

**Emerging Commuting and Urban Development Trends
in the New Millennium:
Six-County Chicago Area, 1970 - 2008**

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Part 1. Introduction

1.1 Background

The Census Bureau collects information on where we live and where we work. Using these data we will show that from 1970 to 2008 the pattern of commuting continues to change in the six-county metropolitan area, as population and jobs increase in collar counties. Several existing trends have continued, some new ones have emerged and others have demonstrated a marked shift.

This report provides a brief overview of the most noteworthy of these changes in commuting since 2000 and interprets these changes by contrasting them with the previous forty years (since 1970). It highlights a substantial shift in bedroom communities—where the number of workers outnumbers the number of jobs. All of the collar counties have experienced major increases in commutes into the county.¹ DuPage County again has more commuters coming to the county than leaving it, now by more than 90,000 workers. Lake County also has more commuting to the county than from the county. Job growth in the collar counties contributes to the continued trend of cross county border commuting.

Several new trends also mark the first eight years of the millennium.

- First, travel times are no longer growing in all counties,
- Second, job growth exceeded the rate of increases in previous decades,
- Third, increases in population and commuters in the six-county region were nearly equivalent at approximately 350,000,
- Fourth, in terms of population and job growth as well as changes in commuting time, Cook and DuPage now together constitute the metropolitan core and
- Fifth, commuting to Cook County from all counties is no longer growing.

1.2 Report Organization

After the introduction, this report starts with an overview of the data used and the geographic scope of the study area (Part 2). It then reviews the basic demographics that contribute to the changes in the number of commuters, emphasizing where these changes are occurring (Part 3). This is followed by a discussion of the changes in commuting behavior and commuting patterns (Part 4).

The end of the report includes an interpretation of the data reported and the study conclusions (Part 4). Part 5 summarizes the most important findings.

¹ 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.

1.3 Data and Study Area

1.3.1 Data

One of the primary sources of data used in this report came from county-to-county work-trip information produced by the U.S. Bureau of the Census as a Special Tabulation for the Census Transportation Planning Products (CTPP) program. For more information on the CTPP state funded program refer to <http://ctpp.transportation.org/> or <http://www.fhwa.dot.gov/ctpp/>. The work-trip information was produced in August 2008 from 3-year period estimates of the American Community Survey (ACS) data-collection effort. These data represent one of the continuing work-related transportation products released since the Census transitioned from the long form in 2000 to the ACS. Other data in the report came from 1-year ACS period estimates for 2008 as well as previous long form decennial data.

The work-trip data were tabulated from of the census question: “At what location did this person work last week?” When working with these data it is important to note that there are 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. Moreover, the category ‘commuting to work’ includes all trips to work regardless of mode as well as those individuals who work at home. 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 reported 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. To properly interpret these data it is important to understand the differences in these variables.

Equally important is the recognition that all of the data cited in this report are based on sample data. The 1970 to 2000 Census data are from the long form that has a large sample (approximately 16 percent sample of the national households) and therefore have relatively small standard errors. The ACS, however, is based on a much smaller sample; therefore small changes in data are not likely to be statistically significant. Wherever appropriate we will make reference to the margin of error.

The Census Bureau stresses that the ACS is not about counts but the characteristics of the residents and workers. However, when examining county-level flows and other county-level "count" data it is appropriate to use ACS since the estimates of the ACS are controlled at the county level, using population estimates.

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

1.3.2 Study Area

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 effectively served by the Regional Transportation Authority (RTA). This permits a longitudinal analysis with a constant study area. Nevertheless, our analysis of the commuters entering and leaving each county also includes commutes across the study-area boundary, e.g., to and from Indiana (Table A in the Appendix).

Part 2. Change in Demographics – Population, Households and Commuters

2.1 Change in the Population

The most noteworthy finding regarding population change is that Cook County lost population for the first time in at least the last half century (Table 1). Also, while there was an increase in DuPage County, the increase was modest. If one were to combine the two counties into one unit (Cook County extends as far west as DuPage County), forming a generally compact rectangular shape, then this combined unit also had a population decline. The population increases are outside this two-county area. The other four counties all exhibit substantial population gains led by Will County's 35.6 percent increase in the first eight years of the millennium.

Table 1
Change in Population, 1990 to 2008

County	Population 1990	Population 2000	Population 2008	Change 1990-2000	Change 2000-2008
Cook	5,105,067	5,376,741	5,294,664	5.32%	-1.53%
DuPage	781,666	904,161	930,528	15.67%	2.92%
Lake	516,418	644,356	712,453	24.77%	10.57%
Will	357,313	502,266	681,097	40.57%	35.60%
Kane	317,471	404,119	507,579	27.29%	25.60%
McHenry	183,241	260,077	318,641	41.93%	22.52%
Total	7,261,176	8,091,720	8,444,962	11.44%	4.37%

Source: 2008 ACS (one-year data)

The other important change in the region is that Kane has replaced McHenry as the second fastest growing county behind Will County. Its percentage increase of 25.6 (2000-2008) outpaces the remaining three collar counties, excluding Will, and its absolute increase of approximately 100,000 additional residents marginally exceeds the combined

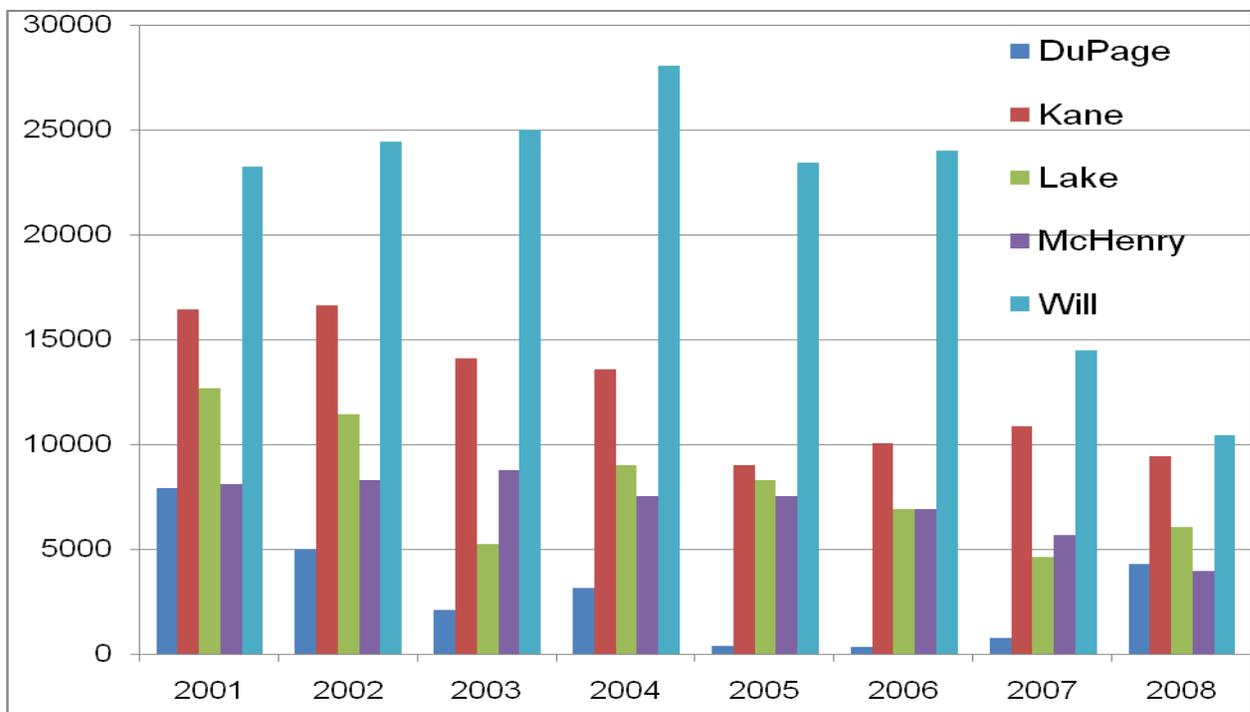
growth in DuPage and Lake Counties (combined increase of approximately 94,000). Both DuPage and Lake are more populous than Kane.

The overall shift and change in population from 2000 to 2008 resulted in an increase of 4.4 percent for the six-county total. While this is less than the growth in the previous decade, it roughly matches the percentage increase from 1970 to 1990, a much longer period. It does not match the previous decade but is on pace to double the rate of growth in the previous twenty years (1970-1990).

Will County’s standing as the fastest growing county in Illinois remains intact. From 2000 to 2005 Will County accounted for 47 percent of the population increase in the state of Illinois (124,144 population increase for Will County vs. 266,175 population increase in Illinois). We can see the growth in this decade more distinctly in Figure 1. Will County has been the dominant county throughout this decade. Kane County has remained as the closest challenger particularly in the most recent years for which we have data (2007-2008).

Figure 1

Annual Population Increase by County



2.2 Change in the Number of Households

Over the last part of the previous century, a population decline did not necessarily mean that the number of households was also declining. To the contrary, in changing Chicago neighborhoods where population may have declined, the number of households frequently increased. Many neighborhoods with large families were gentrified and one-

and two-person households moved in. The number of households increased as did purchasing power even as the population declined.

In 1970 the average household size was 3.1 persons per household but decreased to 2.6 by 2000. With these averages, for a neighborhood with 1000 inhabitants the number of households would have increased from 323 households to 384 households or an increase of 19 percent. Stated differently, the population could have *decreased* by 16 percent to 840 inhabitants and the number of households would have *remained the same*. With these changing average household sizes, the population would have had to decline more than 16 percent before the number of households would have declined.

This computation is important since it is frequently the household that makes major transportation and purchasing decisions. In this context, the number of households may be more important than the number of people and frequently also is a strong indication of the number of commuters, examined in the next section.

2.3 Change in Number of Commuters

The number of Chicago-area residents who commute to work or work at home continued to grow in the new millennium (Table 2). This growth in commuters has characterized the region for most of the previous century. The growth in the number of commuters, however, was greater than in previous decades and reverses a trend of declining increases. Between 1970 and 2000 each subsequent decade had a smaller increase than in the previous decade, falling from an increase of 12.1 percent in the 1970s to 6.9 percent in the 1990s.

Not only did the 2000 to 2008 increase alter this declining trend in growth but the increase of 360,000 commuters is the greatest of the four data points in Table 2. Still the percent increase was greater in the 1970s. It is likely that the recent downturn in the economic climate would not lead to a decade-long increase greater than 12.1 percent, the increase in the 1970s.

Table 2
Commuters Living in the Chicago Six-County Area, 1970-2008

Year	Resident Commuters	Change	
		Number	Rate of increase*
2008	4,086,758	360,776	9.7%
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	---	---

Source: 2008 ACS (one-year data)

* rate of increase from the row below, note first line is only eight years

2.4 Change in Population and Households

We see in Table 3 that not only has there been a decline in the Cook County population but also in the number of households. Only in DuPage County has there been a larger percentage increase in the number of households than the size of the population. The dynamic between household change and population change has been altered.

Table 3
Change in Households and Population, 1990 to 2008

County	Households 2000	Households 2008	Change Hhlds 2000-08	Change Pop 2000-08	Ratio of previous 2 columns	% Change Hhlds 2000-08	% Change Pop 2000-08
Cook	1,974,181	1,941,698	-32,483	-82,077	2.53	-1.65%	-1.53%
DuPage	325,601	338,577	12,976	26,367	2.03	3.99%	2.92%
Lake	216,297	237,799	21,502	68,097	3.17	9.94%	10.57%
Will	167,542	217,655	50,113	178,831	3.57	29.91%	35.60%
Kane	133,901	164,060	30,159	103,460	3.43	22.52%	25.60%
McHenry	89,403	109,390	19,987	58,564	2.93	22.36%	22.52%
Total	2,906,925	3,009,179	102,254	353,242	3.45	3.52%	4.37%

Source: 2008 ACS (one-year data)

This is an important shift. Nationally household size had decreased for over a hundred and fifty years. Table 3 shows that in most of the collar counties the ratio of the change in households to change in population, e.g., 3.57 in Will County, suggests that household size has begun to increase. The 3.57 figure for Will is clearly higher than the 2000 ratio (or household size) of 2.6 for the six-county area. This shows that the outlying counties are contributing to a reversal of the trend to smaller households.

DuPage County is an obvious exception. Over the last eight years population has grown modestly (2.92 percent) and less than the rate of household increases of nearly 4 percent. Either small households are moving to the county or many neighborhoods that participated in the population boom decades ago, with young families, now have many empty nesters.

These findings raise the interesting question of why the number of commuters is increasing so rapidly when there is such a modest increase in households. The scope of this report cannot examine this question but it is nevertheless worthy of note. This potential inconsistency only underscores the complexity of what on the surface appears relatively simple and straightforward. We explore the relationship between population change and increase in commuting in the next section.

2.5 Comparison of Changes in the Number of Commuters and Population

Table 4 suggests that population and household changes are inadequate to explain the increase in commuting. Rapidly rising economic indices appear to have had a greater role as home values increased household wealth that stimulated spending and job creation. Still it is important explore the recent history of the relationship between the size of population and the number of commuters.

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 percent in 1970 to 48 percent in 1990 only to retreat to 46 percent in 2000. Since it was approximately 36 percent in 1960, *this is the first drop in this statistic for at least forty years* (Table 4). This phenomenon was short lived. The first part of this millennium shows that population growth and household growth are equivalent and we were returning to a ratio in which nearly half of the population works.

Table 4
Change in Population and Commuting, 1970 - 2008

	Total Population	Change		Total Commuters	Change		Commuters/Population
		Number	Percent		Number	Percent	
2008	8,444,962	353,242	4.4%	4,086,758	360,776	9.7%	0.48
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

Source: Respective censuses and the 2008 ACS (one-year data)

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 concomitant 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 did not occur (1990 to 2000). In that decade population grew by 11.4 percent but the number of commuters grew by only 6.9 percent. Notice that in each of the previous two decades the population only grew by about 2 percent but there was a double digit increase in the rate of commuter growth.

The most recent data (2000-2008), however, show a shift away from population growing more rapidly than the number of commuters. The population increase has essentially been matched by the increase in commuters and commuting traffic. In this regard Table

4 illustrates an important dynamic: the lack of decade by decade association between population growth and the growth in the number of commuters.

Part 3. Changes in Commuting Behavior and Patterns

3.1 Changes in Commute Times

Another dimension of the change in the number of commuters is congestion and commuting time. While we do not have travel time data in 1970 and 1980, there were likely two competing trends. First, mode shift from public transit to private vehicles decreases door to door travel times for many commuters. Second, population decentralization into Greenfield sites increased commuting trip lengths for some, while for others more traffic meant higher travel times.

In the 1990s the rapid population growth contributed to population decentralization and correspondingly to higher increases in commuting travel times. This reflects not just increases in commuters but also work-trip lengths and disproportionate increases in vehicle-miles driven versus the modest growth in lane miles of highways and streets.

In the latter part of the previous decade (1990-2000), 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). Conversely DuPage had the lowest increase in travel time, 1.7 minutes. This may be attributable to the large increase in jobs in the county, a growth of 100,000. At 29.0 minutes the DuPage County median commute time is second lowest behind Kane County's 27.3 minutes (2000). The concentration of people and jobs in the Fox River Valley account for the low travel times in Kane County.

Table 5
Changes in Mean Travel Times by County of Residence (minutes)

County	1990	2000	2008	Change 1990-2000	Change 2000-2008
Cook	29.4	32.6	32.0	3.2	-0.6*
DuPage	27.3	29.0	29.3	1.7	0.3
Kane	23.5	27.3	29.2	3.8	1.9*
Lake	26.4	30.1	31.5	3.7	1.4*
McHenry	28.8	32.2	33.6	3.4	1.4*
Will	27.3	32.0	34.6	4.7	2.6*

*Change greater than margin of error
Source for 2008: ACS (one-year data)

The first eight years of the 2000s show a very different picture: increases in travel times have slowed. Though the time periods (eight years versus ten years) are not equivalent, the latest increases in Table 5 are only about half the increases in the previous decade.

Even more noteworthy is that Cook has had a decline in the mean commuting time and DuPage County commuting times have effectively remained unchanged. These are unique and remarkable results for the Chicago area.

The commuting picture is becoming more complex. One would have expected the large increases in jobs from 2000 to 2008 to contribute to higher travel times and while they have occurred in many counties, the increases in travel times are relatively small. It appears that at the county-level analysis there is an improving match in the locations of jobs and workers.

3.2 Cross-County Commuting

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 2008 it was approaching one in four, an increase of ten percentage points from 13 percent to 24 percent. Over the 38-year period there has been a greater increase in cross county commuting than within county commuting, approximately 600,000 to 500,000. This may have been precipitated by commuters moving to collar counties with relatively few job centers.

In the most recent time period, 2000-2008 the situation has changed. Collar counties are becoming more self sufficient with many more job opportunities within the county. Consequently from 2000 to 2008 there is more growth in the absolute numbers commuting within the county. The increase of within county commuting was nearly 150,000 versus 90,000 in cross county boundary commuting, reversing the relationship in the previous twenty years. Job growth may well be occurring closer to workers.

Table 6
Commuters Crossing County Boundaries

Year	Live and Work in Different Counties		Live and Work in Same County	
	Number	Percent	Number	Percent
2008	964,388	24%	2,999,450	76%
2000	874,429	23%	2,851,553	77%
1990	701,739	20%	2,785,016	80%
1980	534,973	17%	2,680,365	83%
1970	373,384	13%	2,492,602	87%

Source for 2008: 2006-2008 ACS (three-year data)

With a 3:1 ratio in within versus beyond county commuting in Table 6 (for 2008, 24 percent versus 76 percent) the increases need to have the same ratio for the percentage in Table 6 to remain stable over time. Even the greater absolute increase in within county commuting led to decrease in the percentage, 77 percent to 76 percent. Consequently it is likely that in future decades the percentage of workers living and working in the same county is likely to decline even if there are large increases in local commuting.

While cross border commuting may reflect longer commutes and longer travel times, it may also reflect increasing specialization in the labor market and lifestyle changes. 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. Workers with the requisite skills may be adequately compensated to undertake long commutes. On the other hand, it could also mean that jobs are hard to find and workers are willing to endure longer commutes.

It should also be noted that some of the cross-border commuting may be attributed to residential infill. Cases in which county boundaries divided suburban communities may be increasing in number. Aurora, Barrington Hills, Naperville and Elgin are expanding their city limit reach across county lines. Aurora and Barrington Hills are now in four counties. While Aurora is generally considered to be in Kane County, there are over 50,000 Aurora residents living in DuPage County. Commuting within a city may increasingly fall into the county to county category.

3.3 Counties Exporting and Importing 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 coming to work (“Import”) as well as the net flows (import minus export). Importing counties tend to have large employment complexes that attract labor from substantial distances.

3.3.1 Classification of counties based on Table 7

The six counties in Table 7 may be divided into three categories, based on which of the three categories had the greatest increase over the thirty-eight years. These categories are (1) within county (2) export and (3) import. Only one county, Lake, had its greatest increase in the within county category. With an increase of approximately 117,000 commuters living and working in Lake County, this increase was greater than the increase in the other two categories. We would describe this as the urbanization of a suburban county where the number of workers (commuters) and jobs are in balance.

Table 7
Changes in Within and Between County Commuting, 1970 – 2008

County	Year	Within County	Export	Import	Net
Cook	2008	2,119,245	301,099	516,545	215,446
	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	2008	281,125	190,695	282,810	92,115
	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	2008	128,410	111,520	81,261	-30,259
	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	2008	238,430	109,945	120,142	10,197
	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	2008	80,975	76,815	33,557	-43,258
	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	2008	151,265	174,314	77,190	-97,124
	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

Source for 2008: 2006-2008 ACS (three-year data)

The second category is counties which are urban job centers and includes both Cook and DuPage counties. We have understood that to be true in Cook County for decades but with the growth of in-commuters (import) is growing more rapidly than out-commuters (export) Cook County is only solidifying itself as a place with job centers. Since 1970 the import number has grown by over 300,000 while the export number has increased by less than 200,000. In DuPage County the difference in these two grow statistics is even greater, approximately 150,000, or roughly 50 percent higher. This underscores the transformation of DuPage County from a collection of bedroom communities to a county with large office parks and employment corridors.

The third and last category is counties that continue to export large numbers of commuters and include Kane, McHenry and Will Counties. In both Will and McHenry the increase in export is more than twice the increase in import. In the most distant 'corners' of the metropolitan region, the residential growth outstrips other types of changes. For example, jobs in Will County have more than doubled since 1970 but they have not kept pace with population increases. Lake County has only about 31,000 more residents than Will County but there are 43,000 more commuters bound for Lake County than Will County.

Kane County is also a member of the third group but the county has two faces and is not an obvious member. The two faces include an old and established series of communities along the Fox River Valley and a western half that is typical of farmland conversion to suburban developments. The recent suburbanization of western Kane County pushed the county into the third category.

3.3.2 General interpretation of Table 7

Regarding within county commuting, all of the collar counties display increases over the time span of Table 7. Most of the collar counties more than doubled the number of within county commuting. The only one that did not was Kane County, which had a long history of economic development along the Fox River Valley. Conversely, close-in DuPage County had the largest increase, nearly triple the increase from 1970 to 2008.

From 1990 to 2000 there was a 43 percent increase in McHenry County, 37 percent increase in Will County and a 24 percent increase in Lake County of within county commuting. This suggests that decentralization of jobs into the suburban counties has changed commuting patterns in these collar counties.

In the last decade (2000-2008) the changes largely reflect changes in population. DuPage exhibits a modest increase in commuting within the county (the only one with an increase in only four digits) and effectively no change in the number of workers commuting from the county. This is indicative of the small percentage gain in population and the increase in local jobs that allows workers to stay in the county. DuPage was the

only county that did not exhibit a noticeable increase in commuting from the county (export).

Cook County remains an anomaly on within county commuting. For the 38 years of Table 7 there is no discernible pattern. Within county commuting has remained at roughly 2.1 million. This is most notably in comparison to what has occurred with commuting into and out of the county, both with large increases.

The minor change in exporting workers is perhaps most important for Cook County. As an indicator of reverse commuting, the number of export workers grew rapidly in the 1980s and 1990s, but has shown little change since 2000. This may be an indication of the growing travel times associated with reverse commuting. A more accurate picture of reverse flow would be seen with the commuting from the city of Chicago rather than Cook County but these data are not available at his writing.

The import column is important since it is an indication of local jobs and whether the county is growing as a job destination. This has been true for Cook for decades and more recently also for DuPage and Lake Counties. Since 2000, however, Will County has also had an impressive gain in the number of workers commuting into the county, approximately 24,000. It still, nevertheless, has relatively few local jobs given the size of the local labor force.

Perhaps the most interesting column is that one that shows the net flow of workers. The net changes in commuting indicate that two suburban counties have solidified their positions as counties that have more jobs than workers. This has traditionally not been true of suburban counties. DuPage remains firmly as an importing county, having achieved that status in 1990 (Table 7). Lake County was new to the list in 2000 with 8,725 more workers commuting into as opposed to out of the county and this margin has since grown. If the 'urban core' were to be defined as the area which has more jobs than workers (true for the City of Chicago since its inception) then the core area now includes three counties.

On the other side of the spectrum, Will County exports nearly 100,000 more workers than it imports. McHenry also exports more than twice as many workers as it imports. These two counties are the stereotypical suburban areas of the past that relied heavily on jobs in the 'core' for employment opportunities.

3.4 Commuter that do not Cross County Boundaries

Will County is increasing its status as a labor-exporting 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 47 percent of the Will County residents commuting within their home county to work (Table 8) up from 44 percent in 2000. After declining for many decades, this percentage is rising. As this continues to rise it will be much like DuPage County in 1970 when its percentage was 49 percent. This prompts the

question: “Might Will County follow the lead of DuPage County and eventually become a net importer of labor?” With new infrastructure developments, mainly intermodal yards, the stage is set for job increases. This increase in jobs was evident at the beginning of this millennium—an increase of nearly 68,000 jobs (Table 10).

By comparison, Lake County has never been strictly a suburban arm of Chicago. Initially around Waukegan and other job centers the percent of the residents working within the county has not dropped below 63 percent. This percentage recently rose and is highest among the suburban counties.

Table 8
Workers Who Live and Work in the Same County

County	1970	1980	1990	2000	2008
Cook	95%	94%	91%	88%	88%
DuPage	49%	53%	58%	59%	60%
Kane	74%	70%	60%	56%	54%
Lake	73%	69%	63%	67%	68%
McHenry	63%	59%	51%	51%	51%
Will	69%	56%	46%	44%	47%

Source for 2008: 2006-2008 ACS (three-year data)

3.5 County-to-County Commuting

A more detailed tabulation of commuting is provided in Table 9. All of the inter-county flows are increasing except between DuPage and Cook Counties; more on this in the next section. There are also a few other exceptions which will be discussed below. The prevailing trend has been growing cross border commuting, such as from Will and Kane to DuPage. From 1980 to 2008 the number of commuters from Will to DuPage has grown from approximately 12,000 to over 57,000, more than a four-fold increase. During the same period there was a three-fold increase from Kane to DuPage to the current level of over 34,000. Not as dramatic, there has also been a solid increase from McHenry to Lake County.

What is also apparent in Table 9 is the large increase in commuting into the six-county area from outside the region (the six-county area). From 1980 to 2008 the increase has been from 56,000 to almost 225,000, with an additional 35,000 trips in just the first eight years of this millennium. Some of these are likely to be particularly long-distance commutes, as the population diffuses into exurban counties such as Kendall and DeKalb.

Table 9. Number of County to County Commuters, 1970 – 2008

	County		Place of Work							Total
			Cook	DuPage	Kane	Lake	McHenry	Will	Outside	
D — P C E O — P S — D E C O E	Cook	2008 ACS3	2,119,245	140,225	19,220	63,555	5,165	36,555	36,379	2,420,344
		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
	DuPage	2008 ACS3	144,130	281,125	18,325	7,405	1,120	12,785	6,930	471,820
		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
	Kane	2008 ACS3	45,105	43,260	128,410	3,505	8,060	3,570	8,020	239,930
		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
	Lake	2008 ACS3	83,595	7,125	1,840	238,430	8,030	460	8,895	348,375
		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
McHenry	2008 ACS3	36,220	6,045	10,720	19,145	80,975	340	4,345	157,790	
	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	
Will	2008 ACS3	97,720	57,435	5,235	1,185	320	151,265	12,419	325,579	
	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	
Outside	2008 ACS3	109,775	28,720	25,921	25,347	10,862	23,480	NA	224,105	
	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	

Table 9. Number of County to County Commuters, 1970 – 2008 (continued)

		Place of Work						
		Cook	DuPage	Kane	Lake	McHenry	Will	Outside
Total Destined to County	2008 ACS3	2,635,790	563,935	209,671	358,572	114,532	228,455	NA
	2000	2,554,118	534,551	175,350	326,167	96,642	160,833	NA
	1990	2,572,353	433,250	143,761	245,165	64,998	110,231	NA
	1980	2,456,007	267,977	120,858	179,187	49,703	92,460	NA
	1970	2,304,771	141,661	102,027	150,878	33,259	74,150	NA

Source for 2008: 2006-2008 ACS (three-year data)

3.6 Recent Changes in County to County Commuting

The flow of workers between DuPage and Cook Counties is a special case. These two counties have traditionally exchanged large numbers of workers, approaching 150,000 in each direction. What is noteworthy is the increase of nearly 30,000 commuters between 1990 and 2000 from Cook to DuPage (Table 9) making the flows nearly equal in both directions. Since then the flows in each direction have declined (Table 10). This is the only significant decrease in Table 10. This underscores the relative independence achieved by DuPage County. While there are large numbers of workers that continue to commute between these two counties, the drop marks a historic shift. Perhaps equally interesting is that the drop of 8300 commuters to Cook is not offset by increases in within DuPage County commuting, with an increase of only 3200 (2000-2008). There appear to be greater increases from DuPage to Will and solid increases to Kane and even Lake Counties, relatively distant from DuPage.

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 many of the large flows in and out the county. This may well explain why there has been an increase of approximately 300,000 jobs in DuPage County from 1980 to 2008. During the same time span the growth in Cook County was less than 200,000 (bottom of Table 9 – top of this page).

Since 2000, however, it appears that the job growth is becoming more balanced— DuPage County is no longer the primary economic engine. Other than Cook County, the greatest job growth was in Will County, more than 67,000 – more than twice the increase in DuPage County (Table 10, last line). DuPage's increase was also surpassed by Kane and Lake Counties. DuPage County may be reaching saturation with the collar

Table 10
Change in County to County Commuting from 2000 to 2008 (ACS3)
(same data as Table 9 with the change rows added)

			Place of Work							
			Cook	DuPage	Kane	Lake	McHenry	Will	Outside	Total
Place of Residence	Cook	2008	2,119,245	140,225	19,220	63,555	5,165	36,555	36,379	2,420,344
		2000	2,077,798	146,135	18,345	64,253	5,182	24,432	35,016	2,371,161
		Change	41,447	-5,910	875	-698	-17	12,123	1,363	49,183
	DuPage	2008	144,130	281,125	18,325	7,405	1,120	12,785	6,930	471,820
		2000	152,433	277,934	16,539	5,377	884	9,197	7,009	469,373
		Change	-8,303	3,191	1,786	2,028	236	3,588	-79	2,447
	Kane	2008	45,105	43,260	128,410	3,505	8,060	3,570	8,020	239,930
		2000	34,361	34,318	107,807	3,012	5,056	1,840	6,468	192,862
		Change	10,744	8,942	20,603	493	3,004	1,730	1,552	47,068
	Lake	2008	83,595	7,125	1,840	238,430	8,030	460	8,895	348,375
		2000	83,502	6,967	1,383	212,450	5,866	389	6,885	317,442
		Change	93	158	457	25,980	2,164	71	2,010	30,933
	McHenry	2008	36,220	6,045	10,720	19,145	80,975	340	4,345	157,790
		2000	31,337	4,650	8,877	16,731	68,108	343	3,211	133,257
		Change	4,883	1,395	1,843	2,414	12,867	-3	1,134	24,533
	Will	2008	97,720	57,435	5,235	1,185	320	151,265	12,419	325,579
		2000	76,574	43,498	3,432	1,128	158	107,456	9,641	241,887
		Change	21,146	13,937	1,803	57	162	43,809	2,778	83,692
	Outside	2008	109,775	28,720	25,921	25,347	10,862	23,480	NA	224,105
		2000	98,113	21,049	18,967	23,216	11,388	17,176	NA	189,909
		Change	11,662	7,671	6,954	2,131	-526	6,304	NA	34,196
	Total Destined to County	2008	2,635,790	563,935	209,671	358,572	114,532	228,455	NA	
		2000	2,554,118	534,551	175,350	326,167	96,642	160,833	NA	
		Change	81,672	29,384	34,321	32,405	17,890	67,622	NA	

counties experiencing job growth attracted by population increases. Interestingly, even though the Kane County increase was slightly higher than the growth in Lake County, Lake County residents acquired more jobs within the county than in Kane County. Many of the job increases in Kane County (ca. 7000) went to commuters from outside the six-county area. More remarkable is that the Cook-DuPage core increased by only 100,000 versus an increase of 150,000 jobs in the ‘collar four.’

Part 4. Interpretation and Conclusions

4.1 Interpretation

Previous UIC studies have shown that by 2000 the average household size 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 beginning to show a reversal in this trend. When household size declines as it had for 150 years, a constant population resulted in more households and frequently also in more workers and more traffic. The proportion of the population that commutes is also reversing a long-time trend, (increasing for the first time in at least forty years), with implications for traffic congestion. While these are important demographic trends, they tend to have opposite effects on traffic congestion. For a constant population, large households suggests fewer commuters while, an increasing proportion of the population that is working seem to overcome this factor. In the end, travel times to work have increased but not as fast as in previous years. In the short run, with the economic weakness in the job market since 2008, this may be a moot point.

4.2 Conclusions

The major conclusion is that the region continues to change. Long-term trends are being reversed. What has continued 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 but more importantly suburban job growth is ameliorating the rise in travel times as growth in jobs and workers is in relatively good balance.

Part 5. Summary

The study conclusions are many and varied. Perhaps the most appropriate cap stone for this report is to provide the findings in a series of bullet points.

5.1 Principle Findings - Demographics

- After several decades in which the increase in jobs exceeded the increase in population (1970-1990) the reverse was true in the 1990s. From 2000 to 2008 the two have, surprisingly, been in balance, both up by approximately 350,000. Over the long term population increases are greater than increases in the number of jobs.
- Demographically, the expanded urban core now includes both Cook and DuPage Counties. DuPage has matured into an increasingly urban county in character.
- In this millennium, Will County has become the focus of suburban growth, in both population and jobs.
- Meanwhile, Cook County appears to have lost population for the first time in the last half century. This loss will need to be watched closely when the 2010 population numbers are released.
- Overall jobs in the five suburban counties have increased by 550,000 since 1990 with only 60,000 of those in Cook County.
- Cook County still has approximately two-thirds of the six-county jobs (65 percent) but this is down from 84 percent in 1980, 73 percent in 1990 and 68 percent in 2000.
- While population may have declined in some Chicago neighborhoods, the number of households may have increased due to average household size by 2000 decreasing to 2.6.

5.2 Principle Findings – Commuting Patterns and Behavior

- In this millennium jobs have decentralized into the outer four collar counties with DuPage and Cook constituting the core. Jobs growth in the outer four was 150,000 versus, 120,000 in the two-county core. Also commuting within the county only increased 43,000 in the core versus 103,000 in the 'outer four' (2000-2008).
- Cook, DuPage and Lake Counties continue as net importers of workers.
- Travel times to work are beginning to decline in Cook County and stabilizing in DuPage County reversing a steady increase over previous decades.
- Decentralization and DuPage County's centrality contribute to net inflow of commuters, low travel times and low increases in travel times in DuPage County, resembling more an urban than suburban county.
- The work force continues to be mobile contributing to more intercounty work trips and potentially longer work trips; an increase of over 200,000 intercounty trips since 2000.
- At the same time trips within counties (relatively short commutes) have become much more prevalent. These increased by nearly 150,000 from 2000-2008 but only 65,000 in the previous decades (1990-2000).
- Cook County continues to have a large increase in the work trips to the county but the reverse commute from the county shows little change—this may reflect the increased difficulty in reverse commuting.
- Will County has the largest net outflow of commuters (nearly 100,000 workers), more than Kane and McHenry combined.
- The region's commuting patterns are becoming more diverse and more difficult to explain in simple terms.

5.3 Four Most Important Findings

1. Trends in commuting time: After decades of increasing commute times, Cook County's commutes take less time and in DuPage the times have stabilized. Remarkably the unusually large increase in the number of commuters in the region since 2000 did not translate into substantial increases in travel times.
2. Maturing suburban counties are becoming less dependent on Cook County: DuPage now sends fewer workers to Cook County than in 2000. Both Lake and DuPage have more jobs than workers. The major job growth has been in the outer collar counties and they have also had the greatest increases in travel time to work.
3. Urban versus suburban: Based on changes in population, jobs, commuting and travel times, Cook and DuPage Counties appear to constitute the urban core of the metropolitan region, in contrast to the remaining four that constituted the outer four collar counties (Lake County may be added to the core in the near future).
4. Will County: The more than 68,000 increase in Will County jobs approximates the job growth in the next two highest suburban increases, in Kane and Lake Counties. DuPage and McHenry County had the smallest job increases, less than 20,000 in McHenry County.