicate the relationship between some observed change in the economy and the total change in economic activity created throughout the economy.

### **MicroIMPLAN**

MicroIMPLAN is a computer program developed by the United States Forest Service (Alward, et al., 1989) to construct I/O accounts and models. Typically, the complexity of I/O modeling has hindered practitioners from constructing models specific to a community requesting an analysis. Too often, inappropriate U.S. multipliers have been used to estimate local economic impacts. In contrast, IMPLAN can construct a model for any county, region, state, or zip code area in the United States by using available state, county, and zip code level data. Impact analysis can be performed once a regional I/O model is constructed.

Five different sets of multipliers are estimated by IMPLAN, corresponding to five measures of regional economic activity. These are: total industry output, personal income, total income, value added, and employment. Two types of multipliers are generated. Type I multipliers measure the impact in terms of direct and indirect effects. Direct impacts are the changes in the activities of the focus industry or firm, such as the closing of a hospital. The focus business changes its purchases of inputs as a result of the direct impacts. This produces indirect impacts in other business sectors. However, the total impact of a change in the economy

consists of direct, indirect, and induced changes. Both the direct and indirect impacts change the flow of dollars to the state, region, or county's households. Subsequently, the households alter their consumption accordingly. The effect of the changes in household consumption on businesses in a community is referred to as an induced effect. To measure the total impact, a Type II multiplier is used. The Type II multiplier compares direct, indirect, and induced effects with the direct effects generated by a change in final demand (the sum of direct, indirect, and induced divided by direct). IMPLAN also estimates a modified Type II multiplier, called a Type III multiplier that also includes the direct, indirect, and induced effects. The Type III multiplier further modifies the induced effect to include spending patterns of households based on a breakdown of households by nine difference income groups.

## **References**

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**Appendix B**  
**Selected Demographic and Economic**  
**Data by County and by Congressional District**

**Appendix B, Table 1** Population and Population Projections for Metropolitan Chicago Area Counties, 1990-2020

**Appendix B, Table 2** Population by Age Groups for Metropolitan Chicago Area Counties, 1990 and 2000

**Appendix B, Table 3** Employment by Occupation for Metropolitan Chicago Area Counties, 1990 and 2000

**Appendix B, Table 4** Employment by Industries for Metropolitan Chicago Area Counties, 1990 and 2000

**Appendix B, Table 5** Employment by Type and Major Industry (NAICS) for Metropolitan Chicago Area Counties, 2002

**Appendix B, Table 6** Personal Income by Major Source and Industry (NAICS) for Metropolitan Chicago Area Counties, 2002

**Appendix B, Table 7** Employment by Occupation and Industry by Congressional Districts for Metropolitan Chicago Area, 2000

**Appendix B, Table 1  
Population and Population Projections for  
Metropolitan Chicago Area Counties, 1990 - 2020**

	Cook	DuPage	Kane	Kankakee	Lake	McHenry	Will	Total
1990 Census	5,104,786	785,572	319,631	96,528	519,839	185,239	359,270	7,370,865
2000 Census	5,376,741	904,161	404,119	103,833	644,356	260,077	502,266	8,287,632
2010 Projected	5,466,258	986,349	483,668	106,871	750,512	326,471	652,228	8,883,573
2020 Projected	5,672,523	1,050,730	556,652	114,681	825,326	377,615	801,770	9,529,208
1990-2000 % change	5.3%	15.1%	26.4%	7.6%	26.1%	40.4%	39.8%	12.4%
2000-2010 % change	1.7%	9.1%	19.7%	2.9%	16.5%	25.5%	29.9%	7.2%
2000-2020 % change	5.5%	16.2%	37.7%	10.4%	28.1%	45.2%	59.6%	15.0%

Source: U.S. Census Bureau; 1990 and 2000 Census; U.S. Census Bureau Projections, 2010 and 2020

**Appendix B, Table 2**  
**Population by Age Groups for Metropolitan Chicago Area Counties, 1990 and 2000**

	Cook	DuPage	Kane	Kankakee	Lake	McHenry	Will	Total
<b>1990</b>								
<20 years	1,424,519	226,225	104,070	30,091	161,938	58,142	117,537	2,122,522
percent	27.9%	28.8%	32.6%	31.2%	31.2%	31.4%	32.7%	28.8%
20-29 years	882,933	128,468	49,955	13,672	81,082	26,075	54,115	1,236,300
percent	17.3%	16.4%	15.6%	14.2%	15.6%	14.1%	15.1%	16.7%
30-44 years	1,211,562	216,708	81,806	21,571	138,730	50,661	94,238	1,815,276
percent	23.7%	27.6%	25.6%	22.3%	26.7%	27.3%	26.2%	24.6%
45-54 years	513,026	87,236	31,852	9,693	55,836	20,082	37,823	755,548
percent	10.0%	11.1%	10.0%	10.0%	10.7%	10.8%	10.5%	10.3%
55-64 years	442,617	58,541	22,342	8,331	38,686	12,864	24,595	607,976
percent	8.7%	7.5%	7.0%	8.6%	7.4%	6.9%	6.8%	8.2%
65+ years	630,129	68,394	29,606	13,170	43,567	17,415	30,962	833,243
percent	12.3%	8.7%	9.3%	13.6%	8.4%	9.4%	8.6%	11.3%
Total	5,104,786	785,572	319,631	96,528	519,839	185,239	359,270	7,370,865
<b>2000</b>								
<20 years	1,543,473	263,681	133,334	31,325	209,124	84,489	163,843	2,429,269
percent	28.5%	29.0%	32.9%	30.1%	32.3%	32.3%	32.5%	29.5%
20-29 years	829,686	114,483	54,348	13,468	77,151	27,717	60,581	1,177,434
percent	15.4%	12.7%	13.5%	12.9%	12.0%	10.6%	12.0%	14.3%
30-44 years	1,261,306	231,203	100,102	22,617	164,095	71,685	132,550	1,983,558
percent	23.5%	25.6%	24.8%	21.8%	25.4%	27.5%	26.4%	24.2%
45-54 years	673,290	131,418	53,180	13,750	89,642	35,866	66,286	1,063,432
percent	12.7%	14.7%	13.2%	13.4%	14.0%	13.9%	13.3%	13.1%
55-64 years	438,721	74,582	29,174	9,089	49,355	19,407	37,396	657,724
percent	8.2%	8.3%	7.2%	8.8%	7.7%	7.5%	7.5%	8.1%
65+ years	630,265	88,794	33,981	13,584	54,989	20,913	41,610	884,136
percent	11.7%	9.8%	8.4%	13.1%	8.5%	8.1%	8.3%	10.8%
Total	5,376,741	904,161	404,119	103,833	644,356	260,077	502,266	8,195,553

Source: U.S. Census Bureau; 1990 and 2000 Census

**Appendix B, Table 3**  
**Employment by Occupation for Metropolitan Chicago Area Counties, 1990 and 2000**

	Cook		DuPage		Kane		Kankakee	
	No.	%	No.	%	No.	%	No.	%
<b>1990 Total Employment</b>	2,414,964	100.0	432,730	100.0	160,944	100.0	42,205	100.0
Exec., admin., & mgmt.	321,624	13.3	81,544	18.8	20,541	12.8	3,831	9.1
Prof. specialty	345,152	14.3	73,424	17.0	20,256	12.6	4,994	11.8
Tech. & related support	81,013	3.4	17,733	4.1	5,845	3.6	1,798	4.3
Sales	289,217	12.0	66,057	15.3	19,256	12.0	4,539	10.8
Admin. support, including clerical	472,221	19.6	78,187	18.1	26,085	16.2	6,568	15.6
Private household	7,544	0.3	885	0.2	317	0.2	132	0.3
Protective svcs.	52,006	2.2	4,462	1.0	2,116	1.3	774	1.8
Svcs., except prot. & household	243,161	10.1	29,020	6.7	14,844	9.2	5,260	12.5
Farm, for., & fishing	12,205	2.6	2,207	2.8	2,205	8.5	1,087	16.5
Precision prod., craft, & repair	231,007	9.6	39,922	9.2	20,452	12.7	5,108	12.1
Machine ops., assem., & inspec.	166,966	6.9	16,352	3.8	15,683	9.7	3,828	9.1
Trans. & material moving	91,283	3.8	10,876	2.5	6,068	3.8	1,999	4.7
Hand., equip. cleaners, helpers, and lab.	101,565	4.2	12,061	2.8	7,276	4.5	2,287	5.4
<b>2000 Total Employment</b>	2,421,287	100	476,172	100	196,184	100	48,227	100
Mgmt., prof., & rel.	852,442	35.2	208,257	43.7	63,523	32.4	12,583	26.1
Service	339,554	14.0	44,807	9.4	24,251	12.4	7,507	15.6
Sales & office	690,023	28.5	143,957	30.2	54,514	27.8	12,763	26.5
Farm, fishing, & for.	1,942	0.1	264	0.1	608	0.3	296	0.6
Constr., extraction, & maint.	171,534	7.1	30,743	6.5	17,467	8.9	5,080	10.5
Prod., transp., & material moving	365,792	15.1	48,144	10.1	35,821	18.3	9,998	20.7
Total Employment, % change, 1990-2000	0.3%		10.0%		21.9%		14.3%	

Source: U.S. Census Bureau; 1990 and 2000 Census

**Appendix B, Table 3 (Continued)**  
**Employment by Occupation for Metropolitan Chicago Area Counties, 1990 and 2000**

	Lake		McHenry		Will		Total	
	No.	%	No.	%	No.	%	No.	%
<b>1990 Total Employment</b>	258,003	100.0	95,736	100.0	173,060	100.0	3,577,642	100.0
Exec., admin., & mgmt.	46,454	18.0	13,971	14.6	20,891	12.1	508,856	14.2
Prof. specialty	40,614	15.7	11,687	12.2	21,363	12.3	517,490	14.5
Tech. & related support	9,294	3.6	3,544	3.7	6,219	3.6	125,446	3.5
Sales	37,321	14.5	12,563	13.1	21,435	12.4	450,388	12.6
Admin. support, including clerical	40,858	15.8	15,529	16.2	29,652	17.1	669,100	18.7
Private household	1,083	0.4	152	0.2	246	0.1	10,359	0.3
Protective svcs.	3,144	1.2	827	0.9	3,756	2.2	67,085	1.9
Svcs., except prot. & household	20,882	8.1	7,866	8.2	16,352	9.4	337,385	9.4
Farm, for., & fishing	2,570	6.3	1,913	12.3	2,001	6.7	24,188	0.7
Precision prod., craft, & repair	26,383	10.2	14,285	14.9	23,896	13.8	361,053	10.1
Machine ops., assem., & inspec.	14,168	5.5	6,439	6.7	11,307	6.5	234,743	6.6
Trans. & material moving	6,643	2.6	3,475	3.6	8,193	4.7	128,537	3.6
Hand., equip. cleaners, helpers, and lab.	8,589	3.3	3,485	3.6	7,749	4.5	143,012	4.0
<b>2000 Total Employment</b>	310,396	100	135,269	100	246,431	100	3,833,966	100
Mgmt., prof., & rel.	127,476	41.1	46,813	34.6	83,446	33.9	1,394,540	36.4
Service	34,931	11.3	14,765	10.9	29,471	12	495,286	12.9
Sales & office	87,750	28.3	38,287	28.3	70,006	28.4	1,097,300	28.6
Farm, fishing, & for.	446	0.1	407	0.3	369	0.1	4,332	0.1
Constr., extraction, & maint.	23,678	7.6	14,500	10.7	27,607	11.2	290,609	7.6
Prod., transp., & material moving	36,115	11.6	20,497	15.2	35,532	14.4	551,899	14.4
Total Employment, % change, 1990-2000	20.3%		41.3%		42.4%		7.2%	

Source: U.S. Census Bureau; 1990 and 2000 Census

**Appendix B, Table 4**  
**Employment by Industries for Metropolitan Chicago Area Counties, 1990 and 2000**

	Cook		DuPage		Kane		Kankakee	
	No.	%	No.	%	No.	%	No.	%
<b>1990 Total Employment</b>	2,414,964	100.0	432,730	100.0	160,944	100.0	42,205	100.0
Ag., for., and fish.	13,235	0.5	3,190	0.7	2,638	1.6	1,179	2.8
Mining	1,818	0.1	455	0.1	208	0.1	54	0.1
Construction	109,069	4.5	24,565	5.7	10,728	6.7	2,383	5.6
Manufacturing, nondurable goods	186,699	7.7	32,180	7.4	14,923	9.3	5,004	11.9
Manufacturing, durable goods	264,198	10.9	46,257	10.7	26,942	16.7	3,993	9.5
Transportation	147,977	6.1	22,802	5.3	6,567	4.1	1,794	4.3
Communications and other public utilities	56,246	2.3	15,171	3.5	4,374	2.7	835	2.0
Wholesale trade	131,195	5.4	30,588	7.1	8,586	5.3	1,757	4.2
Retail trade	382,805	15.9	69,998	16.2	25,025	15.5	7,249	17.2
Finance, insurance, and real estate	226,071	9.4	41,382	9.6	10,872	6.8	2,186	5.2
Business and repair services	137,849	5.7	26,579	6.1	8,453	5.3	1,766	4.2
Personal services	70,626	2.9	10,144	2.3	3,337	2.1	1,148	2.7
Entertainment and recreation services	33,778	1.4	5,227	1.2	1,848	1.1	500	1.2
Health services	200,377	8.3	30,454	7.0	10,427	6.5	5,277	12.5
Educational services	173,668	7.2	28,765	6.6	11,092	6.9	3,585	8.5
Other prof. & related services	186,826	7.7	35,694	8.2	10,301	6.4	2,180	5.2
Public admin.	92,527	3.8	9,279	2.1	4,623	2.9	1,315	3.1
<b>2000 Total Employment</b>	2,421,287	100.0	476,172	100.0	196,184	100.0	48,227	100.0
Ag., for., fishing & hunting, & mining	2,356	0.1	800	0.2	1,196	0.6	788	1.6
Construction	119,355	4.9	25,308	5.3	14,549	7.4	3,236	6.7
Manufacturing	342,422	14.1	71,402	15.0	40,752	20.8	7,842	16.3
Wholesale trade	92,706	3.8	25,410	5.3	9,446	4.8	1,896	3.9
Retail trade	244,344	10.1	55,298	11.6	22,459	11.4	6,896	14.3
Trans. & warehousing, & utilities	162,465	6.7	26,374	5.5	9,661	4.9	3,330	6.9
Information	82,835	3.4	19,161	4.0	6,601	3.4	990	2.1
Fin., ins., real est., & rental & leasing	219,831	9.1	46,314	9.7	13,411	6.8	2,460	5.1
Prof., sci., mgmt., admin., & waste mgmt. svcs.	306,482	12.7	63,254	13.3	20,575	10.5	2,673	5.5
Educ., health & social svcs.	454,951	18.8	81,608	17.1	30,608	15.6	10,801	22.4
Arts, enter., rec., accomm., & food services	179,592	7.4	29,678	6.2	13,781	7.0	3,221	6.7
Other svcs. (except public admin.)	120,337	5.0	20,541	4.3	7,991	4.1	2,348	4.9
Public admin.	93,611	3.9	11,024	2.3	5,154	2.6	1,746	3.6

Source: U.S. Census Bureau; 1990 and 2000 Census

**Appendix B, Table 4 (Continued)**  
**Employment by Industries for Metropolitan Chicago Area Counties, 1990 and 2000**

	Lake		McHenry		Will		Total	
	No.	%	No.	%	No.	%	No.	%
<b>1990 Total Employment</b>	258,003	100.0	95,736	100.0	173,060	100.0	3,577,642	100.0
Ag., for., and fish.	3,309	1.3	2,563	2.7	2,358	1.4	28,472	0.8
Mining	182	0.1	141	0.1	383	0.2	3,241	0.1
Construction	16,350	6.3	8,654	9.0	12,797	7.4	184,546	5.2
Manufacturing, nondurable goods	27,488	10.7	7,952	8.3	13,441	7.8	287,687	8.0
Manufacturing, durable goods	28,204	10.9	15,400	16.1	20,576	11.9	405,570	11.3
Transportation	8,613	3.3	4,762	5.0	9,728	5.6	202,243	5.7
Communications and other public utilities	5,532	2.1	2,146	2.2	7,535	4.4	91,839	2.6
Wholesale trade	14,302	5.5	5,589	5.8	8,762	5.1	200,779	5.6
Retail trade	41,032	15.9	14,709	15.4	29,893	17.3	570,711	16.0
Finance, insurance, and real estate	23,868	9.3	7,263	7.6	12,025	6.9	323,667	9.0
Business and repair services	11,913	4.6	4,074	4.3	7,521	4.3	198,155	5.5
Personal services	6,401	2.5	1,997	2.1	3,212	1.9	96,865	2.7
Entertainment and recreation services	4,660	1.8	1,157	1.2	2,125	1.2	49,295	1.4
Health services	19,751	7.7	5,614	5.9	13,372	7.7	285,272	8.0
Educational services	17,998	7.0	6,197	6.5	13,169	7.6	254,474	7.1
Other prof. & related services	19,650	7.6	5,343	5.6	10,186	5.9	270,180	7.6
Public admin.	8,750	3.4	2,175	2.3	5,977	3.5	124,646	3.5
<b>2000 Total Employment</b>	310,396	100.0	135,269	100.0	246,431	100.0	3,833,966	100.0
Ag., for., fishing & hunting, & mining	930	0.3	1,289	1.0	966	0.4	8,325	0.2
Construction	19,081	6.1	11,826	8.7	20,209	8.2	213,564	5.6
Manufacturing	61,291	19.7	28,996	21.4	38,068	15.4	590,773	15.4
Wholesale trade	15,411	5.0	6,002	4.4	10,521	4.3	161,392	4.2
Retail trade	35,571	11.5	16,293	12.0	29,429	11.9	410,290	10.7
Trans. & warehousing, & utilities	11,020	3.6	6,907	5.1	18,441	7.5	238,198	6.2
Information	8,523	2.7	4,075	3.0	7,049	2.9	129,234	3.4
Fin., ins., real est., & rental & leasing	28,496	9.2	10,756	8.0	19,727	8.0	340,995	8.9
Prof., sci., mgmt., admin., & waste mgmt. svcs.	38,920	12.5	12,013	8.9	23,207	9.4	467,124	12.2
Educ., health & social svcs.	51,074	16.5	21,082	15.6	43,396	17.6	693,520	18.1
Arts, enter., rec., accomm., & food services	18,751	6.0	7,484	5.5	16,597	6.7	269,104	7.0
Other svcs. (except public admin.)	12,351	4.0	5,385	4.0	10,384	4.2	179,337	4.7
Public admin.	8,977	2.9	3,161	2.3	8,437	3.4	132,110	3.4

Source: U.S. Census Bureau; 1990 and 2000 Census

**Appendix B, Table 5**  
**Employment by Type and Major Industry (NAICS) for Metropolitan Chicago Area Counties, 2002**

	Cook	Dupage	Kane	Kankakee	Lake	McHenry	Will	Totals
Total Employment	3,267,051	692,213	244,388	53,718	428,796	116,362	194,852	4,997,380
Wage and salary employment	2,786,548	606,986	207,709	44,676	364,757	97,947	163,885	4,272,508
Proprietors employment	480,503	85,227	36,679	9,042	64,039	18,415	30,967	724,872
Farm employment	525	195	1,323	1,383	561	1,476	1,339	6,802
Nonfarm employment	3,266,526	692,018	243,065	52,335	428,235	114,886	193,513	4,990,578
Private employment	2,906,593	641,317	215,419	45,716	367,026	101,944	166,097	4,444,112
Forestry, fishing, related activities, and other	1,222	394	458	267	(D)	391	269	3,001
Mining	2,526	358	227	98	(D)	182	471	3,862
Utilities	5,930	3,690	134	117	1,967	(D)	2,220	14,058
Construction	141,857	41,625	17,161	2,663	22,582	11,684	19,836	257,408
Manufacturing	300,080	67,035	37,478	5,941	55,266	19,742	18,983	504,525
Wholesale trade	136,994	58,324	10,141	2,018	26,880	5,146	8,290	247,793
Retail trade	287,401	79,437	26,259	7,368	48,466	14,957	24,261	488,149
Transportation and warehousing	161,610	25,331	4,366	2,464	6,349	(D)	6,956	207,076
Information	82,804	19,316	4,061	673	6,591	1,723	2,918	118,086
Finance and insurance	238,496	45,935	12,188	2,464	27,677	3,962	6,787	337,509
Real estate and rental and leasing	134,274	26,498	8,383	1,394	15,701	3,859	7,131	197,240
Professional and technical services	290,042	61,304	13,421	(D)	31,384	5,888	8,644	410,683
Management of companies and enterprises	45,997	14,014	2,345	(D)	4,135	578	302	67,371
Administrative and waste services	220,704	50,976	22,813	2,754	29,978	5,546	10,492	343,263
Educational services	87,756	13,093	3,530	1,517	7,899	1,153	3,204	118,152
Health care and social assistance	338,853	49,468	19,334	7,119	29,974	8,415	15,892	469,055
Arts, entertainment, and recreation	61,769	10,142	8,048	792	10,538	2,127	6,875	100,291
Accommodation and food services	190,246	40,481	12,866	3,460	20,845	6,875	10,732	285,505
Other services, except public administration	178,032	33,896	12,206	3,065	19,658	6,670	11,834	265,361
Government and government enterprises	359,933	50,701	27,646	6,619	61,209	12,942	27,416	546,466
Federal, civilian	45,137	4,778	1,823	329	5,633	551	880	59,131
Military	10,303	1,703	816	193	22,866	510	1,048	37,439
State and local	304,493	44,220	25,007	6,097	32,710	11,881	25,488	449,896

Source: 2004 Regional Economic Information System, Bureau of Economic Analysis, 2002 data

1/ The estimates of employment are based on the North American Industry Classification System (NAICS).

\* Totals are not complete due to unknown data for some counties not providing totals to ensure confidentiality.

(D) Not shown to avoid disclosure of confidential information

**Appendix B, Table 6**  
**Personal Income by Major Source and Industry (NAICS)**  
**for Metropolitan Chicago Area Counties, 2002 (\$1,000)**

	Cook	Dupage	Kane	Kankakee	Lake	McHenry	Will	Total
<b>Earnings by place of work</b>								
Total earnings by place of work	168,880,862	35,160,477	9,246,388	1,716,599	22,061,611	4,159,123	7,372,243	248,597,303
Wage and salary disbursements	123,368,309	26,743,216	7,136,740	1,323,056	16,325,648	3,227,864	5,686,641	183,811,474
Proprietors' income	21,241,811	3,237,932	641,520	119,040	2,217,958	256,671	519,851	28,234,783
Other	24,270,742	5,179,329	1,468,128	274,503	3,518,005	674,588	1,165,751	36,551,046
<b>Earnings by industry</b>								
Total earnings by industry	168,880,862	35,160,477	9,246,388	1,716,599	22,061,611	4,159,123	7,372,243	248,597,303
Farm earnings	6,010	4,425	17,576	26,580	8,293	7,350	14,578	84,812
Nonfarm earnings	168,874,852	35,156,052	9,228,812	1,690,019	22,053,318	4,151,773	7,357,665	248,512,491
Private earnings	149,045,993	32,673,262	7,910,910	1,420,055	18,955,322	3,642,501	6,198,772	219,846,815
For, fshng, related, and other	55,082	7,804	14,946	6,665	(D)	7,480	3,441	95,418
Mining	1,485,554	7,953	10,099	5,854	(D)	9,017	33,727	1,552,204
Utilities	611,989	408,954	8,624	6,040	317,383	(D)	213,282	1,566,272
Construction	8,333,060	2,625,000	951,113	107,446	1,258,115	578,473	1,113,256	14,966,463
Manufacturing	18,127,299	4,072,073	1,966,921	364,091	4,495,246	1,002,470	1,071,409	31,099,509
Wholesale trade	9,127,798	4,431,445	590,216	76,594	2,148,585	276,222	522,937	17,173,797
Retail trade	7,835,759	2,338,950	655,714	157,667	1,813,340	348,017	601,470	13,750,917
Transp and warehousing	7,972,221	1,297,982	165,534	85,269	243,233	(D)	271,668	10,035,907
Information	6,167,053	1,506,326	163,950	21,848	365,083	67,037	108,789	8,400,086
Finance and insurance	20,142,160	2,709,025	485,955	76,151	1,779,502	131,334	219,662	25,543,789
Real estate and rental and leasing	5,410,855	775,914	161,309	15,181	470,202	53,595	138,416	7,025,472
Prof and technical services	25,462,191	4,512,189	613,228	(D)	1,990,402	230,574	340,563	33,149,147
Mgmt of cos and enterprises	4,840,953	1,516,621	131,696	(D)	460,465	32,009	14,427	6,996,171
Administrative and waste services	6,204,256	1,851,819	433,515	43,651	813,838	135,754	214,883	9,697,716
Educ services	3,075,301	351,041	74,487	22,548	201,492	17,656	87,370	3,829,895
Health care & social asst	13,378,196	2,243,566	793,712	268,368	1,359,864	353,475	612,812	19,009,993
Arts, entertainment, and rec	1,537,499	182,128	200,424	14,688	374,301	27,353	195,292	2,531,685
Accommodation and food svcs	3,877,997	793,528	196,620	40,202	351,650	92,585	140,019	5,492,601
Other services, except pub admin	5,400,770	1,040,944	292,847	59,146	476,262	157,324	295,349	7,722,642
Govt and govt enterp	19,828,859	2,482,790	1,317,902	269,964	3,097,996	509,272	1,158,893	28,665,676
Federal, civilian	3,625,184	380,302	215,679	23,690	403,029	36,392	57,022	4,741,298
Military	186,129	27,617	13,058	3,105	1,170,953	8,170	17,299	1,426,331
State and local	16,017,546	2,074,871	1,089,165	243,169	1,524,014	464,710	1,084,572	22,498,047

Footnotes on next page

**Appendix B, Table 6 (Continued)**  
**Personal Income by Major Source and Industry (NAICS)**  
**for Metropolitan Chicago Area Counties, 2002 (\$1,000)**

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Footnotes

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Source: 2004 Regional Economic Information System, Bureau of Economic Analysis,

1/ The estimates for 2001 are based on the North American Industry Classification System (NAICS).

\* Totals are not complete due to unknown data for some counties not providing totals to ensure confidentiality.

(D) Not shown to avoid disclosure of confidential

(L) Less than \$50,000

**Appendix B, Table 7**  
**Employment by Occupation and Industry**  
**by Congressional Districts for Metropolitan Chicago Area, 2000**

	District 1		District 2		District 3		District 4		District 5	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>2000 Employment</b>	251,776	100.0	265,511	100	296,241	100	252,331	100	350,015	100
<b>By Occupation</b>										
Mgmt., prof., & rel.	76,176	30.3	78,538	29.6	84,688	28.6	49,743	19.7	133,732	38.2
Service	42,909	17.0	42,599	16.0	42,151	14.2	43,094	17.1	47,415	13.5
Sales & office	78,076	31.0	81,109	30.5	87,439	29.5	59,919	23.7	93,484	26.7
Farm, fishing, & for.	168	0.1	179	0.1	277	0.1	637	0.3	234	0.1
Constr., extraction, & maint.	19,179	7.6	19,868	7.5	29,606	10.0	24,558	9.7	25,869	7.4
Prod., transp., & material moving	35,268	14.0	43,218	16.3	52,080	17.6	74,380	29.5	49,281	14.1
<b>By Industry</b>										
Ag., for., fishing & hunting, & mining	168	0.1	392	0.1	363	0.1	297	0.1	339	0.1
Construction	12,309	4.9	11,213	4.2	19,267	6.5	15,947	6.3	19,870	5.7
Manufacturing	24,108	9.6	30,253	11.4	45,038	15.2	62,302	24.7	49,546	14.2
Wholesale trade	6,416	2.5	6,727	2.5	13,574	4.6	11,276	4.5	12,455	3.6
Retail trade	24,726	9.8	26,225	9.9	31,754	10.7	24,575	9.7	32,751	9.4
Trans. & warehousing, & utilities	23,152	9.2	26,696	10.1	23,272	7.9	12,340	4.9	18,516	5.3
Information	8,016	3.2	8,902	3.4	7,429	2.5	5,912	2.3	13,235	3.8
Fin., ins., real est., & rental & leasing	22,202	8.8	23,267	8.8	25,047	8.5	15,492	6.1	33,944	9.7
Prof., sci., mgmt., admin., & waste mgmt.	23,663	9.4	24,621	9.3	29,704	10.0	27,910	11.1	55,841	16.0
Educ., health & social svcs.	63,128	25.1	62,681	23.6	49,435	16.7	29,143	11.5	55,688	15.9
Arts, enter., rec., accomm., & food svcs.	17,251	6.9	16,476	6.2	20,590	7.0	27,446	10.9	27,311	7.8
Other svcs. (except public admin.)	12,407	4.9	13,615	5.1	14,880	5.0	14,595	5.8	17,351	5.0
Public admin.	14,230	5.7	14,443	5.4	15,888	5.4	5,096	2.0	13,168	3.8

Source: U.S. Census Bureau; 2000 Census

**Appendix B, Table 7 (Continued)**  
**Employment by Occupation and Industry**  
**by Congressional Districts for Metropolitan Chicago Area, 2000**

	District 6		District 7		District 8		District 9		District 10	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>2000 Employment</b>	344,008	100	266,536	100	343,093	100	321,427	100	313,793	100
<b>By Occupation</b>										
Mgmt., prof., & rel.	131,531	38.2	112,503	42.2	129,657	37.8	136,986	42.6	148,296	47.3
Service	35,207	10.2	36,901	13.8	36,772	10.7	44,918	14.0	30,161	9.6
Sales & office	107,713	31.3	75,694	28.4	101,371	29.5	87,527	27.2	89,800	28.6
Farm, fishing, & for.	188	0.1	79	0.0	559	0.2	152	0.0	217	0.1
Constr., extraction, & maint.	25,070	7.3	9,644	3.6	30,596	8.9	16,658	5.2	15,884	5.1
Prod., transp., & material moving	44,299	12.9	31,715	11.9	44,138	12.9	35,186	10.9	29,435	9.4
<b>By Industry</b>										
Ag., for., fishing & hunting, & mining	408	0.1	93	0.0	1,159	0.3	298	0.1	560	0.2
Construction	19,705	5.7	6,737	2.5	23,766	6.9	12,582	3.9	14,330	4.6
Manufacturing	57,813	16.8	25,810	9.7	68,895	20.1	36,716	11.4	51,844	16.5
Wholesale trade	19,964	5.8	8,071	3.0	17,224	5.0	10,966	3.4	16,699	5.3
Retail trade	41,708	12.1	22,225	8.3	41,999	12.2	32,927	10.2	33,688	10.7
Trans. & warehousing, & utilities	22,018	6.4	20,080	7.5	17,534	5.1	16,063	5.0	10,370	3.3
Information	12,988	3.8	11,079	4.2	11,740	3.4	12,018	3.7	10,395	3.3
Fin., ins., real est., & rental & leasing	29,415	8.6	29,575	11.1	29,622	8.6	28,208	8.8	33,639	10.7
Prof., sci., mgmt., admin., & waste mgmt.	41,948	12.2	42,713	16.0	38,091	11.1	44,845	14.0	47,526	15.1
Educ., health & social svcs.	52,649	15.3	59,455	22.3	50,393	14.7	69,778	21.7	56,012	17.8
Arts, enter., rec., accomm., & food svcs.	22,561	6.6	17,975	6.7	20,131	5.9	27,347	8.5	18,243	5.8
Other svcs. (except public admin.)	15,031	4.4	11,501	4.3	13,769	4.0	18,799	5.8	13,078	4.2
Public admin.	7,800	2.3	11,222	4.2	8,770	2.6	10,880	3.4	7,409	2.4

Source: U.S. Census Bureau; 2000 Census

**Appendix B, Table 7 (Continued)**  
**Employment by Occupation and Industry**  
**by Congressional Districts for Metropolitan Chicago Area, 2000**

	District 11		District 13		District 14		District 16		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>2000 Employment</b>	315,398	100	336,363	100	323,013	100	322,197	100	4,301,702	100.0
<b>By Occupation</b>										
Mgmt., prof., & rel.	89,622	28.4	153,509	45.6	104,940	32.5	100,027	31.0	1,529,948	35.6
Service	46,992	14.9	31,306	9.3	41,693	12.9	40,342	12.5	562,460	13.1
Sales & office	84,759	26.9	98,321	29.2	88,420	27.4	84,354	26.2	1,217,986	28.3
Farm, fishing, & for.	1,419	0.4	163	0.0	1,257	0.4	1,678	0.5	7,207	0.2
Constr., extraction, & maint.	36,381	11.5	23,452	7.0	29,848	9.2	30,580	9.5	337,193	7.8
Prod., transp., & material moving	56,225	17.8	29,612	8.8	56,855	17.6	65,216	20.2	646,908	15.0
<b>By Industry</b>										
Ag., for., fishing & hunting, & mining	5,081	1.6	619	0.2	4,310	1.3	5,882	1.8	19,969	0.5
Construction	25,343	8.0	18,561	5.5	23,752	7.4	21,300	6.6	244,682	5.7
Manufacturing	49,452	15.7	46,204	13.7	63,970	19.8	80,563	25.0	692,514	16.1
Wholesale trade	11,389	3.6	16,069	4.8	14,049	4.3	11,953	3.7	176,832	4.1
Retail trade	39,410	12.5	38,443	11.4	37,387	11.6	36,197	11.2	464,015	10.8
Trans. & warehousing, & utilities	22,245	7.1	19,192	5.7	15,898	4.9	17,192	5.3	264,568	6.2
Information	7,092	2.2	13,162	3.9	9,993	3.1	6,676	2.1	138,637	3.2
Fin., ins., real est., & rental & leasing	22,848	7.2	35,336	10.5	21,600	6.7	20,737	6.4	370,932	8.6
Prof., sci., mgmt., admin., & waste mgmt.	21,313	6.8	44,428	13.2	30,531	9.5	22,015	6.8	495,149	11.5
Educ., health & social svcs.	61,486	19.5	62,059	18.5	55,667	17.2	57,057	17.7	784,631	18.2
Arts, enter., rec., accomm., & food svcs.	24,650	7.8	20,010	5.9	22,839	7.1	19,866	6.2	302,696	7.0
Other svcs. (except public admin.)	13,993	4.4	13,766	4.1	13,434	4.2	14,768	4.6	200,987	4.7
Public admin.	11,096	3.5	8,514	2.5	9,583	3.0	7,991	2.5	146,090	3.4

Source: U.S. Census Bureau; 2000 Census, 2000