

Characteristics of Taxicab Usage

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This paper presents an investigation of the characteristics of taxicab usage in the city of Chicago. The taxicab appears to operate as a hybrid mode, combining many of the advantages of both automobile and transit. Restrictions on the numbers of cabs that may operate may have a substantial effect on the level of taxicab service.

The data showed that characteristics of taxicab travel appear to be quite different from the characteristics of urban travel as a whole. The taxicab is highly oriented to the central area and used to a large extent for non-work trips. The trips are generally short, and are fairly uniformly distributed over the time of day. It was also found that taxicabs are used mainly by housewives and persons in high income groups. Considerable difference was found between the trips destined to the central area and to the non-central area. Non-central area trips seemed to be made by women and non-drivers for "to home" trips while central area trips were largely of the business or recreational type and were made by persons of white collar occupation groups.

*THE transport systems in an urban area could be thought of as a dichotomy. On one hand, there are user owned systems, i.e., automobiles, which are fixed neither to a route nor to a schedule. On the other hand, there are publicly owned or franchised systems which have specified routes, fares, and schedules. The taxicab, however, fits neither of these categories in that it combines the characteristics of both systems. The taxicab could be thought of as a public automobile, with neither a fixed route or schedule, available at a specified rate of fare for use by anyone who manages to find one. The taxicab, like the automobile, provides access to all points and requires no in-route delays for transfers. However, unlike the automobile, parking is not required, a fare is charged, and it is available to all.

In this manner, the taxicab is similar to many recent proposals for personal transport or adaptive routing systems. Upon a close examination, these systems bear a striking similarity to the taxicab. It may be interesting to speculate the feasibility of an expanded and low cost taxicab system to handle many of the circulation problems facing our cities.

Despite its unique characteristics, relatively little attention has been paid to the taxicab in recent transportation studies. The procedure usually used has been to include taxicab trip data with data on automobile trips. Very little research has been done about the nature of taxicab trips as such, nor have many attempts been made to assess the role of the taxicab in urban transportation. This paper describes a study of the characteristics of taxicab travel and compares them to the characteristics of all travel using data from the Chicago area. The nature of the present operation of taxicabs and their regulatory framework will also be examined to better understand the current status of the taxicab and its future potentials.

The study was conducted by examining data collected by the Chicago Area Transportation Study (CATS) in 1956. The internal trip data from the home interviews (Number

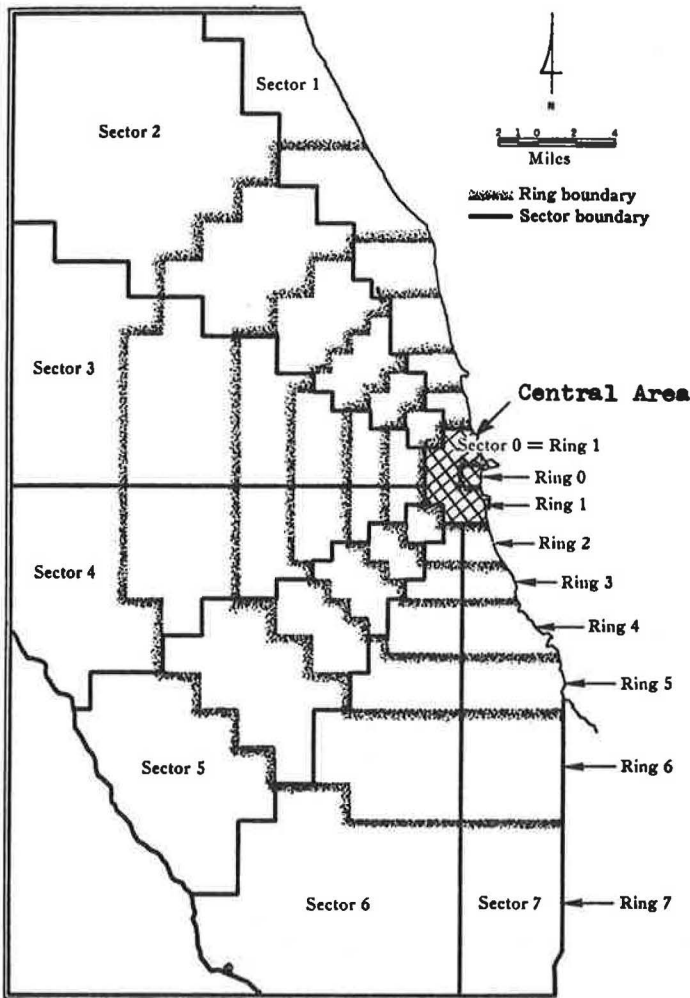


Figure 1. Chicago: analysis rings and sectors. (Source: Meyer, Kain and Wohl, "The Urban Transportation Problem," Harvard University Press. Copyright 1965 by the RAND Corporation.)

2 card) were used and those trips where one of the modes of travel was taxicab were separated from the file of all internal trips and analyzed. These trips were then compared to trips by all modes as reported by CATS. The home interview cards provided extensive data on the nature of the trip and the person making it. All data were expanded to population tables using expansion factors given on the cards. A total of 2,041 cards were analyzed which expanded to 100,506 trips. The data were split into those trips destined to the central area of Chicago (the loop and the area immediately surrounding it, Fig. 1) and those destined outside the central area. These two groups of data were then compared. In addition, the characteristics of taxicab trips were compared to the characteristics of trips by all modes.

REGULATION OF TAXICABS

A taxicab and its driver are subject to many controls and regulations imposed by labor unions, cab companies, and local governments. The extent and effect of these controls are very hard to quantify; however, they should be taken into consideration when studying the role of the taxicab in urban transportation. Such real-world conditions

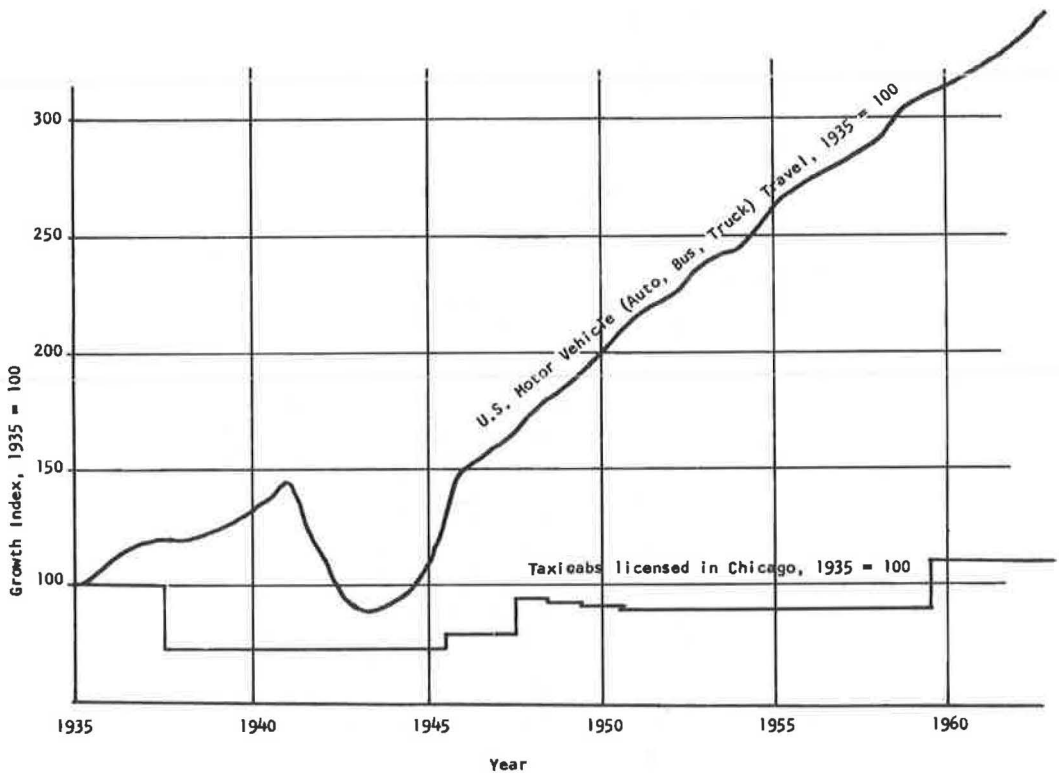


Figure 2. Comparison of the growth of motor vehicle travel with the number of taxicab licenses in Chicago, 1935-1963.

may have a significant effect on conclusions made from a study of this sort. In Chicago, the cab companies and their drivers are regulated by the Public Vehicle Commission. The Chicago City Council has control over such matters as fares, the number of licenses issued and the establishment of regulations.

One important regulation which must be considered when examining the characteristics of taxicab usage is the limitations which are generally imposed upon the number of licenses that may be issued. This restriction allows only those cabs with a permit or medallion to operate. Generally, no new permits are issued and only those persons who held the license the year before (or to whomever they transfer it) will be permitted to operate a taxicab. The actual cost of such a transfer may be well over \$12,000 in some cities. This restriction on the number of permits places an upper limit on the number of cabs, which in turn affects the number of trips which can be made by taxicab. In many cases, the number of permits issued has not grown as rapidly as the demand. In Chicago, for example, the number of permits has been held constant at 4600, or about one for every 770 people, since 1960. Figure 2 shows how the number of permits has varied since 1935, and also the growth of automobile travel over the same period on a percentage basis. The supply of taxicabs has risen at a much slower rate than the amount of automobile travel. This is generally true for most major cities where licenses are restricted.

The basis for such restrictions on the number of taxicabs is open to some question. A sharp contrast can be seen by looking at the taxicab service in Washington, D. C., one of the few cities which does not impose restrictions upon entry into taxicab operation. There is a much higher number of cabs in Washington (one for every 77 persons vs one for every 772 persons in Chicago, 1967) lower fares and heavier use. An earlier study of taxicab service made at Northwestern University in 1958 (1, p. 80) indicated

that Washington had a level of taxicab service 5 to 13 times higher than Chicago and other large cities. Indices of demand such as population, number of hotel rooms, retail sales, and number of air passengers were used to compare the taxicab service in the cities studied.

Perhaps the primary reason that taxicab service is not at a higher level at present is that this regulation may stymie initiative and growth of usage. Without a change in this policy, the taxicab will continue to play a minor role in urban transportation. Feasible means of removing the restriction on the number of licenses issued may be difficult to find, since those operating cabs would object to the loss of the asset they have with the scarce franchise.

SPATIAL DISTRIBUTION OF TRIPS

The CATS data examined in this study indicated that a total of 100,506 trips were made daily in the Chicago area by persons in taxicabs at the time the data were collected (1956). Of these trips, 86,521 were made with taxicab as the primary mode of travel. In the remainder of the trips, taxicabs were used at either end of a linked trip.

Table 1 shows how this total number of trips was distributed between the central and non-central areas. The taxicab trips were highly concentrated in the CBD and the adjoining area (the central area) and generally were quite short. Two-fifths of all taxi trips were destined to the central area, whereas only 11.4 percent of all travel was destined to this area. In the central area taxicab person trips accounted for 3.62 percent of all person trips; outside the central area person trips by taxicab accounted for only 0.65 percent of all the trip destinations.

The spatial distribution of taxicab trips can be examined further by looking at the taxicab trip destinations by ring and sector. The taxicab trips were grouped by ring and sector (Tables 2 and 3). The rings and sectors are defined in Figure 1. Since the rings and sectors vary considerably in size and population, the number of trips per unit of area or population is given. The number of trips per square mile in each ring decreases out from the center and the number of trips per 1000 population remains nearly constant outside the center, indicating that each ring beyond the central area is fairly homogeneous in the production of trips.

When the trips were grouped by sector, some variation was found. The number of trips per square mile and per 1000 population is largest in the first sector (north, along Lake Michigan), and then drops to its lowest in the south and southwest sectors. These rates increase again near the lake. Chicago is a city that developed principally by sectors. Each sector is roughly homogeneous in character, but quite different from other sectors. The rings are the opposite, they are heterogeneous in character, but similar to each other. Sector 1, where taxi trips were high, is the so-called Gold Coast and North Shore area, where the average incomes are high. Sector 5, where the number of taxicab trips was low is generally an industrial area with low-income housing. Sector 6, another low sector, is an area of low-income, non-white housing. The data give a rough indication of the relationship between income level and taxicab usage. Those sectors where the incomes were higher had a relatively high amount of taxicab usage; where the incomes were low, the amount of taxicab usage was low.

Purpose of Trips

Table 4 indicates the distribution trips by taxicab and other modes by trip purpose. It shows how taxi trip purposes compare to trip purposes by other modes and to trip purposes by all modes combined. A comparison is also made between central and non-central destined trips.

It was found that taxicab trips generally have a different distribution of trip purposes than trips by all modes. Further, taxicab trips destined to the central area have a different distribution of trip purposes than those destined outside the central area. For all taxicab trips, there is a smaller proportion of work trips and larger proportion of social-recreation and personal business trips than for trips by all modes of travel. For those taxicab trips destined to the central area, the percentage of home trips is nearly half that of trips destined to the non-central area while the portion of work trips and

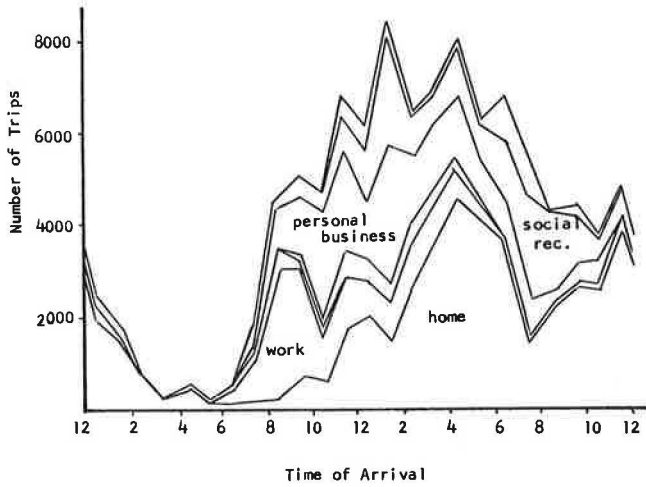


Figure 3. Hourly distribution of taxicab person trips by trip purpose.

business trips is higher. More than half of the non-central area destined trips (52.9 percent) were to home trips.

Trip Purpose Vs Time of Day

The variation of taxicab trips by purpose over the day is shown in Figures 3 through 6. Figures 3 and 4 compare taxicab trips to trips by all modes (2, p. 35). Taxicab travel does not have the same peaking characteristics as all travel does. Instead of two distinct peaks (as in Fig. 4), taxicab travel is fairly uniform over the day with small peaks near the middle of the day. Taxicabs are not used for home-to-work and work-

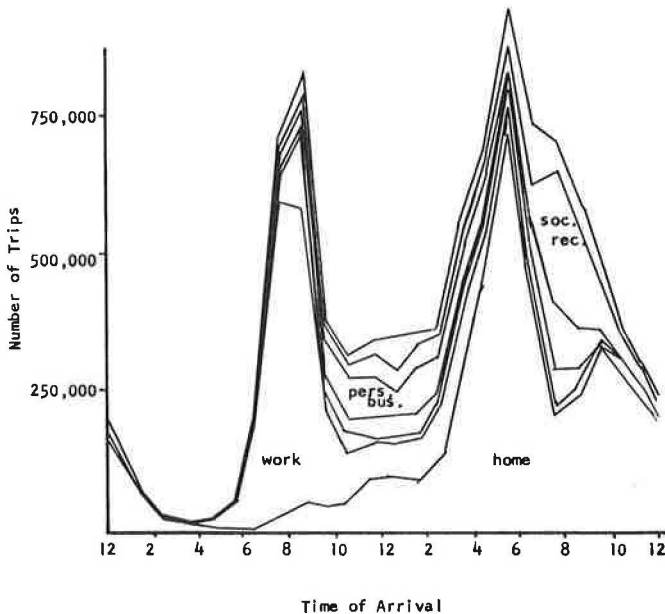


Figure 4. Hourly distribution of all trips by trip purpose.

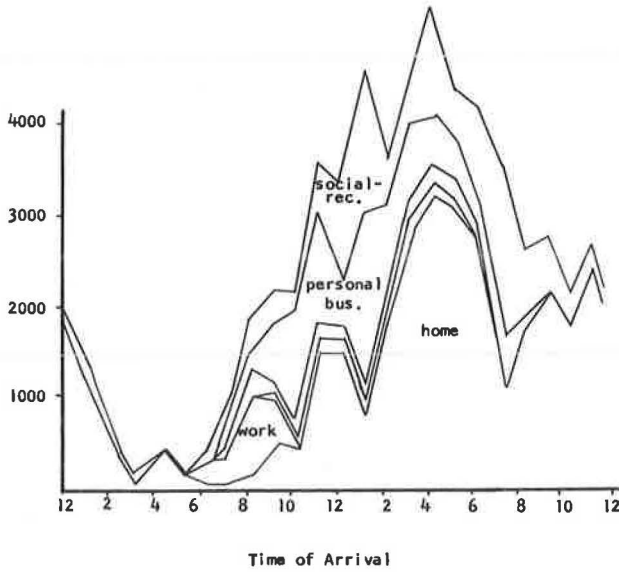


Figure 5. Hourly distribution of taxicab person trips destined to the non-central area.

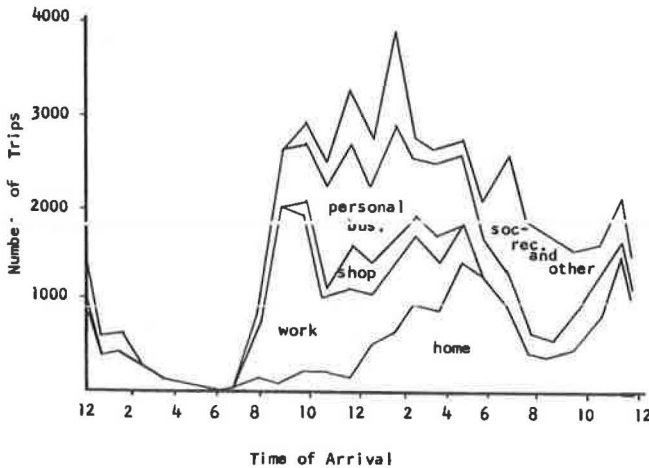


Figure 6. Hourly distribution of taxicab person trips destined to the central area.

to-home trips in as large proportions as in trips by all modes. A peaking of to-home and to-work trips occurs, but the use of taxicabs for personal business and social-recreation purposes during other times of the day more than fills up the period between the morning and evening rush periods. Figures 5 and 6 show that the pattern of taxicab trips destined to the central area differs from the pattern of the non-central area destined trips. The non-central area trips peak at 5:00 p. m. with another smaller peak at 1:00 p. m., the large number of home-destined trips causing the evening peak. Other substantial proportions of the trips are for personal business and social-recreational purposes. Only a very small portion (6.4 percent) of the trips destined outside the central area are for the purpose of going to work.

The taxicab trips destined to the central area had no sharp peaks, but a fairly high level of usage throughout the day, with the maximum amount of travel occurring at

TABLE 5
AVERAGE DISTANCE, TIME, AND TRIPS PER DWELLING UNIT
OF TAXICAB PERSON TRIPS

Trip Purpose	Total No. of Trips	Average Distance	Average Time	Average Trips per DU
Ride	0	0.000 mi.	0.000 hr.	0.000
Home	35,547	3.169	0.366	6.282
Work	10,954	2.164	0.300	8.975
Shop	2,560	1.802	0.230	7.804
School	685	1.514	0.291	10.228
Social-recreation	14,829	3.174	0.324	9.211
Eat meal	3,697	1.996	0.239	8.780
Personal business	18,249	2.792	0.296	6.952
Serve passenger	0	0.000	0.000	0.000
Change mode	0	0.000	0.000	0.000
Total	86,421	2.863	0.326	7.584

Average speed = 8.8 airline mph.

Average length of trip (miles) by other modes: all trips, 4.3; suburban RR, 13.3; subway-elevated, 7.2; auto driver, 3.5; auto passengers, 3.9; bus, 3.6; and taxicab, 2.9.

TABLE 6
AVERAGE DISTANCE, TIME, AND TRIPS PER DWELLING UNIT OF
TAXICAB PERSON TRIPS DESTINED TO THE CENTRAL AREA

Trip Purpose	Total No. of Trips	Average Distance	Average Time	Average Trips per DU
Ride	0	0.000 mi	0.000 hr.	0.000
Home	11,164	2.461	0.335	5.355
Work	7,780	1.785	0.274	9.493
Shop	1,367	1.998	0.274	6.993
School	63	1.576	0.300	4.952
Social-r�ecreation	5,249	2.203	0.259	8.999
Eat meal	2,862	1.423	0.214	9.616
Personal business	18,769	2.635	0.298	6.759
Serve passenger	0	0.000	0.000	0.000
Change mode	0	0.000	0.000	0.000
Total	37,254	2.226	0.291	7.450

Average speed = 7.6 airline mph.

TABLE 7
AVERAGE DISTANCE, TIME, AND TRIPS PER DWELLING UNIT OF
TAXICAB PERSON TRIPS DESTINED TO THE NON-CENTRAL AREA

Trip Purpose	Total No. of Trips	Average Distance	Average Time	Average Trips per DU
Ride	0	0.000 mi.	0.000 hr.	0.000
Home	24,383	3.494	0.381	6.707
Work	3,174	3.093	0.364	7.707
Shop	1,193	1.578	0.179	8.734
School	622	1.507	0.290	10.762
Social-recreation	9,580	3.706	0.360	9.328
Eat meal	835	3.960	0.327	5.904
Personal business	9,480	2.937	0.295	7.131
Serve passenger	0	0.000	0.000	0.000
Change mode	0	0.000	0.000	0.000
Total	49,267	3.339	0.352	7.449

Average speed = 9.5 airline mph.

1:00 p. m. A large portion of trips to the central area are made for work, personal business, and social-recreational purposes. A smaller portion of the trips are made to home than to the non-central area.

That taxicab trips do not have definite peaks during the day as travel in general does may be due to a number of different reasons. First, it may be that taxicabs are used for different purposes at different times of the day due to some inherent characteristic of taxi travel. Or it might be because taxicabs are being used to capacity at nearly all times and the actual pattern of use is quite different than the desired pattern of use. Because of the small number of cabs, it may be that they are being used near capacity throughout the day. People who would like to use a taxicab at peak hours may be prevented from doing so because of the small number of cabs available.

Trip Length

The majority of the analysis is presented using those trips which listed the taxicab as one of the modes in a linked trip. Using those trips where the primary mode was taxicab did not change the conclusions substantially except when trip length was examined. The data here are presented using primary mode taxicab trips only. It was found that the trips with a primary mode other than taxi tended to be much longer and raised the average trip lengths substantially, hence they are not included in these tables. The results obtained are given in Tables 5, 6, and 7.

The average taxicab trip was shorter than the average trip by other modes. Taxicab trips had an average length of 2.9 mi while all trips averaged 4.3 mi (2, p. 120). For trips by taxicab, travel time averaged about 20 min, or an average speed of 8.8 airline miles per hour. Work trips by taxicab were an average of 2.2 mi, while work trips by all modes were an average of 5.3 mi. Social-recreation trips were 3.1 mi by taxicab, 4.3 mi by all modes, and home trips were 3.2 mi by taxicab vs 4.4 mi by all modes.

The trips destined to the central area were somewhat shorter in distance than those destined outside the central area (2.2 vs 3.3 mi). The difference in time was somewhat less (17.5 vs 21 min for the non-central area) resulting in a lower average speed in the central area (7.6 airline mph) than outside the central area (9.5 airline mph). The differences in trip length by trip purpose were more varied. For example, the difference in the length of home trips was fairly large (3.5 vs 2.5 mi) while the difference in the length of personal business trips was not as large (2.9 vs 2.6 mi). In these comparisons, the central area destined trip lengths are the lower numbers and the non-central area trips are the higher numbers.

A taxicab is used a large amount of time during the day. Based on a total of 3700 taxicabs, an average trip length of 0.326 hr, an estimated occupancy rate of 1.1 passengers per cab and a total of 100,506 trips per day at the time of the study, the average taxicab was in use for revenue purposes 7.9 hr per day. Time spent cruising, returning to cab stands, etc., apparently occupies the rest of the day. If the total number of trips was underestimated because of under sampling of transients, this figure may be somewhat low.

Trip Production

Data were also available for the number of trips made per dwelling unit of the people who make taxicab trips (Tables 5, 6, and 7). The average taxicab user came from a household that made 7.46 trips per day, while the average household in the area produced 6.12 trips per day (2, p. 115). This implies that the people who make taxicab trips are persons who, in general, make more trips per day than the population of trip makers. The average number of trips per dwelling unit in the central and non-central areas was also tabulated and the aggregate rates were nearly the same for both areas. There was some difference when stratified by trip purpose (Tables 6 and 7).

Land Use at Trip Ends

It was possible to examine the land use at taxi trip origins and destinations. The predominant land use destination was residential land use; this accounted for 55.1 percent

TABLE 8
LAND USE AT ORIGIN AND DESTINATION OF TAXICAB PERSON TRIPS

Land Use	Taxicab Trip				Percent of all Trip Dest.
	Origins		Destinations		
	Trips	Percent	Trips	Percent	
Residential	50,581	50.4	55,361	55.1	>54.9
Agriculture, forestry, fisheries	61	0.1	65	0.1	
Durable manufactures	1,066	1.1	1,054	1.0	}7.6
Nondurable manufactures	1,440	1.4	1,494	1.5	
Transportation, comm., util.	6,920	6.9	3,874	3.9	2.7
Retail	12,347	12.3	9,977	10.0	}24.0
Services	17,188	17.1	16,511	16.4	
Wholesale trade and commerce	997	1.0	1,434	1.4	
Public buildings	7,564	7.5	8,559	8.5	7.7
Public open space	2,248	2.2	2,083	2.1	3.1
	100,506	100.0	100,506	100.0	100.0
Sub-classifications:					
Medical and health services	4,513	4.5	4,897	4.9	
Eating and drinking places	6,065	6.0	4,640	4.6	
Hospitals, mental inst., etc.	2,773	2.8	3,152	3.1	
Indoor amusements and rec.	3,981	4.0	2,947	2.9	
General merchandise group	3,268	3.3	2,762	2.8	
Office buildings, N. E. C.	2,268	2.6	2,782	2.8	
Financial, ins., and real est.	2,363	2.4	2,180	2.2	
Personal services	876	0.8	1,256	1.2	

of all the trip destinations by taxicab. The next largest major land use at trip destination was service land which includes such subclassifications as medical and health services, indoor amusements and recreation, and office buildings. The pattern of land use at the destinations of all trips (2, p. 113) was quite similar to that of the taxicab trips. The distribution of land use at the origin of the taxicab trips was similar to the distribution of land use at the taxicab trip destinations. A summary of this land use data is given in Table 8.

The degree to which taxicabs are used to serve the terminals of intercity transportation modes was also examined. The land use coding provided information on the number of person trips by taxicab to and from the following land uses:

Land Use	Origins	Destinations
Railroads	1346	1537
Air transportation	2173	1099
Water transportation	0	0
Highway transportation	94	0
Total	3613	2636

The number of taxicab trips to or from these land uses was fairly small when compared to the total number of trips by taxicab. The share of taxicab trips to communication, transportation, and public utility land use was somewhat greater than that portion of all trips (3.9 vs 2.7 percent). It should be remembered that these trips are from data collected in 1956, when the amount of air travel was relatively low and that these land use categories include nonterminal areas.

Other Modes Used in Connection with Taxicab Trips

The mode of travel was given in the data as the first mode, primary mode, and the last mode of travel of a linked trip. Where there was only one mode used, as in the

TABLE 9
MODES OF TRAVEL USED IN CONJUNCTION WITH TAXICAB PERSON TRIPS

Mode	Destination of Trip					
	Central Area		Non-Central Area		Entire Area	
	Trips	Percent	Trips	Percent	Trips	Percent
Taxicab as the primary mode	37,254	88.3	49,267	84.4	86,521	86.0
Taxicab as the first mode in a linked trip	466	1.1	4,034	6.9	4,500	4.5
Taxicab as the last mode in a linked trip	3,400	8.1	4,373	7.5	7,773	7.8
Taxicab as the first and last mode in a linked trip	1,046	2.5	666	1.2	1,712	1.7
Primary mode used where taxicab was given as the first mode:						
Auto driver	0	0.0	150	0.3	150	0.1
Suburban RR	1,053	2.5	3,086	5.3	4,139	4.1
Subway or el	369	0.9	560	1.0	929	0.9
Bus	90	0.2	904	1.5	994	1.0
Primary mode used where taxicab was given as the last mode:						
Auto driver	213	0.5	0	0.0	213	0.2
Auto passenger	62	0.1	128	0.3	190	0.2
Suburban RR	2,945	7.0	1,837	3.1	4,782	4.8
Subway or el	429	1.0	1,580	2.7	2,009	2.0
Bus	317	0.6	122	0.2	368	0.4

TABLE 10
TAXICAB PERSON TRIPS BY AGE, SEX, RACE, AND DRIVER

Characteristic	All Destinations		Central Area Destinations		Non-Central Area Destinations	
	Trips	Percent	Trips	Percent	Trips	Percent
	Sex:					
Male	41,404	41.2	22,197	52.5	19,207	32.9
Female	59,102	58.8	19,969	47.5	38,133	67.1
Total	100,506	100.0	42,166	100.0	58,340	100.0
Race:						
White	90,623	90.2	40,405	95.7	50,218	86.1
Non-White	9,883	9.8	1,761	4.3	8,122	13.9
Total	100,506	100.0	42,166	100.0	58,340	100.0
Drivers:						
Male	28,184	28.0	17,856	42.4	10,328	17.7
Female	17,024	16.9	7,871	18.8	9,153	15.8
Total	45,208	44.9	25,727	61.2	19,481	33.5
Nondrivers:						
Male	13,220	13.1	4,341	10.1	8,879	15.1
Female	42,078	42.0	12,098	28.7	29,980	51.4
Total	55,298	55.1	16,439	38.8	38,859	66.5

majority of the trips, it was given as the primary mode of travel. It was possible with these data to note the extent to which taxicabs were used as feeders to other local modes. The modes of travel used in connection with taxicab trips are given in Table 9.

For the large majority of the taxicab trips (86.1 percent), the taxicab was the primary mode of travel used. In the remainder of the taxicab trips it was used as a feeder or distributor at ends of a commuter railroad or rapid transit trip. The taxicab was almost never used in conjunction with an automobile trip or a bus trip.

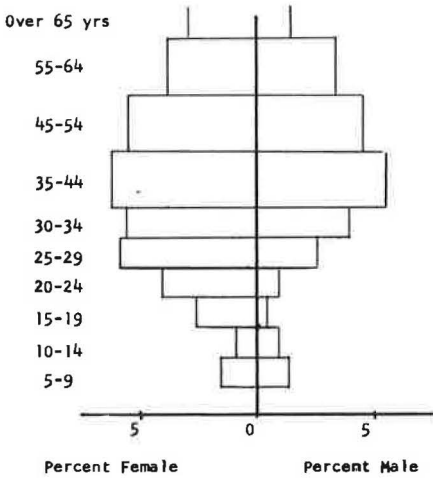


Figure 7. Age-Sex diagram for taxicab users, 1956.

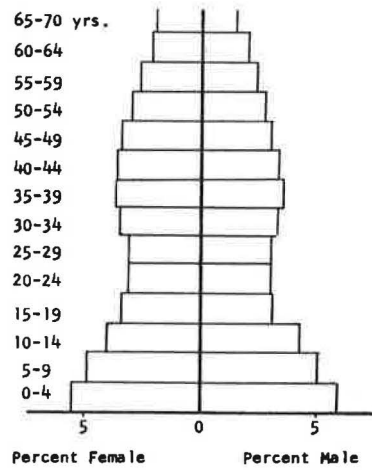


Figure 8. Age-Sex diagram for the Chicago SMSA (1960 Census).

CHARACTERISTICS OF THE TAXICAB USERS

Age-Sex

The age-sex diagram of taxicab users shown in Figure 7 is shaped quite differently than Figure 8, which is the diagram for the Chicago SMSA (1960 census). Most of the taxi riding was done by people in middle age groups. More than three-fourths (78.6 percent) of all taxicab riding was done by persons 30 years old or older, while this age group constituted only 51.8 percent of the population (1960). The difference was even more pronounced in the trips destined to the central area. In this area, the largest proportion of the trips (28.3 percent) were made by the 35-44 year old age group. Age-sex diagrams for trip makers destined to the central and non-central areas are given in Figures 9 and 10.

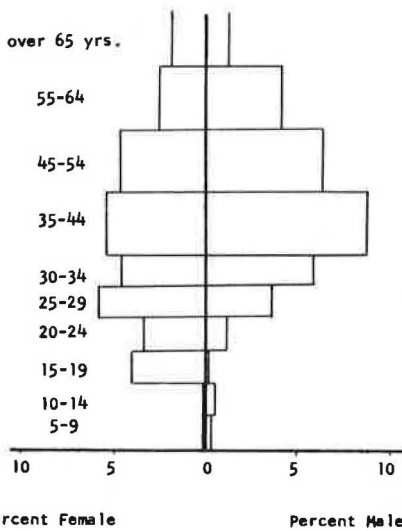


Figure 9. Age-Sex diagram for taxicab users destined to central area.

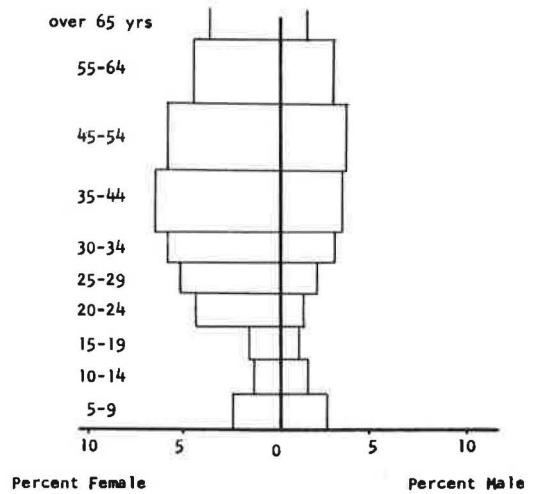


Figure 10. Age-Sex diagram for taxicab users destined to non-central area.

TABLE 11
TAXICAB PERSON TRIPS BY OCCUPATIONAL GROUPS

Occupation Group	Taxicab Trips with Destinations in:						Percent (exclusive of housewives)	Proportion of Population
	Central Area		Non-Central Area		All Areas			
	Trips	Percent	Trips	Percent	Trips	Percent		
Professional and technical	8,749	20.7	6,855	11.8	15,604	15.6	28.2	12.1
Farmers	0	0.0	0	0.0	0	0.0	X	X
Managers, etc.	7,425	17.6	3,712	6.4	11,237	11.1	20.2	9.0
Clerical	3,796	9.0	4,981	8.5	8,777	8.8	15.8	20.5
Sales workers	5,235	12.5	2,734	4.7	7,969	7.9	14.4	7.9
Operatives	1,143	2.7	2,000	3.4	3,143	3.1	5.7	20.3
Private household workers	97	0.2	918	1.6	1,015	1.0	1.8	1.4
Craftsmen, foremen	935	2.2	977	1.7	1,912	1.9	3.5	15.4
Service workers	1,015	2.4	3,924	6.7	4,939	4.9	9.0	8.8
Laborers	153	0.4	570	1.0	723	0.7	1.3	4.6
Housewives	13,586	32.3	31,607	54.2	45,193	45.0	X	X
Total	42,166	100.0	53,340	100.0	100,506	100.0	100.0	100.0

There appeared to be a fairly high rate of usage of taxicabs by women for trips destined to the non-central area. Those trips destined to the central area were split nearly evenly between the sexes, while 67.1 percent of the trips to the non-central area were made by women (Table 10).

By looking at the difference in the number of trips made by drivers and nondrivers (another subclassification), more information may be found about the type of person that makes a trip by taxicab. The portion of taxicab trips that are made by persons holding a driver's license (55.1 percent) is somewhat less than the percent of the population (61.1 percent) which does not possess a driver's license (2, p. 120). There is, however, a substantial difference between the central and non-central area destined trip makers in this regard. In the central area, 38.8 percent of the trip makers are nondrivers, while in the non-central area, 66.5 percent of the trips are made by nondrivers. A large portion of the nondrivers are women (74.8 percent of the nondrivers). The portion of all taxicab trips made by women nondrivers is quite large at 42.0 percent.

Differences by Race

Nearly all (90 percent) taxicab travel was done by the white portion of the population. In the central area, 95.6 percent of the taxicab trips were made by whites and in the non-central area, 85.9 percent of the trips were made by whites. According to the 1960 census, 17.2 percent of the population of the Chicago SMSA and 23.6 percent of the population of the city was non-white (3 p. 128). Taking this as a rough estimate of income levels, a greater use of taxicabs by higher income groups is indicated.

Occupation of Taxicab Users

The portions of trips made by persons of various occupational groups is given in Table 11. Nearly half of all taxicab trips are made by housewives and the remainder of the trips are made primarily by white collar occupation groups. The comparison of the employment groups of taxicab users (not including housewives) with the employment groups of all the people in the Chicago SMSA (3) shows that higher proportions of taxicab users are in the white collar groups and smaller proportions are in the skilled labor group. The implications of this may be twofold. Either these people require taxicab trips because of the nature of their jobs, or because of their higher incomes they can better afford to use taxicabs. The occupation of the trip makers differed with those destined to the central area and those destined to the non-central area. Higher proportions of the trips destined to the central area were made by sales workers, managers, professionals, and technicians and smaller portions were made by housewives than for trips to the non-central area. The type of activity in the central area and an income effect seem to operate to cause this distribution of trips by occupational groups.

CONCLUSIONS

The analysis has shown the characteristics of taxicab travel to be quite different from the characteristics of all travel. Taxicab trips tend to be highly oriented to the central area, and used to a large extent for non-work trips. The trips tend to be quite short and to occur fairly evenly over the time of day. Outside the central area, taxicabs seemed to be used largely by non-drivers, housewives and persons of high income groups. Restrictive entrance into the taxicab business appears to be the limiting factor in taxicab usage. Unless problems in regulation are resolved any extensions of taxicab or similar service may be very difficult to bring about.

ACKNOWLEDGMENTS

I would like to thank the Chicago Area Transportation Study for providing the data for this study and for help in performing the initial analysis. I would also like to acknowledge the help of the faculty and students of Northwestern University in preparing this study.

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