

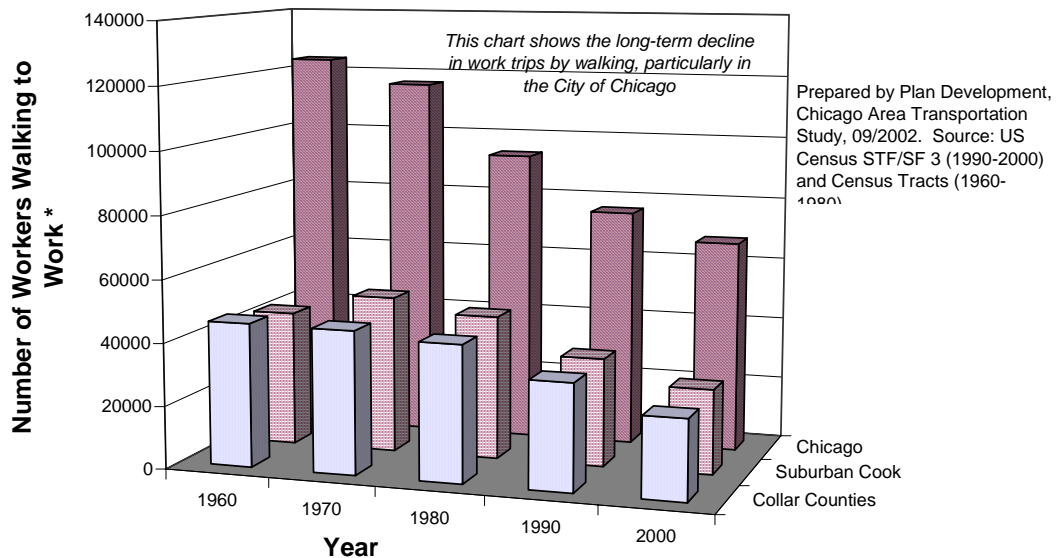
Who is Walking and Bicycling in Northeastern Illinois?

Who bicycles and walks depends on the characteristics of the trip purpose, location, and demographic characteristics.

Work Trips Trends

Figure 7 shows walking trips to work in northeastern Illinois from 1960 to 2000, as collected as part of U.S. Census Bureau decennial census activities. The chart shows declines in walking for commutes region-wide. However, the trend began to abate in the 1990's.

Figure 7. Work Trips by Walking, Northeastern Illinois Census Data



	1960	1970	1980	1990	2000
Collar Counties	45842	45533	43330	33839	25365
Suburban Cook	43182	50118	45846	34459	26898
Chicago	124046	116361	93590	76041	67556

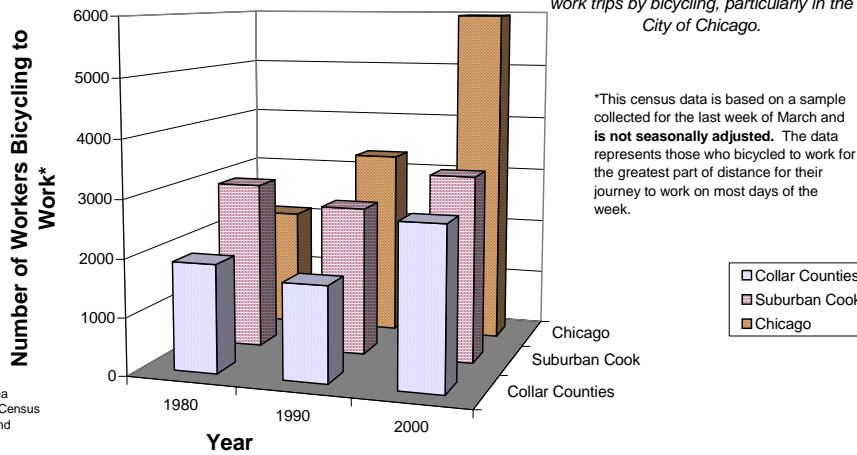
*This census data is based on a sample collected for the last week of March and is not seasonally adjusted. The data represents those who walked to work for the greatest part of the distance for their journey to work on most days of the week.

Many more people walk than bicycle in northeastern Illinois, including access to transit trips. However, recent policy initiatives to promote and facilitate bicycling may help explain an upswing in bicycling as a commuter mode choice. The upswing is particularly evident in the City of Chicago, where pro-bike policy has been particularly strong. Figure 8 shows bicycle journey to work trends (note that the data is for the last week in March).

Transit service relies on the walking environment to attract customers. Most transit trips involve walking or bicycling on one or both ends of the transit line-haul trip. A large portion of walking in northeastern Illinois involves walking to or from transit services. Transit use has shown long-term decline in Cook County, where transit use has historically been highest. This trend abated in the 1990's. Figure 9 shows transit journey to work trends in northeastern Illinois.



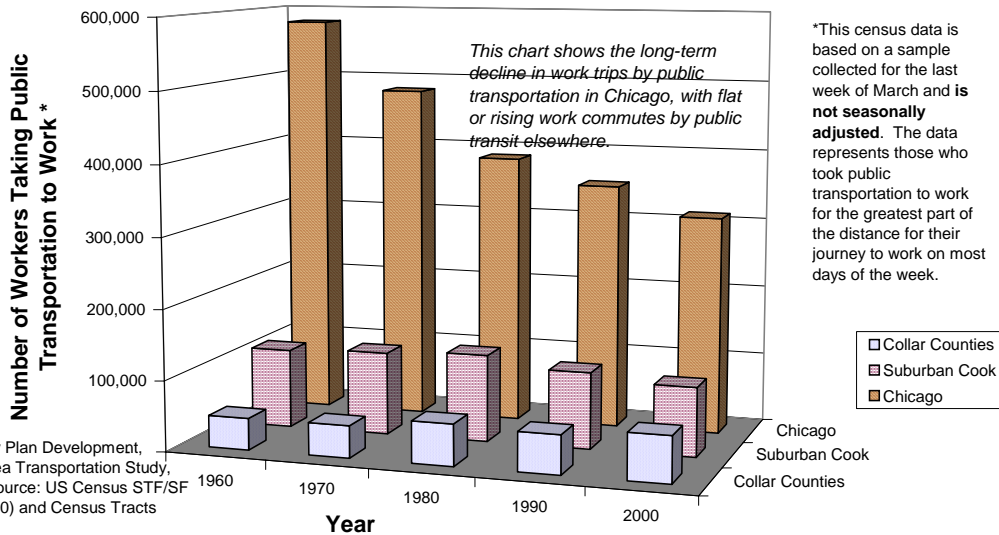
Figure 8. Work Trips by Bicycle, Northeastern Illinois Census Data



Prepared by Plan Development, Chicago Area Transportation Study, 09/2002. Source: US Census STF/SF 3 (1990-2000) and General Social and Economic Characteristics for Illinois, 1980.

	1980	1990	2000
Collar Counties	1881	1654	2784
Suburban Cook	2944	2616	3265
Chicago	2114	3307	5956

Figure 9. Work Trips by Public Transportation, Northeastern Illinois, 1960-2000



Prepared by Plan Development, Chicago Area Transportation Study, 09/2002. Source: US Census STF/SF 3 (1990-2000) and Census Tracts (1960-1980)

	1960	1970	1980	1990	2000
Collar Counties	44,886	45,532	58,877	55,249	65,453
Suburban Cook	112,380	117,472	123,817	108,888	98,143
Chicago	580,418	481,106	385,792	351,059	310,924

As a result of these long-term trends, driving alone in an automobile is the dominant mode of transportation to work in northeastern Illinois. Such travel accounts for 50% of work trips in Chicago, 75% of work trips in suburban Cook County, and 75-85% of work trips in the collar counties. See Figure 10.



Figure 10. Comparison of Mode of Journey to Work, Northeastern Illinois, 2000



A Broader View: A Summary of Non-Motorized Trips by Relation to Transit and Trip Purpose

Work trips account for only a portion of travel in northeastern Illinois. Table 7 shows estimates of non-motorized trips per day by trip purpose and relationship to transit. The table demonstrates that (1) walking and bicycling are concentrated in Cook County, (2) walking and bicycling for transportation are now strongly related to transit trips, and (3) work trips account for a small share of non-motorized transportation in northeastern Illinois.

The estimates in Table 7 show some other important trends:

- Excluding transit-related walking and bicycling trips, work trips account for 34% of non-motorized trips in the collar counties, but only 14% in Cook County. This may be because the variety of destinations accessible by foot and bicycle is wider in Cook County than in the collar counties.
- For work trips, the relationship between non-motorized trips and transit is greatest in Cook County. In Cook County, among home-based work trips, 88% of non-motorized trips are transit-related. In the collar counties, this figure falls to 73%.
- Conversely, for home based other (non-work) trips, non-motorized trips are most strongly related to transit in the collar counties. Thus, for home-based non-work trips, 57% of Cook



County home-based non-work non-motorized trips are related to transit. In the collar counties, 79% of such trips are related to transit.

- Walking and bicycling are important parts of trip chaining. 1,186,612 non-motorized daily trips are non-home based. Most of these are in Cook County.

Table 7
Summary of Daily Non-Motorized Trips by Trip Purpose and Relation to Transit
Northeastern Illinois, 1999-2005 Estimates, Tuesday - Thursday⁴⁶

Type of Trip	2005 Non-motorized	2005 Transit Access	1999 Transit Egress	Total
<u>Cook County</u>				
Home-based Work	181,396	597,197	703,971	1,482,564
Home-based Other	920,517	406,226	796,867	2,123,610
<u>Non-home-based</u>	<u>241,364</u>	<u>532,658</u>	<u>272,145</u>	<u>1,046,167</u>
Subtotal	1,343,277	1,536,081	1,772,983	4,652,341
<u>Collar Counties</u>				
Home-based Work	49,722	84,508	50,763	184,922
Home-based Other	55,365	51,416	159,755	266,536
<u>Non-home-based</u>	<u>39,992</u>	<u>52,933</u>	<u>47,519</u>	<u>140,445</u>
Subtotal	145,079	188,857	258,036	591,972
Total (Cook + Collar)	1,488,356	1,724,938	2,031,019	5,244,313

Prepared by Chicago Area Transportation Study, August, 2003. Data reflects Tuesday-Thursday daily trips.

Staff reviewed recently released National Household Travel Survey (NHTS) data for that part of the Chicago area that is within Illinois.⁴⁷ The data sample is limited, but is useful as an intermediate data point given the lack of a statistically satisfactory local survey. Table 8 shows a comparison of the summary levels for trips from the NHTS and the travel model data.

Table 8
Comparison of Non-Motorized Trip Estimates
from the NHTS and CATS Travel Demand Models by Trip Purpose

Type of Trip	2005 Travel Model	2001 NHTS
Home-based Work	231,118	61,238
Home-based Other	975,882	929,962
<u>Non-home-based</u>	<u>281,357</u>	<u>360,250</u>
Total	1,488,356	1,351,450

Prepared by Chicago Area Transportation Study, September, 2003. Data reflects average Tuesday-Thursday daily trips in the travel model, and average 7-day daily trips for the NHTS (using NHTS annualized trip factors divided by 365). NHTS data includes independent youth travel; travel model data does not.

Table 8 shows an NHTS 7-day average of about 1.35 million bicycle and pedestrian trips per day. This is somewhat less than the numbers of non-motorized trips reported above, but is not

⁴⁶ Source: Chicago Area Transportation Study. 2020 and 2030 RTP Conformity Analyses, unpublished data. Figures exclude independent travel by those less than 14 years of age. Figures exclude automobile access or egress trips (e.g., walking to a downtown parking garage from work).

⁴⁷ Bureau of Transportation Statistics, US Department of Transportation. 2003. [Center for Transportation Analysis, Oak Ridge National Laboratory]. Analysis by CATS. Raw data is posted at http://nhts.ornl.gov/2001/html_files/download_directory.shtml. Data is only indicative because of small sample.



inconsistent given the different data collection methods, and much smaller Chicago area sample for the national dataset. However, problems with the NHTS data subsets are indicated. First, Chicago area transit trips were significantly under-sampled in the national survey, so they were not analyzed for the purposes of this report. Second, the NHTS home-based work data is consistent with neither CATS travel demand models nor US census data.⁴⁸ These faults notwithstanding, the national household travel survey data allows for description of general travel trends. In particular, the data shows that, among non-work trips, trips to and from recreation are very important, and that walking and bicycling account for a significant fraction of such trips in the Chicago area. The data also shows that non-work trip-making is becoming increasingly important for all transportation modes, especially when weekend trips are surveyed. In addition, more trips are part of trip chains. About 30% of all trips are non-home based. Some of these trips are by foot or by bike. See Appendix A for details for non-motorized and all trips.

The rest of this section will examine the characteristics of these trips, to discern the population characteristics associated with walking and bicycling in northeastern Illinois.

Walking and Bicycling Activity in the Chicago Central Area

The intense development of the Chicago Central Area has been driven by its rail transit system. The rail transit system provides good links to a large part of the region, irrespective of traffic congestion. The intense development and relative attractiveness of transit for downtown trips results in high transit demand. This transit activity in turn generates large numbers of non-motorized trips in Chicago's Central Area.

Features of the Central Area making it ideal for trips on foot are discussed in the next chapter. Here, we will discuss the volumes of walkers and bicyclists and their trip characteristics.

Most non-motorized trips in the Central Area are, like those region-wide, by foot. Most block faces in the Loop area have weekday pedestrian counts in the 5,000 to 20,000 range.^{49, 50} Block face pedestrian counts ranging to more than 25,000 per block face lead to the four Metra rail terminals. Block face counts are also over 20,000 in central locations on State Street, with CTA's Red Line subway stations and retail anchors generating large amounts of foot traffic.

North Michigan Avenue also has very high pedestrian counts. Weekday block face counts are above 10,000 from Oak Street south over the Chicago River; the majority of block face counts are over 20,000. Unlike the remainder of the Central Area, weekend counts on North Michigan Avenue are higher than weekday counts. Weekend counts are frequently over 30,000 on each block face, and are above 40,000 in the heart of the district. Special 1999 holiday pedestrian counts exceeded 70,000.⁵¹

⁴⁸ Recalling the bicycle and walking work commute data in Figures 7 and 8 total 131,824 workers. This number, when doubled to account for the return trips, yields more than 260,000 per day. This is consistent with the travel model data (accounting for part-time workers, etc.), but is dramatically higher than the NHTS.

⁴⁹ Source: Chicago Department of Transportation, unpublished data, collected July and August 1999. Data is for a ten-hour period from 7:45 a.m. to 5:45 p.m. Weather is not reported. Excludes "Taste of Chicago."

⁵⁰ The area bounded by Canal Street, the Main Branch of the Chicago River, Michigan Avenue, and Congress Pkwy.

⁵¹ Source: Chicago Department of Transportation, unpublished data. Collected July, August, and December, 1999. Saturday counts were collected from 9:00 a.m. to 6:00 p.m. Weekday counts were from 7:45 a.m. to 5:45 p.m.



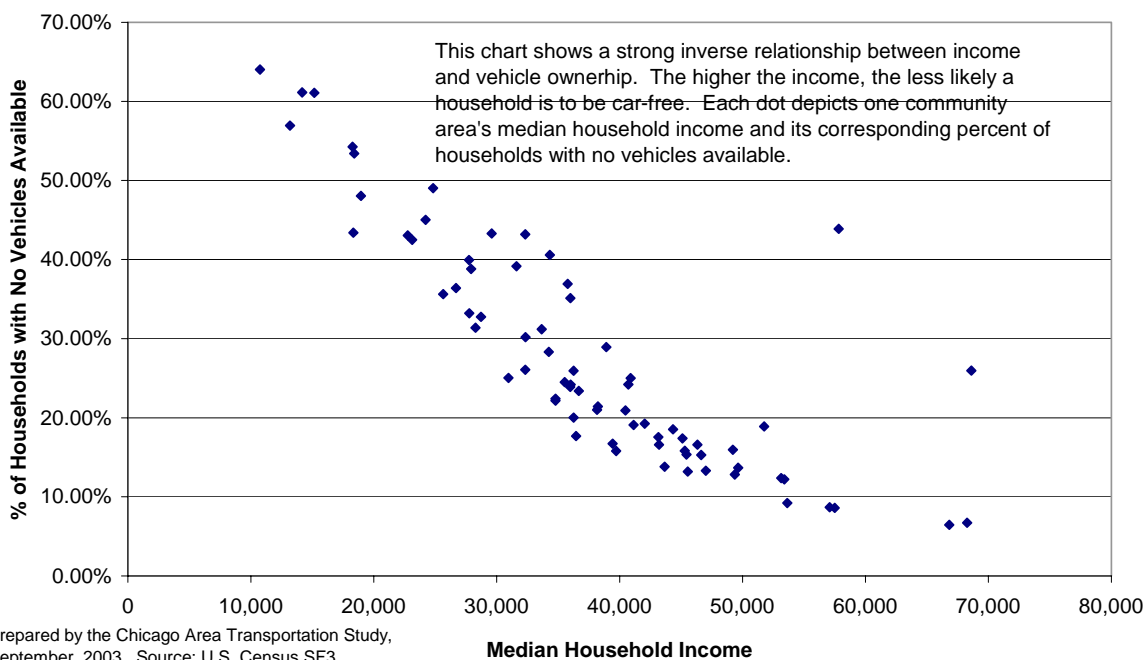
Pedestrian counts were also conducted in 1999 on selected blocks in the Streeterville and River North areas. These counts ranged from several hundred per block face to more than 10,000; most counts were between 1,000 and 5,000.⁵² Maps showing full 1999 pedestrian counts are included in this document as Appendix B.

Bicycling in the Central Area is becoming increasingly common. Over 300 people are estimated to earn their living bicycling throughout the Central Area as bicycle messengers, working for 40-45 messenger companies.⁵³ Commuting downtown is also popular, as large numbers of households live within bicycling distance of downtown. One popular way to access downtown Chicago is via the Lakefront Path. On a weekday in 1990, counts of more than 2,000 bicyclists were using the trail from 10:00 a.m. to 6:00 p.m. in the segment from Belmont Avenue south to Grant Park (Belmont Avenue is 5 miles from the heart of the Loop via the Lakefront Path). The highest count was 3,400 between North Avenue and Michigan Avenue. Counts trailed off significantly north of Addison Street. Less than 200 bicyclists were the trail during the weekday count period at count locations between Addison and Hollywood (a further 3 miles).⁵⁴

Walking and Bicycling Activity in Chicago Neighborhoods

Walking and bicycling are widespread in Chicago neighborhoods. This is probably directly related to the walking and bicycling accessibility of various activities to Chicago residents. It also relates indirectly to income. Many Chicago residents do not own automobiles. Such residents rely on walking, bicycling and access to public transportation for personal mobility. Figure 11 shows the relationship between vehicle ownership and income.

Figure 11. Vehicles Available by Income, 74 Chicago Community Areas, 2000



⁵² Source: Chicago Department of Transportation, unpublished data. Collected July, August, and December, 1999.

⁵³ Source: International Federation of Bike Messenger Associations. www.bikemessenger.org/travel/chicago.html.

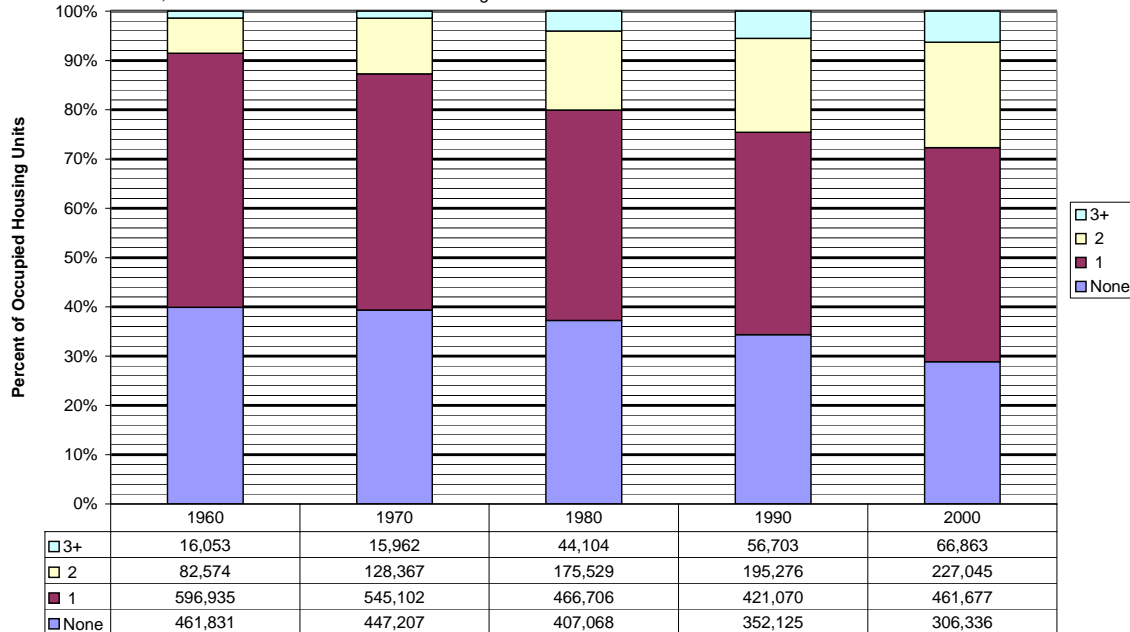
⁵⁴ City of Chicago Department of Transportation. Title/date? Figure 14, p. 85.



Partly because of rising incomes, the percent of Chicago households with zero or one car has been trending down. In Chicago, this trend has been recently accelerating. However, many households still did not own cars in 2000. See Figure 12.

Figure 12. Percent of Occupied Housing Units by Number of Vehicles Available, Chicago, 1960-2000

In Chicago, the trend is that fewer households have 0 or 1 car, while more households have 2 or 3 cars. Still, most households had 0 or 1 cars in Chicago.



Prepared by Plan Development, Chicago Area Transportation Study, 09/2002. Source: US Census SF/STF 3 (1990-2000) Census Tracts (1960-1980). Data is based on a sample.

Survey data indicates that besides walking and bicycling because they don't have cars, Chicago residents walk and bicycle because they can and want to. Most Chicago residents report that they live within walking distance of many activities and services. Table 9 shows that most residents live within walking distance of a variety of activities, but these numbers vary by socioeconomic data and location. Accessible amenities and high-income households appear to be attracted to each other.

Further, the right-most column of Table 9 shows that three-fourths of Chicago residents prefer to live within walking distance of shopping amenities. Again, there is some variation among groups. Overall, however, Chicago is attractive to people who wish to live in walkable communities. Together, the data on walkable amenities and attraction of people seeking walkable amenities helps explain the high non-auto trip shares in Chicago.

A large number of Chicago trips are within walking distance. Table 10 shows that about 31% of all trips tabulated in Chicago in the CATS household travel survey were less than a mile in length. Table 10 also shows that even more trips within Chicago were within bicycling distance. Almost 60% of trips were less than 3 miles in length. Three miles is a distance many people seem to be willing to bicycle (at a speed of 10 miles per hour, such a trip takes less than 20 minutes).



Table 9
Walking Distance Accessibility
Percent of Survey Respondents Indicating They Are within Walking Distance
Chicago, 1997 - 2001

Population Group	Park	Restaurant	Train or "L" Station	Movie Theatre	Shopping Area	<i>Prefer Living within Walking Distance of Shops</i>
Chicago	89	87	65	29	70	75
Lower Third Income Quantile	88	86	56	22	68	76
Middle Third Income Quantile	89	87	71	30	70	74
Upper Third Income Quantile	94	87	74	42	71	72
White	93	92	72	42	76	76
Black	85	79	62	15	57	71
Latino	87	90	54	25	78	84
North Side	96	95	86	58	79	87
Northwest Side	90	89	62	34	77	68
West Side	80	88	52	9	64	82
Southwest Side	94*	90	39	18	67	56
South Side	88	76	65	16	64	69

Prepared by Chicago Area Transportation Study, August, 2003. Source: Taylor, D. Garth, *2001 Metro Survey Report*, Chicago, IL: Metro Chicago Information Center, 2001. MCIC Tables #1, 3, 5. * Indicates that caution is advised because of small sample (50-100 responses). For discussions of methodology, sampling, etc., see the appendices to the source documentation.

Table 10
Trip Lengths, Chicago, 1988-1991

Trip Length	City of Chicago
< 3 miles	59%
< 2 miles	48%
< 1 mile	31%

Source: Compiled from Transportation Facts summaries of CATS Household Travel Survey

Table 11 shows that bicycling is even more sensitive to socioeconomic variables than walking. Whites and higher income groups are more likely to own bicycles. However, they are less likely to use them for commuting or errands than people in lower income groups and minorities. Again, among low income groups, residents may bicycle because they have to. The large number of people from low income and minority groups without a bicycle indicates that a strategy of targeted promotions for bicycle ownership might encourage higher rates of bicycle use among these populations.

Table 11
Summary of Bicycle Ownership, Commuting, and Use for Errands
Chicago, 1997 - 2001

Population Group	Percent of Survey Respondents Who Have a Bicycle	Among those Who Have A Bicycle:				Among Work Commuters, Ride Bike to Work in Good Weather (%)
		Never Use Bike for Errands (%)	Use Bike for Errands 1-3 Times per Month (%)	Use Bike for Errands 4-10 Times per Month (%)	Use Bike for Errands Over 10 Times per Month (%)	
Chicago	42	69	14	12	6	13
Lower Third Income Group	26	63	19	14	5	19*
Middle Third Income Group	50	69	12	11	8	12
Upper Third Income Group	66	73	14	9	3	11*
White	54	66	15	13	5	11
Black	27	82	9	6	2	8
Latino	37	62*	12*	12*	14*	25*
North Side	48	59	20	16	5	15*
Northwest Side	47	79*	11*	6*	4*	11*
West Side	28	52*	14*	21*	13*	**
Southwest Side	56	74*	10*	9*	7*	**
South Side	37	77	11	7	7	9*

Prepared by Chicago Area Transportation Study, August, 2003. Source: Taylor, D. Garth, 2001 *Metro Survey Report*, Chicago, IL: Metro Chicago Information Center, 2001. MCIC Tables #1, 3, 5. * Indicates that caution is advised because of small sample (50-100 responses). ** Indicates less than 50 responses. For discussions of methodology, sampling, etc., see the appendices to the source documentation.

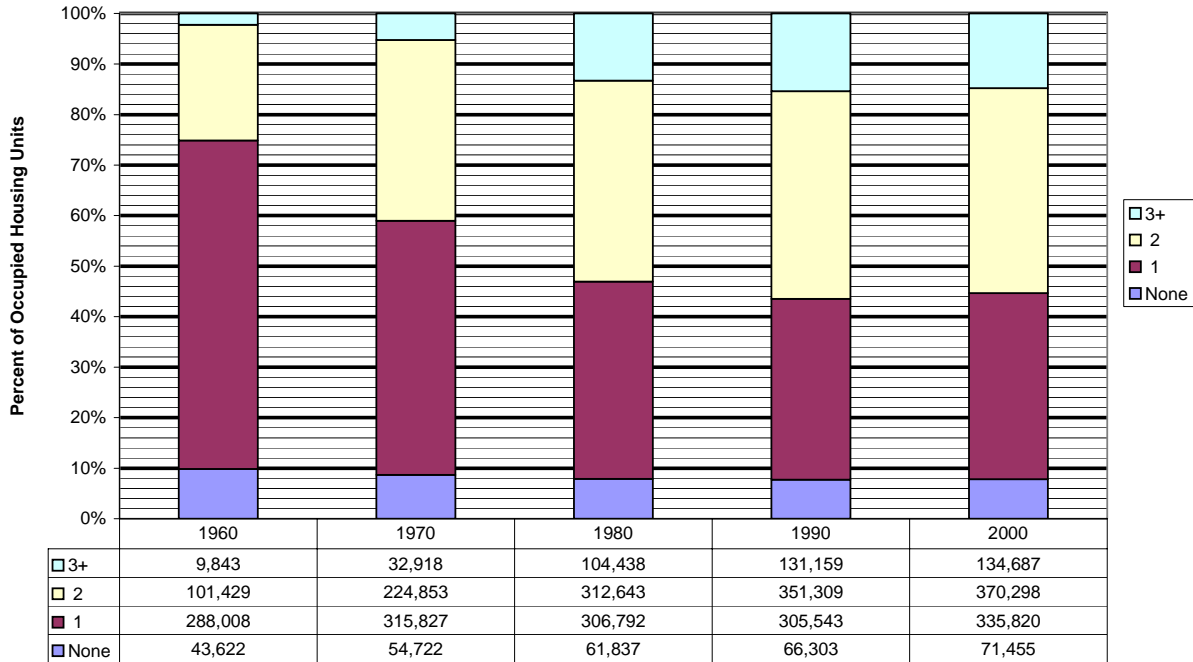
Walking and Bicycling Activity in Suburban Locations

Suburban areas vary widely. Many communities have high residential densities, vibrant commercial districts and accessible schools and parks. Some communities do not. Many communities in northeastern Illinois remain rural. These differences are often intentional.

Figures 13 and 14 show that automobile availability has grown in the suburbs during the last 40 years. A comparison with Figure 12 will show that auto availability rates are higher in the suburbs than in the City of Chicago. However, unlike Chicago, suburban vehicle availability growth has abated.

Figure 13. Percent of Occupied Housing Units by Number of Vehicles Available, Suburban Cook County 1960-2000

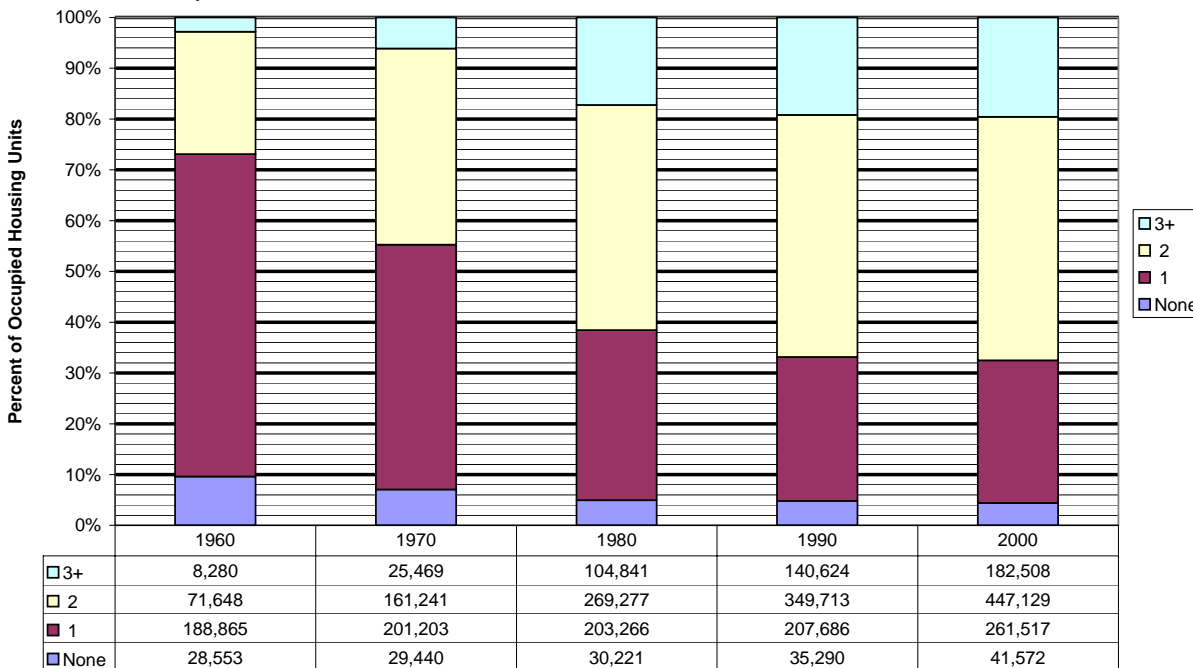
About 44% of households in suburban Cook County have 0 or 1 vehicles available. The trend toward more vehicles per household abated in the 1990's:



Prepared by Plan Development, Chicago Area Transportation Study, 09/2002. Source: US Census SF/STF 3 (1990-2000) Census Tracts (1960-1980). Data is based on a sample.

Figure 14. Percent of Occupied Housing Units by Number of Vehicles Available, Collar Counties, Illinois 1960-2000

Two-thirds of collar county households have 2 or more vehicles. The trend toward more vehicles abated in



Prepared by Plan Development, Chicago Area Transportation Study, 09/2002. Source: US Census SF/STF 3 (1990-2000) Census Tracts (1960-1980). Data is based on a sample.



Figures 13 and 14 show that the large majority of suburban households have access to a car, and indeed have two or more cars. Now we will examine whether walking and bicycling are choices. Using the same analysis procedures as for Chicago above, Table 12 shows a summary of how well suburban socio-economic groups and communities can access activities by foot. Table 12 demonstrates that most members of most suburban groups and areas can walk to a park and a restaurant. However, unlike the city, most cannot walk to a train station.

Most interestingly, while a majority lives within walking distance of a shopping area, most suburbanites prefer not to. This is unlike their city counterparts, where large majorities live

Table 12
Walking Distance Accessibility
Percent of Survey Respondents Indicating They Are within Walking Distance
Suburban Northeastern Illinois, 1997 - 2001

Population Group	Park	Restaurant	Train or "L" Station	Movie Theatre	Shopping Area	<i>Prefer Living within Walking Distance of Shops</i>
Suburbs	84	68	38	23	54	44
Lower Third Income Group	83	68	38	26	56	49
Middle Third Income Group	83	68	37	23	56	43
Upper Third Income Group	86	66	37	22	51	40
White	85	67	37	23	54	43
Black	84	72	38	22	41	48
Latino	81	75	45	28	67	47
North Cook County Suburbs	94	80	48	34	72	61
Northwest Cook County Suburbs	83	82	32	29	70	43
West Cook County Suburbs	93	83	59	22	58	59
Southwest Cook County Suburbs	88	71	40	21	57	39
South Cook County Suburbs	88*	68*	27*	23*	46*	42*
DuPage County	88	71	44	27	52	45
Kane County	79	61	22	27	52	38
Lake County	79	53	34	17	44	36
McHenry County	79	38*	25*	11*	31*	28*
Will County	75	49	15	11	40	29

Prepared by Chicago Area Transportation Study, August, 2003. Source: Taylor, D. Garth, 2001 *Metro Survey Report*, Chicago, IL: Metro Chicago Information Center, 2001. MCIC Tables #1, 3, 5. * Indicates that caution is advised because of small sample (50-100 responses). For discussions of methodology, sampling, etc., see the appendices to the source documentation.



within walking distance of shops and even higher numbers would like to. It is noteworthy that there is quite a bit of variation in these numbers and differences among populations. In general, Cook County suburbs have higher walking accessibility than collar county suburbs. Cook County suburbs also have higher proportions of people wanting shopping accessibility by foot, particularly in the north and west suburbs, where majorities have such preferences. The north and west suburbs also have the highest accessibility to rail stations by foot. Among the suburbs, DuPage, Kane, and Lake Counties have higher walking accessibility than McHenry and Will Counties. Most McHenry and Will residents do not seek walkability: less than 30 percent of survey respondents from those counties preferred living within walking distance of a shopping area.

We have seen dramatic differences in walking accessibility in the suburbs. Unlike the City of Chicago, however, differences are not as prevalent among socioeconomic groups, except accessibility to shopping areas by foot, where there are large differences among racial and ethnic groups. Additionally, unlike in the City of Chicago, majorities of all socio-economic groups tabulated do not prefer to live within walking distance of shopping areas.

In the suburbs, according to data compiled from 1991 to 1993 during the CATS household travel survey, about 20% of all trips were less than one mile, considered by many a walkable distance. About half of all trips were less than 3 miles, a distance that is generally considered bikable. See Table 13.

Table 13
Trip Lengths, Suburban Northeastern Illinois, 1989-1991

Trip Length	Suburbs
< 3 miles	51%
< 2 miles	40%
< 1 mile	20%

Source: Compiled from Transportation Facts summaries of CATS Household Travel Survey. Note: Includes all trips regardless of mode.

Bicycle ownership and use varies among suburban groups. Table 14 show that lower income groups are less likely to own a bicycle, but are more likely to use it for commuting and errands than wealthier groups. However, black suburbanites are unlikely to own a bicycle, and those that do are unlikely to use it for errands. About half of Latino suburbanites own bicycles, and almost 30% of those use their bicycles for errands.

Table 14 also shows that bicycle ownership and bicycle use varies by area. Suburban bicycle ownership varies from a low of 54% in the western suburbs of Cook County to a high of 73% in Kane County. However, the west Cook County suburbs, along with DuPage, have the highest levels of bicycle commuting among those with a bicycle. West and north suburban Cook County bicycle owners are also the most likely to use their bikes for errands.

Table 14
Summary of Bicycle Ownership, Commuting, and Use for Errands
Suburban Northeastern Illinois, 1997 - 2001

Population Group	Percent of Survey Respondents Who Have a Bicycle	Among those Who Have A Bicycle:				Among Work Commuters, Ride Bike to Work in Good Weather (%)
		Never Use Bike for Errands (%)	Use Bike for Errands 1-3 Times per Month (%)	Use Bike for Errands 4-10 Times per Month (%)	Use Bike for Errands Over 10 Times per Month (%)	
Suburbs	60	81	10	5	4	9
Lower Third Income Group	43	73	12	6	8	15
Middle Third Income Group	61	84	8	5	3	11
Upper Third Income Group	73	79	12	5	3	7
White	63	81	10	4	4	9
Black	41	86	3	7	4	**
Latino	51	72	14	5	8	**
North Cook County Suburbs	57	70	18	5	8	11*
Northwest Cook County Suburbs	60	88	7	2	3	5*
West Cook County Suburbs	54	70*	10*	8*	11*	16*
Southwest Cook County Suburbs	61	83	12	1	4	11*
South Cook County Suburbs	48*	**	**	**	**	**
DuPage County	61	82	12	4	4	16
Kane County	73	84	6	4	4	9*
Lake County	64	80	10	9	1	5*
McHenry County	65*	**	**	**	**	**
Will County	59	88	7	5	1	6*

Prepared by Chicago Area Transportation Study, August, 2003. Source: Taylor, D. Garth, 2001 *Metro Survey Report*, Chicago, IL: Metro Chicago Information Center, 2001. MCIC Tables #1, 3, 5. * Indicates that caution is advised because of small sample (50-100 responses). ** Indicates less than 50 responses. For discussions of methodology, sampling, etc., see the appendices to the source documentation.

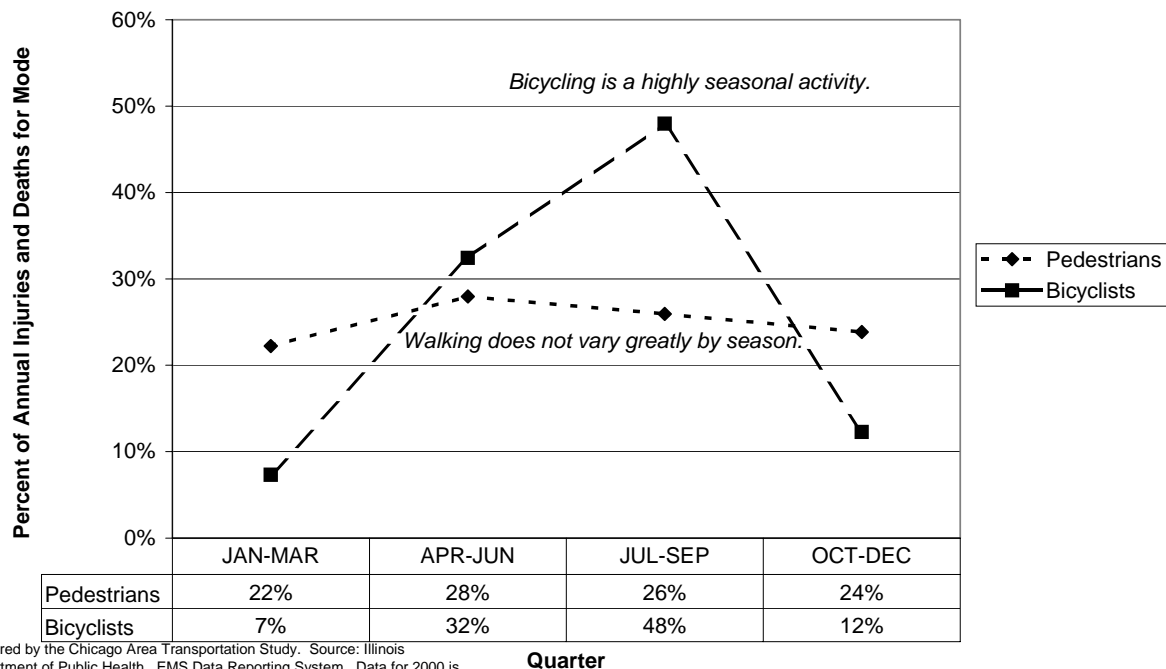
Some suburban bicycling and walking is also associated with regional trails. Trail counts conducted in 1995 in support of CMAQ programming activity indicated that showed widely varying use. Several locations showed counts in excess of 500 users over a 6-hour period. Among the important findings of the 1995 survey was other evidence showing that while walking and bicycling as recreation were important in accounting for trail use, bicycle and foot trips to recreation were even more important. Substantial numbers of trips not related to recreation were also tabulated.⁵⁵

Other Factors Affecting Walkers and Bicyclists in Northeastern Illinois

Seasonality

Overall seasonality information for bicycling and walking is available by looking at injury and fatality data. Such data shows that bicycling is highly seasonal in northeastern Illinois. The data indicates that about 80% of bicycling occurs from April through September. Walking, on the other hand, does not appear to vary greatly by season. This information is shown in Figure 15.

Figure 15. Seasonality of Bicycling and Walking in Northeastern Illinois. Indicated by Seasonality of Injuries and Fatalities.



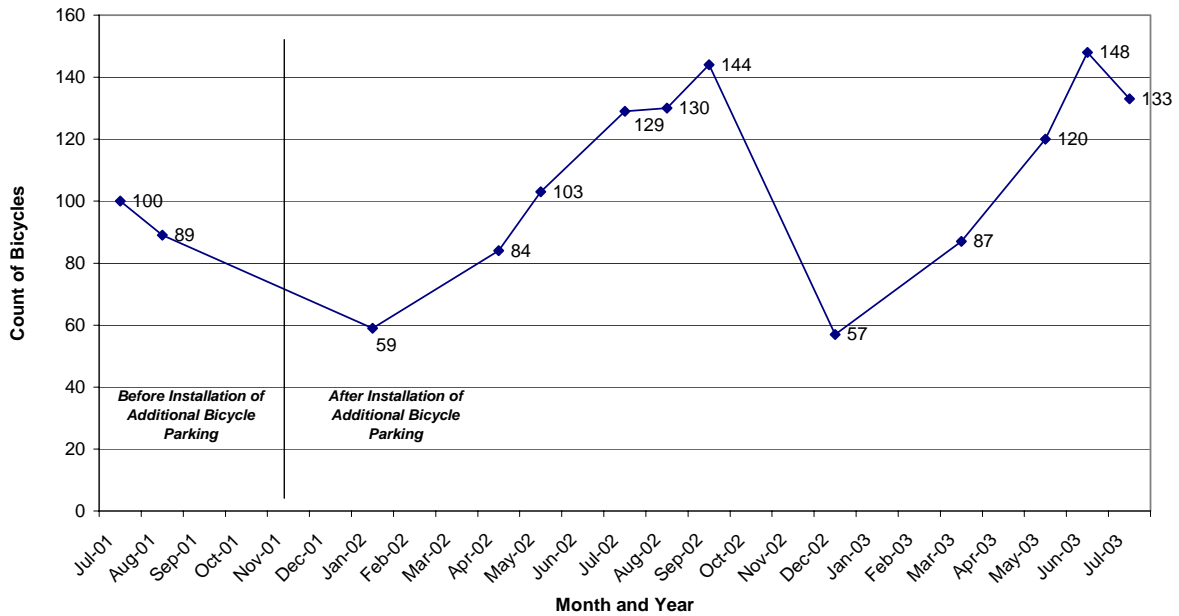
Prepared by the Chicago Area Transportation Study. Source: Illinois Department of Public Health. EMS Data Reporting System. Data for 2000 is depicted.

Seasonality for bicycling varies by trip purpose. CTA bike parking counts at rail stations indicate that while seasonality is still present for bicycle access to transit trips, the extent of seasonality is not as great as total bike trips. See Figure 15a.

⁵⁵ Welzenbach, Karl D. *Analysis of the 1995 Bicycle Survey of Suburban Bicycle Trails*. Chicago Area Transportation Study Working Paper 96-08. June 1996.



Figure 15a. Chicago Transit Authority Bike Counts at 20 Selected Rail Stations, Showing Seasonal Variation, July, 2001 - July 2003



Prepared by Chicago Area Transportation Study, September, 2004. Source: Chicago Transit Authority Bike Count Database.
 Note: Data was collected to track the impact of Phase I of the Chicago Transit Authority's Bike to Transit Program, which provided a mix of indoor and outdoor bicycle parking at selected stations.

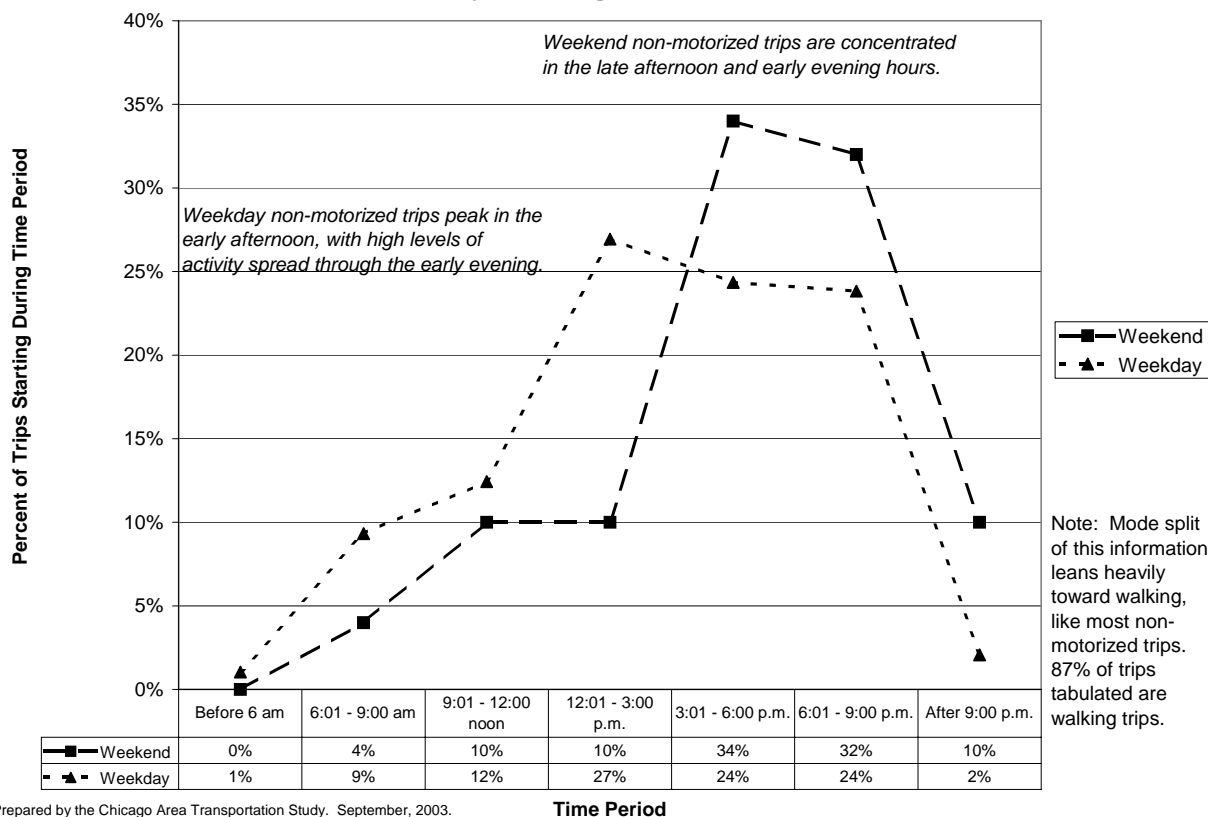
Both of the above charts indicate that for bicycling, encouragement of off-season bicycling may bring benefits without requiring additional resources beyond providing "how-to" information and cold-weather gear purchased by cyclists.

Travel by Time of Day

Walking and bicycling tend to be afternoon activities and early evening activities. On weekdays, about three-fourths of non-motorized trips take place between noon and 9:00 p.m. Weekend walking and bicycling is more concentrated in the latter part of the day. On weekends, about two-thirds of non-motorized trips take place between 3:00 p.m. and 9:00 p.m. Figure 16 shows this information, gathered from National Household Travel Survey data collected in the Chicago area.



Figure 16. Walking and Bicycling Trips by Time of Day and Weekend/Weekday. Chicago CMSA, Illinois Part, 2001.



The time of day information demonstrates a large portion of walking and bicycling takes place at or after dusk, when street lighting may be important in improving visibility by and of non-motorized travelers.⁵⁶

Travel Mode by Gender

Walking and bicycling have very different gender characteristics. An analysis of NHTS data showed that women accounted for a little more than half (53%) of the walking trips tabulated for the Chicago region.⁵⁷ On the other hand, the majority of bicycling is by males. In Chicago, males have accounted for about three-fourths of cyclists counted on city streets and trails during counts over the past several years.⁵⁸ Suburban trail counts in 1995 yielded a similar ratio: almost 70% of bicyclists counted were male.⁵⁹ Very limited bicycle trip data in the NHTS also indicate that 70% of regional bicycle trips were by males.

⁵⁶ Sunset ranges from 4:20 p.m. CST in December to 8:31 p.m. CDT in June. See Source: "Sunrise/sunset" at <http://www.crh.noaa.gov/lot/climate.html>

⁵⁷ Bureau of Transportation Statistics, US Department of Transportation. 2003. [Center for Transportation Analysis, Oak Ridge National Laboratory]. Analysis by CATS. Raw data is posted at http://nhts.ornl.gov/2001/html_files/download_directory.shtml.

⁵⁸ Source: CATS analysis of counts by the Chicagoland Bicycle Federation for the Chicago Department of Transportation, 1996-2003.

⁵⁹ Welzenbach, op.cit., p. 6.

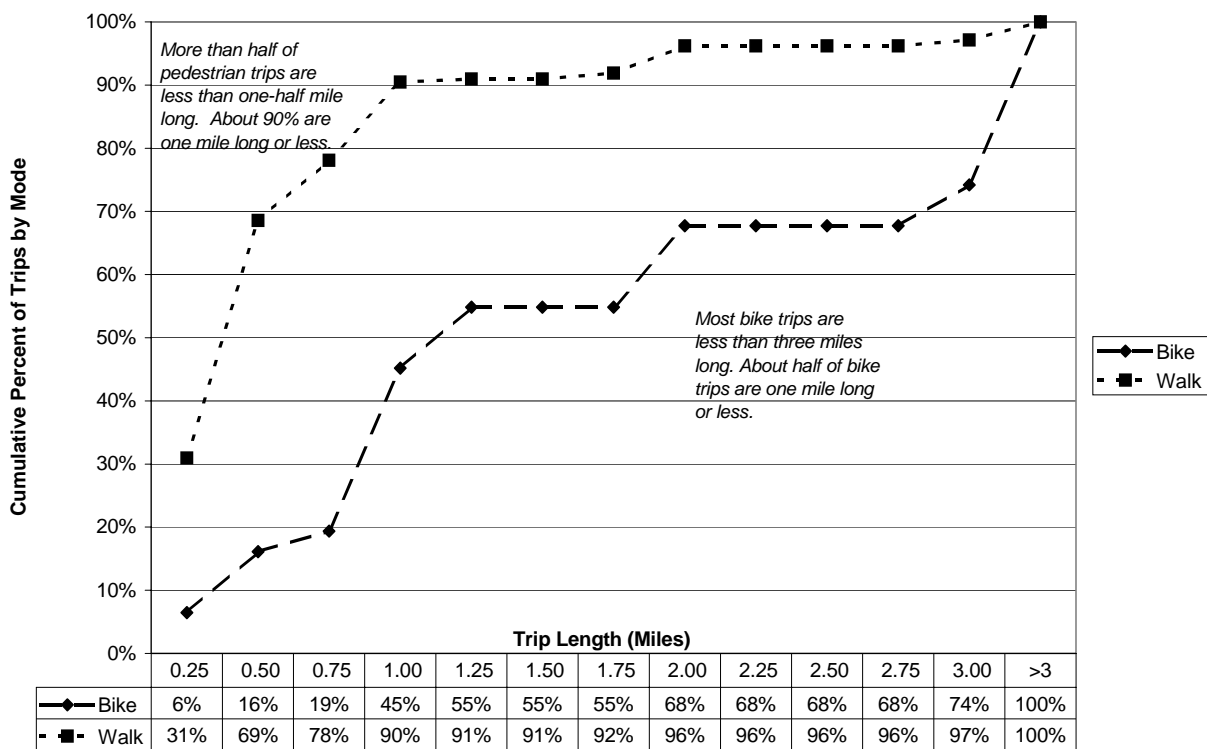


Additional study may be necessary to ascertain why women do not participate in bicycling as much as men, and whether any steps can be made reduce barriers to participation by women.

Walking and Bicycling Trips by Trip Length

Walking and bicycling trips tend to be short. As shown by Figure 17, most walking trips are one mile long or less, and most bicycle trip are less than three miles long or less. Analysis of NHTS data shows that the median walk trip length was 0.4 miles. The median bike trip length was 1.1 miles.

Figure 17: Bike and Walk Trip Lengths Cumulative Percent Frequency Distribution: Chicago CMSA, IL Part, 2001



Prepared by the Chicago Area Transportation Study, September, 2003. Source: National Household Travel Survey. Analysis by CATS.

Note: Bicycle trip sample small. Use with caution.

Many trips in the region fall into distances that are walkable or bikable. NHTS data analysis shows that about 10% of all Chicago area trips are 0.4 miles long or less, and 31% are one mile long or less. So a large portion of trips in the region are easily within walkable distances. Fully 54% of trips in the NHTS for the Chicago area are less than 3 miles in length, so are within a bikeable distance.⁶⁰

⁶⁰ Bureau of Transportation Statistics, US Department of Transportation. 2003. [Center for Transportation Analysis, Oak Ridge National Laboratory]. Analysis by CATS. Raw data is posted at http://nhts.ornl.gov/2001/html_files/download_directory.shtml.



Walking and Bicycling Trips by Day

An analysis of NHTS trips by day of the week showed that less than 20% of non-motorized trips occur on weekends. Sunday has higher levels of tripmaking than Saturday.⁶¹

Transit Access, Egress, and On-Vehicle Trips

The strong relationship between transit and non-motorized transportation was noted above, particularly with reference to the Chicago Central Area. Non-motorized access to transit is very important to the continued strength of the transit market in the developed part of the region. Rail services rely heavily on pedestrian access, bus services even more so. Table 15 shows the walking and biking share of access and egress for transit modes.

Table 15
Summary of Transit Access and Egress Shares by Transit Mode

	All Transit Modes (RTA IVIS Survey)	Bus Services (Pace and CTA)	CTA Rail	Metra Commuter Rail	
				System	CBD Only
Walk Percent Share – Access	66	100	30 (Blue Line) 26 (Orange Line)	21	31
Walk Percent Share – Egress	94	96	?	76	80
Bike Percent Share – Access	2	0	0 (Blue Line)	1	1
Bike Percent Share – Egress	0	0	?	0	0

Sources: Regional Transportation Authority. *Non-Motorized Access to Transit. Final Report.* July, 1996. [Submitted by Wilbur Smith Associates, et al]. Pages 2-4 through 2-6 and Appendix 2, p. 4. NHTS 2001 (for bus services; use with caution - small sample). Metra Origin-Destination Survey (for Metra), Fall, 2002 [data for start-of-service until noon]. Note: the rail services have additional transit shares for their access and egress trips; these access and egress trips in turn probably have large walk access shares.

Pace and CTA both have recently implemented bikes on transit services, allowing transit users to extend the length of the egress journey that may be accessible from the transit service without additional transit transfer trips. However, Pace reports that their program attracted 2,585 customers in May, 2003. The Pace program is growing in popularity, with each month in 2003 at least five-times higher than year-earlier levels.⁶²

All three transit agencies and local communities work to implement suitable bicycle parking facilities at transit stations, transfer centers, and bus stops. While specifics regarding programs are covered in a later section of this report, we discuss usage of these facilities here. Bike rack usage data indicates that bicycle usage, while representing a small mode of access share, is growing fast at transit services. Metra conducted a comprehensive inventory of bicycle parking in September, 2003. The inventory indicates that there were 2,123 bicycles parked at the 224

⁶¹ Ibid. Daily numbers are Sunday 15%, Monday 20%, Tuesday 15%, Wednesday 20%, Thursday 9%, Friday 17%, Saturday 4%.

⁶² Pace, 2003. Internal document.



Metra stations in 2003.⁶³ Comparing the results for just the 199 stations counted mostly in August, 1998, usage rose from 1,026 in 1998 to 2,107 in 2003, an increase of more than 100%.⁶⁴ At these stations, the number of “official” usable bike parking spaces available increased 2% from 3,809 to 3,887. Utilization at good quality spaces was 48%, 45% at marginal quality spaces; 276 bicycles were parked at “unofficial spaces (trees, parking meters, etc.). 28 stations had more bicycles parked than official spaces⁶⁵.

CTA has also seen a surge in bicycle use, partly related to their efforts to install and promote bicycle parking. System-wide counts at CTA rail stations for July 2001 totaled 361 in 2001, 464 in September, 2002, 480 in July, 2003.⁶⁶ From 2001 to 2002, usage went up by 44% “where secure racks were installed accompanied by marketing,” while stations without this treatment had only a 21% increase.⁶⁷

School and Youth Transportation

As part of the City of Chicago Safe Routes to School program, students at four elementary schools were surveyed regarding their preferred travel mode to school and their actual travel mode to school.⁶⁸ The survey showed that far more students wished to bike to school than were able to (compare Figures 18 and 19). Many of these walked to school; many more were driven in an automobile.

The preference of many students for bicycling may reflect these students' view of bicycling as a “fun” way of getting around. Experience indicates that many youths find bike riding enjoyable and exciting. Many youth associate bicycling with independence and freedom. Tapping into the attraction bicycling holds for young people may reduce traffic congestion associated with schools and may also lead to healthier transportation among youth.

⁶³ Metra, Office of Planning and Analysis. *2003 System-Wide Bicycle-Parking Inventory Report*. August, 2004. p. 1.

⁶⁴ *Ibid.*, p. 22. Note the following (*ibid.*): “Some stations along the South Chicago and Blue Island Branches on the Metra Electric Line, the Hegewisch Station on the South Shore Line, and the 95th Street (Longwood), 103rd Street (Washington Heights), and Gresham Stations on the Rock Island District Line were conducted in October 1997.” See also the report’s discussion regarding the methodology for the inventory regarding caveats for the comparison.

⁶⁵ At all stations, 2,557 of the official spaces were of good quality, while 1,410 spaces were of marginal quality (e.g., “schoolyard” racks to which one cannot lock the frame to the rack using a standard U-shaped bicycle lock), and 167 spaces were unusable. *Ibid.*, p. 1.

⁶⁶ Chicago Transit Authority Bike Count Database.

⁶⁷ Chicago Transit Authority. *Bike to Transit Program Progress Report*. May, 2003.

⁶⁸ Source: Chicago Department of Transportation. Chicago Safe Routes to School Program <http://www.biketraffic.org/saferoutes/index.html> [Chicagoland Bicycle Federation]



Figure 18
Preferred Travel Mode To School

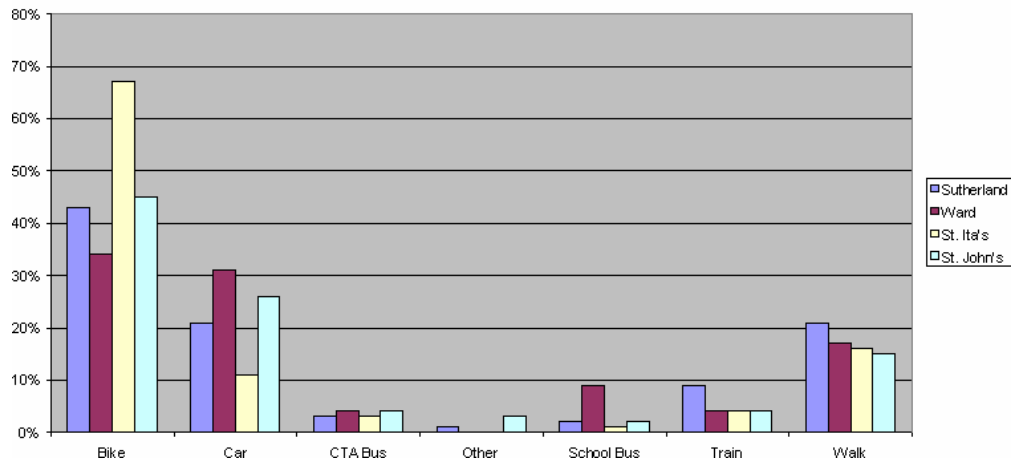


Figure 19
Travel Mode To School

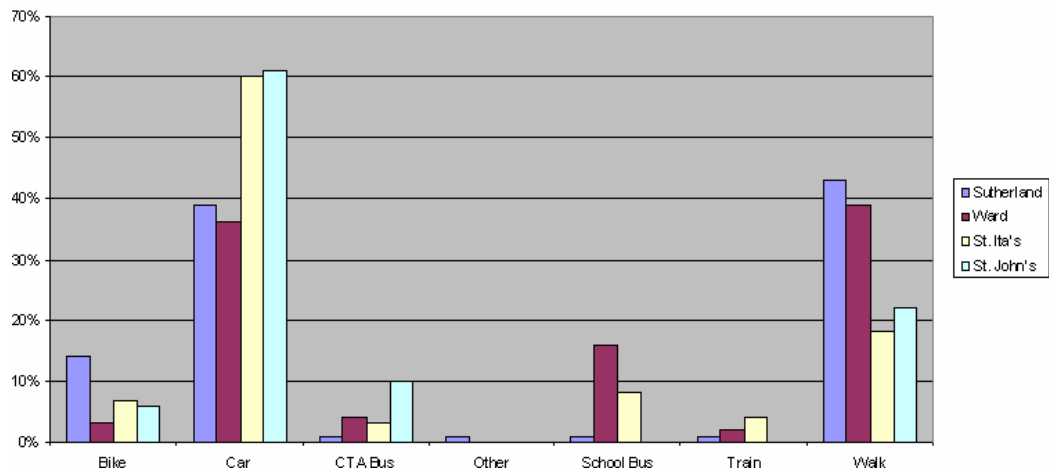
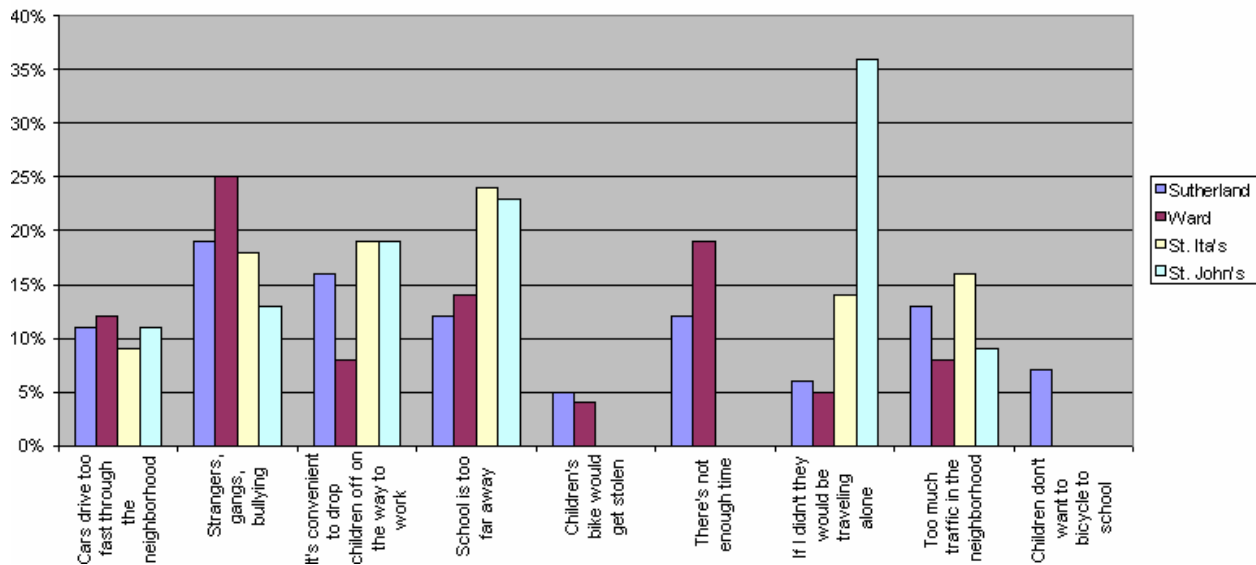
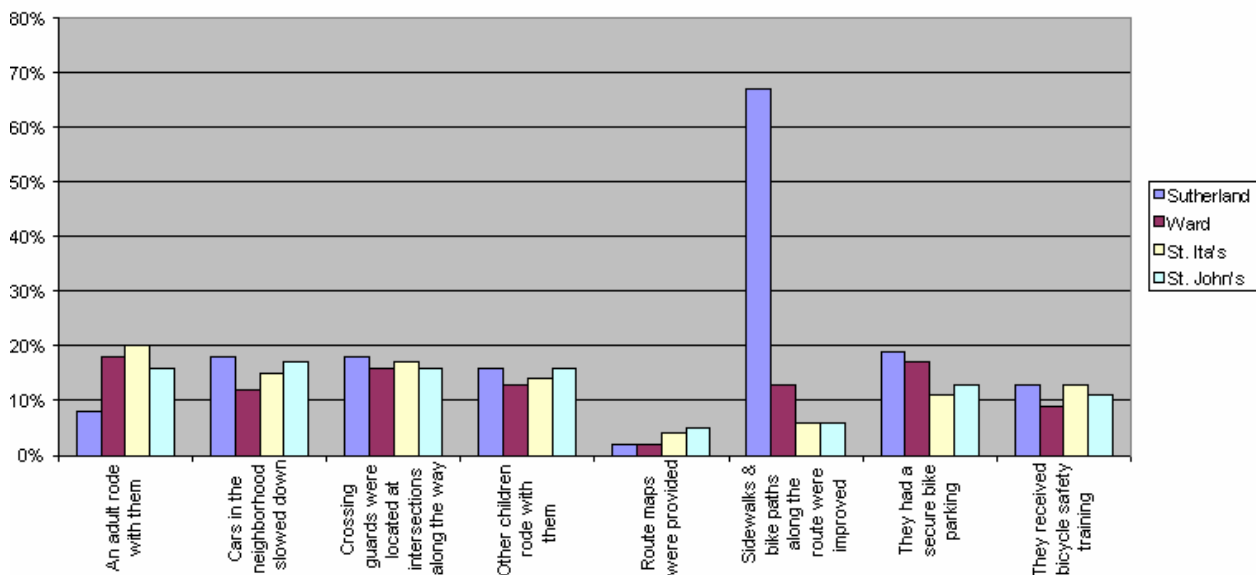


Figure 20
Reason Parents Drive their Children To School



Parents were also surveyed as part of the project. Figure 20 shows why parents drive their children to school. A brief review of these problems shows that some can be resolved. Specifically, while some security concerns cannot be addressed in the context of the transportation system, many concerns leading parents to drive their children to school are related to the transportation system and can be addressed through the development, management, and operation of the transportation system. Specific measures the parents indicated may lead to letting their children bicycle to school are shown in Figure 22.⁶⁹

Figure 21
Parents Would Allow Their Children Bicycle To School If:



⁶⁹ Ibid.



The above schools are in the City of Chicago. Regionally, NHTS data undercounts school trips (a preliminary analysis indicates that only 15% of the expected trips are accounted for). However, among the trips tabulated, certain patterns are apparent. 61% of school trips in the region are estimated to be by car, truck, van, or SUV. An additional 25% are by bus or rail (21% by school bus). The remainder, 14%, are estimated to be walking trips.⁷⁰

More research may help to determine where in the region walking and bicycling to school works, and whether the success of those places can be replicated elsewhere. It appears from the data that there is a willingness among students to walk and bicycle to school if the conditions are right. Likewise, many others in the region walk and bicycle under the right circumstances. Among the conditions that need to be met is the walkability and bikability of the roads and streets of our region. Such walkability and bikability are the next topic covered by this report.

⁷⁰ NHTS, 2001. CATS analysis. As noted previously, NHTS data is not meant for regional analysis. However, analyses here are useful for indicating northeastern Illinois trends to investigate in the absence of our own recent survey. Further research should be carried out to determine whether problems in NHTS data were also carried over to other large, transit-heavy metropolitan areas.

