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**Chicago-Area Commuting Patterns  
Emerging Trends**

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28 March 2003

## Introduction

As part of the decennial census the Census Bureau collects information on where we live and where we work. Using these data we will show that from 1970 to 2000 the Chicago area experienced an evolutionary change in economic activity and traffic. As will be seen, several existing trends were extended, some new ones emerged while others demonstrated a marked shift.

This report provides a brief overview of the most noteworthy changes in commuting patterns since 1970. It highlights a substantial decline in bedroom communities. All of the collar counties experienced major increases in commuters.<sup>1</sup> DuPage County experienced a growth of more than 100,000 commuters to the county (23%) while Lake County registered a lower growth in numbers (81,000) but a higher percentage change (33%). Now, they both import more commuters than they export. They are no longer places with stereotypical bedroom communities.

More importantly, the growth in population now outpaced the growth in commuters for the first time in at least forty years. Specifically the alarms raised in the 1970s and 1980s about major increases in congestion due to expected increases in population have not materialized. Still congestion has increased with longer commutes, perhaps reflecting the increasing specialization in our labor force resulting in an expanded geographic pool from which workers are drawn.

## Data and Study Area

The findings in this report are based on the county-to-county work-trip information released by the U.S. Bureau of the Census in March 2003. These data represent one of the first work-related transportation products to be released from data collected in the 2000 Census. Later this year, additional transportation related data will be released for smaller geographic areas.

The data were tabulated from of the census question: “At what location did this person work last week?” This would refer to the last week of March in 2000. When working with these data it is important to note that there are

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<sup>1</sup> Throughout this report we refer to commuters. The Census reports the number of workers commuting to their main job but there is typically a close correspondence between number of commuters to an area and the number of jobs in that area.

several reasons why these data do not precisely represent the number of jobs. They exclude persons not working during the reference week nor do they account for persons with multiple jobs or multiple work sites. Finally it is assumed that all work commutes originate at home.

There is therefore a difference between the size of the civilian labor force (that includes the unemployed) and number of commuters as examined in this paper. For 2000, the Census Bureau reports the size of the six-county *labor force* as 4.17 million and the number of *commuters* residing in these counties as 3.73 million (Table 1). Further, 3.83 million workers commuted to the six-county area, regardless of their place of residence. It is therefore important to understand the differences in these definitions.

Despite these definitional concerns, the commuting data represent a unique product that has been collected in the same manner for many decades. While they do not report the exact number of jobs, the data does provide information on trends, such as the generalized increases and decreases in jobs in large geographic areas, e.g., counties.

We recognize that the Chicago metropolitan area has grown during the past 30 years from six to over a dozen counties. However, our focus is on the original six-county area (Cook, DuPage, Kane, Lake, McHenry and Will), the area served by the Regional Transportation Authority (RTA). This change is partially due to the structure of the data before 1990 and that the real story of change is occurring within and between the six counties. For our analysis we were able to isolate the commuters entering and leaving each county and the study area (Table A in the Appendix).

## **Change in Commuters**

The number of Chicago-area residents who commute to work or work at home continued to grow during the 1990s (Table 1). This growth in commuters has characterized the region for most of the previous century. However, it is clear that the rate of increase in the number of commuters is declining.

Perhaps what is surprising is the modest increase in commuters given the large increase in population. For the first time in the thirty-year period

**Table 1**  
**Commuters Living in the Chicago Six-County Area, 1970-2000**

Year	Resident Commuters	Change	
		Number	Rate
2000	3,725,982	239,227	6.9%
1990	3,486,755	327,417	10.4%
1980	3,159,338	341,817	12.1%
1970	2,817,521	---	---

(since 1970) the population began growing at a robust pace--in the 1990s (Tables 2 and 3). Between 1970 and 1990, population grew by only 4% in contrast to the 11% population growth in the 1990s (Table 3). Moreover, the growth occurred in every county. After Cook County, Will County experienced the greatest absolute growth and second only to McHenry in percent growth. Will County appears to be the overall winner in the population-growth derby.

**Table 2**  
**Change in Population, 1990 to 2000**

County	Population 2000	Population 1990	Change
Cook	5,376,741	5,105,067	5.32%
DuPage	904,161	781,666	15.67%
Lake	644,356	516,418	24.77%
Will	502,266	357,313	40.57%
Kane	404,119	317,471	27.29%
McHenry	260,077	183,241	41.93%
Total	8,091,720	7,261,176	11.44%

What is perhaps surprising is that while the population increased by 11.4%, the number of commuters (Table 3) grew by only 6.9%. This can be contrasted to a 4% increase in population and more than 20% jumps in commuters between 1970 and 1990. Had the previous ratio of commuters to population continued between 1990 and 2000, commuters would have increased by 55%, bringing the transportation system to a stand still.

**Table 3**  
**Change in Population and Commuting, 1970 - 2000**

	Total Population	Change		Total Commuters	Change		Commuters/ Population
		Number	Percent		Number	Percent	
2000	8,091,720	830,544	11.4%	3,725,982	239,227	6.9%	0.46
1990	7,261,176	157,540	2.2%	3,486,755	327,417	10.4%	0.48
1980	7,103,636	128,881	1.8%	3,159,338	341,817	12.1%	0.44
1970	6,974,755	--	--	2,817,521	--	--	0.40

In the 1970s and 1980s the number of commuters grew much faster than the number of people. The proportion of the population that was commuting rose from 40% in 1970 to 48% in 1990 only to retreat to 46% in 2000. Since it was approximately 36% in 1960, *this is the first drop in this statistic for at least forty years* (Table 3).

One concern in the 1990s was that when the population began to grow in earnest, it would result in an even greater increase in the number of residents commuting to work and therefore increases in congestion. Inevitably, increases in the number of commuters contribute to peak period traffic, particularly in the morning. *Since the ratio of population growth to commuter growth has not held constant*, the devastating congestion consequences of major increases in population have not occurred. Still, population had grown and so has the number of commuters contributing to traffic congestion.

Another dimension to congestion is commuting time. Commuting times in the region have continued to grow but given the modest population growth in the 1970s and 1980s, the growth in the 1990s only contributed to a slightly higher increase in commuting travel times. Average commutes grew by two minutes in the 1980s and by less than three minutes in the 1990s. This reflects not just increases in commuters but also work-trip lengths and disproportionate increases in vehicle-miles driven versus growth in lane miles of highways and streets.

Commute-times have increased in the Chicago area. There has been a decrease in the number of short commutes, less than twenty minutes (Table 4). Even with a growth in the number of commuters, there has been a

disproportionate increase in long commutes (to work). The greatest increase was in the greater than forty-five minute category.

Table 4  
**Travel Time to Work for Commuters**

Minutes	1990	%	2000	%	Change	%
< 5	75,622	2	70,669	2	-4,953	-7
5 to 9	290,151	9	267,370	7	-22,781	-8
10 to 14	396,708	12	386,635	11	-10,073	-3
15 to 19	434,346	13	430,964	12	-3,382	-1
20 to 29	626,251	18	647,613	18	21,362	3
30 to 44	816,952	24	874,852	24	57,900	7
45+	772,738	23	938,542	26	165,804	21
Total	3,412,768	100	3,616,645	100	203,877	6

Increasing travel times were found throughout the study area (Table 5). In Will County, where the growth of resident commuters (71K) outpaced the growth in work destinations (50K), median travel times to work grew the most (4.7 minutes). Despite this noticeable growth, the median level (32.0 minutes) remains than in Cook and McHenry Counties.

At the other end of the spectrum, DuPage County, with it's growth in jobs, experienced the smallest increase (1.7 minutes). At 29.0 minutes the DuPage County median is second lowest behind Kane County's 27.3 minutes. The concentration of people and jobs in the Fox River Valley account for the low travel times in Kane County.

Table 5  
**Changes in Median Travel Times by County (minutes)**

County	1990	2000	Change
Cook	29.4	32.6	3.2
DuPage	27.3	29.0	1.7
Kane	23.5	27.3	3.8
Lake	26.4	30.1	3.7
McHenry	28.8	32.2	3.4
Will	27.3	32.0	4.7

## Regional Travel

The previous section focused on the resident commuters. To gain an understanding of “all” the commuting around the region we examined commuters crossing regional county lines to go to work as compared to those who commuted to the same county in which they live (Table 6). It is clear that more and more commuters are crossing county lines. In 1970 only one in eight commuters crossed a county line while in 2000 it was more than one in four, a doubling of the percentage from 13% to 27%.

While this may contribute to longer commutes and longer travel times, it may also reflect the increasing specialization in the labor market. Employers need workers with well-defined skills and they are able to tap nearly the entire six-county area in search of the right person. With growing affluence workers with the requisite skills may be adequately compensated for long commutes.

Table 6  
**Commuters Crossing County Boundaries**

Year	Live and Work in Different Counties		Live and Work in Same County	
	Number	Percent	Number	Percent
2000	1,064,338	27%	2,851,553	73%
1990	839,716	23%	2,785,016	77%
1980	534,973	17%	2,680,365	83%
1970	373,384	13%	2,492,602	87%

## Which Counties Export and Import Commuters

Embedded in the county-to-county commuter flows is another remarkable story describing how the region is changing. Table 7 depicts those individuals who live and work within the same county (“Within”), the number leaving their home county to go to work (“Export”) and the number of commuters entering the county to go to work (“Import”) as well as the net flows (import minus export). Importing counties tend to have job centers attracting labor from surrounding areas.

**Table 7**  
**Changes in Within and Between County Commuting, 1970 – 2000**

County	Year	Within County	Export	Import	Net
Cook	2000	2,077,798	293,363	476,320	182,957
	1990	2,147,598	222,026	424,755	202,729
	1980	2,150,111	130,739	305,896	175,157
	1970	2,105,178	108,630	199,593	90,963
DuPage	2000	277,934	191,439	256,617	65,178
	1990	244,898	180,386	188,352	7,966
	1980	178,473	156,487	89,504	-66,983
	1970	97,226	100,050	44,435	-55,615
Kane	2000	107,807	85,055	67,543	-17,512
	1990	94,614	62,868	49,147	-13,721
	1980	90,702	38,088	30,156	-7,932
	1970	76,982	26,953	25,045	-1,908
Lake	2000	212,450	104,992	113,717	8,725
	1990	171,535	98,709	73,630	-25,079
	1980	145,550	65,923	33,637	-32,286
	1970	121,183	44,491	29,695	-14,796
McHenry	2000	68,108	65,149	28,534	-36,615
	1990	47,757	46,119	17,241	-28,878
	1980	40,354	27,553	9,349	-18,204
	1970	28,076	16,529	5,183	-11,346
Will	2000	107,456	134,431	53,377	-81,054
	1990	78,614	91,631	31,617	-60,014
	1980	75,175	60,183	17,285	-42,898
	1970	63,957	28,266	10,193	-18,073

With the exception of Cook County, that shows little change, all of the counties display increases in commuting within the county. From 1990 to 2000 there was a 43% increase in McHenry County, 37% increase in Will County and a 24% increase in Lake County. This suggests that decentralization of jobs into the suburban counties has changed commuting patterns in these counties.

All counties experienced a growth in both commuters from and to their counties (exports and imports). Understandably Cook County had the largest increase in exports, over 71,000 from 1990 to 2000. Will County is



not far behind with approximately 43,000. The other counties had more modest increases in the export category.

On the import side, DuPage County registered an impressive gain of approximately 68,000 from 1990 to 2000. Also large increases in commuters to a county were recorded by Cook County (52,000) and Lake County (40,000). These three counties are establishing themselves as job destinations. Still, regardless of origin, all counties had increases in commutes to the county. In particular the collar counties imported nearly 160,000 additional commuters in the 1990s.

The net changes in commuting indicate that two suburban counties are no longer 'bedroom counties' that export their workers to the central county. DuPage is now solidly an importing county, barely achieving that status in 1990 (Table 7). New to the list is Lake County that now has 8,725 more workers commuting into as opposed to out of the county. This reinforces the growing suburb-to-suburb pattern that began to emerge a few decades ago and will be explored in a future paper.

Conversely, Will County is increasing its status as a labor-exporting county. With a large population increase it now has a net flow of more than 80,000 commuters from the county. This reflects the traditional strong job growth in western and northern suburbs in contrast to the slower job growth in southern suburbs and Will County. Housing in the county is affordable but the modest job growth results in only 44% of the Will County residents commuting within their home county to work (Table 8). By comparison, Lake County is relatively self-contained with 67% of its residents commuting to work locations within the county.

**Table 8**  
**Workers Who Live and Work in the Same County**

	<b>2000</b>	<b>1990</b>	<b>1980</b>	<b>1970</b>
Cook	88%	91%	94%	95%
DuPage	59%	58%	53%	49%
Kane	56%	60%	70%	74%
Lake	67%	63%	69%	73%
McHenry	51%	51%	59%	63%
Will	44%	46%	56%	69%

## **County-to-County Commutes**

A more detailed tabulation of commuting is provided in Table A in the Appendix. All of the inter-county flows are increasing with one exception, DuPage to Cook. These two counties exchange large numbers of workers, approximately 150,000 in each direction. What is noteworthy is the increase of nearly 30,000 commuted to DuPage from Cook making the flows nearly equal in both directions. The balance in commuters traveling to and from DuPage County partially reflects its central location. Geographic centrality within the study area also helps DuPage County maintain low travel times and the smallest increase in the median travel time as well as a destination for commuters. The six-county center of population is near the interchange of The Eisenhower Expressway and the Tri-State Tollway and may well be in DuPage County in the near future. More importantly it is the only county that is totally surrounded by the other five counties. The employment growth in this centrally-located county accounts for the large flows in and out the county.

From 1990 to 2000 DuPage had an increase of just over 100,000 commuters destined to locations in the county. This has decreased the reliance on jobs outside the county. Indeed, 33 thousand of the 45 thousand increase in workers living in the county was accounted for by within-county commutes.

Equally remarkable is Lake County. The workforce living in the county increased by 47 thousand and there was a 41 thousand increase in the within-county commuters. Correspondingly there was almost no increase in the number of commuters from Lake County to Cook County (82,767 in 1990 to 83,502 in 2002). The largest increase in commuters from Lake County was to McHenry County, also small at approximately 2200.

Other than the commute from Lake to Cook, and the interaction between DuPage and Cook, the next largest flow of workers was from Will to Cook. This is now over 76,000 or an increase of 39% over 1990.

## **Interpretation**

Previous UIC studies have shown that the average household size has now stopped declining in the Chicago area. For the first time in over 150 years the number of persons per household in this region is now stabilizing at

2.65 (2000 Census). This is important since households generate workers and work trips. When household size declines as it had for 150 years, a constant population resulted in more households, more workers, and more traffic. Since now the proportion of the population that is commuting is also declining in the Chicago area (for the first time in at least forty years), the factors that translate population growth into travel consumption and traffic generation are changing. Traffic congestion may be increasing but the two factors, household size and proportion of the population commuting, tend to moderate the effect of population growth on traffic.

## **Conclusions**

A major finding is that an increasing portion of the workers commute to sites outside their home county and therefore commute times are increasing. This has two interpretations. First, work sites are decentralizing and workers need to commute greater distances on roadways that are more congested. Second, and quite different is the employer perspective. Our economy is becoming more specialized and since workers are increasingly mobile, nearly the entire region is the labor shed for an employer. This means that a specific job might be filled by anyone in the metropolitan area. This should provide the employer with a good match between the job requirements and the skills of the worker, making it an employers market. The rise in intercounty commuting suggests this is happening. The growing demand for inexpensive housing on the fringe of the metropolitan area is also contributing to longer work trips while suburban job growth is ameliorating the rise in travel times.

## **Summary**

The following summarizes the principle findings:

- For the first time in many decades population is growing faster than the number of workers. Therefore the association between population growth and increased congestion is changing.
- Lake County has joined Cook and DuPage County as a net importer of workers.
- Will County has the largest net outflow of commuters, more than Kane and McHenry combined.
- Cook County continues to have a large increase in the work trips to the county but the reverse commute from the county is growing even faster.

- Jobs are decentralizing into the collar counties and the 1990s saw a sharp increase in within-county commuting, 43% in McHenry County, 37% increase in Will County and 24% increase in Lake County.
- Nevertheless, a smaller portion of workers work in their home county. DuPage and Lake Counties are exceptions.
- The work force is becoming more mobile contributing to more intercounty work trips and longer work trips.
- Work trips to the five collar counties have grown by more than 275,000.
- Decentralization and DuPage County's centrality contribute to net inflow of commuters, low travel times and low increases in travel times in DuPage County.
- The region's commuting patterns are becoming more diverse and more difficult to explain in simple terms.

Three most important findings:

1. Increase in mobility: there is more county-to-county commuting, travel times are increasing and automobile commuting is on the rise (not documented here).
2. Decentralization of jobs: in the last decade within-county commuting rose sharply in the collar counties.
3. Change in growth rates: population growth rates are rising but growth rate in number of commuters is declining. The sharp increases in congestion anticipated in the 1970s and 1980s stemming from large increases in population growth rates have not occurred.

## APPENDIX

### Table A Number of County to County Commuters, 1970 - 2000

		Place of Work								
			Cook	DuPage	Kane	Lake	McHenry	Will	Outside	Total originating
<b>P l a c e</b>	<b>Cook</b>	2000	2,077,798	146,135	18,345	64,253	5,182	24,432	35,016	2,371,161
		1990	2,147,598	116,776	16,107	39,641	3,283	15,806	30,413	2,369,624
		1980	2,150,111	60,197	8,389	19,760	1,506	9,441	31,446	2,280,850
		1970	2,105,178	32,624	9,056	18,624	951	4,299	43,076	2,213,808
	<b>DuPage</b>	2000	152,433	277,934	16,539	5,377	884	9,197	7,009	469,373
		1990	155,655	244,898	10,805	3,655	566	4,092	5,613	425,284
		1980	142,824	178,473	6,705	1,270	353	1,835	3,500	334,960
		1970	90,663	97,226	3,670	960	76	1,092	3,589	197,276
	<b>Kane</b>	2000	34,361	34,318	107,807	3,012	5,056	1,840	6,468	192,862
		1990	28,017	24,325	94,614	1,548	3,193	1,018	4,767	157,482
		1980	19,952	11,649	90,702	832	2,118	437	3,100	128,790
		1970	14,956	5,505	76,982	1,532	803	294	3,863	103,935
	<b>Lake</b>	2000	83,502	6,967	1,383	212,450	5,866	389	6,885	317,442
		1990	82,767	5,771	1,423	171,535	3,514	425	4,809	270,244
		1980	57,067	1,834	328	145,550	2,346	48	4,300	211,473
		1970	37,180	1,040	891	121,183	1,345	72	3,963	165,674
<b>McHenry</b>	2000	31,337	4,650	8,877	16,731	68,108	343	3,211	133,257	
	1990	24,599	2,899	5,196	10,942	47,757	161	2,322	93,876	
	1980	16,078	1,147	3,007	5,797	40,354	24	1,500	67,907	
	1970	9,192	469	1,785	3,366	28,076	41	1,676	44,605	
<b>Will</b>	2000	76,574	43,498	3,432	1,128	158	107,456	9,641	241,887	
	1990	55,224	26,333	2,361	613	50	78,614	7,050	170,245	
	1980	40,975	12,177	1,627	78	26	75,175	5,300	135,358	
	1970	20,273	3,533	1,133	247	7	63,957	3,073	92,223	
<b>Outside</b>	2000	98,113	21,049	18,967	23,216	11,388	17,176	NA	189,909	
	1990	78,493	12,248	13,255	17,231	6,635	10,115	NA	137,977	
	1980	29,000	2,500	10,100	5,900	3,000	5,500	NA	56,000	
	1970	27,329	1,264	8,510	4,961	2,001	4,395	NA	48,460	
<b>R e s i d e n c e</b>	Total	2000	2,554,118	534,551	175,350	326,167	96,642	160,833	NA	
	Destined	1990	2,572,353	433,250	143,761	245,165	64,998	110,231	NA	
	To	1980	2,456,007	267,977	120,858	179,187	49,703	92,460	NA	
	County	1970	2,304,771	141,661	102,027	150,878	33,259	74,150	NA	