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Chicago Regional Household Travel Inventory

Mode Choice and Trip Purpose for the 2008 and 1990 Surveys

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CMAP Congestion Management Process

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Chicago Regional Household Travel Inventory: Mode Choice and Trip Purpose for the 2008 and 1990 Surveys

Executive Summary

This report examines household travel within the northeastern Illinois region and attempts to determine how trip making may have changed since 1990. The main source of data for this analysis is the 2008 *Travel Tracker* household travel survey which was conducted for the northeastern Illinois region during 2007 and 2008. This survey data was weighted to represent the population of the entire region. The 2008 survey data was compared to the 1990 northeastern Illinois household travel survey, 1990 and 2000 decennial census data, and the 2005-2007 *American Community Survey* (ACS).

The report only includes trips that are totally within the region, and analyzes them at an eleven-zone geography that splits the city of Chicago into three zones, suburban Cook County into three zones and aggregated the seven collar counties (including Grundy County) into five zones.[1] The *trips* in this analysis are defined as travel from one location to the next. Each stop for an activity, or a change of mode, ends the trip. Trips have an individual mode and purpose. Alternatively, *trip chains* or *tours* are a series of individual trips linked together.

Miles traveled. Total miles traveled by persons in households on weekdays in the Chicago region increased by 26% between 1990 and 2008. This increase is due to a larger population and an increase in miles traveled per person. Since 1990, there has been an increase of about 5% in the personal miles of weekday travel per day for people over the age of 13. In 2008, the average household traveled 45 personal miles per average weekday, or an average of a little more than 16 miles of travel per weekday per person. The outlying areas in the region had personal and household travel that was twice the average distance of the central zone of Chicago.

For the entire region in the 2008 survey, the average work chain is nearly twice as long as the average home-based shopping chain. Home-based chains that include both shopping and work tend to be the longest trip chains. Work trips were only slightly longer in 2008 than in 1990, but trips involving shopping have increased in distance by one-fourth.

Mode share. For all trips, passenger vehicles account for 86% of all personal miles of travel in the region and 79.5% of household trips. The most frequent mode for traveling to work in 2008 was driving alone. Since 1990, this share has increased while carpooling has decreased. The 2008 household survey shows that, with the exception of Cook County, all of the counties had at least 73% of all work commutes completed by individuals driving alone. The highest rates were in the outlying areas and reached over 90%.

Four of five work trips to the collar counties were driving alone in 2008. For work trips to suburban Cook County, around three of four people drive alone. For workers with a Chicago destination, between two and three out of every five drive alone to work.

[1] See Appendix 1 at the end of the report for a description of the communities or townships that are included in each Cook County and Chicago zone, as well as collar-county zones consisting of other than a single, complete county.

In Cook County, 73% of all work trips were completed using an auto, as a driver or a passenger. For DuPage County 86% of the work trips used autos. Three of the other counties had over 94% of the work trips completed using autos. For the entire region, four out of five work trips used autos.

Auto trips are the main mode of travel throughout the region, but in Chicago the auto use rates are the lowest. Chicago rates of bicycling, walking, and transit use are higher than the rest of the region. Walking represents about ten percent of regional trips, but in the central Chicago zone walking represented nearly 25% of the trips.

One-third of workers residing in the central Chicago zone drove alone to work when the work location was also the central Chicago area. For commutes from the central Chicago zone to the suburbs, between one-half and three-fourths of the workers drove alone.

Employment Centers. The central Chicago zone, as defined in this analysis, is the destination of 25.6% region's work trips, but this area has only 12.3% of the population. Northern Cook County has the second most jobs with 15.6% of the region's employment. The third most concentrated location for employment is in DuPage County where 12.2% of all jobs are located. These three areas account for over 53% of the region's employment, but only account for about 36% of the region's population.

Suburb-to-suburb commutes are the majority of commutes, comprising 56% of all commute trips. City-to-suburb commutes comprise an additional 6% of commute trips.

Fast Facts from the 2008 Household Travel Inventory

- Total miles of regional personal travel have increased by 26% between 1990 and 2008. There has been an increase of about 5% in the personal miles of weekday travel per person.
- In 2008 the average household traveled a total of 45 personal miles on an average weekday. This amounts to an average of a little more than 16 miles of travel per day per person.
- The outlying areas in the region had personal and household travel that was twice the average distance of the residents living in the central area of Chicago.
- For all types of trips, passenger vehicles account for 86% of the personal mileage in the region and 80% of the trips.
- For the region, over 10% of the trips were completed by walking. Within the central Chicago zone, over one-quarter of trips were completed on foot. The further from the center of Chicago, the lower the rate of pedestrian trips.
- In the central Chicago zone, only one in three trips are completed by a driver and only about one-half of the trips in this zone are completed by using an automobile. On the other end of the spectrum, in some of the outer zones, over 90% of all trips are completed by using an automobile.

Work Trips

- The central zone of Chicago contains 12.3% of the population, but is the destination of 25.6% region's work trips.
- By county of residence, Cook County had the lowest share of work trips by auto (73%). Second lowest was DuPage County, which used autos for a total of 86% of the work trips. Three counties had over 94% of the work trips completed using autos. For the entire region, four out of five work trips used autos.
- In comparison to the original 1990 household travel survey, for residents of Cook County, there has been nearly a 5% increase in the number of workers who drive alone to work and a decrease in carpooling.
- For workers who lived in the central Chicago zone, only one-third of their work commutes were completed by driving alone when their work destination was the central Chicago zone.
- Work trips to the collar counties have at least four out of five people driving alone. For work trips to suburban Cook County, around three out of four people drive alone. For workers with a destination within Chicago, between two out of five and three out of five people drive alone to work.
- Work chains increased an average of 3% in distance from 1990 to 2008, but the trips which include shopping have increased by 24% in distance. The chains that include both working and shopping increased in distance by 20%.

Travel by Age Group

- Chicago has two to three times the share of walking trips for all ten-year age categories compared to suburban Cook County and the Collar Counties, respectively. Walking trips

are a greater share of trips for travelers under the age of 20 in all three areas and walking trips tend to decrease, as a share of all travel, with increasing age.

- For all adult age groups, travelers from Chicago generally complete 15% to 20% fewer trips by driving a vehicle compared to the residents of the suburbs. Chicago and the suburbs have similar age-based profiles for passenger trips.
- Train and bus trip shares in Chicago are greater for each ten-year age group than either transit share in the suburbs. Older travelers in Chicago rely on bus service to a much greater degree than older travelers in the suburbs.
- Nearly one-half of the students between five and thirteen years of age, living in Chicago, are driven to school and are slightly more likely to be driven to school than students living in the suburbs. By high school age, students in Chicago are less likely to be driven to school than their suburban counterparts
- Students between five and eighteen years of age, living in Chicago, are twice as likely to walk to school as those living in the suburbs.
- Students between five and eighteen years of age living in Chicago use CTA bus service for 60% of their bus trips to school. Chicago students use bus services for 22% of their trips to school whereas 32% of the students in suburban Cook County and 43% of the students in the collar counties use bus services for their trip to school.

Introduction

Purpose. This report examines travel within the northeastern Illinois region and attempts to determine how trip making may have changed since 1990. There are now over 8.5 million residents in the Chicago region[2] and the population has grown by over 1.3 million people since 1990. The increase in population has put additional strain on the region's extensive multi-modal transportation network. This report examines how these changes, along with economic conditions and changing lifestyles, have altered regional trip-making.

Why should the travel patterns of the northeastern Illinois region be analyzed? To effectively plan the transportation system for safety and efficiency, we need a comprehensive understanding of the system. To provide a quality transportation system, we must understand the travel which the transportation system needs to accommodate. Some of the specific questions to be answered include:

- How often do people travel?
- What mode is used for travel?
- Where do people travel?
- What are the purposes of the trips?
- Can the trips be accomplished with alternate modes?
- What time of day do people travel?

This analysis of survey data can provide information that will support the planning of an improved transportation system, which will better satisfy the needs of the region's travelers.

Data. The main sources of data for this analysis are the CMAP *Travel Tracker*[3] household travel survey and the CATS *1990 Household Travel Survey*. *Travel Tracker* was completed for the northeastern Illinois region during 2007 and 2008.[4] The *CATS Household Travel Survey* was conducted from 1988 to 1991. These surveys were designed and conducted for use in regional travel demand modeling. However, with sufficient care, household travel characteristics of broader interest are discernible in the data.

The data sets are all samples of the total population. Data analyses are therefore estimates.

To verify how well the surveys reflect regional travel, the journey-to-work data from the 1990 and 2000 census and also the 2005-2007 *American Community Survey* (ACS) was examined and any differences with the 2008 survey were noted.

The comparisons are generally at the county level or at a smaller geography which divides the city of Chicago into three sections, divides suburban Cook County into three sections, and aggregates the seven collar counties (including Grundy County) into five zones (see Appendix 1). The geography was selected to produce useful data with adequate sample sizes.

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[2] The Chicago region consists of the following Illinois counties: Cook, DuPage, Kane, Kendall, Lake, McHenry, Will and a portion of Grundy County.

[3] Throughout this paper, the *Travel Tracker* survey will be referred to as the "2008 household survey." The *Travel Tracker* survey was implemented by NuStats under a contract with the Chicago Metropolitan Agency for Planning (CMAP).

[4] Full documentation and the full *Travel Tracker* datasets and the *1990 Household Travel Survey* are at http://www.cmap.illinois.gov/TravelTrackerData.aspx. An explanation of the weights used for this analysis is at http://www.cmap.illinois.gov/uploadedFiles/regional_data/TravelTrackerSurvey/TravelTrackerWeighting.pdf.

The 2008 household survey sampled about 0.3% of the population living in households. This survey was administered only to households. About two-thirds of the households received a one-day survey, the rest received a two-day survey. The surveys collected data on travel for every day of the week. The data was geocoded for locations within the northeastern Illinois region and also the neighboring areas in Indiana.

The 1990 household travel survey collected travel information for a series of Thursdays from persons above the age of 13. The mode choices and trip purposes were more limited compared to the 2008 household survey. The sample rate of the 1990 survey was 0.73% of the population, but the sampling rate was inconsistent throughout the region. The majority of the City of Chicago was only sampled at a rate of 0.22% of the population. [5,6]

The distances calculated for the trips in both household surveys are the straight line distances from origin to destination, not the path of actual travel. [7]

The 1990 census surveyed one in six households for information on the journey to work. The respondents estimated their departure time and minutes of travel and were asked to describe mode of travel that they usually took to work, not the mode that was taken on any specific day. The data represent responses that describe travel for the last week in March, not addressing seasonality. The answers were "top coded," so that the longest commute was 90 minutes. Data was aggregated for distribution to the public. Only a single mode is collected. If a person has more than one job, only data on a single job is gathered.

The 2000 census is similar to the 1990 census, but some of the maximum "top coded" values, like duration of trip, were increased. This has the effect of artificially increasing the duration of the longer trips and therefore the average trip.

The American Community Survey is replacing the long form of the decennial census and asks similar questions. For the region, there was about a 2.5% sample rate over the three years analyzed, 2005-2007.

Methods. In order to compare the 2008 household travel survey to the other data, frequently only a subset of the 2008 data could be used, such as work trips, weekday travel, or older travelers. For the 1990 and 2008 household surveys, the data reflect the travel by residents of the region for trips that were totally within the region. All of the data used in this analysis is derived from sample data and has been expanded using weights that have been developed using various techniques. As smaller geographies are analyzed, it is likely that the weighting schemes will introduce increasing amounts of error, so the results should be viewed with caution.

The specific processing of the survey data used in this analysis resulted in a dataset that is different than the data that has been released to the public. Because of this, the results of this

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[5] The 1990 survey had a wide variety of sampling rates throughout the region In Kendall County about 1 in 19 people were surveyed whereas in the Chicago, outside of the CBD, the rate was 1 in 459. For suburban Cook County the sampling rate was 1 in 236. The sample rate for the entire region was 1 in 138 while the rate for the area outside of Cook County was 1 in 59. The sampling rates have an effect which increase the quality of the estimates as long as the characteristics of the survey takers are known so that appropriate weights can be created. For the 2008 survey the rate in Cook County was 1 in 277 and the surrounding counties were sampled at a rate of 1 in 306.

[6] The transit share in the 1990 survey was considered to be too high and in 1994 the weights were adjusted to better match transit ridership data. Because this study is seeking like comparisons, in some cases, the original weights will be used. Which weights were used will be clear when applicable.

[7] The distance was recalculated for the 1990 survey analysis so that the distances were directly comparable to the distances in the 2008 survey.

analysis may be different than what would be produced using the previously released public version of the data. Examples include deleting out-of-region trips and trips with obviously miscoded distances. In addition, when comparisons were made to the 1990 dataset, trips for children under age 14 were not included in analyses. A new release of the data will include revisions and coded fields allowing reproducibility of these results.

The analysis will compare the 2008 household survey[8] to the previous travel survey which was conducted in 1990. The surveys varied in their approach and geography, so compromises have been made in order to compare the results. The 2008 survey included additional categories for the purpose of trips as well as additional travel mode choices. When the 2008 survey is analyzed separately, the additional information will be included as is reasonable, but when this survey is compared to the previous survey or the census products, the categories will be combined into fewer modes and purposes. Also, the 2008 survey included unique data on weekend travel and on the travel of young people and this information will be included in some of the analysis.

The information for this analysis is derived from survey diaries and interviews for travel on specific dates. The data is sometimes cataloged in ways that are not intuitive. In this analysis, a *trip* is the travel from one specific location to a second location. When modes are changed, a new trip is begun even if a destination has not been reached. In some instances, access to and from rail transit is treated as separate trips. On the other hand, walking access to bus trips generally are not separately coded as trips.

A *trip chain*, as opposed to an individual trip, begins and ends at a single specific location (home, work or shopping in this analysis) and includes all of the trips made on the journey. A person may have 20 trips per day that can be grouped into a few trip chains. Each trip chain may involve various modes.

Some travel is not covered by the surveys. Most of the auto trips have information on the distance traveled by foot to reach the final destination and these walking trips are not specifically discussed in this report. If every single walking movement were gathered, the final mode to almost every location would be by foot.

Regional population totals by zone for 1990 and 2008

Between 1990 and 2008, the population of the Chicago region increased by nearly 20%, but the growth was not uniform throughout the area. The following table (Table 1) shows that the central and southern zones of Chicago, as is defined for this analysis (See Figure 1),[9] actually dropped in population over the study period. This is significant because these areas have very high shares of transit and walking mode for trips. The remaining section of Chicago, suburban Cook County and all of the other counties in the region increased in population. Some areas of the region were among the fastest growing locations in the entire country. The additional population in the outlying areas, which support fewer transit and walking trips, has increased the relative use of passenger cars for household trips.

[8] Travel Tracker Survey

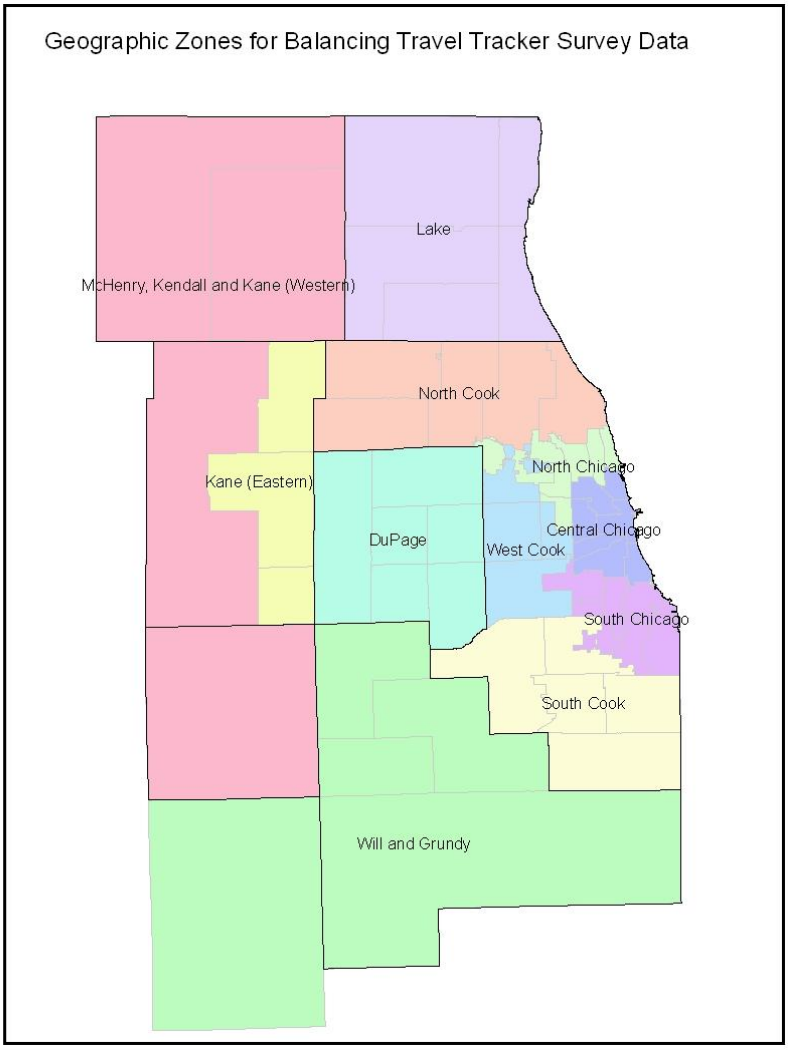
[9] The 11-zone analysis areas are described in the paper "Weighting the Chicago Regional Household Travel Inventory Survey" located at http://www.cmap.illinois.gov/uploadedFiles/regional_data/TravelTrackerSurvey/TravelTrackerWeighting.pdf

Table 1. Population Change in the Chicago Region

	Population 1990	Estimated Population 2005-7	Population Change 1990 to 2005-7	Population Share 2008
Central Chicago	1,092,743	1,042,360	-4.6%	12.3%
North Chicago	820,600	855,451	4.2%	10.1%
South Chicago	865,477	842,918	-2.6%	9.9%
North Cook County	975,750	1,066,626	9.3%	12.5%
West Cook County	601,307	651,787	8.4%	7.7%
South Cook County	749,190	829,324	10.7%	9.7%
Lake County	516,418	704,102	36.3%	8.3%
DuPage County	781,666	927,680	18.7%	10.9%
McHenry, Kendall and western Kane	248,348	458,851	84.8%	5.4%
Eastern Kane County	291,777	428,207	46.8%	5.0%
Will County and Grundy County	389,650	699,997	79.6%	8.2%

Sources: 1990 Decennial Census (CTPP) and 2005-2007 American Community Survey (ACS).

Figure 1. The Northeastern Illinois Region Separated into 11 Analysis Zones



Regional Trips and Distance for 1990 and 2008

The region has increased in population and in the number of households. This growth has led to an increase in the number of trips. Furthermore, the data in Table 2 reveals that the regional average distance per trip, per traveler, and per households has increased in the 2008 survey compared to the 1990 survey. There has been an increase of about 5% in the personal miles of travel per day for adults on weekdays.

For the entire region, the miles of personal travel has also increased significantly. The total miles of weekday personal travel have increased by 26% between 1990 and 2008, due not only to an increase in population, but also the increase in travel per person, noted above.

Table 2 Travel and Household Statistics for the 1990 and 2008 Household Travel Surveys for Weekdays and Travelers over the Age of 13. All Distances are Person Miles of Travel

	Total People Over Age 13 Who Traveled	Total Households With Travelers	Total Trips	Total Distance	Average Trips per Traveler	Average Distance per Trip	Average Distance per Traveler	Average Distance per Household	Average Number of Travelers over age 13 per Household
1990 Weighted	4,844,120	2,457,672	21,415,277	95,780,927	4.42	4.47	19.77	38.97	1.97
2008 Weighted	5,823,948	2,902,940	25,453,827	120,952,918	4.37	4.75	20.77	41.67	2.01

Sources: *Travel Tracker Survey* and *1990 Household Travel Survey.* Analysis by author.

At the most simple level of analysis, there are only two categories of people in the 2008 survey. There are people who traveled and those who did not travel. It is important to know if people are traveling as often now as they did in the past because this has an impact on the total amount of travel in the region. The change in travel patterns can be determined by including people who did not travel during a survey period in the analysis. For instance, if a person now telecommutes one day per week, their weekly travel has been reduced even though their average work trip, when they do travel, has not changed in distance. As people have more opportunities to accomplish tasks without leaving their home, tracking the number of people who do not travel becomes more significant. In the 2008 survey, 12% of the population did not take a trip during the weekday that they were surveyed.

The household surveys conducted in 1990 and 2008 collected travel information in slightly different ways. The 2008 survey tracked individuals of all ages, as opposed to only persons over the age of 13 as had been done in the 1990 survey. In the 2008 survey, 21% of the population was under the age of 14. Table 3 shows how the entire population traveled on weekdays compared to the population over the age of 13 and to the population of travelers. The table clearly demonstrates the impact of using various population bases for these analyses.[10]

[10] The table sums all of the personal miles of travel that are made by the members of a household. If three family members traveled together in a car for a 10 mile trip, there would be 30 miles of travel attributed to the household.

Table 3 Comparison of the Population over 13 Years of Age and the Total Population for Weekday Travel in the 2008 Survey

2008 Weighted Survey	Population	Total Households	Total Trips	Total Distance	Average Distance per Trip	Average Distance per Traveler or Person	Average Distance per Household	Average Number of People, Travelers or Travelers over age13 per Household Type
Travelers over 13 Years Old	5,823,948	2,904,604	25,453,827	120,952,918	4.75	20.77	41.64	2.01
Total Travelers	7,396,287	2,907,223	30,902,787	136,650,405	4.42	18.48	47.00	2.54
Total Population	8,365,845	3,027,301	30,902,787	136,650,405	4.42	16.33	45.14	2.76

Source: *Travel Tracker Survey.* Analysis by author.

Within the region, the central Chicago zone had the fewest miles of weekday travel per person, and also the smallest household size, as is shown in Table 4. The remainder of Chicago and the western section of suburban Cook County also had comparatively low miles of travel per person. The outlying areas in the region had personal and household travel that was twice the average distance of the residents living in the central area of Chicago. However, the eastern part of Kane County is an exception to this trend; the trip distances there were closer to the rates in the more densely populated inner areas.

Table 4 Trip Distance Statistics for the 2008 Survey for the Total Population and the Population that Traveled

2008	All People-Weekday Only				Travelers- Weekday Only			
	Average Distance per Trip	Average Distance per Person	Average Distance per Household	Average person per Household	Average Distance per Trip	Average Distance per Person	Average Distance per Household	Average person per Household
Central Chicago	2.90	10.08	24.56	2.44	2.90	11.48	25.92	2.26
North Chicago	3.80	13.72	35.73	2.61	3.80	15.52	37.42	2.41
South Chicago	3.80	12.61	37.68	2.99	3.80	15.01	39.93	2.66
North Cook County	4.17	16.35	43.14	2.64	4.17	18.18	44.87	2.47
West Cook County	3.25	12.09	34.51	2.85	3.25	13.68	35.97	2.63
South Cook County	4.84	18.46	50.81	2.75	4.84	20.69	53.43	2.58
Lake County	5.12	18.62	54.85	2.95	5.12	20.70	56.16	2.71
DuPage County	4.88	19.72	53.67	2.72	4.88	21.84	55.28	2.53
McHenry, Kendall and western Kane Counties	6.53	23.66	69.54	2.94	6.53	26.75	72.04	2.69
Eastern Kane County	4.62	17.15	51.95	3.03	4.62	19.25	53.30	2.77
Will County and Grundy County	6.08	22.45	68.22	3.04	6.08	25.82	69.79	2.70
Region	4.42	16.33	45.14	2.76	4.42	18.48	47.00	2.54

Source: *Travel Tracker Survey* and. Analysis by author.

For comparison, data in Table 4 based on travel rates per traveler in the region had a similar pattern to the data that was based on the travel rates per total population. The outlying areas have much higher travel rates compared to the central zones.

In Table 5, the weekday travel rates for both the 1990 and 2008 surveys are shown for the population over the age of 13. For the comparison at the regional level, the population in 2008 had higher personal miles of travel per person and per household. The population in 2008 also had longer distance trips, on average, compared to the 1990 survey, and also had larger household sizes of people over the age of 13. The rates which are based only on travelers show that the population in 2008 had higher travel distances on average compared to 1990, but the increase was not as great.

At the zone level, the miles traveled per traveler decreased between 1990 and 2008 for seven of the eleven zones. However, for the region as a whole, the miles traveled per traveler increased.

Table 5 Distance Statistics for the 1990 and 2008 Household Travel Surveys

	People Older than 13 Weekday Only								Travelers Older than 13 Weekday Only							
	Average Distance per Trip		Average Distance per Person		Average Distance per Household		Average person per Household		Average Distance per Trip		Average Distance per Traveler		Average Distance per Household		Average Traveler per Household	
	1990	2008	1990	2008	1990	2008	1990	2008	1990	2008	1990	2008	1990	2008	1990	2008
Central Chicago	3.10	3.09	10.97	11.33	22.02	22.15	2.01	1.96	3.10	3.09	13.04	12.84	24.32	23.39	1.86	1.82
North Chicago	3.23	4.01	12.63	15.13	26.55	31.92	2.10	2.11	3.23	4.01	14.77	17.16	29.43	33.43	1.99	1.95
South Chicago	4.40	4.13	15.00	14.37	32.63	32.30	2.18	2.25	4.40	4.13	18.11	17.35	37.10	34.38	2.05	1.98
North Cook County	4.78	4.47	19.07	18.09	39.79	38.06	2.09	2.10	4.78	4.47	21.82	20.12	41.82	39.58	1.92	1.97
West Cook County	3.78	3.55	15.04	14.03	31.83	31.28	2.12	2.23	3.78	3.55	17.50	15.80	34.17	32.60	1.95	2.06
South Cook County	5.21	5.20	19.53	20.52	41.61	45.84	2.13	2.23	5.21	5.20	23.31	23.15	45.14	48.20	1.94	2.08
Lake County	5.78	5.61	23.00	21.69	49.62	48.77	2.16	2.25	5.78	5.61	26.16	23.94	52.70	50.03	2.01	2.09
DuPage County	4.89	5.34	20.50	22.33	44.03	48.06	2.15	2.15	4.89	5.34	22.97	24.79	45.90	49.50	2.00	2.00
McHenry, Kendall and western Kane Counties	6.71	6.71	26.80	25.88	59.37	60.12	2.22	2.32	6.71	6.71	30.39	28.94	62.87	62.28	2.07	2.15
Eastern Kane County	4.54	5.10	18.01	19.66	38.77	44.67	2.15	2.27	4.54	5.10	20.25	21.56	40.94	45.83	2.02	2.13
Will County and Grundy County	6.06	6.56	24.03	25.78	52.07	59.62	2.17	2.31	6.06	6.56	27.40	29.21	54.35	61.20	1.98	2.10
Region	4.47	4.75	17.15	18.40	36.23	39.95	2.11	2.17	4.47	4.75	19.95	20.77	39.13	41.64	1.96	2.01

Sources: *Travel Tracker Survey* and *1990 Household Travel Survey.* Analysis by author.

Commentary: The sample size for the zone analysis may be a little small to determine exactly how much the average travel for a person in a zone changed between the two surveys. What this analysis of the 1990 and 2008 surveys does show is that the evaluation at the zone level gives fairly consistent results between the two surveys. The difference between the highest and lowest travel rates is a factor of about 2.5 for both 1990 and 2008 and the ranking order for travel rates

by zone for 2008 stayed basically within one position of their ordinal rank from 1990. The outer zones had much greater travel distances than the inner zones in both surveys.

Travel by age group for 1990 and 2008

There are relationships between the amount of travel that is taken and the age of the traveler. If the distribution of age has changed within a region, then there may be some effect on the travel in the region. In this analysis of travelers over the age of 13, the population for all age groups in the region has increased since 1990. See Table 6. The age group 50 to 70 years had the greatest relative increase.

Table 6 Share of Population that Traveled by Age Group for the 1990 and 2008 Surveys

Age Group	Survey Population Change from 1990	Share of 1990 Population (Ages 13-89)	Share of 2008 Population (Ages 13-89)	Share of 1990 Population that Traveled	Share of 2008 Population that Traveled
14 to 29	11%	27%	25%	88%	91%
30 to 49	9%	40%	38%	93%	93%
50 to 69	42%	24%	29%	86%	87%
70 to 89	19%	9%	8%	63%	72%

Sources: *Travel Tracker Survey* and *1990 Household Travel Survey*. Analysis by author.

Overall, there has been little change in the average number of trips per person or trips per traveler between 1990 and 2008. However, under the age of 50, people had fewer trip segments in 2008 compared to 1990, whereas those 50 and over have an increased numbers of trips (Table 7). The average miles of travel has increased for each age group between 1990 and 2008 and the total per person change is seven percent, or just over 1.4 miles per traveler.[11]

Table 7 Travel Statistics* by Age Group for the 1990 and 2008 Surveys (Population Ages 14 to 89)

Age Group	1990 Trips per Traveler	2008 Trips per Traveler	1990 Trips per Person	2008 Trips per Person	1990 Miles per Traveler	2008 Miles per Traveler	1990 Miles per Person	2008 Miles per Person
14 to 29	4.22	3.81	3.69	3.45	17.93	17.44	15.71	15.81
30 to 49	4.81	4.64	4.45	4.30	22.80	23.51	21.09	21.79
50 to 69	4.13	4.55	3.56	3.95	18.61	21.79	16.02	18.91
70 to 89	3.74	4.16	2.36	2.99	11.85	13.79	7.48	9.90
All (Aged 14 to 89)	4.42	4.37	3.85	3.88	19.78	21.20	17.21	18.82

Sources: *Travel Tracker Survey* and *1990 Household Travel Survey*. Analysis by author.

* The values in the above table differ slightly from previous tables due to travelers who were known to be adults, but whose exact age was not known.

[11] This is slightly more than the 1.0 mile or five percent increase in distance that is shown in Table 2. This difference is due to missing age data for some of the surveys where it was known that a person was an adult but the age of the person was not known.

Mode of Travel

The northeastern Illinois region has a very diverse transportation network which includes many travel options. The region includes over 25,000 miles of roads, of which 462 are classified as Interstate highways or freeways. Transit options include the Metra rail system, Pace Suburban Bus Service and the Chicago Transit Authority bus and rail service. Within the region, much of the transit service has a focus of moving people toward the Central Area in Chicago, but transit is available to many parts of the region. Taxis are available in the entire region, but they are more frequently used in the central area of Chicago. The majority of Chicago residents live within a quarter mile of transit, but access to transit in the suburban areas varies greatly. Walking and biking are very common in Chicago and also in many of the suburbs of the region. The region is served by two major airports, Amtrak service, and inter-city express bus service. With the many modes of transportation available to the residents of the region, the mode chosen depends on the priorities of the traveler.

2008 trips by mode

There were more choices for mode of travel explicitly listed in the 2008 survey compared to the 1990 survey. The following table (Table 8) shows each mode's regional share of total trips and total distance traveled, including all travelers regardless of age. Driver and passenger modes, added together, results in passenger vehicles accounting for 86% of all miles traveled in the region, and 79.5% of the trips. Both Metra and CTA trains have higher shares of mileage compared to trip share.

Table 8. The Mode Share of Travel for the 2008 Household Survey- all Days of the Week

MODE	Percentage of Total Distance	Percentage of all Trips
Walk	2.2%	10.4%
Bike	0.4%	1.0%
Driver	60.7%	53.0%
Passenger	25.3%	26.5%
CTA Bus	2.0%	3.3%
CTA Train	2.3%	1.8%
Pace	0.5%	0.5%
Metra	4.8%	1.2%
Private Shuttle Bus	0.2%	0.1%
Paratransit	0.0%	0.0%
School Bus	1.2%	1.8%
Taxi	0.2%	0.3%
Other	0.1%	0.2%

Source: *Travel Tracker Survey.* Analysis by author.

Work trips by mode

2008 work trips by mode

The 1990 and 2008 household travel surveys collected information on all travel (not just the journey to work), but the journey-to-work information in the survey can be compared to other sources of travel data to validate the surveys. If the work commute trends from the 1990 census to 2000 census are similar to the patterns for the household surveys, then the non-work trips in the surveys are more likely to be reasonable representation of actual travel in the region.

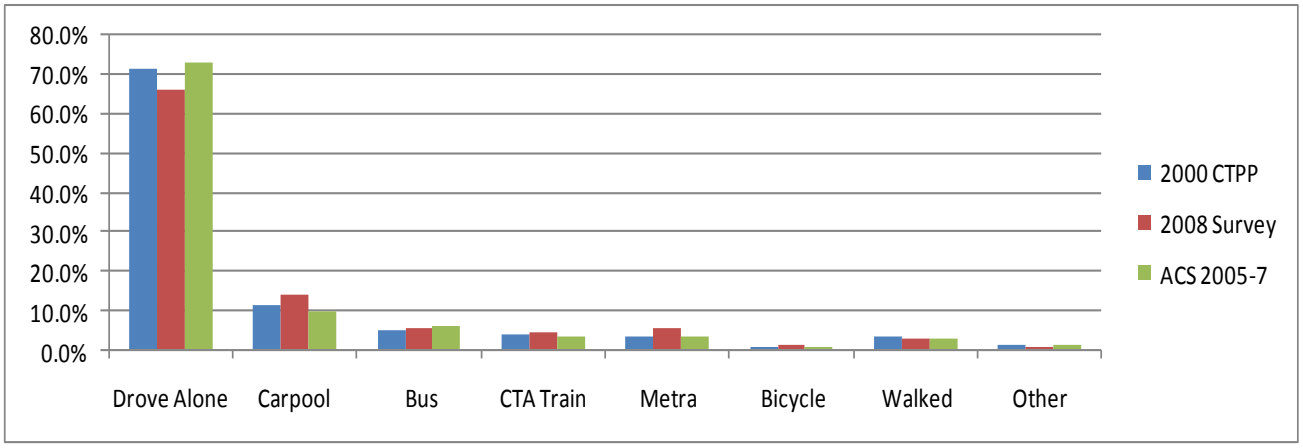
In Table 9, the mode for the journey-to-work is shown for the 2008 household survey, the 2000 Census, and the 2005-2007 ACS. For all surveys,[12] driving alone was the major mode for traveling to work. Between 2000 and 2005 -2007, the share of driving alone has increased while carpooling has decreased. For the other modes of travel, the use of bus and bicycles has increased, whereas the use of trains and walking seems to have a lower overall share of the journey to work.

Compared to the census data, the 2008 household survey had a slightly lower share of people using auto. For the analysis of the survey, any vehicle that had more than one person in it was defined as a carpool. This is a broader definition of carpooling than the census[13] uses and increased the share of carpooling in the survey. The census surveys asked individuals which mode they used to travel to work. There could only be one choice. For the 2008 household surveys, each travel link was coded with the appropriate mode. When more than one mode was used for the journey to work, only trips that were completed entirely by auto were assigned to the auto category. Trips that included any transit were assigned to transit. Compared to the census surveys, the 2008 household survey has more rail and bicycle work trips and slightly fewer bus and walking trips.

[12] The 2000 Census survey data collected information from about 14% of the households and the ACS 2005-2007 surveyed approximately 2.5% of the households.
[13] For the census, only work trips were considered for carpooling.

Table 9 Mode Choice for the Journey-to-Work Trip for the 2008 Survey, 2005-2007 American Community Survey (ACS) and 2000 Decennial Census Means of Transportation to Work(CTPP)

	Drove Alone	Carpool	Bus	CTA Train	Metra	Bicycle	Walked	Other
2000 CTPP	71.3%	11.4%	5.2%	3.8%	3.6%	0.3%	3.3%	1.1%
2008 Survey	66.2%	14.0%	5.1%	4.7%	5.7%	1.1%	2.9%	0.4%
ACS 2005-2007	72.8%	9.7%	5.8%	3.4%	3.5%	0.5%	3.1%	1.1%



Sources: *Travel Tracker Survey*. Analysis by author.

2008 journey-to-work by mode and county of worker residence

The means of travel to work varies among the counties in the region. The following data reflects the mode choice for the journey-to-work trip chains based on the county of residence for workers in the 2008 household survey (Table 10). The mode choice for journey-to-work trip chains was assigned based on the several work trip characteristics. The series of trips for the journey-to-work were analyzed as all being used for the work trip chain, not only the single trip that was defined with work as the destination. All counties with the exception of Cook County had at least 73% of all work commutes completed by individuals driving alone. The highest rates in the outlying areas were over 90%. In Cook County, 73% of all work trips were completed using an auto, as a driver or a passenger. DuPage County commuters used autos for 86% of the work trips. Three of the counties had over 94% of the work trips completed using autos. For the entire region, four out of five work trips used autos.

The most popular mode besides autos for the journey-to-work was Metra. In DuPage County, nearly one in ten trips used the Metra commuter rail system. For Cook County, which has the heaviest use of total transit, one in eighteen workers used Metra for the commute to work. Cook County has the highest use rate of bus and CTA trains,[14] as well as walking and bicycling to work.

[14] The CTA rail and CTA bus service operate exclusively within Cook County.

Table 10 Journey-to-Work Mode Choice 2008 Survey by Worker's County of Residence

County of Residence	Drove alone	Carpool	Bus	CTA Train	Metra	Bicycle	Walk to Work	Other
Cook County	58.6%	14.3%	8.0%	7.6%	5.4%	1.6%	4.0%	0.5%
DuPage County	76.5%	9.8%	1.1%	0.4%	9.5%	0.6%	2.0%	0.1%
Grundy County	*	*	*	*	*	*	*	*
Kane County	79.0%	16.4%	1.1%	0.1%	2.7%	0.2%	0.4%	0.1%
Kendall County	*	*	*	*	*	*	*	*
Lake County	76.8%	14.9%	0.8%	0.0%	6.1%	0.0%	1.2%	0.2%
McHenry County	84.0%	10.5%	0.2%	0.2%	3.3%	0.0%	1.6%	0.2%
Will County	75.4%	17.4%	0.2%	0.1%	5.3%	0.2%	0.3%	1.0%
Region	66.2%	14.0%	5.1%	4.7%	5.7%	1.1%	2.9%	0.4%

Source: *Travel Tracker Survey.* Analysis by author
* Insufficient sample size for reporting here.

1990 Household Travel Survey work trips by mode and county of worker residence

The 1990 household survey for the Chicago region faced some issues concerning the mode shares. It was determined that the transit mode shares were higher than the observed data justified, so the transit trips were reduced to match the available transit use data. The 2008 household survey data has not been calibrated to actual passenger counts on the transit lines and may have an over-representation of transit users. If the household surveys in general attract more transit users, then both the 1990 and 2008 household surveys will have elevated levels of transit use. Comparisons of these may be useful because the artificial increases are present in both datasets. Because of this, both 1990 results are shown for comparison to the 2008 household survey data in Table 11. This analysis is carried further to the county level in Tables 12 and 13.

The 1990 survey has a greater share of carpooling and bus use for the journey-to-work compared to the more recent 2008 household survey. The 2008 household survey has an increased use of driving alone for the commute to work, compared to the 1990 survey. The 2008 household survey also shows a lower share of work trips made by walking or Metra.

Table 11 Regional Mode Choice for the Journey-to-Work Trip for the 1990 and 2008 Household Surveys

	Drove Alone	Carpool	Bus	CTA Train	Metra	Bicycle	Walked	Other
1990 Survey Original	60.7%	16.0%	9.4%	4.6%	4.9%	*	3.3%	1.1%
1990 Survey(RTA weight adjust	62.7%	16.5%	8.5%	4.0%	3.9%	*	3.4%	1.1%
2008 Survey	66.2%	14.0%	5.1%	4.7%	5.7%	1.1%	2.9%	0.4%

Sources: *Travel Tracker Survey* and *1990 Household Travel Survey*. Analysis by author

There are uncertainties associated with survey data. The more one dilutes the information, the more likely unrealistic patterns may occur. This may have a stronger effect in the outlying counties in the surveys because of smaller sample sizes and for modes with small frequencies in general. With this in mind, these are some of the main trends at the county level between 1990

and 2008 for the mode used in the journey to work. The analysis below shows that the trends hold regardless of the 1990 dataset weights used, adding credence to the argument.

The journey-to-work trip for the 1990 survey had a similar share of total auto usage for Cook County (Table 12) compared to 2008 (Table 10), but a two percent lower share of work trips carpooled, and a two percent greater share of the workforce drove alone in 2008. This trend was even more pronounced in McHenry County. This change has a result of more people in the region driving autos because the population has increased, and for those driving, more autos are needed to be used per person, because more people are driving alone. For the counties in general, carpooling seems to have decreased a few percent as a means of traveling to work.

There has been a decrease in the share of trips that use a bus for the journey-to-work in Cook County and Will County, but there has been a slight increase in the amount of bus use in the remainder of the region for the journey-to-work. CTA train use has increased in Cook County. Compared to both 1990 datasets, Metra rail has generally increased its share of work trips for all areas in the region. The share of people who walk to work has generally diminished compared to the 1990 survey. Cook County still has the largest share of workers who walk to work, but DuPage, Lake and McHenry Counties have increased their share of workers who walk to work. See Tables 10 and 12.

Table 12 Journey-to-Work Mode Choice 1990 Survey by Worker's County of Residence-Enhanced Transit Weights

County of Residence	Drove Alone	Carpool	Bus	CTA Train	Metra	Bicycle/NA	Walk to Work	Other
Cook County	56.0%	16.3%	12.3%	5.8%	3.5%	*	4.6%	1.5%
DuPage County	76.6%	14.4%	0.6%	0.2%	6.9%	*	1.0%	0.4%
Kane County	76.9%	19.1%	0.8%	0.0%	1.6%	*	1.2%	0.4%
Kendall County	77.1%	19.0%	0.0%	0.0%	1.4%	*	1.5%	0.9%
Lake County	77.0%	17.2%	0.5%	0.0%	4.0%	*	0.9%	0.4%
McHenry County	77.4%	17.3%	0.2%	0.0%	3.3%	*	0.8%	1.0%
Will County	74.6%	20.9%	0.7%	0.0%	3.0%	*	0.4%	0.4%

Sources: *Travel Tracker Survey* and *1990 Household Travel Survey*. Analysis by author

In comparison to the original 1990 HHTS weights (Table 13), for Cook County there has been nearly a 5% increase in the number of workers who drive alone to work as opposed to the 2% change seen in the re-weighted 1990 survey (Table 13). While not as strong, the trends of decreased bus use and increase in train use remain for Cook County and the increase in Metra use for the collar counties is still evident when the original 1990 weights are used.

Table 13 Mode Choice 1990 Survey by Worker's County of Residence Original Weights

County of Residence	Drove Alone	Carpool	Bus	CTA Train	Metra	Bicycle/NA	Walk to Work	Other
Cook County	53.7%	15.6%	13.5%	6.7%	4.6%	*	4.4%	1.4%
DuPage County	75.2%	14.1%	0.6%	0.2%	8.6%	*	1.0%	0.4%
Kane County	76.9%	19.0%	0.6%	0.0%	1.7%	*	1.2%	0.4%
Kendall County	77.2%	19.1%	0.0%	0.0%	1.4%	*	1.5%	0.9%
Lake County	76.4%	17.1%	0.6%	0.0%	4.6%	*	0.9%	0.4%
McHenry County	76.7%	17.1%	0.3%	0.0%	4.1%	*	0.8%	1.0%
Will County	73.9%	20.7%	0.7%	0.0%	3.9%	*	0.4%	0.4%

Source: *1990 Household Travel Survey*. Analysis by Author

2000 Decennial Census and 2005-2007 American Community Survey work trips by county of residence

The main focus of this report is to compare the 1990 and 2008 household surveys for changes in travel patterns across the region. An additional source of information on the regional travel patterns are the census products for 1990, 2000, and 2005-2007. These provide validation for journey-to-work regional household survey data. (The sample size is smaller in the 2005-2007 ACS survey, compared to the decennial census,[15] so the margins of error are larger).

The following table (Table 14) shows the change in mode share by county of residence for a period covering roughly 6 years, 2000 to 2005-2007. There are more people residing in the region in the later year, so if the ridership percentage remains the same, then there would have been an increase in the total number of workers commuting.

Table 14 Comparison of 2005-2007 American Community Survey and 2000 Decennial Census Means of Transportation to Work by County of Residence (Percentage)

	Cook		DuPage		Kane		Kendall		Lake		McHenry		Will	
	CTPP	ACS	CTPP	ACS	CTPP	ACS	CTPP	ACS	CTPP	ACS	CTPP	ACS	CTPP	ACS
Total Workers (thousands)	2,371	2,378	469	466	193	235	28	44	317	342	133	154	242	315
Drove alone	62.9	63.9	79.6	79.3	79.8	79.1	82.8	84.1	76.4	78.7	82.4	81.6	82.9	81.3
Carpool	12.2	10.0	7.6	7.2	11.5	11.3	8.8	7.9	10.2	8.4	8.6	8.2	8.3	8.6
Bus	7.8	8.9	0.3	0.4	0.9	0.6	0.2	0.2	0.6	0.8	0.3	0.4	0.4	0.4
CTA Rail	5.7	5.3	0.2	0.4	0.1	0.0	0.0	0.4	0.1	0.3	0.1	0.2	0.2	0.3
Metra	3.2	3.2	6.1	5.5	1.8	2.0	1.9	2.3	3.7	2.8	2.7	2.4	3.4	3.7
Bicycle	0.4	0.6	0.3	0.4	0.2	0.4	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.2
Walked	4.0	3.9	1.8	1.7	1.6	1.6	1.1	0.8	2.9	2.3	1.3	1.3	1.1	1.0
Other means	1.2	1.2	0.6	0.8	0.9	0.9	0.2	0.6	1.8	1.5	0.6	0.6	0.6	0.9

Sources: 2000 Decennial Census (CTPP) and 2005-2007 American Community Survey (ACS).

Over the time period, the trend for most of the counties is mixed for driving alone, with the largest county, Cook County, showing a one percent increase in driving alone. All but one

[15] The ACS is about one – sixth the sample rate of the CTPP

county showed a decrease in the share of workers who carpool. The use of buses has generally increased, but Metra rail has a mixed trend in that the counties with the largest ridership maintained their share or lost some ridership share for the journey-to-work. CTA rail also seems to have lost some of their share of the journey-to-work between 2000 and 2005-2007.

The change in the percentage of the journeys to work by walking and bicycling varied. The share of trips completed by bicycle has generally increased, but the share of people who walked to work (a much larger number) has generally decreased at the county level.

2000 and 1990 CTPP work trips by mode and county of residence

In Table 15, the means of transportation to work by county of residence is shown for 1990 and 2000 census data. Many of the trends from 2000 to 2005-2007 are also evident in this earlier census comparison. Workers from Cook County increased their frequency of driving alone, reduced their carpooling slightly, reduced their bus and Metra share, but increased their share of CTA rail. The workers in Cook County also increased their use of bicycles for commuting to work and increased their share of working at home, while their share of walking work trips decreased.

Every county showed similar trends for increasing the share of driving alone and decreasing the share of carpooling. The county-level trends in the means of transportation to work were fairly consistent throughout the region, with the exception of Metra rail which showed some increases and some decreases in the share of the county workforces transported.

Table 15 1990 Decennial Census and 2000 Decennial Census Means of Transportation to Work by County of Residence

	Drove Alone		Carpool		Bus		CTA Train		Metra		Bicycle		Walk to Work		Worked at Home	
County of Residence	1990	2000	1990	2000	1990	2000	1990	2000	1990	2000	1990	2000	1990	2000	1990	2000
Cook County	60.5%	62.9%	12.7%	12.3%	10.7%	7.8%	4.9%	5.7%	3.4%	3.2%	0.2%	0.4%	4.7%	4.0%	1.8%	2.6%
DuPage County	79.3%	79.6%	8.4%	7.5%	0.2%	0.3%	0.1%	0.2%	6.5%	6.1%	0.2%	0.3%	2.1%	1.8%	2.6%	3.5%
Grundy County	81.5%	85.3%	12.2%	8.9%	0.3%	0.0%	0.0%	0.0%	0.4%	0.6%	0.1%	0.2%	2.6%	1.5%	2.6%	3.1%
Kane County	79.2%	79.8%	12.6%	11.5%	0.9%	0.8%	0.0%	0.1%	1.8%	1.8%	0.2%	0.2%	2.2%	1.6%	2.4%	3.4%
Kendall County	81.2%	82.9%	10.5%	8.8%	0.1%	0.2%	0.0%	0.0%	1.5%	1.9%	0.2%	0.1%	2.0%	1.1%	4.1%	4.8%
Lake County	74.4%	76.4%	11.2%	10.2%	0.5%	0.6%	0.1%	0.1%	3.5%	3.7%	0.2%	0.1%	6.0%	2.9%	3.1%	4.2%
McHenry Count	79.6%	82.5%	10.6%	8.6%	0.4%	0.3%	0.0%	0.1%	3.1%	2.7%	0.1%	0.2%	2.1%	1.3%	3.6%	3.8%
Will County	80.3%	82.9%	11.3%	8.3%	0.7%	0.4%	0.1%	0.2%	3.0%	3.4%	0.1%	0.1%	1.7%	1.1%	2.2%	2.9%
Total	66.3%	69.2%	11.9%	11.0%	7.3%	5.1%	3.3%	3.6%	3.7%	3.5%	0.2%	0.3%	4.1%	3.2%	2.1%	2.9%

Sources: 1990 and 2000 Decennial Censuses

2000 Census and 1990 Census work trips by mode and county of work

In Table 16 (following page), the means of transportation to work is reported by the location of the work place. The trends from the counties of residence are also present in this analysis. There is a consistent increase in the share of work trips that are completed by people driving alone and also a decrease in the share of people who carpool. For Cook, Lake, and DuPage counties, the share of employees who used Metra for their journey-to-work increased. CTA rail use increased for employees in Cook County. Bus use lost shares of the work commute.

Note that there are certain methodological caveats regarding these tables.[16]

2008 Household survey zone to zone work trips: Total and select modes

The general trends for the work commute between 1990 and 2007 have included an increase in the number of workers and jobs, which have become less concentrated within the region. The means of transportation to work has become increasingly completed by driving alone and less often completed by carpooling. There have been some increases in rail use and also some decrease in the share of work trips completed by bus. Walking to work has decreased, but bicycle commutes have increased.

[16] The journey-to-work can be tracked by the county of work in addition to the county of residence, as was done in the previous section. In the following table, the journey-to-work by county of work in the 1990 census data is compared to the 2000 census data. Not all of the people who reside in the region work in the region, and people from outside the region also work within the region, so the worker totals in the following table will not be equal. For the region, there was an increase in the number of workers and jobs. The job total increased at a higher rate than the increase in workers in the region.

Over the decade between 1990 and 2000, Cook County had basically the same number of workers living in the county, but the number of jobs diminished by 0.7%. Even with this reduction, Cook County still employed about 183,000 more workers than reside in the county. The rest of the counties in the region showed large population gains and similar gains in employment. Lake County and DuPage County had gains in employment that nearly doubled their population growth and these counties joined Cook County as areas with more jobs than workers.

	2000 CTTP Work Commutes		1990 CTTP Work Commutes		Change in Workers	
	County of Residence	County of Work	County of Residence	County of Work	By Residence	By Workplace
Cook County	2,371,160	2,554,120	2,369,624	2,572,353	0.1%	-0.7%
DuPage County	469,375	534,550	425,284	433,250	10.4%	23.4%
Grundy County	18,245	14,770	14,899	14,370	22.5%	2.8%
Kane County	192,860	175,350	157,482	143,761	22.5%	22.0%
Kendall County	28,365	17,950	20,440	13,052	38.8%	37.5%
Lake County	317,440	326,165	270,244	245,165	17.5%	33.0%
McHenry County	133,255	96,640	93,876	64,998	41.9%	48.7%
Will County	241,885	160,835	170,245	110,231	42.1%	45.9%
Total	3,772,585	3,880,380	3,522,094	3,597,180	7.1%	7.9%

Table 16 1990 and 2000 CTPP Mode Share by County of Work

	Drove Alone		Carpool		Bus		CTA Train		Metra		Bicycle		Walk to Work		Worked at Home	
County of Work	1990	2000	1990	2000	1990	2000	1990	2000	1990	2000	1990	2000	1990	2000	1990	2000
Cook County	61.1%	63.2%	12.3%	11.4%	9.7%	7.2%	4.5%	5.3%	5.1%	5.2%	0.2%	0.4%	4.2%	3.7%	1.7%	2.4%
DuPage County	82.5%	83.2%	10.9%	9.8%	0.7%	0.7%	0.1%	0.2%	0.3%	0.4%	0.2%	0.3%	2.1%	1.6%	2.6%	3.1%
Grundy County	82.5%	83.8%	11.2%	9.4%	0.1%	0.2%	0.0%	0.2%	0.0%	0.2%	0.1%	0.2%	3.0%	1.9%	2.7%	3.8%
Kane County	78.8%	80.4%	12.2%	11.3%	1.5%	0.9%	0.5%	0.3%	0.8%	0.5%	0.2%	0.2%	2.6%	1.9%	2.7%	3.7%
Kendall County	73.5%	74.9%	15.7%	12.7%	0.5%	0.9%	0.0%	0.5%	0.0%	0.2%	0.3%	0.3%	2.8%	2.0%	6.5%	7.6%
Lake County	75.0%	78.2%	12.3%	11.0%	0.9%	0.8%	0.1%	0.3%	0.4%	0.7%	0.2%	0.1%	6.8%	3.1%	3.4%	4.1%
McHenry County	77.8%	80.0%	13.1%	11.2%	0.6%	0.5%	0.1%	0.1%	0.1%	0.3%	0.2%	0.3%	2.6%	1.7%	5.1%	5.2%
Will County	80.7%	82.3%	11.3%	10.0%	1.0%	0.5%	0.1%	0.0%	0.2%	0.2%	0.1%	0.2%	2.6%	1.6%	3.4%	4.4%
Total	66.4%	69.4%	12.1%	11.1%	7.2%	5.0%	3.3%	3.6%	3.8%	3.6%	0.2%	0.3%	4.0%	3.1%	2.1%	2.9%

Sources: 1990 and 2000 Decennial Censuses

Cook County is one of the most populous counties in the country and contains nearly two-thirds of the region's population. In order to develop a better understanding of the travel pattern within the region, Cook County has been divided into six subzones (three in the City of Chicago and three in suburban Cook County) so that the commute patterns can be better defined. In all, the region has been grouped into eleven zones (see Figure 1, p. 14) based on similar characteristics. Most of the zones contain between 500,000 to 1 million residents. In Table 17 the absolute share of all work trips in the 2008 household survey have been distributed based on the workers' residence and the location of their employment for the weekday journey-to-work.

Analysis of the 2008 household survey data shows that the Chicago central zone accounts for 25.6% of all of the employment in the northeastern Illinois region, based on all seven days of the week. Northern Cook County has the second most jobs with 15.6% of the region's employment. The third most concentrated location for employment is in DuPage County where 12.2% of all jobs are located. These three areas account for over 53% of the region's employment and about 36% of the region's population. Residential location is not as concentrated as employment.

In most of the region, people tend to work in a somewhat local geography, with the highest number of workers employed in the same zone. That said, many of the zones have less than one half of the workers from their zone actually working within the zone. Further, the most frequent workplace region for residents of northern and southern Chicago zones is the central Chicago zone.

Central Chicago is the second most frequent employment location for residents of northern, southern and western suburban Cook County zones, as well as DuPage County. DuPage County has more jobs than workers, but nearly one-half of the workers who live in DuPage County work outside of the county.

Table 17 2008 Household Survey Zone to Zone Work Flows for Journey-to-Work by Share of all Work Trips

		Workplace Location											
		Central Chicago	North Chicago	South Chicago	North Cook County	West Cook County	South Cook County	Lake County	DuPage County	McHenry, Kendall and western Kane Counties	Eastern Kane County	Will County and Grundy County	Total Workers by Residence
Zone of Residence	Central Chicago	8.6%	0.9%	0.4%	0.8%	0.5%	0.1%	0.1%	0.5%	0.0%	0.0%	0.0%	12.4%
	North Chicago	4.6%	2.4%	0.2%	1.7%	0.4%	0.1%	0.2%	0.1%	0.0%	0.1%	0.0%	10.1%
	South Chicago	3.0%	0.2%	1.9%	0.2%	0.4%	0.5%	0.0%	0.1%	0.0%	0.0%	0.1%	6.6%
	North Cook County	1.9%	0.6%	0.0%	8.0%	0.4%	0.0%	1.1%	0.9%	0.1%	0.2%	0.1%	13.8%
	West Cook County	1.9%	0.3%	0.1%	0.5%	3.4%	0.1%	0.1%	0.8%	0.0%	0.0%	0.1%	7.7%
	South Cook County	2.0%	0.1%	0.8%	0.3%	0.6%	4.0%	0.0%	0.5%	0.0%	0.0%	0.5%	9.4%
	Lake County	0.7%	0.0%	0.0%	1.4%	0.1%	0.0%	5.7%	0.2%	0.2%	0.0%	0.0%	8.8%
	DuPage County	1.6%	0.2%	0.1%	1.1%	0.9%	0.1%	0.3%	6.2%	0.0%	0.5%	0.5%	11.9%
	Kendall and western Kane	0.2%	0.1%	0.0%	0.7%	0.1%	0.0%	0.4%	0.5%	2.6%	0.6%	0.1%	5.8%
	Eastern Kane County	0.2%	0.1%	0.0%	0.6%	0.0%	0.0%	0.1%	1.1%	0.4%	2.0%	0.2%	5.0%
	Will County and Grundy County	0.8%	0.1%	0.1%	0.2%	0.3%	0.8%	0.1%	1.3%	0.1%	0.1%	4.2%	8.4%
	Total Work Locations	25.6%	5.2%	3.5%	15.6%	7.0%	5.9%	8.2%	12.2%	3.5%	3.6%	5.7%	100.0%

Source: *Travel Tracker Survey*. Analysis by author.

Suburb-to-suburb commutes are the majority of commutes, comprising 56% of all commute trips. City-to-suburb commutes comprise an additional 6% of commute trips.

2000 CTPP zone to zone work flows for the Journey-to-work

For survey validation, the 2000 Census journey-to-work data was broken down into the same eleven-zone geography that was used with the 2008 household survey data. In Table 18, the zone to zone worker flows are shown. For comparison, the sum of the work trips to each zone in the 2008 household survey is also listed. The trends that were discussed for the survey data are reasonably true with the older census data. Since that data has been collected eight years apart, the data should not be an exact match. Similarities in the data lead one to believe that the 2008 household survey data is robust enough to give reasonable results at these smaller geographies.

Table 18 2000 Census Zone to Zone Work Flows for Journey-to-work by Share of all Work Trips

		Workplace Location											
		Central Chicago	North Chicago	South Chicago	North Cook County	West Cook County	South Cook County	Lake County	DuPage County	McHenry, Kendall and western Kane Counties	Eastern Kane County	Will County and Grundy County	Total Workers by Residence
Zone of Residence	Central Chicago	8.28%	0.93%	0.44%	1.16%	0.80%	0.28%	0.20%	0.48%	0.02%	0.05%	0.05%	**12.69%**
	North Chicago	4.19%	2.68%	0.19%	1.91%	0.80%	0.20%	0.26%	0.41%	0.02%	0.04%	0.02%	**10.73%**
	South Chicago	3.61%	0.41%	1.81%	0.49%	0.66%	0.63%	0.05%	0.26%	0.01%	0.02%	0.07%	**8.02%**
	North Cook County	1.99%	0.85%	0.09%	7.88%	0.59%	0.17%	1.07%	1.09%	0.11%	0.28%	0.04%	**14.16%**
	West Cook County	1.78%	0.49%	0.19%	0.85%	2.89%	0.31%	0.09%	1.14%	0.02%	0.04%	0.07%	**7.87%**
	South Cook County	2.04%	0.22%	0.65%	0.49%	0.75%	4.14%	0.04%	0.53%	0.01%	0.02%	0.40%	**9.30%**
	Lake County	0.58%	0.15%	0.02%	1.36%	0.12%	0.04%	5.54%	0.19%	0.17%	0.03%	0.01%	**8.22%**
	DuPage County	1.41%	0.26%	0.08%	1.29%	0.89%	0.18%	0.14%	7.57%	0.07%	0.43%	0.25%	**12.58%**
	McHenry, Kendall and western Kane	0.20%	0.07%	0.01%	0.62%	0.07%	0.02%	0.47%	0.40%	2.31%	0.59%	0.07%	**4.84%**
	Eastern Kane County	0.17%	0.06%	0.01%	0.52%	0.09%	0.02%	0.08%	0.86%	0.29%	2.54%	0.05%	**4.68%**
	Will County and Grundy County	0.59%	0.08%	0.10%	0.21%	0.34%	0.78%	0.03%	1.21%	0.04%	0.10%	3.42%	**6.91%**
	Total Work Locations	**24.85%**	**6.20%**	**3.58%**	**16.78%**	**8.02%**	**6.78%**	**7.97%**	**14.14%**	**3.06%**	**4.15%**	**4.47%**	
	2008 HHTS Data	25.6%	5.2%	3.5%	15.6%	7.0%	5.9%	8.2%	12.2%	3.5%	3.6%	5.7%	

Sources: *Travel Tracker Survey* and 2000 Decennial Censuses. Analysis by author

2008 Household survey: Destination zone of work trips for people who drove alone

We showed above that the zone where workers live has an influence on where a person might work. The next table (Table 19) shows that there is a close relationship between where people live and work and the mode that they use for their commute to work based on the 2008 household survey. This table shows the percentage of work trips that are completed by driving alone. For workers who lived in the central Chicago zone, only one-third of their work commutes were completed by driving alone when their work destination was the central Chicago zone. When workers from this zone had a reverse commute, and traveled to the northern Chicago zone, western Cook zone or DuPage County, between 53% and 58% of the work

commutes where by driving alone. Nearly 75 percent of the workers residing in the central Chicago zone workers drove alone when commuting to northern Cook County.

The work journey to the central Chicago zone has the lowest share of people driving alone. All of the eleven residential zones of workers have fewer than 50% of their workers driving alone to the central Chicago zone. It is interesting to note that the western Cook County zone has the highest share of workers driving alone to work to the central Chicago area.

In each collar county, at least four out of five people who work in that collar county drive alone to work. Three out of four people drive alone to work in suburban Cook County zones. Between two out of five and three out of five people drive alone to work in the three City of Chicago zones in this study.

Table 19 2008 Household Survey the Share of Journey-to-Work Trips Completed by Workers Driving Alone

		Workplace Location										
		Central Chicago	North Chicago	South Chicago	North Cook County	West Cook County	South Cook County	Lake County	DuPage County	McHenry, Kendall and western Kane Counties	Eastern Kane County	Will County and Grundy County
Zone of Residence	Central Chicago	32.4%	52.7%	70.4%	74.4%	56.2%	86.8%	91.0%	57.8%	0.0%	100.0%	44.7%
	North Chicago	39.1%	43.8%	37.8%	68.5%	59.8%	70.4%	91.6%	89.1%	58.4%	100.0%	100.0%
	South Chicago	42.9%	44.9%	54.6%	66.0%	59.3%	61.8%	100.0%	85.8%	*	*	100.0%
	North Cook County	39.7%	78.1%	100.0%	74.2%	87.8%	100.0%	78.1%	86.6%	100.0%	90.7%	100.0%
	West Cook County	47.3%	67.5%	92.6%	93.1%	59.3%	63.9%	100.0%	85.7%	*	76.9%	85.3%
	South Cook County	41.3%	80.1%	72.0%	95.8%	92.1%	73.3%	80.0%	93.5%	100.0%	100.0%	93.8%
	Lake County	35.3%	100.0%	0.0%	79.5%	100.0%	100.0%	79.8%	83.9%	98.9%	100.0%	*
	DuPage County	34.7%	86.6%	83.3%	93.7%	91.9%	81.4%	100.0%	80.1%	100.0%	86.6%	73.9%
	McHenry, Kendall and western Kane	15.8%	83.0%	100.0%	82.9%	69.0%	33.0%	93.1%	82.6%	85.5%	87.4%	90.5%
	Eastern Kane County	40.6%	100.0%	100.0%	91.4%	100.0%	100.0%	76.7%	76.6%	68.9%	78.5%	63.6%
	Will County and Grundy County	37.4%	73.3%	100.0%	70.5%	100.0%	93.7%	100.0%	82.9%	88.3%	92.8%	77.0%
	Total Work Locations	37.5%	56.9%	63.1%	77.3%	70.3%	75.8%	81.8%	80.7%	84.4%	83.3%	78.5%

Source: *Travel Tracker Survey.* Analysis by author.

2000 Census zone to zone work trips: share completed by driving alone

For validation, the 2000 Census zone-level data was also analyzed for the share of zone-to-zone work trips that were completed by driving alone. This data is shown in Table 20. The results

from the 2008 household survey are included at the bottom of the table for comparison. However, the definition used for driving alone in the survey data is slightly different than in the census data. In the census, providing transportation to someone who was not traveling to work would mean that the driver was traveling alone. In the analysis of the 2008 household survey data, anyone who shared their auto with someone is understood to be "carpooling" for this analysis. Because of this distinction, the survey data should have lower rates of driving alone to work compared to the census; in fact, the data confirms this.

In the census data, examining the share of workers who drove alone to the central Chicago area, western Cook County still has the highest share of workers who drove alone, but the southern area of Cook County and the suburbs to the south have nearly the same share of driving alone to work. Future analysis will have to be completed to determine if these drivers are providing additional transportation or if the two data sets disagree on this point.

Table 20 2000 CTPP Zone to Zone Share of Journey-to-Work Trips Completed by Workers Driving Alone

		Workplace Location										
		Central Chicago	North Chicago	South Chicago	North Cook County	West Cook County	South Cook County	Lake County	DuPage County	McHenry, Kendall and western Kane Counties	Eastern Kane County	Will County and Grundy County
Zone of Residence	Central Chicago	30%	53%	54%	62%	59%	62%	64%	66%	50%	44%	55%
	North Chicago	44%	52%	66%	70%	68%	72%	72%	76%	54%	63%	84%
	South Chicago	48%	59%	54%	68%	70%	74%	62%	76%	47%	62%	80%
	North Cook County	49%	86%	76%	79%	88%	84%	89%	91%	86%	87%	86%
	West Cook County	55%	78%	77%	80%	71%	83%	81%	82%	69%	80%	78%
	South Cook County	54%	78%	84%	82%	88%	80%	70%	90%	90%	77%	85%
	Lake County	45%	84%	83%	90%	90%	83%	79%	91%	83%	82%	89%
	DuPage County	41%	87%	88%	92%	92%	90%	90%	82%	91%	88%	91%
	McHenry, Kendall and western Kane	45%	89%	75%	90%	87%	90%	92%	91%	78%	92%	92%
	Eastern Kane County	45%	87%	82%	90%	86%	72%	82%	86%	78%	77%	82%
	Will County and Grundy County	52%	86%	89%	89%	92%	93%	81%	91%	90%	91%	82%
	Total Work Locations	42%	64%	64%	79%	76%	81%	80%	83%	79%	81%	83%
	2008 HHTS Data	37.5%	56.9%	63.1%	77.3%	70.3%	75.8%	81.8%	80.7%	84.4%	83.3%	78.5%

Sources: *Travel Tracker Survey* and 2000 Decennial Censuses

Modes for all 2008 household survey trips by zone

The previous sections have shown that the 2008 household survey for the seven-county Chicago region produces journey-to-work results that are consistent with previous census surveys at the zone level for the region. In this section, which describes four tables of mode choice for all travel, it should be stated that these statistics are based on individual trips from one point to the next destination and are not based on trip chains or tours which might include more than one stop. Also, the only trips that are included are trips taken by a resident of the region. The trip must be entirely within the region. Unless stated otherwise, the location of travel is assigned to the home location of the traveler.

The following table (Table 21) has the percentage of the trip mileage for total trips by zone of origin by mode. The trips include all age groups and all days of the week, but only include the links that were totally within the region. Note: the distance traveled is based on the straight line distance between the origin and destination of the trip, not the distance that was actually traveled. The actual distance traveled might vary, but for trips of between 3 and 15 miles, the median route based distance in the sample of trips was about 1.5 times the straight line distance.

Drivers of autos produce the largest share of personal miles of travel for every zone. The three Chicago zones have the smallest share of mileage due to drivers, with the southern Chicago zone having the lowest total. Passenger mileage varied throughout the region, but the ratio of passenger travel to driver travel was highest in the Chicago zones.

Walking mileage and bicycling mileage has the highest share of travel in the central Chicago zone. The highest mileage rates for the CTA bus and train were also in the central Chicago zone, but the northern section of Chicago had a similar rate for CTA train use and the southern Chicago zone had a similar mileage rate for CTA bus use. Aside from Chicago, the western part of Cook County had the highest mileage rate for CTA trains.

For the region, Metra rail service produces nearly as many miles of personal travel as the CTA and Pace services combined. Metra had its highest shares of personal travel in the suburban areas of the region. DuPage County produced the highest share of personal miles of travel from Metra use. The western section of Cook County had the lowest share of mileage resulting from using Metra.

The highest share of personal mileage for Pace is in the southern section of Cook County. All of the Chicago zones had higher shares of mileage from using Pace bus service than the farthest outlying suburbs.

Table 21 2008 Household Survey Share of Total Mileage of Travel by Mode by Residents of each Zone- All People, All Trips, All Days of the Week

	Walk	Bike	Driver	Passenger	CTA Bus	CTA Train	Pace	Metra	Private Shuttle Bus	Para-transit	School Bus	Taxi	Other
Central Chicago	6.1%	1.4%	49.8%	22.9%	9.1%	7.1%	0.3%	1.8%	0.1%	0.1%	0.3%	1.0%	0.1%
North Chicago	4.2%	0.7%	52.9%	28.7%	4.1%	6.8%	0.6%	0.9%	0.2%	0.0%	0.5%	0.2%	0.2%
South Chicago	4.2%	0.0%	46.0%	30.6%	8.4%	4.8%	0.6%	2.4%	0.7%	0.2%	1.5%	0.3%	0.2%
North Cook County	2.0%	0.8%	64.6%	22.0%	0.7%	1.4%	0.5%	5.9%	0.2%	0.0%	1.7%	0.1%	0.1%
West Cook County	1.8%	0.3%	60.7%	26.8%	0.7%	4.6%	0.7%	2.6%	0.2%	0.1%	1.3%	0.1%	0.1%
South Cook County	2.5%	0.1%	63.6%	21.8%	0.4%	1.4%	1.4%	6.9%	0.3%	0.1%	1.4%	0.0%	0.0%
Lake County	0.5%	0.1%	67.3%	23.3%	0.1%	0.1%	0.1%	6.1%	0.2%	0.0%	1.9%	0.2%	0.1%
DuPage County	1.1%	0.5%	64.2%	23.9%	0.1%	1.0%	0.4%	7.5%	0.2%	0.0%	0.8%	0.2%	0.1%
McHenry, Kendall and western Kane Counties	0.7%	0.1%	62.9%	28.4%	0.6%	0.3%	0.0%	4.8%	0.0%	0.0%	2.0%	0.2%	0.0%
Eastern Kane County	1.7%	0.1%	69.4%	22.3%	0.1%	0.0%	0.0%	5.4%	0.0%	0.0%	1.0%	0.0%	0.0%
Will County and Grundy County	0.8%	0.1%	63.3%	28.6%	0.1%	0.3%	0.1%	5.3%	0.1%	0.0%	1.1%	0.2%	0.0%
Region	2.2%	0.4%	60.7%	25.3%	2.0%	2.3%	0.5%	4.8%	0.2%	0.0%	1.2%	0.2%	0.1%

Source: *Travel Tracker Survey.* Analysis by author.

In Table 22, the data is similar to the 1990 survey in that all of the travelers are over 13 years of age and only the weekdays are included. Once again the 2008 household survey data is analyzed by each mode's share of personal miles of travel produced in each of the eleven zones in the region.

The results are similar to the previous table in that driving produces the largest share of personal miles of travel, but now all of the shares are at least 55% of travel. The passenger travel has

been reduced by one-half in most zones. The central Chicago zone has retained the most passenger travel and, along with the northern Chicago zone, has the highest share of mileage produced by passenger travel.

The use of Metra has similar proportions between the zones in Table 21 and Table 22, but the share of travel resulting from Metra users has increased from 4.8% of the total mileage to 6.8% of the total mileage. CTA bus and train service increase their share of mileage when only adults and young adults traveling during the weekdays are considered, but the increase was not as great as for Metra. The share of personal travel mileage produced by walking was less when only the weekdays and older travelers were included.

Table 22 2008 Household Survey Share of Total Mileage of Travel by Mode by Residents of each Zone- People Over 13 Years Old, All Trips, Only Weekday Travel

	Walk	Bike	Driver	Passenger	CTA Bus	CTA Train	Pace	METRA	Private Shuttle Bus	Para-transit	School Bus	Taxi	Other
Central Chicago	5.6%	1.5%	55.4%	15.4%	10.1%	7.5%	0.4%	2.3%	0.2%	0.1%	0.4%	1.0%	0.0%
North Chicago	4.3%	0.9%	59.7%	15.6%	5.5%	10.3%	0.8%	1.6%	0.3%	0.0%	0.4%	0.3%	0.3%
South Chicago	3.6%	0.0%	55.6%	14.6%	11.4%	6.9%	0.9%	3.9%	0.7%	0.4%	1.8%	0.2%	0.3%
North Cook County	1.5%	0.6%	73.2%	11.2%	0.6%	1.9%	0.8%	8.5%	0.2%	0.0%	1.3%	0.1%	0.1%
West Cook County	1.6%	0.3%	73.2%	13.2%	0.9%	4.8%	0.9%	3.8%	0.2%	0.1%	0.7%	0.1%	0.2%
South Cook County	1.7%	0.1%	72.4%	12.8%	0.5%	1.3%	1.3%	8.5%	0.3%	0.2%	0.9%	0.0%	0.1%
Lake County	0.4%	0.1%	79.5%	9.5%	0.2%	0.1%	0.1%	8.8%	0.1%	0.0%	1.0%	0.1%	0.1%
DuPage County	1.5%	0.2%	75.1%	10.1%	0.2%	0.3%	0.5%	10.7%	0.4%	0.0%	0.7%	0.2%	0.1%
McHenry, Kendall and western Kane Counties	1.0%	0.2%	77.9%	12.5%	0.8%	0.4%	0.0%	6.8%	0.0%	0.0%	0.4%	0.0%	0.0%
Eastern Kane County	0.5%	0.2%	80.4%	11.2%	0.1%	0.1%	0.1%	7.0%	0.0%	0.0%	0.4%	0.0%	0.0%
Will County and Grundy County	0.4%	0.1%	78.0%	13.0%	0.2%	0.1%	0.1%	7.1%	0.2%	0.0%	0.5%	0.3%	0.0%
Region	1.9%	0.4%	71.4%	12.4%	2.4%	2.7%	0.6%	6.8%	0.2%	0.1%	0.8%	0.2%	0.1%

Source: *Travel Tracker Survey.* Analysis by author.

The distance of travel produced by each mode was described in the previous two tables, but now the share of trips produced by each mode will be examined regardless of the distance traveled. In Table 23, the share of all trips by mode for all travelers and all days of the week is displayed. The most noticeable difference, compared to the mileage based comparisons, is that the walking trips become much more significant. For the region, over 10% of the trips are completed by walking. Within the central Chicago zone, over one-quarter of trips are completed on foot. With the exception of the eastern Kane County zone, the farther out from the center of Chicago, the lower the general rate of pedestrian trips.

The bicycle sample is fairly small in the survey and it is difficult to draw strong conclusions at the zone level for the 2008 household survey, but the central Chicago, northern Chicago and northern Cook County zones seem to have the highest shares of travel completed by using bicycles.

Contrary to the mileage analysis, Metra riders only account for about one-fifth of the trips that are produced by the combination of Pace and the CTA bus and rail service.

The auto share of trips is much lower than the auto share of daily mileage. In the central Chicago zone, only one in three trips are completed by a driver and only about one-half of the trips in this zone are completed by using an automobile. On the other end of the spectrum, in some of the outer zones, over 90% of all trips are completed by using an automobile.

The central and southern Chicago zones have the highest use of CTA bus service. CTA train use is most frequent in the northern Chicago zone and in the central Chicago zone. Pace is most frequently used, as a share of all trips taken, in the southern and western zones of Cook County.

Table 23 2008 Household Survey Share of Total Trips by Mode by Residents of each Zone- All People, All Trips, All Days of the Week

	Walk	Bike	Driver	Passenger	CTA Bus	CTA Train	Pace	METRA	Private Shuttle Bus	Para-transit	School Bus	Taxi	Other
Central Chicago	26.4%	2.0%	33.3%	20.0%	10.9%	4.6%	0.2%	0.6%	0.1%	0.1%	0.3%	1.0%	0.3%
North Chicago	15.3%	1.5%	44.2%	24.4%	6.9%	5.2%	0.5%	0.4%	0.2%	0.0%	0.9%	0.2%	0.2%
South Chicago	13.2%	0.1%	41.1%	27.5%	11.3%	3.1%	0.7%	1.0%	0.3%	0.2%	0.7%	0.5%	0.2%
North Cook County	8.3%	1.4%	59.3%	25.3%	0.6%	1.0%	0.5%	1.4%	0.1%	0.0%	1.9%	0.1%	0.1%
West Cook County	11.0%	0.9%	53.0%	27.0%	1.3%	2.4%	1.3%	0.9%	0.1%	0.0%	1.7%	0.2%	0.1%
South Cook County	6.7%	0.5%	59.2%	26.6%	0.5%	0.8%	1.2%	1.8%	0.2%	0.1%	2.5%	0.0%	0.1%
Lake County	4.2%	0.3%	61.3%	28.6%	0.3%	0.0%	0.1%	1.2%	0.2%	0.0%	3.4%	0.2%	0.2%
DuPage County	6.6%	1.5%	59.1%	28.4%	0.2%	0.4%	0.2%	1.8%	0.1%	0.0%	1.5%	0.1%	0.2%
McHenry, Kendall and western Kane Counties	2.8%	0.3%	62.9%	29.2%	0.2%	0.1%	0.0%	0.9%	0.1%	0.0%	2.7%	0.5%	0.2%
Eastern Kane County	9.4%	0.1%	55.6%	30.6%	0.2%	0.0%	0.2%	1.7%	0.0%	0.0%	2.1%	0.0%	0.0%
Will County and Grundy County	3.8%	0.6%	61.2%	29.4%	0.1%	0.2%	0.1%	1.1%	0.2%	0.0%	3.2%	0.1%	0.1%
Region	10.4%	1.0%	53.0%	26.5%	3.3%	1.8%	0.5%	1.2%	0.1%	0.0%	1.8%	0.3%	0.2%

Source: *Travel Tracker Survey.* Analysis by author.

The last table in this section tallies the share of trips that take place on weekdays, by travelers over the age of 13. The shares are displayed by mode of travel and zone of resident. While this limited population shows a lower rate of walking trips than the broader population, the share of trips did not fall as much (comparing Table 23 and Table 24) as the share of distance did in comparing Table 21 and Table 22. The share of driving trips increased, as it did in the mileage analysis. Also similar to the mileage analysis, the passenger travel decreased by about one-half.

All modes of transit increased in their share of trips when child and weekend trips were taken out of the analysis. Of the transit modes, Metra had the largest proportional increase in its share of trips.

Table 24 2008 Household Survey Share of Total Trips by Mode by Residents of each Zone-People Over 13 years Old, All Trips, Only Weekday Travel

	Walk	Bike	Driver	Passenger	CTA Bus	CTA Train	Pace	Metra	Private Shuttle Bus	Para-transit	School Bus	Taxi	Other
Central Chicago	25.0%	2.3%	39.0%	12.1%	12.6%	5.7%	0.3%	0.9%	0.2%	0.1%	0.3%	1.1%	0.3%
North Chicago	15.3%	1.2%	51.6%	12.3%	9.2%	7.7%	0.6%	0.7%	0.3%	0.0%	0.3%	0.4%	0.3%
South Chicago	11.0%	0.1%	51.3%	13.9%	14.6%	4.7%	1.0%	1.7%	0.3%	0.3%	0.5%	0.4%	0.3%
North Cook County	7.4%	1.2%	72.7%	12.3%	0.7%	1.4%	0.6%	2.2%	0.2%	0.0%	0.9%	0.2%	0.1%
West Cook County	10.3%	0.7%	65.7%	14.6%	1.5%	2.9%	1.4%	1.3%	0.1%	0.1%	0.9%	0.2%	0.2%
South Cook County	6.0%	0.3%	71.2%	15.2%	0.7%	0.9%	1.3%	2.4%	0.2%	0.1%	1.6%	0.0%	0.1%
Lake County	3.7%	0.2%	79.1%	12.6%	0.4%	0.0%	0.2%	1.8%	0.1%	0.0%	1.5%	0.1%	0.2%
DuPage County	5.9%	0.7%	75.3%	12.9%	0.2%	0.1%	0.4%	2.8%	0.2%	0.0%	0.9%	0.1%	0.5%
McHenry, Kendall and western Kane Counties	3.4%	0.3%	79.5%	13.8%	0.3%	0.1%	0.1%	1.2%	0.0%	0.0%	1.0%	0.0%	0.3%
Eastern Kane County	5.0%	0.2%	73.5%	18.0%	0.2%	0.1%	0.3%	1.7%	0.0%	0.0%	0.8%	0.0%	0.0%
Will County and Grundy County	2.9%	0.3%	77.9%	14.5%	0.2%	0.2%	0.2%	1.6%	0.2%	0.0%	1.7%	0.2%	0.1%
Region	9.5%	0.8%	65.8%	13.5%	4.0%	2.4%	0.6%	1.7%	0.2%	0.1%	0.9%	0.3%	0.2%

Source: *Travel Tracker Survey*. Analysis by author.

2008 Household survey: Mode use by age

This section describes the relationship between the mode of travel and the age of the traveler. The analysis is based on age groupings of 10 years each. In addition, the region has been split into three areas: Chicago, suburban Cook County, and the Collar Counties.

The mode splits by age for the region are shown in Table 25. The most frequent mode used is driving a vehicle, and of all groups, those spanning the ages between 40 and 59 complete the highest share of their trips by driving. Of the age groups that can drive, travelers 20 to 29 years

of age have the lowest share of their trips completed by driving a vehicle. For people in the region between 60 and 89 years of age, when they travel, they generally complete two out of three trips by driving.

For the passenger mode, about three-fourths of the trips for children under age 10 are completed as passengers of vehicles. For the people between 10 and 29 years of age, about one-half of their trips are completed as passengers of vehicles. Travelers between the ages of 40 and 49 were least likely to travel as a passenger.

Travelers under the age of 20 have the highest shares of walking trips. These age groups have twice the share of trips that are walking as compared to the age group with the lowest share, travelers between 50 and 59 years of age.

Transit use provides the greatest share of trips for the age group of people between the ages of 20 and 29. An exception to this is for Metra users, for whom the highest share trips taken are for the group between 30 and 39 years of age.

Table 25 2008 Household Survey Mode Share by Age for the Northeastern Illinois Region

Age	Walk	Bike	Driver	Passenger	CTA Bus	CTA Train	Pace	METRA	Private Shuttle Bus	Para-transit	School Bus	Taxi	Other
1 to 9	501,489	19,317		2,679,256	60,721	8,997	7,044	7,643	3,140		154,226	8,787	1,009
10 to 19	549,914	94,528	505,833	1,949,927	155,501	42,305	25,686	16,892	1,846		353,334	3,905	5,172
20 to 29	269,091	33,494	1,555,070	428,878	129,657	128,707	20,229	35,477	1,000	544	7,048	9,708	2,193
30 to 39	527,165	52,036	2,998,667	586,684	152,840	135,202	20,852	90,705	2,397	990	1,441	31,833	8,368
40 to 49	435,699	43,128	3,846,617	538,974	150,077	99,793	24,787	84,182	5,115	1,891	572	8,463	9,785
50 to 59	332,353	23,483	3,392,347	559,189	152,868	76,200	23,790	70,216	11,489	3,127	1,252	9,229	10,478
60 to 69	251,849	13,217	1,934,267	467,716	94,471	27,179	10,718	23,678	4,164	3,587	191	7,355	5,194
70 to 79	93,417	5,097	847,538	241,076	37,773	6,113	5,127	3,784	4,735	2,239	207	1,308	3,141
80 to 89	24,186	361	274,390	103,421	12,376	688	1,126	456	5,670	909		1,829	1,198
Total	3,080,705	286,800	15,687,783	7,854,851	969,078	536,907	141,247	344,196	43,433	13,286	526,660	84,756	47,387

Source: *Travel Tracker Survey.* Analysis by author.

The following three tables show the mode use by age group for Chicago (Table 26), suburban Cook County (Table 27) and the Collar Counties (Table 28), respectively. These tables show the weighted counts of daily users for each mode. The main modes of travel are graphed in the figures below the tables and will be discussed by comparing the mode splits for each area. Some of the modes with relatively few users, such as para-transit or shuttle buses, are of too small a sample size for comparisons to be made.

Table 26 2008 Household Survey Mode Share of Trips by Age for Chicago

Chicago														
Age	Walk	Bike	Driver	Passenger	CTA Bus	CTA Train	Pace	METRA	Private Shuttle Bus	Para-transit	School Bus	Taxi	Other	Total
1 to 9	237,133	5,227		641,220	54,642	6,571	231	592	322		13,577	1,923	341	961,780
10 to 19	274,931	19,922	68,016	538,667	146,674	35,066	13,297	6,075			40,443	972	1,233	1,145,296
20 to 29	195,831	24,252	475,966	143,619	124,437	102,049	2,691	10,557	228	289		9,540	1,200	1,090,659
30 to 39	333,872	40,307	874,797	207,389	137,514	106,020	5,831	15,021	912	912	557	19,990	3,291	1,746,414
40 to 49	206,914	12,759	758,353	149,537	137,437	67,275	3,215	10,904	2,185	1,891		6,095	5,146	1,361,711
50 to 59	185,030	5,261	708,951	147,725	127,851	50,143	7,551	10,351	6,371	1,954	313	4,916	4,915	1,261,331
60 to 69	140,676	4,587	397,483	174,352	89,165	19,361	2,734	5,497	2,095	3,070		5,769	3,745	848,533
70 to 79	53,771	489	173,291	54,020	31,867	3,183	3,139	686	2,788	1,096	207	1,060	500	326,097
80 to 89	13,028		44,314	30,640	12,376	370	555	376	2,003	550		1,150	454	105,817
Total	1,641,186	112,804	3,501,171	2,087,170	861,964	390,039	39,244	60,059	16,903	9,762	55,098	51,414	20,826	8,847,638

Source: *Travel Tracker Survey*. Analysis by author.

Table 27 2008 Household Survey Mode Share of Trips by Age for Suburban Cook County

Suburban Cook County														
Age	Walk	Bike	Driver	Passenger	CTA Bus	CTA Train	Pace	METRA	Private Shuttle Bus	Para-transit	School Bus	Taxi	Other	Total
1 to 9	135,204	7,362		844,437	6,079	2,426	6,813	1,576	310		52,474	487	369	1,057,537
10 to 19	163,371	28,431	191,318	604,585	6,036	5,959	10,601	7,093	403		128,021	2,933	1,659	1,150,410
20 to 29	46,989	8,012	467,525	122,643	2,554	20,118	14,267	9,875	562	255	2,374		351	695,525
30 to 39	92,045	8,313	849,401	138,854	11,982	22,745	13,165	25,624	850	78	325	1,225	831	1,165,439
40 to 49	142,052	20,908	1,241,178	156,490	7,307	29,580	18,589	38,979	1,529		166	1,197	1,631	1,659,605
50 to 59	90,410	10,533	1,191,506	182,097	19,325	23,299	11,770	29,855	3,735	1,173	217	813	2,362	1,567,094
60 to 69	65,859	6,975	720,077	118,348	3,599	7,008	5,131	9,385	1,401	517	191	1,345	586	940,423
70 to 79	24,203	462	347,490	93,957	5,705	2,930	1,700	1,802	141	1,143		80	373	479,988
80 to 89	5,553	201	137,482	36,264		319	241	80	1,716	358		679	136	183,027
Total	765,685	91,198	5,145,976	2,297,675	62,586	114,384	82,277	124,270	10,647	3,525	183,768	8,760	8,298	8,899,048

Source: *Travel Tracker Survey*. Analysis by author.

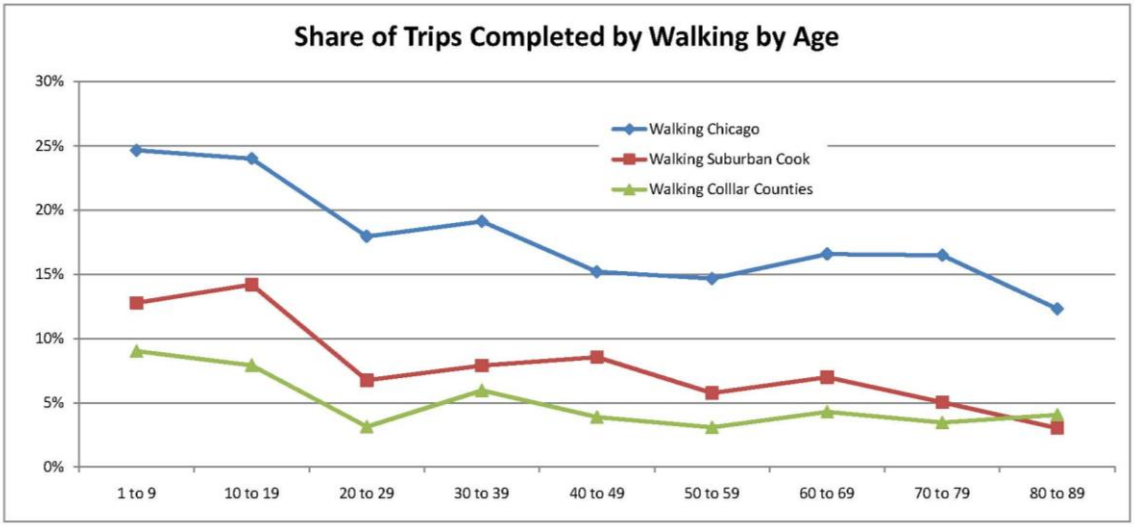
Table 28 2008 Household Survey Mode Share of Trips by Age for Seven Chicago Region Collar Counties

Collar Counties														
Age	Walk	Bike	Driver	Passenger	CTA Bus	CTA Train	Pace	METRA	Private Shuttle Bus	Para-transit	School Bus	Taxi	Other	Total
1 to 9	129,152	6,727		1,193,599				5,475	2,508		88,174	6,377	299	1,432,313
10 to 19	111,613	46,174	246,499	806,676	2,791	1,280	1,788	3,724	1,443		184,869		2,279	1,409,136
20 to 29	26,271	1,230	611,579	162,615	2,666	6,541	3,272	15,045	210		4,675	168	641	834,913
30 to 39	101,248	3,416	1,274,469	240,441	3,344	6,436	1,856	50,060	635		559	10,618	4,246	1,697,328
40 to 49	86,734	9,461	1,847,086	232,946	5,333	2,938	2,983	34,299	1,401		406	1,171	3,008	2,227,765
50 to 59	56,913	7,689	1,491,891	229,367	5,692	2,758	4,469	30,010	1,383		722	3,500	3,201	1,837,595
60 to 69	45,314	1,655	816,708	175,015	1,707	810	2,852	8,796	668			242	863	1,054,630
70 to 79	15,442	4,146	326,757	93,099	201		288	1,295	1,806			169	2,268	445,469
80 to 89	5,606	160	92,594	36,517			330		1,951				608	137,767
Total	578,293	80,659	6,707,583	3,170,275	21,733	20,761	17,838	148,703	12,004	0	279,406	22,245	17,414	11,076,914

Source: *Travel Tracker Survey*. Analysis by author.

The aged-based share of trips that are taken by walking is shown in Figure 2 for each area. The three areas have a different overall share of walking trips. Chicago has 2 to 3 times the share of walking trips for all age categories compared to suburban Cook County and the Collar Counties, respectively. Suburban Cook County has a greater share of trips that are walking trips compared to the Collar counties. Walking trips are a greater share of trips for travelers under the age of 20 in all three areas.

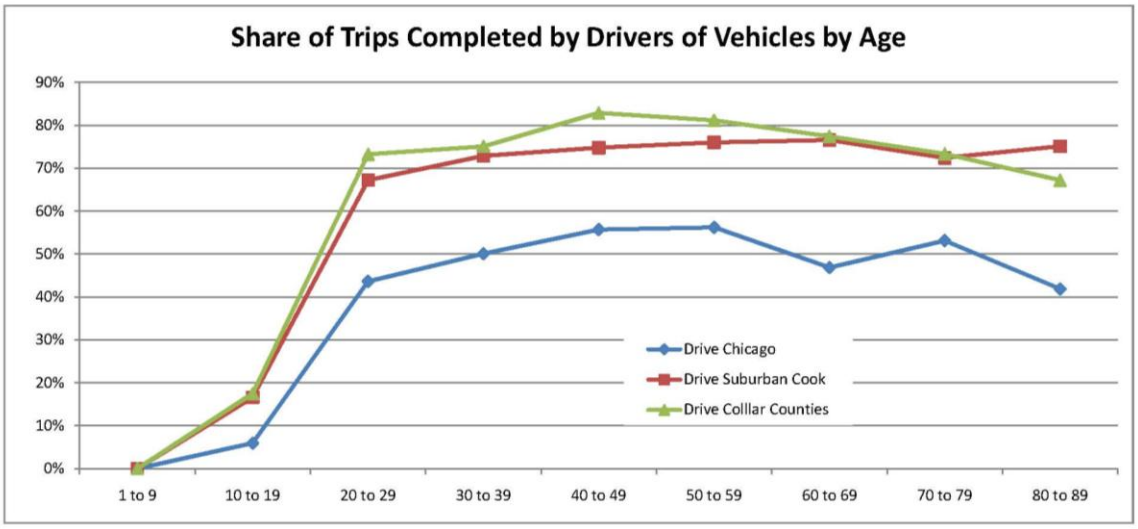
Figure 2 Share of Trips Completed by Walking by Age Group



Source: *Travel Tracker Survey.* Analysis by author.

The shares of trips that were completed by driving a vehicle are graphed in Figure 3 for the sub-areas of the region. The suburban groups have a very similar pattern, except that the Collar Counties have an increased share of driving for travelers between the ages of 40 and 59. As adults age to 60, it appears that they slightly increase their share of trips that are completed by driving a vehicle. Travelers from Chicago generally complete 15 to 20 percentage points fewer trips by driving a vehicle compared to the suburbs, for all adult age groups.

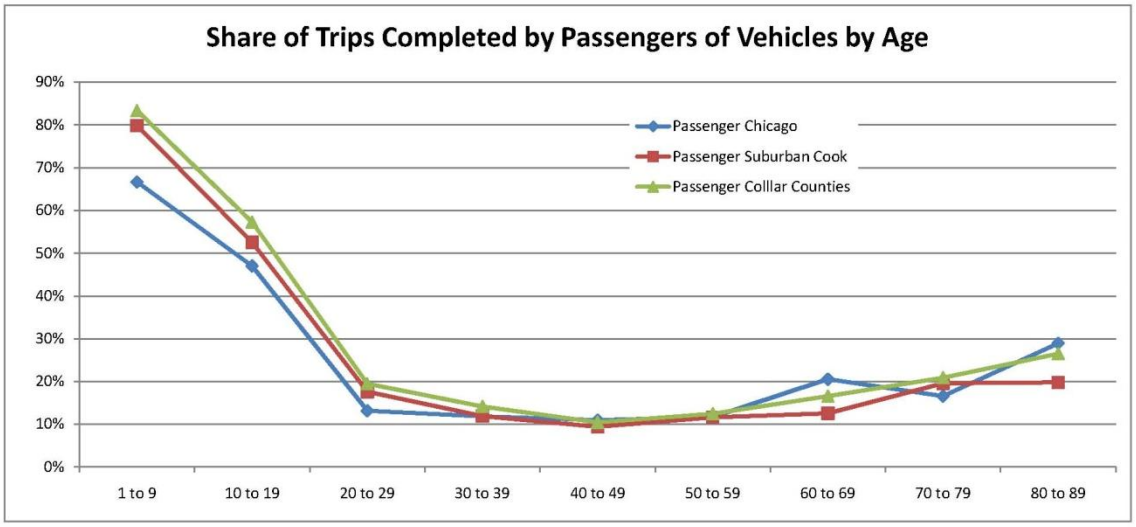
Figure 3 Share of Trips Completed by Driving by Age Group



Source: *Travel Tracker Survey.* Analysis by author.

The share of trips that are completed as a passenger of a vehicle are very similar for all age groups in suburban Cook County and the Collar Counties(Figure 4). Chicago has a similar profile for people 30 years of age and older, but for those below the age of 30, there was a smaller share of trips completed as a passenger in Chicago compared to the suburbs.

Figure 4 Share of Trips Completed by Passengers of Vehicles by Age Group



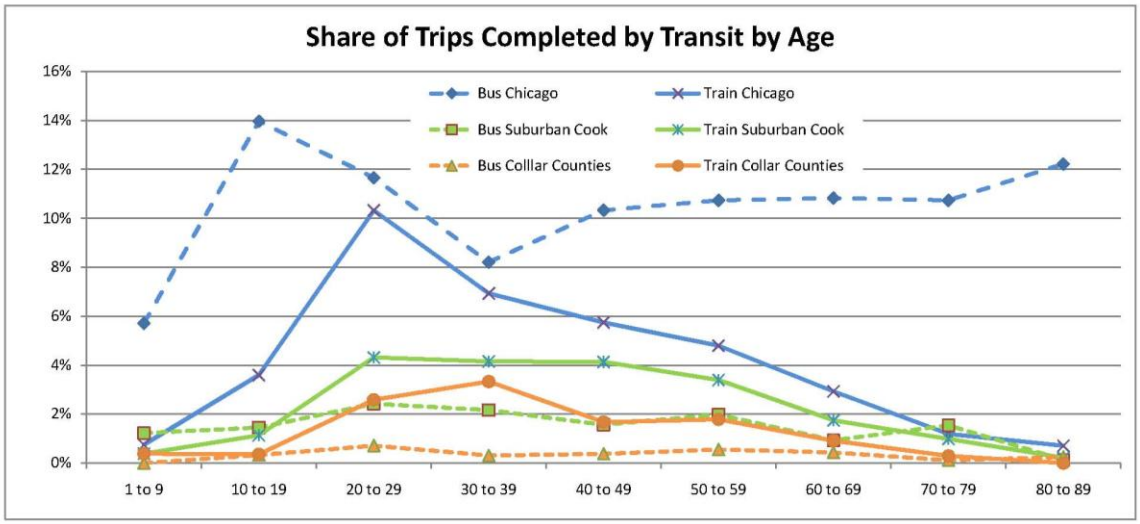
Source: *Travel Tracker Survey.* Analysis by author.

The transit share for the sub-areas in the region is depicted in Figure 5. This chart combines the Pace bus and CTA bus trips and combines the Metra train and CTA train trips. In the suburbs, trains provide a greater share of trips compared to bus service, but the shares in suburban Cook County are higher than in the Collar counties for both modes. In the suburbs, the share of train service peaks in the ages between 20 and 39. This is also the case for suburban bus service. Both

transit modes provide a greater share of the trips in suburban Cook than in the Collar Counties for all adult age groups.

Transit use in Chicago is very different than in the suburbs. Both train and bus trip shares in Chicago are greater for each age group than either transit share in the suburbs. In Chicago, the bus share is higher than the train mode share for every age group. Bus use share peaks for travelers between the ages of 10 and 19 in Chicago, whereas for the train mode in Chicago and both modes in the suburbs, this age group has a relatively small share compared to older groups. For bus use in Chicago, there is a drop in use for travelers aged 30 to 39, but the use rate for buses increases for older group and remains near the 11% mark for the majority of adults. For all other modes and areas, there is a decrease in transit use for the older age groups, but older travelers in Chicago rely on bus use to a greater degree than other areas and other modes.

Figure 5 Share of Trips Completed by Transit by Age Group



Source: *Travel Tracker Survey.* Analysis by author.

Purpose of Trips and Trip Chains

Trip chain frequency by purpose

In the previous sections the mode of all trips, and specifically the work trip, has been analyzed based on the travel surveys and also the previous census data. This section will begin to address additional trip purposes based on the type of trip chain.

Regional distance per trip chain by purpose 2008 and 1990 surveys

Travel can be examined by the individual links and specific trips, but travel can also be analyzed by examining trip chains that form a loop that begin and end at one location. This allows one to understand the overall purpose of the travel. A person might eat a meal far from home, but the person was only at this location due to work duties. Typically, analysis of trip chains, or tours,

involves home to home chains, work to work chains or shop to shop chains. However, these chains may contain other intermediate trips with distinct purposes. For instance, a home-based work chain begins and ends at home and contains a work destination, but it may also include a trip to a restaurant and a school dropoff.

To facilitate comparisons between the 1990 and 2008 household surveys, the following tables are based on trip chains that are taken by travelers over 13 years of age and on weekdays only. The data for this comparison has been modified so that the two sets provide similar measures, but some of the differences may be due to the differences in the surveys themselves and not as a result of changes in travel patterns.

The following table (Table 29) shows the average mileage[17] for specific types of travel chains in the 1990 and 2008 household surveys. For the entire region, the average work chain is nearly twice the distance as the average home-based shopping chain. Home-based chains that include both shopping and work tend to be the longest trip chains and are about 25% longer than work chains, without shopping. However, the average work and shop chain is shorter than the combination of the average work chain and average shopping chain. Chains without shopping or work are the shortest, on average.

The length of the travel chains has increased between 1990 and 2008. The average trip chain has increased about 2% in distance, but the individual types of chains have more variation. The chains that include work have increased an average of 3% in distance, but the trips which include shopping, but not work, have increased by 24% in distance. In absolute numbers, the average shopping chain has increased by 2.1 miles whereas the average work chain increased by 0.6 miles. The chains that include both working and shopping increased in distance by 20% and an absolute distance of 4.3 miles.

Table 29 Mileage per Trip Chain for the 1990 and 2008 Household Surveys by Chain Type

Milage per Chain	Work	Shop	Work with Shop	Other	All
Region 2008	20.3	10.7	25.6	9.1	13.7
Region 1990	19.7	8.6	21.3	8.9	13.4

Sources: *Travel Tracker Survey* and *1990 Household Travel Survey.* Analysis by author.

Zone of residence: Distance per trip chain purpose 2008 and 1990 household surveys

In Table 30, the distance of the trip chains for the 1990 and 2008 household surveys are displayed by zone. The shortest trip chains are in the central Chicago zone. The residents from this area had shorter trip chains in 2008 than they had in 1990, due to shorter work trip chains, even though the shopping chain has increased in length.

The work trip chains in many outlying areas have gotten shorter since 1990 while the average shopping trip chains in those areas have generally increased in length. However, in the Will and Grundy County zone, work trip lengths increased substantially.

[17] This is the straight line distance of each individual link or trip, not the distance actually traveled.

Table 30 Mileage per Trip Chain for the 1990 and 2008 household surveys by Chain Type and Zone of Residence

		Work	Shop	Work with Shop	Other	All
Central Chicago	2008	12.7	7.0	14.3	6.0	8.9
	1990	13.2	5.3	16.3	6.7	9.7
North Chicago	2008	15.1	9.7	21.9	9.1	11.9
	1990	13.5	6.1	16.4	8.2	10.1
South Chicago	2008	17.0	11.2	21.5	9.1	12.1
	1990	19.1	8.8	21.0	9.6	13.2
North Cook County	2008	19.7	9.9	22.7	8.3	13.0
	1990	21.1	8.5	22.7	9.3	14.2
West Cook County	2008	15.5	7.0	23.1	6.5	10.0
	1990	15.9	8.7	19.4	7.6	11.1
South Cook County	2008	23.4	10.2	31.6	9.8	14.7
	1990	24.4	9.7	23.9	9.9	15.5
Lake County	2008	23.4	13.1	28.1	10.5	16.4
	1990	25.6	11.0	26.2	10.7	17.1
DuPage County	2008	23.8	11.5	27.4	9.9	15.3
	1990	22.4	8.5	23.4	8.9	14.5
McHenry, Kendall and western Kane Counties	2008	27.2	15.6	36.4	13.5	19.7
	1990	28.8	13.4	29.0	11.8	19.1
Eastern Kane County	2008	24.1	10.2	25.6	8.6	14.8
	1990	28.6	11.3	24.1	9.8	17.8
Will County and Grundy County	2008	27.6	14.7	38.3	11.9	18.8
	1990	19.7	8.6	21.3	8.9	13.4

Sources: *Travel Tracker Survey* and *1990 Household Travel Survey.* Analysis by author.

Regional number of trip chains by purpose 2008 and 1990 surveys

Table 31shows that the total number of travel chains per person increased between the 1990 and 2008 household surveys. However, the number of chains that involved work decreased. The number of travel chains on the weekdays that do not include shopping or work increased.

Table 31 Number of Trip Chains per Person by Purpose, 1990 and 2008 Household Surveys

	Work	Shop	Work with Shop	Other	Total		Any Work
Region 2008	0.42	0.26	0.07	0.60	1.34		0.48
Region 1990	0.47	0.24	0.06	0.51	1.28		0.53

Sources: *Travel Tracker Survey* and *1990 Household Travel Survey*. Analysis by author.

Zone of Residence: Number of trip chains by purpose 2008 and 1990 surveys

Within each zone, the average number of work trip chains per person has decreased between 1990 and 2008, as is shown in Table 32. These include trip chains with any type of work purpose. The lowest work trip chain rates are in the southern Chicago zone and southern Cook County zone. The highest rate is in Lake County. The highest number of average trip chains per person is in DuPage County; the lowest rate is in the southern Chicago zone. The average number of trip chains with the purpose that is not working or shopping, has increased in almost every zone.

Table 32 Number of Trip Chains per Person by Trip Purpose: 1990 and 2008 Household Surveys for Each Zone

		Work	Shop	Work with Shop	Other	Total		Any Work
Central Chicago	2008	0.43	0.23	0.06	0.55	1.27		0.50
	1990	0.48	0.17	0.06	0.42	1.13		0.53
North Chicago	2008	0.40	0.27	0.07	0.53	1.28		0.48
	1990	0.45	0.22	0.06	0.51	1.25		0.51
South Chicago	2008	0.30	0.27	0.05	0.57	1.19		0.35
	1990	0.40	0.22	0.04	0.48	1.14		0.44
North Cook County	2008	0.44	0.26	0.07	0.62	1.40		0.51
	1990	0.49	0.25	0.07	0.53	1.34		0.56
West Cook County	2008	0.42	0.27	0.06	0.64	1.40		0.49
	1990	0.46	0.29	0.05	0.55	1.35		0.51
South Cook County	2008	0.39	0.28	0.06	0.67	1.40		0.45
	1990	0.44	0.28	0.06	0.49	1.26		0.49
Lake County	2008	0.46	0.23	0.07	0.56	1.33		0.53
	1990	0.49	0.26	0.08	0.52	1.35		0.57
DuPage County	2008	0.45	0.25	0.07	0.69	1.46		0.52
	1990	0.52	0.26	0.07	0.56	1.41		0.59
McHenry, Kendall and western Kane	2008	0.44	0.28	0.07	0.53	1.31		0.51
	1990	0.50	0.28	0.07	0.55	1.40		0.58
Eastern Kane County	2008	0.41	0.27	0.09	0.56	1.33		0.50
	1990	0.50	0.26	0.07	0.60	1.43		0.57
Will County and Grundy County	2008	0.43	0.29	0.07	0.58	1.37		0.50
	1990	0.50	0.25	0.07	0.53	1.35		0.57
Region	2008	0.42	0.26	0.07	0.60	1.34		0.48
	1990	0.47	0.24	0.06	0.51	1.28		0.53

Sources: *Travel Tracker Survey* and *1990 Household Travel Survey*. Analysis by author.

Mileage of trip chains by mode by zone by trip purpose for the 2008 household survey

Travel can be described by numerous characteristics, such as distance, time, purpose, gender of the traveler, life-cycle of the household, vehicle ownership, and access to transit. Presenting this data becomes difficult as more information is brought into the comparison. This section will address the trip purpose, mode of travel, and zone of the traveler by combining categories so that the tables can be simplified for presentation.

The analysis areas for this section are the central Chicago zone, the northern Chicago zone, the southern Chicago zone, and finally, the suburbs of Chicago as a group.

The following tables detail general purpose of the trip chain, the number and distance of trip chains by the origin of the traveler and the general mode that was used. The first table, (Table 33), shows the personal travel from the central Chicago zone. For the work trip chain, driving

alone is the most common mode with 36% of the trips, but transit is nearly as frequently used and represents 32% of the personal trips. The number of car-pool trips is about one-half as many as driving alone. In the central Chicago zone, 41% of the shopping trips are completed by people traveling together; this accounts for over one-half of the personal miles of travel associated with shopping trips. The residents of the central Chicago zone use transit to complete about one-seventh of their shopping trips and walk to complete one-fourth of their shopping trip chains.

Table 33 Central Chicago Zone Mode Share and Trip Chain Purpose for the 2008 Household Survey

Central Chicago										
	Other		Work		Shop		Work and Shop		Totals	
	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance
Walk	36%	9%	10%	4%	22%	6%	14%	12%	26%	7%
Drive Alone	10%	20%	36%	50%	18%	21%	33%	39%	19%	33%
Carpool	40%	51%	18%	20%	41%	53%	14%	23%	34%	38%
Transit	11%	20%	32%	25%	17%	18%	33%	22%	18%	22%
Bike	2%	1%	3%	1%	2%	1%	6%	3%	2%	1%

Source: *Travel Tracker Survey.* Analysis by author.

The northern and southern zones of Chicago (Table 34 and Table 35) are both near the central Chicago zone, but they might be expected to have different travel patterns due to their distinct demographics. According to the survey data, when their categories of travel are aggregated, their patterns are quite similar. Walking is about one-seventh of the trip chains. Driving alone accounts for about one-quarter of the trip chains. Some of the ways that these two areas are different are that when the trip includes working and shopping, the residents of the southern section of Chicago are more likely to use carpooling while the residents of the northern area of Chicago zone are more likely to use transit. The residents of the northern Chicago zone are more likely to walk for shopping while the residents of the southern Chicago zone are more likely to walk for other activities that are not shopping- or work- related. The southern Chicago zone has a greater share of total traveling distance accounted for by walking than the northern Chicago zone.

The residents of the northern and southern areas of Chicago zones are much less likely to walk to a destination than the residents of the central Chicago zone, and are more likely to use an automobile for their trip. The Chicago residents outside of the central Chicago zone are slightly less likely to use transit than residents of the central Chicago zone.

Table 34 North Chicago Zone Mode Share and Trip Chain Purpose for the 2008 Household Survey

North Chicago										
	Other		Work		Shop		Work and Shop		Totals	
	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance
Walk	20%	6%	5%	2%	14%	3%	5%	4%	15%	4%
Drive Alone	16%	18%	51%	56%	26%	24%	47%	53%	27%	33%
Carpool	52%	66%	14%	15%	54%	67%	16%	14%	43%	47%
Transit	9%	9%	28%	26%	5%	6%	30%	28%	13%	15%
Bike	2%	0%	2%	1%	1%	0%	2%	1%	2%	1%

Source: *Travel Tracker Survey.* Analysis by author.

Table 35 South Chicago Zone Mode Share and Trip Chain Purpose for the 2008 Household Survey

South Chicago										
	Other		Work		Shop		Work and Shop		Totals	
	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance
Walk	21%	7%	2%	1%	9%	2%	7%	6%	14%	4%
Drive Alone	16%	17%	54%	52%	23%	22%	41%	43%	25%	28%
Carpool	51%	62%	14%	13%	58%	64%	28%	33%	46%	49%
Transit	12%	14%	30%	34%	9%	12%	24%	18%	15%	18%
Bike	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Source: *Travel Tracker Survey.* Analysis by author.

In comparison to Chicago residents, the residents of the suburbs of Chicago (Table 36) have many fewer walking trips and the trips represent a smaller share of their total traveling distance. Both driving alone and carpooling are more prevalent in the suburbs. The transit trip shares in the suburbs are only a quarter of those for residents of Chicago, and in general account for about one-half as much of the total distance traveled (10% compared to 20%).

Table 36 All Suburban Zones Combined Mode Share and Trip Chain Purpose for the 2008 Household Survey

Suburbs										
	Other		Work		Shop		Work and Shop		Totals	
	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance	Trips	Distance
Walk	10%	3%	3%	2%	4%	2%	5%	4%	7%	2%
Drive Alone	24%	27%	70%	65%	36%	31%	68%	64%	38%	44%
Carpool	63%	66%	17%	16%	58%	65%	19%	21%	51%	45%
Transit	2%	5%	9%	17%	2%	2%	8%	11%	4%	9%
Bike	1%	0%	1%	0%	0%	0%	0%	0%	1%	0%

Source: *Travel Tracker Survey.* Analysis by author.

Purpose of trips

The previous section compared the general mode and general purpose of trip chains for a few different zones in the Chicago region. This section will examine the purpose of the trips or links that make up the trip chains and tours for each of the eleven regional zones in this analysis. Each of the trips is located totally within the region. The mode of the trip will not be addressed in this section. There are three general types of comparison in the following tables. The trips which are analyzed are either for residents of all ages who travel on all seven days of the week, or they are a subset of these residents who are over the age of 13 and the travel only is on weekdays. These first two categories of trips are based on the location of where the traveler resides. A third category for analysis examines the weekday travel by the older population, but defines the location based on where the trips terminate.

Each of these groupings of travel is displayed in two fashions. The first describes the share of all of the trips in a zone by the percentage of trips that belong to each purpose. Summing all of the purposes for a zone totals 100% of the trips. For comparison, the distribution of trip purposes for the entire region is available and is listed on the right-hand column of the table. This allows one to note if residents of a zone have higher rates for certain trip purposes than is the norm for the region. Listing the regional share for each trip purpose will allow the reader to determine if the type of trip represents a significant amount of travel in the region. For zones which definitely have higher rates than regional share for the trip purpose, the numerals are in green type.

The second method to display the same information is to show the share of all trips for a specific purpose by the zone in which they either originate or terminate. For example, if the purpose being examined is the work trip, then summing the share of work trips across all zones will total 100%. For comparison, the zone's share of the region's total population is listed on the top row of the tables. For zones which definitely have higher rates than the population, the numerals are in green type.

The general trend in trip purpose for the region is that about one in three trips are a trip to home ("All other home activities"). Working, shopping and eating out are the next most frequent purposes of trips in the region. The next most frequent trip purposes in the region are recreation, visiting friends or relatives, personal business and household errands.

Work in general is the purpose of 12.5% of all trips in the region. In the previous section analyzing the purpose of trip chains, it was shown that trip chains involving work accounted for 36% of the trip chains (an average of 0.48 work chains out of 1.34 total trip chains). In the same fashion, trips with the purpose of shopping account for 11.2% of the trips, but when trip chains are analyzed, one quarter of them include some form of shopping. Discussing the specific purpose of each trip results in a different distribution of trips than considering the over-all purpose of a trip chain or tour.

Zone percentage of specific trip purpose by home residence zone

In Table 37, the distribution of trips across the zones by purpose for weekday travel by residents over the age of 13 is displayed. Compared to the population in the zone, working at home seems to be most relatively overrepresented in the northern Cook County zone and also in Lake County. Dropping off passengers is more prevalent in the suburban Cook, Lake, and DuPage counties as well as in southern Chicago zone.

General shopping seems to be evenly distributed, but major purchases are more frequent for the residents in northern Cook County and DuPage County.

In total, northern Cook County and DuPage County seem to have the most categories of trips that are taken in rates that are higher than the rest of the region.

Table 37 2008 Household Survey: Zone Percentage of Specific Trip Purpose, by Home Residence Zone, by Purpose for Weekday Travel by People over the Age of 13 (Rows Sum to 100%)

	Central Chicago	North Chicago	South Chicago	North Cook County	West Cook County	South Cook County	Lake County	DuPage County	McHenry, Kendall and western Kane Counties	Eastern Kane County	Will County and Grundy County	Share of trips
Population Share	12.3%	10.1%	9.9%	12.5%	7.7%	9.7%	8.3%	10.9%	5.4%	5.0%	8.2%	
Working at home (for pay)	13.1%	10.7%	3.2%	18.4%	7.6%	9.0%	12.2%	12.0%	5.2%	1.4%	7.1%	0.4%
All other home activities	12.0%	10.2%	8.6%	13.3%	7.9%	9.9%	8.0%	11.9%	5.3%	4.8%	8.1%	34.6%
Work/Job	13.3%	10.8%	6.4%	13.9%	7.9%	8.7%	9.0%	11.7%	5.4%	4.8%	8.1%	9.7%
All other activities at work	9.6%	13.3%	9.3%	10.7%	6.1%	9.9%	5.3%	18.0%	3.3%	8.6%	5.9%	0.2%
Attending class	13.2%	10.5%	11.5%	10.3%	7.1%	11.9%	7.7%	11.8%	4.9%	4.1%	7.0%	4.7%
All other activities at school	11.2%	10.8%	2.0%	15.0%	7.9%	15.0%	6.0%	14.5%	4.0%	2.5%	11.1%	0.4%
Change type of transportation/	20.4%	16.4%	17.4%	10.3%	5.8%	8.9%	2.6%	9.2%	2.3%	3.5%	3.2%	2.1%
Dropped off passenger from car	9.1%	8.6%	11.3%	13.5%	8.9%	12.2%	8.8%	11.6%	3.9%	3.9%	8.2%	4.2%
Picked up passenger	10.3%	8.7%	10.2%	13.8%	8.7%	10.3%	8.7%	12.1%	3.9%	5.0%	8.2%	3.7%
Other, specify - transportation	1.0%	10.4%	8.7%	9.4%	5.5%	1.9%	4.3%	26.7%	4.1%	20.3%	7.8%	0.1%
Work/Business related	9.6%	8.6%	5.0%	14.8%	6.2%	10.1%	7.5%	12.7%	8.5%	7.3%	9.7%	2.6%
Service Private Vehicle	7.3%	7.3%	9.1%	11.6%	8.6%	10.7%	10.2%	11.4%	7.4%	5.5%	11.0%	1.6%
Routine Shopping	10.8%	10.7%	9.7%	12.8%	7.8%	10.6%	7.0%	10.4%	5.9%	5.7%	8.7%	10.5%
Shopping for major purchases	8.0%	4.9%	11.4%	16.1%	6.6%	10.0%	7.9%	16.2%	5.9%	4.4%	8.6%	0.7%
Household errands	7.8%	9.2%	6.8%	15.6%	8.1%	13.0%	8.4%	11.3%	6.6%	3.9%	9.2%	2.8%
Personal Business	13.8%	7.8%	9.7%	11.4%	8.2%	10.8%	8.8%	12.6%	5.2%	4.5%	7.2%	3.2%
Eat meal outside of home	11.8%	9.6%	5.6%	13.4%	7.4%	10.7%	9.0%	13.0%	6.4%	5.4%	7.7%	5.4%
Health Care	10.7%	9.9%	10.0%	14.5%	6.7%	12.2%	8.1%	9.9%	5.1%	5.1%	7.7%	2.0%
Civic/Religious Activities	10.4%	12.1%	8.0%	12.2%	9.5%	12.9%	6.6%	11.2%	5.2%	5.3%	6.5%	1.5%
Recreation/Entertainment	11.5%	9.3%	4.9%	15.4%	7.5%	9.5%	8.4%	15.2%	5.8%	3.6%	8.9%	4.7%
Visit Friends/Relatives	10.4%	10.5%	11.6%	12.3%	8.5%	11.4%	6.0%	10.6%	6.4%	3.1%	9.2%	4.2%
Loop trip	15.1%	10.4%	8.5%	15.2%	8.4%	8.9%	8.0%	12.9%	4.2%	3.2%	5.1%	0.6%

Source: *Travel Tracker Survey.* Analysis by author.

The same trips from Table 37 are distributed by the share of trips within a zone by purpose in Table 38. Compared to the region, the residents of the central Chicago zone, northern Chicago

zone, and Lake County have higher shares of their trips associated with work activities. Routine shopping accounts for the highest percentage travel in the southern Chicago zone and eastern Kane County. The highest shares of trips that are for the purpose of eating a meal are taken by the residents of the northern and western suburbs. Visiting friends and relatives represents the greatest share of trips in the southern Chicago zone and religious or civic trips are most highly represented in DuPage County.

Table 38 2008 Household Survey: Percentage of Trips by Purpose by Residence Zone for Weekday Travel by People Over the Age of 13. (Columns Sum to 100%)

	Central Chicago	North Chicago	South Chicago	North Cook County	West Cook County	South Cook County	Lake County	DuPage County	McHenry, Kendall and western Kane Counties	Eastern Kane County	Will County and Grundy County	Share of trips
Population Share	12.3%	10.1%	9.9%	12.5%	7.7%	9.7%	8.3%	10.9%	5.4%	5.0%	8.2%	
Working at home (for pay)	0.5%	0.5%	0.2%	0.6%	0.4%	0.4%	0.7%	0.5%	0.4%	0.1%	0.4%	0.4%
All other home activities	34.5%	34.1%	33.7%	33.6%	34.1%	32.5%	33.5%	33.8%	32.6%	33.7%	33.5%	33.6%
Work/Job	14.1%	13.3%	9.3%	12.9%	12.5%	10.5%	14.0%	12.3%	12.3%	12.4%	12.3%	12.4%
All other activities at work	0.2%	0.4%	0.3%	0.2%	0.2%	0.3%	0.2%	0.4%	0.2%	0.5%	0.2%	0.3%
Attending class	2.8%	2.6%	3.3%	1.9%	2.2%	2.8%	2.4%	2.5%	2.2%	2.1%	2.1%	2.5%
All other activities at school	0.2%	0.2%	0.1%	0.2%	0.2%	0.3%	0.2%	0.3%	0.2%	0.1%	0.3%	0.2%
Change type of transportation/	4.1%	3.9%	4.8%	1.8%	1.8%	2.0%	0.8%	1.8%	1.0%	1.7%	0.9%	2.4%
Dropped off passenger from car	3.4%	3.7%	5.8%	4.4%	5.0%	5.2%	4.8%	4.3%	3.1%	3.6%	4.4%	4.4%
Picked up passenger	3.4%	3.3%	4.6%	4.0%	4.3%	3.9%	4.2%	3.9%	2.7%	4.0%	3.9%	3.9%
Other, specify - transportation	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%	0.1%	0.1%
Work/Business related	2.7%	2.8%	2.0%	3.7%	2.6%	3.3%	3.1%	3.6%	5.2%	5.1%	4.0%	3.3%
Service Private Vehicle	1.1%	1.3%	1.9%	1.6%	2.0%	1.9%	2.3%	1.7%	2.4%	2.0%	2.4%	1.8%
Routine Shopping	9.9%	11.3%	12.0%	10.2%	10.6%	11.0%	9.3%	9.4%	11.5%	12.5%	11.4%	10.6%
Shopping for major purchases	0.5%	0.4%	1.0%	0.9%	0.7%	0.8%	0.8%	1.1%	0.8%	0.7%	0.8%	0.8%
Household errands	2.1%	2.8%	2.5%	3.6%	3.2%	3.9%	3.3%	2.9%	3.7%	2.5%	3.5%	3.1%
Personal Business	3.8%	2.5%	3.7%	2.8%	3.4%	3.4%	3.6%	3.5%	3.1%	3.0%	2.9%	3.2%
Eat meal outside of home	5.5%	5.2%	3.6%	5.5%	5.2%	5.7%	6.2%	6.0%	6.5%	6.2%	5.2%	5.5%
Health Care	1.9%	2.1%	2.4%	2.3%	1.8%	2.5%	2.1%	1.7%	1.9%	2.2%	2.0%	2.1%
Civic/Religious Activities	1.1%	1.5%	1.1%	1.1%	1.5%	1.5%	1.0%	1.1%	1.2%	1.3%	1.0%	1.2%
Recreation/Entertainment	3.9%	3.7%	2.3%	4.6%	3.8%	3.7%	4.2%	5.2%	4.3%	3.0%	4.4%	4.0%
Visit Friends/Relatives	3.2%	3.8%	4.9%	3.3%	3.9%	4.0%	2.7%	3.2%	4.2%	2.4%	4.1%	3.6%
Loop trip	0.8%	0.7%	0.6%	0.7%	0.7%	0.5%	0.6%	0.7%	0.5%	0.4%	0.4%	0.6%

Source: *Travel Tracker Survey.* Analysis by author.

In Table 39, the trip purpose for all individuals on all days of the week is displayed for comparison to the previous tables, which focused on weekday travel by residents over the age of 13. This table shows the distribution of each trip purpose across the eleven zones.

The share of trips with the purpose of work seems to be the most elevated above the population share for the residents of the central Chicago zone and the northern zone of Cook County. Compared to the previous tables, the school activities have altered trip making in two ways. First, more children (those under 14 years of age) are included in the analysis, but weekend travel is also included and this represents fewer school trips.

Health care seems to have more trips in the northern and central Chicago zones as well as the eastern side of Kane County, when children and weekends are included in the analysis.

Including the weekends and younger travelers does not seem to have altered how trips are distributed across the eleven zones. Any change in travel purposes is similar across the region.

Table 39 2008 Household Survey Percentage of Trips, by Home Residence Zone, by Purpose All Daily Travel by People of all Ages (Rows Sum to 100%)

	Central Chicago	North Chicago	South Chicago	North Cook County	West Cook County	South Cook County	Lake County	DuPage County	McHenry, Kendall and western Kane Counties	Eastern Kane County	Will County and Grundy County	Share of Trips
Population Share	12.3%	10.1%	9.9%	12.5%	7.7%	9.7%	8.3%	10.9%	5.4%	5.0%	8.2%	
Working at home (for pay)	12.3%	13.5%	3.6%	18.5%	6.9%	8.8%	11.5%	10.8%	5.2%	1.4%	7.4%	0.3%
All other home activities	11.2%	10.4%	9.3%	13.2%	7.9%	9.6%	8.0%	12.5%	5.4%	4.9%	7.6%	34.9%
Work/Job	13.4%	11.5%	6.5%	13.5%	8.1%	8.9%	8.8%	11.5%	5.2%	4.8%	7.8%	8.5%
All other activities at work	7.8%	18.0%	8.2%	11.1%	6.3%	10.9%	7.1%	15.4%	5.0%	5.0%	5.2%	0.2%
Attending class	12.3%	10.0%	11.5%	10.9%	8.1%	10.7%	9.2%	10.3%	4.5%	4.7%	7.7%	3.9%
All other activities at school	8.3%	8.4%	2.2%	21.4%	8.3%	10.1%	9.9%	13.6%	4.1%	2.7%	11.0%	0.3%
Change type of transportation/	20.5%	16.1%	17.3%	9.2%	4.9%	8.6%	3.5%	8.5%	2.4%	5.9%	3.1%	1.9%
Dropped off passenger from car	9.0%	8.6%	10.9%	14.0%	8.9%	11.9%	8.6%	12.4%	3.6%	3.8%	8.4%	3.9%
Picked up passenger	10.9%	8.6%	10.3%	14.5%	8.3%	11.3%	8.9%	11.3%	3.6%	3.9%	8.5%	3.4%
Other, specify - transportation	1.8%	6.1%	13.7%	8.2%	9.4%	1.1%	2.1%	23.2%	1.8%	27.9%	4.6%	0.1%
Work/Business related	10.0%	8.9%	4.9%	15.1%	6.4%	10.8%	7.2%	12.3%	8.6%	6.6%	9.3%	2.3%
Service Private Vehicle	7.7%	9.8%	8.6%	11.8%	8.6%	10.1%	7.8%	12.9%	7.2%	4.2%	11.5%	1.6%
Routine Shopping	10.4%	11.0%	10.3%	12.5%	7.6%	10.1%	7.1%	11.0%	6.5%	5.6%	7.8%	11.3%
Shopping for major purchases	8.4%	4.8%	8.5%	15.7%	6.1%	9.8%	10.8%	17.4%	5.6%	4.3%	8.6%	0.7%
Household errands	7.7%	9.1%	9.1%	15.1%	9.6%	12.5%	7.3%	11.0%	6.4%	3.4%	8.8%	2.7%
Personal Business	13.0%	8.3%	10.3%	11.2%	8.6%	10.6%	8.3%	12.6%	5.0%	5.3%	6.8%	3.2%
Eat meal outside of home	11.2%	10.0%	6.3%	13.0%	7.4%	10.4%	9.1%	13.7%	6.5%	4.2%	8.1%	5.7%
Health Care	13.0%	12.4%	9.9%	12.4%	6.2%	11.6%	7.6%	8.7%	5.6%	5.7%	7.0%	1.8%
Civic/Religious Activities	7.8%	8.7%	12.1%	11.6%	7.7%	13.0%	8.8%	12.7%	6.8%	4.1%	6.9%	2.3%
Recreation/Entertainment	10.8%	10.1%	5.9%	15.7%	8.1%	8.0%	7.8%	15.8%	4.9%	4.8%	8.1%	5.4%
Visit Friends/Relatives	9.2%	9.4%	12.8%	12.2%	7.9%	10.5%	7.2%	12.8%	5.9%	3.8%	8.4%	5.0%
Loop trip	17.0%	9.6%	9.9%	12.7%	6.7%	7.5%	7.2%	15.3%	6.7%	2.7%	4.8%	0.7%

Source: *Travel Tracker Survey*. Analysis by author.

The following table (Table 40) shows how including younger travelers and weekend travel affects the distribution of the purpose of trips within a zone. The trips with the purpose of school are greatly increased due to including younger travelers. The other substantial increases in trips that result from including young travelers and weekends are an increase in share of travel that is for the purpose of recreation and also for trips to visit friends or relatives. Including weekends has also increased the share of travel for the purpose of attending religious services or civic events.

The proportions of all trips that are work trips have been reduced by 20% to 40% in every zone. This makes sense, given that people under the age of 14 do not work. But DuPage County has the largest drop in work trips due to including weekends and children. The reduction in work trips in the central and northern Chicago zones is only about one-half the reduction in DuPage County. These Chicago zones have fewer children or more weekend workers than the other areas.

Table 40 2008 Household Survey Percentage of Trips, by Home Residence Zone, by Purpose All Daily Travel by People Of all Ages (Columns Sum to 100%)

	Central Chicago	North Chicago	South Chicago	North Cook County	West Cook County	South Cook County	Lake County	DuPage County	McHenry, Kendall and western Kane Counties	Eastern Kane County	Will County and Grundy County	Share of Trips
Population Share	12.3%	10.1%	9.9%	12.5%	7.7%	9.7%	8.3%	10.9%	5.4%	5.0%	8.2%	
Working at home (for pay)	0.3%	0.4%	0.1%	0.4%	0.3%	0.3%	0.4%	0.3%	0.3%	0.1%	0.3%	0.3%
All other home activities	35.2%	35.3%	35.0%	35.0%	35.1%	33.4%	34.8%	35.6%	34.5%	35.8%	34.1%	34.9%
Work/Job	10.2%	9.5%	6.0%	8.7%	8.8%	7.6%	9.3%	8.0%	8.1%	8.5%	8.5%	8.5%
All other activities at work	0.2%	0.4%	0.2%	0.2%	0.2%	0.3%	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%
Attending class	4.3%	3.8%	4.8%	3.2%	4.0%	4.2%	4.5%	3.3%	3.2%	3.8%	3.9%	3.9%
All other activities at school	0.2%	0.3%	0.1%	0.5%	0.3%	0.3%	0.4%	0.4%	0.2%	0.2%	0.4%	0.3%
Change type of transportation/	3.5%	3.0%	3.5%	1.3%	1.2%	1.6%	0.8%	1.3%	0.8%	2.4%	0.8%	1.9%
Dropped off passenger	3.1%	3.3%	4.6%	4.2%	4.4%	4.6%	4.2%	3.9%	2.5%	3.1%	4.2%	3.9%
Picked up passenger	3.3%	2.8%	3.8%	3.7%	3.6%	3.8%	3.8%	3.1%	2.2%	2.7%	3.7%	3.4%
Other, specify - transportation	0.0%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.4%	0.0%	0.1%
Work/Business related	2.1%	2.0%	1.2%	2.7%	1.9%	2.5%	2.1%	2.3%	3.6%	3.2%	2.7%	2.3%
Service Private Vehicle	1.1%	1.6%	1.5%	1.5%	1.8%	1.7%	1.6%	1.7%	2.1%	1.4%	2.4%	1.6%
Routine Shopping	10.5%	12.1%	12.6%	10.7%	10.8%	11.4%	10.0%	10.1%	13.3%	13.2%	11.3%	11.3%
Shopping for major purchases	0.6%	0.3%	0.7%	0.9%	0.6%	0.7%	1.0%	1.0%	0.8%	0.7%	0.8%	0.7%
Household errands	1.9%	2.4%	2.7%	3.2%	3.3%	3.4%	2.5%	2.5%	3.2%	2.0%	3.1%	2.7%
Personal Business	3.7%	2.6%	3.5%	2.7%	3.5%	3.3%	3.3%	3.2%	2.9%	3.5%	2.8%	3.2%
Eat meal outside of home	5.8%	5.5%	3.9%	5.7%	5.4%	5.9%	6.5%	6.4%	6.7%	5.1%	5.9%	5.7%
Health Care	2.1%	2.1%	1.9%	1.7%	1.4%	2.1%	1.7%	1.3%	1.8%	2.1%	1.6%	1.8%
Civic/Religious Activities	1.6%	1.9%	2.9%	2.0%	2.2%	2.9%	2.5%	2.3%	2.8%	1.9%	2.0%	2.3%
Recreation/Entertainment	5.2%	5.3%	3.4%	6.4%	5.5%	4.3%	5.2%	6.9%	4.8%	5.4%	5.6%	5.4%
Visit Friends/Relatives	4.1%	4.6%	6.9%	4.7%	5.1%	5.3%	4.5%	5.2%	5.4%	4.0%	5.4%	5.0%
Loop trip	1.0%	0.6%	0.7%	0.6%	0.6%	0.5%	0.6%	0.8%	0.8%	0.4%	0.4%	0.7%

Source: *Travel Tracker Survey.* Analysis by author.

Zone percentage of specific trip purpose, by destination zone

The following tables are based on the destination of trips and the purpose of trips for weekday travel by people over the age of 13. In Table 41, the percentage reflects the share of all regional trips with this purpose, which were destined to a specific zone.

The work purpose shows that the central Chicago zone contains 12.3% of the population, but is the destination of 29% of the weekday work trips (this data is similar to the results of Table 17). The northern Chicago zone accounts for 10% of the population, but only 5% of the population travels to this zone for work.

Travelers over the age of 13 attending class during the weekdays have a destination of the central Chicago zone for one-quarter of these trips which is twice the population share for this zone.

Routine shopping has high destination rates for northern Cook County as well as western Cook County. Major shopping purchases seem to have a more likely destination of northern Cook County or DuPage County. Household errands also are disproportionately attracted to these two zones.

In addition to be the main destination location for working and taking classes, the central Chicago zone has the highest share of trips with the purpose of personal business, eating a meal outside of home, health care, civic/religious activities, or recreation/entertainment. This relationship is true even when the large population of the central Chicago area is taken into account.

The northern area of Cook County and DuPage County are also major destinations for regional travelers with trip purposes of eating meals, household errands and recreation/entertainment.

Table 41 2008 Household Survey Percentage of Trips by Purpose, to Destination Zone, for Weekday Travel by People Over the Age of 13 (Rows Sum to 100%)

	Central Chicago	North Chicago	South Chicago	North Cook County	West Cook County	South Cook County	Lake County	DuPage County	McHenry, Kendall and western Kane Counties	Eastern Kane County	Will County and Grundy County	Share of trips
Population Share	12.3%	10.1%	9.9%	12.5%	7.7%	9.7%	8.3%	10.9%	5.4%	5.0%	8.2%	
Working at home (for pay)	13.1%	10.7%	3.2%	**18.4%**	7.6%	9.0%	12.2%	12.0%	5.2%	1.4%	7.1%	0.4%
All other home activities	12.0%	10.2%	8.6%	13.3%	7.9%	9.9%	8.0%	**11.9%**	5.3%	4.8%	8.1%	34.6%
Work/Job	**29.3%**	4.8%	2.9%	15.6%	6.9%	5.5%	8.0%	12.3%	3.1%	3.2%	5.1%	9.7%
All other activities at work	23.1%	5.1%	10.8%	11.9%	5.3%	7.6%	3.4%	17.2%	1.7%	8.7%	3.3%	0.2%
Attending class	24.7%	6.2%	6.9%	9.8%	6.5%	10.9%	7.3%	11.2%	4.4%	3.0%	6.5%	4.7%
All other activities at school	16.8%	7.5%	2.8%	14.1%	8.2%	12.6%	5.6%	15.6%	4.3%	2.0%	8.8%	0.4%
Change type of transportation/	39.9%	11.0%	11.4%	10.3%	5.7%	5.2%	1.7%	6.0%	1.0%	2.7%	1.5%	2.1%
Dropped off passenger from car	12.3%	8.2%	9.9%	13.5%	8.4%	10.4%	8.6%	11.3%	3.1%	3.9%	7.0%	4.2%
Picked up passenger	13.1%	9.3%	9.0%	14.3%	8.2%	8.9%	8.4%	11.5%	2.9%	4.4%	7.0%	3.7%
Other, specify - transportation	0.0%	1.0%	8.0%	9.4%	15.4%	4.3%	4.8%	19.1%	2.6%	19.7%	12.9%	0.1%
Work/Business related	19.5%	4.6%	5.1%	16.5%	5.5%	7.7%	8.3%	9.6%	5.2%	5.0%	4.9%	2.6%
Service Private Vehicle	6.3%	3.4%	5.4%	13.0%	10.3%	9.5%	11.0%	13.7%	5.5%	5.0%	8.1%	1.6%
Routine Shopping	12.5%	6.8%	6.4%	14.9%	8.6%	12.3%	7.2%	11.1%	4.8%	4.8%	6.6%	10.5%
Shopping for major purchases	10.9%	4.5%	3.3%	18.6%	7.1%	15.0%	6.3%	16.4%	4.5%	5.4%	5.4%	0.7%
Household errands	9.5%	6.8%	6.1%	16.5%	8.0%	13.7%	7.8%	12.2%	5.4%	4.4%	6.7%	2.8%
Personal Business	20.4%	5.5%	6.6%	11.4%	7.5%	9.5%	7.1%	13.2%	4.4%	4.1%	5.5%	3.2%
Eat meal outside of home	18.2%	5.1%	3.6%	14.8%	7.4%	10.5%	7.8%	12.2%	4.6%	5.2%	5.5%	5.4%
Health Care	21.2%	4.3%	4.3%	16.0%	7.6%	11.1%	8.4%	9.8%	3.3%	5.6%	5.8%	2.0%
Civic/Religious Activities	15.4%	8.8%	7.7%	12.2%	11.2%	10.2%	6.4%	11.2%	4.5%	4.0%	6.0%	1.5%
Recreation/Entertainment	15.4%	6.2%	3.6%	15.0%	6.6%	9.0%	8.4%	14.6%	4.8%	3.7%	7.2%	4.7%
Visit Friends/Relatives	12.7%	7.3%	11.7%	11.4%	7.6%	9.6%	5.6%	8.9%	4.3%	3.6%	6.8%	4.2%
Loop trip	17.3%	8.9%	6.9%	15.2%	8.6%	8.9%	8.5%	12.5%	4.1%	2.8%	5.2%	0.6%

Source: *Travel Tracker Survey.* Analysis by author.

The following table is by place of activity and is for all people in 2008 for all days of the week. The percentage reflects the share of all regional trips with this purpose that were destined to a specific zone.

Table 42 2008 Household Survey Percentage of Trips by Purpose by Destination Zone for All Daily Travel by People of All Ages (Rows Sum to 100%)

	Central Chicago	North Chicago	South Chicago	North Cook County	West Cook County	South Cook County	Lake County	DuPage County	McHenry, Kendall and western Kane Counties	Eastern Kane County	Will County and Grundy County	Share of Trips
Population Share	12.3%	10.1%	9.9%	12.5%	7.7%	9.7%	8.3%	10.9%	5.4%	5.0%	8.2%	
Working at home (for pay)	12.3%	13.5%	3.6%	18.5%	6.9%	8.8%	11.5%	10.8%	5.2%	1.4%	7.4%	0.3%
All other home activities	11.2%	10.4%	9.3%	13.2%	7.9%	9.6%	8.0%	12.5%	5.4%	4.9%	7.6%	36.0%
Work/Job	30.2%	5.1%	3.0%	16.0%	7.2%	5.8%	8.2%	12.7%	3.2%	3.2%	5.2%	8.5%
All other activities at work	20.9%	9.8%	10.4%	10.9%	7.2%	10.3%	5.7%	14.8%	3.2%	4.6%	2.1%	0.2%
Attending class	19.2%	7.7%	8.9%	11.5%	7.7%	10.1%	8.8%	10.1%	4.1%	4.2%	7.7%	3.9%
All other activities at school	12.9%	7.4%	2.4%	19.9%	6.9%	8.6%	9.3%	15.4%	5.3%	2.3%	9.6%	0.3%
Change type of transportation/	38.2%	11.3%	11.9%	9.9%	6.0%	6.6%	2.5%	5.6%	1.2%	5.0%	1.7%	1.9%
Dropped off passenger from car	12.4%	7.9%	11.6%	14.7%	8.4%	10.2%	8.9%	12.1%	2.9%	3.8%	7.0%	3.9%
Picked up passenger	13.4%	9.7%	10.8%	15.1%	7.8%	9.7%	9.1%	10.9%	2.8%	3.4%	7.1%	3.4%
Other, specify - transportation	0.0%	1.8%	13.5%	8.3%	15.5%	2.6%	2.5%	14.3%	1.6%	28.0%	11.9%	0.1%
Work/Business related	22.0%	5.0%	5.2%	17.8%	6.0%	9.6%	8.9%	10.2%	5.5%	4.6%	5.2%	2.2%
Service Private Vehicle	8.5%	5.7%	5.8%	14.1%	10.7%	10.8%	9.5%	15.2%	5.2%	5.0%	9.3%	1.6%
Routine Shopping	12.0%	6.4%	7.0%	15.1%	9.8%	13.3%	7.4%	12.0%	5.3%	5.2%	6.4%	11.2%
Shopping for major purchases	11.5%	3.6%	2.4%	18.9%	6.3%	14.3%	9.5%	18.0%	4.5%	5.6%	5.5%	0.7%
Household errands	10.7%	7.3%	5.9%	16.4%	8.5%	15.3%	7.0%	12.4%	5.4%	4.0%	6.9%	2.7%
Personal Business	19.5%	6.0%	8.6%	11.7%	7.7%	11.2%	7.7%	13.0%	4.5%	4.9%	5.1%	3.1%
Eat meal outside of home	16.6%	5.9%	4.3%	14.7%	8.7%	11.8%	8.5%	14.1%	4.8%	4.7%	5.9%	5.6%
Health Care	26.0%	4.3%	4.1%	14.0%	8.1%	11.0%	8.3%	9.1%	3.2%	6.3%	5.6%	1.8%
Civic/Religious Activities	12.5%	5.7%	12.0%	14.8%	9.4%	10.2%	8.1%	13.6%	4.8%	3.7%	5.2%	2.3%
Recreation/Entertainment	16.9%	6.1%	3.9%	16.7%	7.4%	8.4%	7.9%	16.9%	3.9%	5.4%	6.6%	5.2%
Visit Friends/Relatives	12.7%	7.5%	13.6%	12.0%	8.7%	9.6%	6.9%	11.6%	5.4%	4.3%	7.8%	4.5%
Loop trip	18.6%	8.3%	9.0%	13.2%	6.6%	7.4%	7.7%	14.7%	6.4%	2.9%	5.2%	0.7%

Source: *Travel Tracker Survey*. Analysis by author.

Travel to school by mode for Chicago, suburban Cook County and the Collar Counties

The trip to school is a special trip which will be analyzed in detail due to the safety implications of getting young people to school and back home. There is a great deal of variation in school transportation patterns by zone. For this analysis, the region is divided into three areas of roughly similar populations. Chicago has about one-third of the population that travels to school in the survey. The suburban part of Cook County has nearly 30% of the population that traveled to school in the survey. The remaining 37% of the people traveling to school in the survey reside in the other seven counties in the area of study (collar counties).

Mode share for the trip to school

The following table (Table 43) shows the mode distribution for the trip to school for people of all ages. No single mode of transportation accounts for the majority of trips in any of the three areas, but being driven to school is the most frequent mode for each area. For the region, taking a school bus is the second most frequent mode for the trips to school, but within Chicago it only accounts for seven percent of school trips, though Chicago students frequently use CTA buses. Within Chicago, walking is the mode for about one-third of the school trips.

Table 43 Mode use for the Trip to School by Area, Students of All Ages

	Walk		Bicycle		Driver		Passenger		School Bus			Total	Regional Share
Chicago	165,136	32%	2,797	1%	30,839	6%	179,905	35%	35,412	7%		515,712	33.6%
Suburban Cook County	64,483	14%	7,471	2%	44,951	10%	197,398	44%	115,986	26%		447,673	29.2%
Collar Counties	59,784	10%	5,564	1%	73,819	13%	225,757	39%	195,720	34%		572,037	37.3%
Total	289,404	19%	15,832	1%	149,609	10%	603,060	39%	347,118	23%			
	CTA Bus		CTA Train		Pace		Metra					Total	Regional Share
Chicago	71,910	14%	20,803	4%	2,160	0%	4,198	1%				515,712	33.6%
Suburban Cook County	2,437	1%	3,930	1%	6,780	2%	2,849	1%				447,673	29.2%
Collar Counties	914	0%	580	0%	3,115	1%	5,160	1%				572,037	37.3%
Total	75,261	5%	25,313	2%	12,055	1%	12,207	1%					

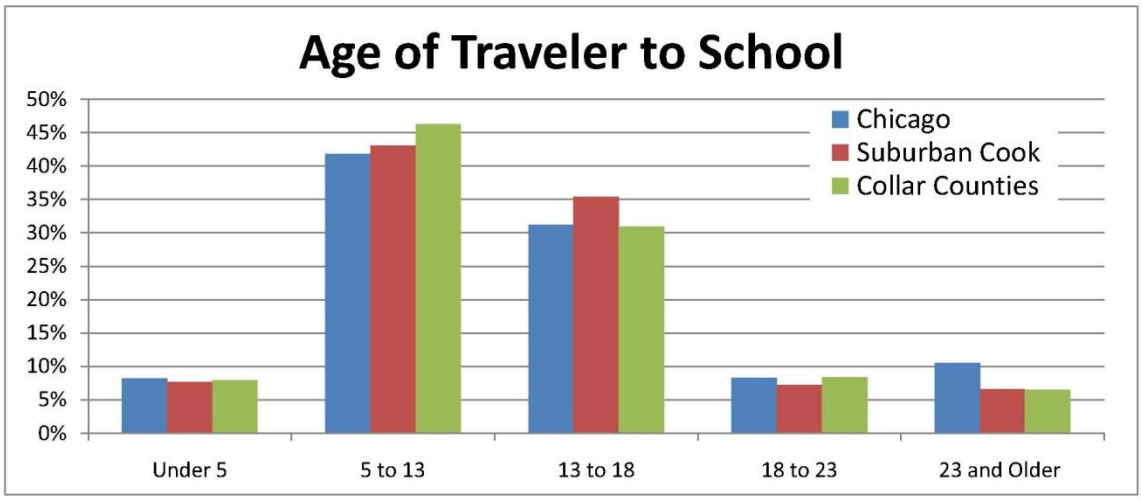
Source: *Travel Tracker Survey.* Analysis by author.

Mode share for the trip to school by age group

This analysis includes trips to school by the age of the student. In Figure 6, the age distribution of the students in the survey is depicted. The people who are between 5 and 18 years of age account for between 73% and 79% of students. Students under 5 account for about 8% of the traveling students in each area. Students who are between 18 and 23 are also about 8 % of the student population (the survey did not include group quarters). Students who are over 22 years of age account for nearly 8% of the region's student population, but 45% of them live in Chicago.

Based on the survey, and the limitations of the sample size of the survey, it appears that suburban Cook County has a comparatively higher share of students that are 13 to 18 years of age, whereas Chicago has more of the students above the age of 22.

Figure 6 The Age Distribution of People Traveling to School by Area

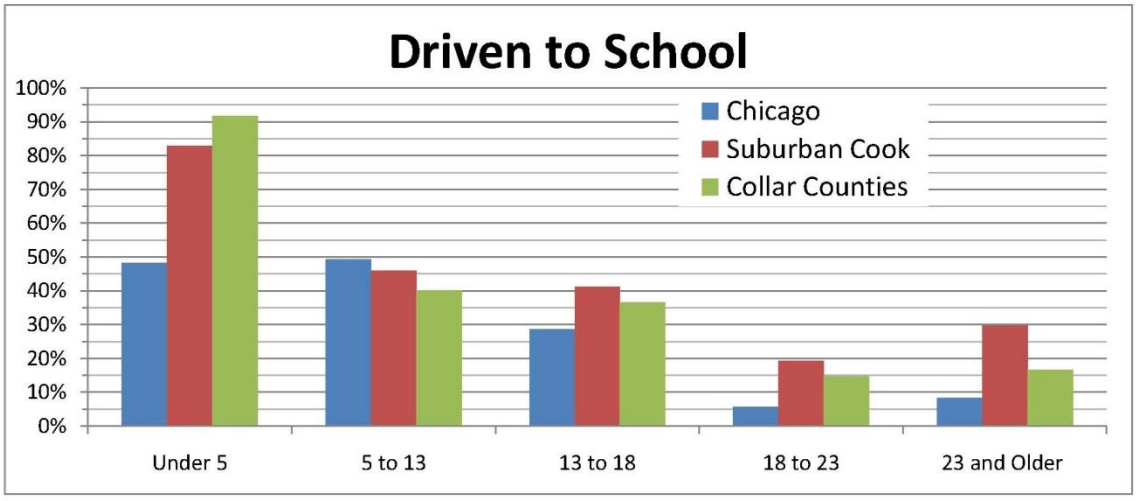


Source: *Travel Tracker Survey.* Analysis by author.

In Figure 7, the share of each age group of students that are driven to school is shown. In the suburbs, children under the age of five are driven to school for more than four out of five trips. Within the City of Chicago, nearly one-half of the trips to school are completed by being driven.

Students between five and thirteen years of age living in Chicago are more likely to be driven to school than those living in the suburbs. By high school, students in Chicago are less likely to be driven to school than their suburban counterparts. In Chicago, as the age increases, the share of the students who are driven to school tends to decrease. This is also true for suburban Cook County and the Collar Counties, but the reduction is not as substantial.

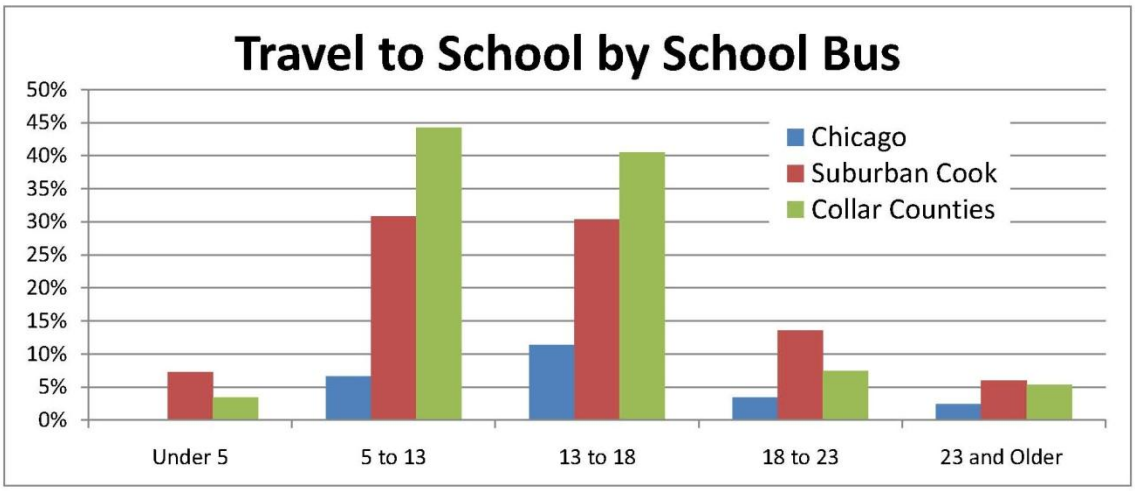
Figure 7 The Share of People Traveling to School Who Were Driven to School



Source: *Travel Tracker Survey.* Analysis by author.

Grade school and high school students use school buses for around 30% of the trips to school in suburban Cook County and between 40% and 45% of the trips in the collar Counties (Figure 8). School buses only account for 7% of the Chicago children aged five to 13 and 11% of the students between the ages of 13 and 18.

Figure 8 The Share of People Traveling to School Who Took a School Bus to School

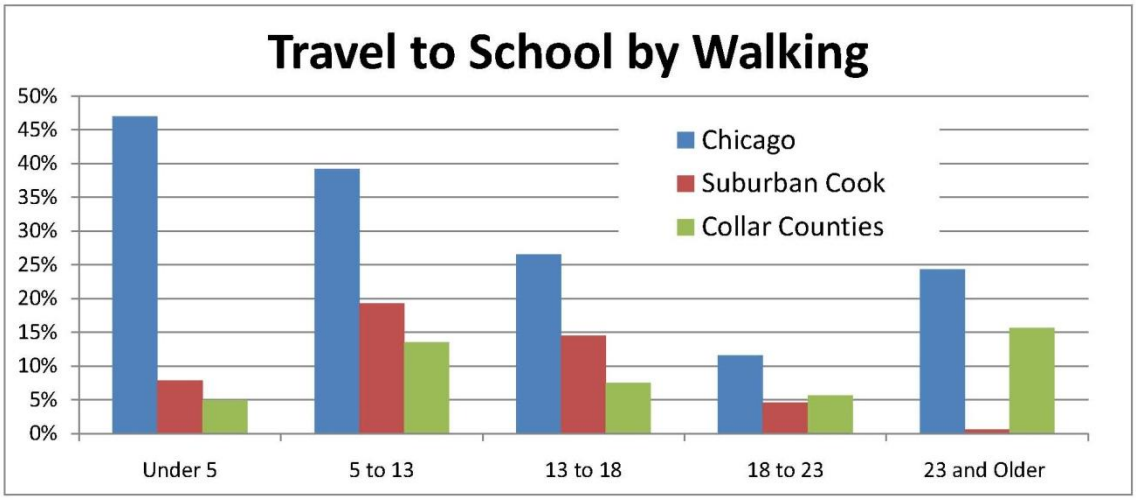


Source: *Travel Tracker Survey.* Analysis by author.

Walking to school is much more common in Chicago than in the suburbs in the region. Children who are of grade school age walk to school more frequently than high school age students in all three areas in the analysis. Suburban Cook has a greater share of its students under the age of 18 walking that the collar counties.

The sample of students under five years of age is small. These survey results, which indicate that they walked to school, do not imply that they walked alone. More than likely, a parent or guardian may have walked with them.

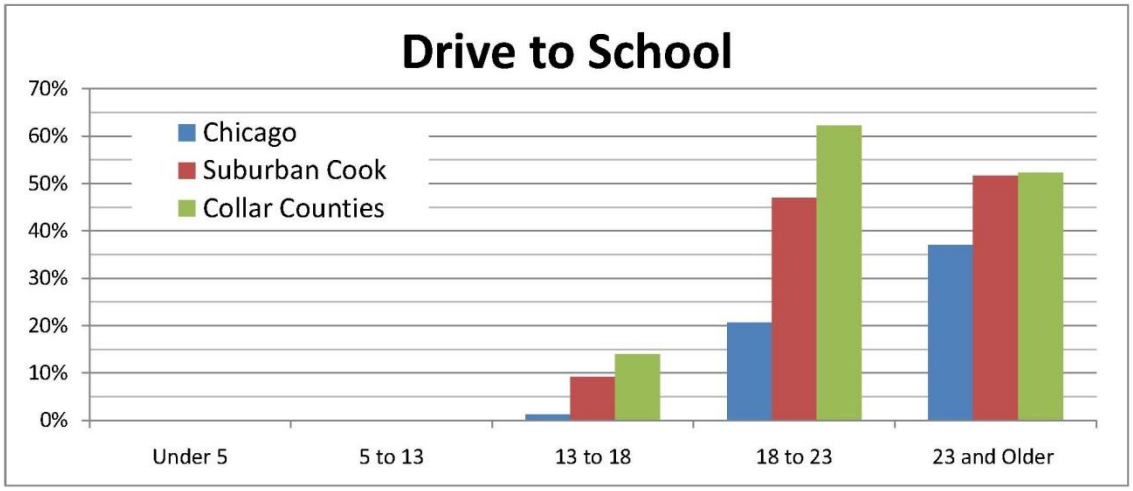
Figure 9 The Share of People Traveling to School Who Walked to School (Alone or with Someone Else)



Source: *Travel Tracker Survey.* Analysis by author.

The share of all students who drove to school is shown in Figure 10. For high-school-age students, the highest share of students who drive are in the collar counties. Very few Chicago high school students drove to school. As students increase in age, so does the share of students that drive alone.

Figure 10 The Share of People Traveling to School Who Drove to School

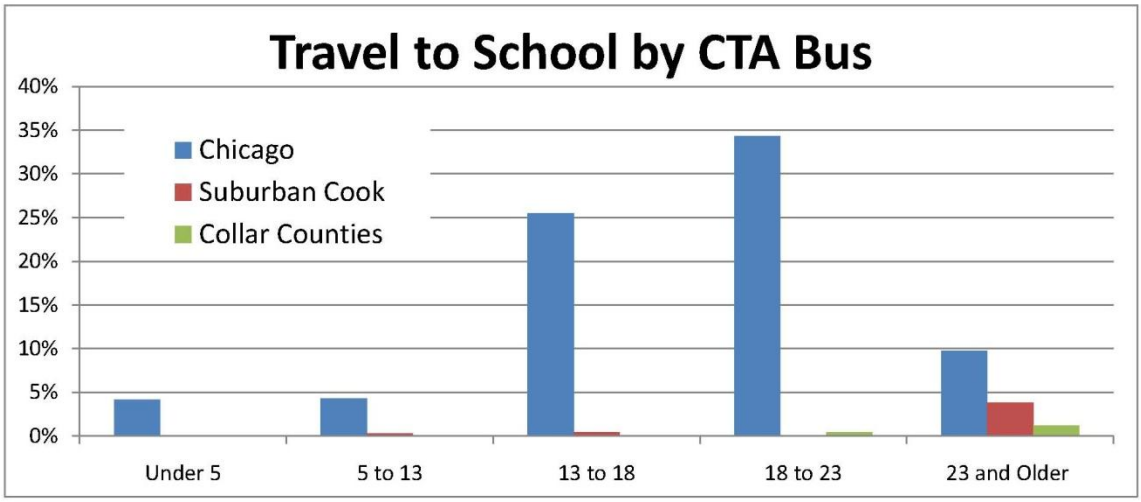


Source: *Travel Tracker Survey.* Analysis by author.

Among students, the CTA bus service is used almost exclusively by students who reside in Chicago. CTA buses are lightly used by children who are of grade school age, but about one-quarter of high school students, and one-third of students between the ages of 18 and 23 use a

CTA bus for their mode of travel to school. For students aged 23 and older, the rate of CTA bus use drops off quickly.

Figure 11 The Share of People Traveling to School Who Took a CTA Bus to School

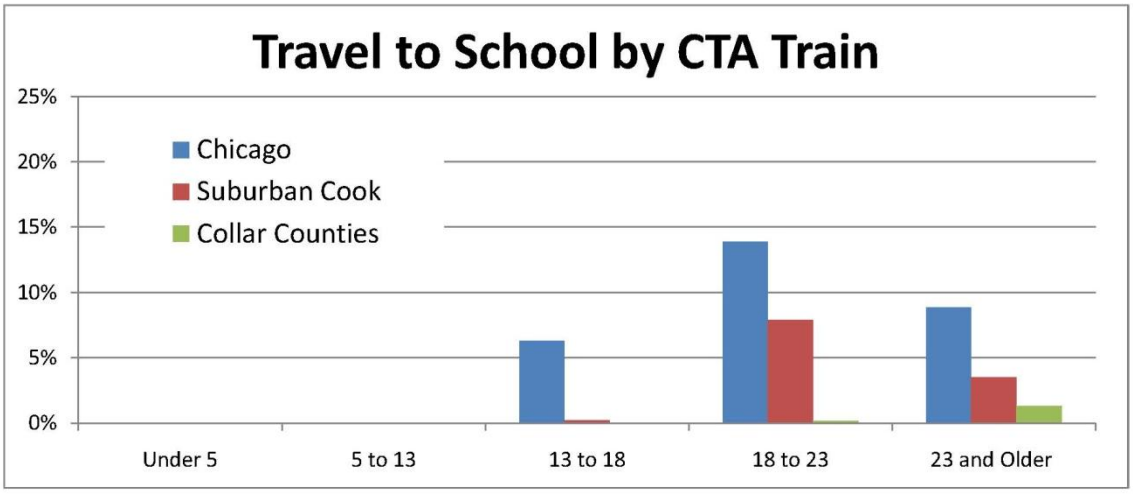


Source: *Travel Tracker Survey.* Analysis by author.

The commute to school by CTA trains is similar to the profile for CTA bus in that it is mostly used by older students who live in Chicago. In total, CTA buses were used three times as often as CTA trains for the trip to school. Only about one-quarter as many high-school-age students use the CTA trains as compared to the CTA bus service, and less than half as many students aged 18 to 23 use the trains as buses.

The students from suburban Cook County who were aged 18 to 23 used CTA trains for about 8% of their school trips.

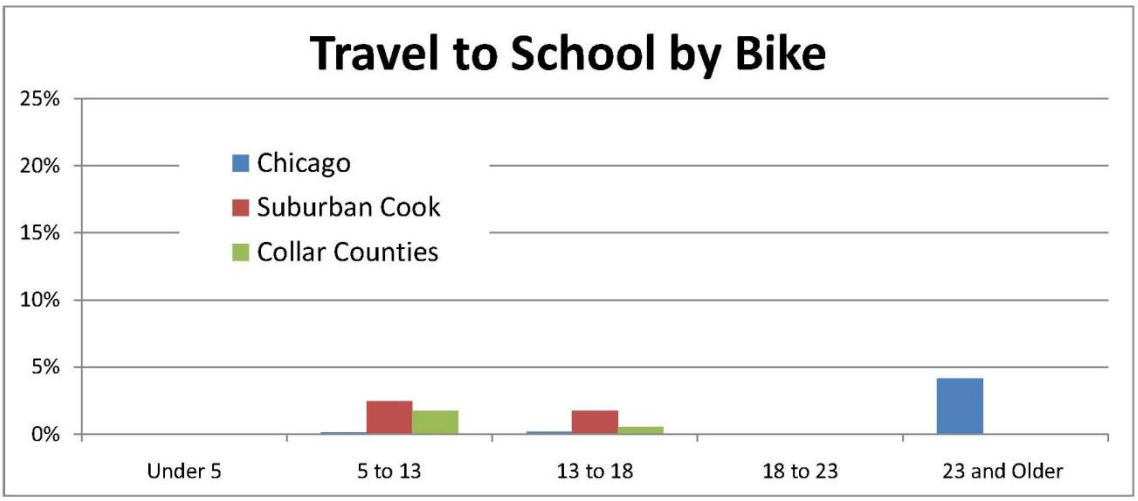
Figure 12 The Share of People Traveling to School who Took a CTA Train to School



Source *Travel Tracker Survey.* Analysis by author.

Bicycle use in general is at such a small scale that the survey results may not be reliable. In the 2008 household survey, the younger students who reported riding bikes to school were more often in grade school than high school. The share of the school trip by bike was higher in suburban Cook County than in the collar counties. The maximum bicycle rate for any group under 23 years of age was 2.4%. The City of Chicago had very few survey respondents under the age of 23 who noted riding a bicycle to school, but for students 23 and older, 4.1% of the trips to school were completed on a bicycle.

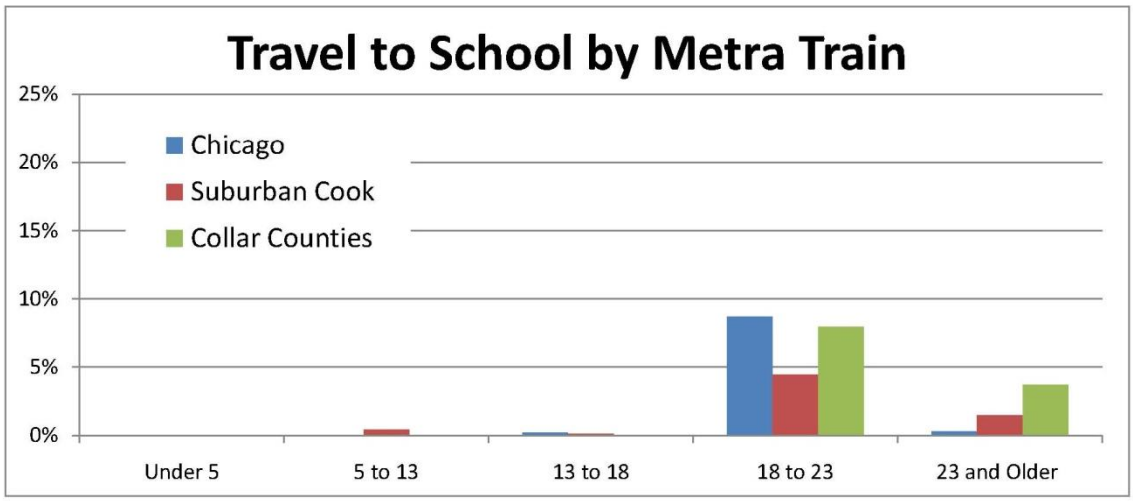
Figure 13 The Share of People Traveling to School who Rode a Bicycle to School



Source: *Travel Tracker Survey.* Analysis by author.

Metra trains were used on a similar scale as bicycles for the trip to school. The Metra service was used in the highest percentage by the students between 18 and 23 years of age. Between 4% and 9% of these trips were completed using Metra. Chicago students had the highest mode share for Metra.

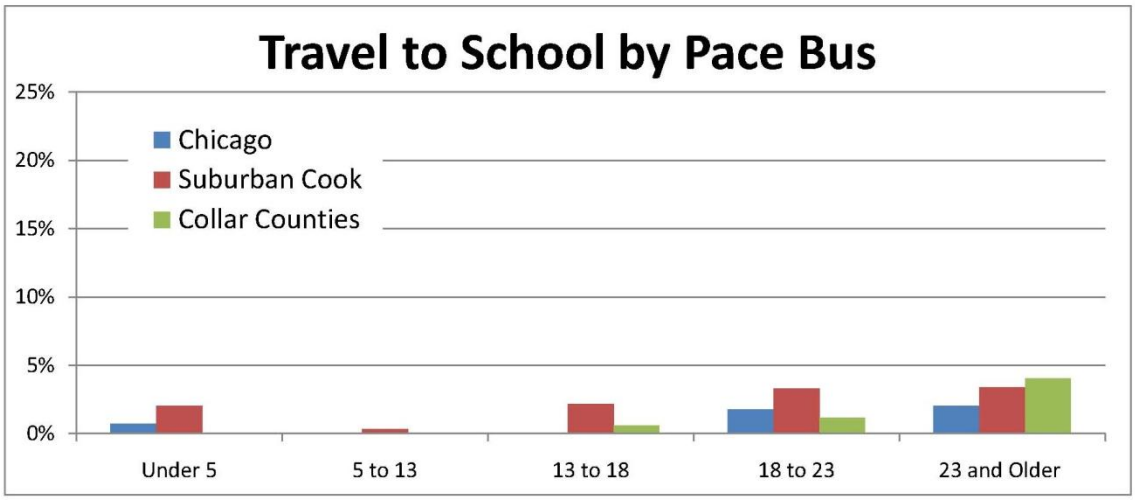
Figure 14 The Share of People Traveling to School who Took Metra Rail to School



Source: *Travel Tracker Survey.* Analysis by author.

Pace bus had the smallest percentage of all school trips, but the age distribution was less concentrated than for Metra. Based on the survey, Cook County had the largest share of students under 23 years of age who used Pace bus service for their trip to school. In general, students over the age of 23 had a slightly higher mode share for Pace bus service, for their school trip.

Figure 15 The Share of People Traveling to School who Took Pace Bus to School



Source: *Travel Tracker Survey.* Analysis by author.

Conclusion

Travel patterns and trends for the northeastern Illinois region were analyzed for changes over the period from 1990 to 2008. The comparisons were based on regional household travel studies and census data. Within the region, there has been an increase in the population and there has also been an increase in the personal miles of travel that the average person makes. There has been an increase in the share of trips that are made by travelers driving alone and a decrease in the share of the trips that are completed with more than one person in a vehicle. The distance traveled to work has increased slightly, but the destinations for work are more dispersed. The locations of employment have a strong effect on the mode of travel.

The household surveys were conducted for use in regional travel demand modeling. However, the data was found to be appropriate and useful for analyzing travel behavior. Many of the analyses would not be feasible without this data source.

Unlike decennial census and American Community Survey data, the 1990 and 2008 household travel surveys included trips for many trip purposes. The information reported for the household survey is therefore a unique and important information resource for the region. However, where available, the survey was validated by other data, such as the census journey to work data. Establishing robust survey weights ensured that the quality of the information was the best available, given the sample.

Appendix 1

Communities in Chicago Zones

Central Chicago Zone

Lake View, Lincoln Park (PUMA[18] 3502)
East Garfield Park, North Lawndale, Humboldt Park, West Garfield Park (PUMA 3508)
Logan Square, West Town, Hermosa, Avondale (PUMA 3509)
Loop, Near South Side, Near North Side, Near West Side (PUMA 3510)
South Lawndale, Lower West Side (PUMA 3511)
Brighton Park, McKinley Park, Bridgeport, New City, Armour Square, Archer Heights (PUMA 3512)
Fuller Park, Grand Boulevard, Hyde Park/Kenwood, Washington Park, Douglas, Oakland, (PUMA 3514)

Northern Chicago Zone

Rogers Park, Edgewater, Uptown (PUMA 3501)
West Ridge, Lincoln Square, North Center (PUMA 3503)
Albany Park, Irving Park, Forest Glen, North Park (PUMA 3504)
Jefferson Park, Dunning, O'Hare, Edison Park, Norwood Park (PUMA 3505)
Portage Park, Belmont Cragin, Montclare (PUMA 3506)
Austin (PUMA 3507)

Southern Chicago Zone

Gage Park, Clearing, West Lawn, Chicago Lawn, Garfield Ridge, West Elsdon (PUMA 3513)
Chatham, Avalon Park, Greater Grand Crossing, Woodlawn, South Shore (PUMA 3515)
Auburn, Gresham, Washington Heights, West Englewood, Englewood (PUMA 3516)
Mount Greenwood, Morgan Park, Ashburn, Beverly (PUMA 3517)
West Pullman, Riverdale, Roseland, Pullman (PUMA 3518)
Calumet Heights, South Deering, East Side, Hegewisch, South Chicago, Burnside (PUMA 3519)

Townships[19] in Suburban Cook County Zones

Northern Cook County

Barrington, Elk Grove, Evanston, Hanover, Maine, New Trier, Niles, Northfield, Palatine, Schaumburg, Wheeling

Western Cook County

Berwyn, Cicero, Leyden, Lyons, Norwood Park, Oak Park, Proviso, River Forest, Riverside, Stickney

Southern Cook County

Bloom, Bremen, Calumet, Lemont, Orland, Palos, Rich, Thornton, Worth

[18] Public Use Microdata Areas (PUIMA)

[19] Portions of Chicago that are in the townships are excluded

Grundy, Kane, Kendall, McHenry, and Will County Zones

Kane County (Eastern)

Townships: Aurora, Batavia, Campton, Dundee, Elgin, Geneva, and St. Charles

McHenry, Kendall, and Kane County (Western)

McHenry County (All)

Kendall County (All)

Kane County Townships: Big Rock, Blackberry, Burlington, Hampshire, Kaneville, Plato, Rutland, Sugar Grove, Virgil

Will and Grundy Counties

Will County (All)

Grundy County (All)

Glossary

1990 HHTS	1990 Household Travel Survey for the northeastern Illinois Region conducted by the Chicago Area Transportation Study (CATS). This is a 24-hour survey of residents of the 6 county region (Cook County, DuPage County, Kane County, Kendall County, Lake County, McHenry County and Will County) which includes 19,314 households, 40,568 people and 162,755 trips by people over the age of 13 conducted on a series of Thursdays between 1988 and 1991
ACS	The American Community Survey (ACS) is a nationwide survey designed to provide communities a fresh look at how they are changing. It is a critical element in the Census Bureau's reengineered decennial census program. The ACS collects and produces population and housing information every year instead of every ten years. It is a continuous monthly survey conducted by the U.S. Census Bureau which began in 2005. Most of the questions in the ACS are the same (or similar) to the Census 2000 long form
Area of Study	This analysis examines trips by residents of the CMAP planning area of northeastern Illinois that were completed totally within the area consisting of Cook County, DuPage County, Grundy County, Kane County, Kendall County, Lake County, McHenry County and Will County.
Car Pooling	For this analysis car pooling is defined as sharing any vehicle trip by at least 2 people regardless of trip purpose. This differs from the Census' definition of car pooling which only includes people traveling together to work.
CTPP	CTPP is a set of special tabulations from decennial census demographic surveys designed for transportation planners. From 1970 to 2000, the CTPP and its predecessor, UTPP, used data from the decennial census long form.
Distance	The distance in this analysis is based on the straight line distance between origin and destination locations (great circle distance), not the actual route traveled. The distances were calculated for the 2008 and 1990 travel surveys to ensure compatibility in the analysis. Trips that begin or end outside of the region did not have a distance calculation.
Journey to Work	Census term for the commute to work which includes information on the means of travel and the time it takes to travel to work.
Mode of Travel 1990	Walk Only, Driver of Auto, Van, or Truck, Passenger in Auto, Van, or Truck, School Bus, Pace Bus, Metra Rail, CTA Bus, CTA Rapid Transit, Taxi, Other.
Mode of Travel 2008	Walk, Bike, Auto/Van/Truck Driver, Auto/Van/Truck Passenger, CTA Bus, CTA Train, Pace Bus, Metra Train, Private Shuttle Bus, Dial-a-Ride/Paratransit, School Bus, Taxi, More than one transit provider, Other
PMT	Personal Miles of Travel: In this analysis this refers to the distance that each person travels. If two people travel one mile together in a vehicle they will produce a total of two personal miles of travel.

Population	In the 2008 Household Travel Survey all age groups were included. For some comparisons to other data sets only people over 13 years of age may be analyzed or workers over the age of 15.
PUMA	Public Use Microdata Area
Purpose of Trips 1990	Work, Work Related, School, Shopping, Eat Meal, Banking, Recreational, Pick Up/ Drop Off Passengers, Change Type of Transportation, Return Home, Other
Purpose of Trips 2008	Working at home (for pay), All other home activities, Work/Job, All other activities at work, Attending class, All other activities at school, Change type of transportation/transfer, Dropped off passenger from car, Picked up passenger, Other, specify - transportation, Work/Business related, Service Private Vehicle, Routine Shopping, Shopping for major purchases, Household errands, Personal Business, Eat meal outside of home, Health Care, Civic/Religious Activities, Recreation/Entertainment, Visit Friends/Relatives, Loop trip, Other
Travel Tracker 2008	A comprehensive travel and activity survey for northeastern IL. Data collection took place between January 2007 and February 2008. A total of 10,552 households participated in either a 1-day or 2-day survey, providing a detailed travel inventory for each member of their household on the assigned travel day. The 2008 surveys were collected on all seven days of the week.
Trip	For this analysis a trip is defined as traveling from a place to a destination. There is one record for each unique location visited. Only trips that begin and end within the region are included
Trip Chain or Tour	A trip chain consists of all the individual trips that are included in a specific type of journey that begins and ends at one location, usually at home. In this analysis there are work trip chains (home to work to home), shopping trip chains (home to shop to home) and other trip chains which begin and end at home but do not include work or shopping destinations. Work or shopping trio chains may include other destinations and trip purposes.
Weights	The weights are factors used to expand the sample to represent the population of the entire region. The weights are based on the socio-economic characteristics of the population and are created using iterative proportional fitting (IPF). The weights of the households will vary depending on whether households or people are being analyzed and if the time frame of interest is weekends or the entire week.