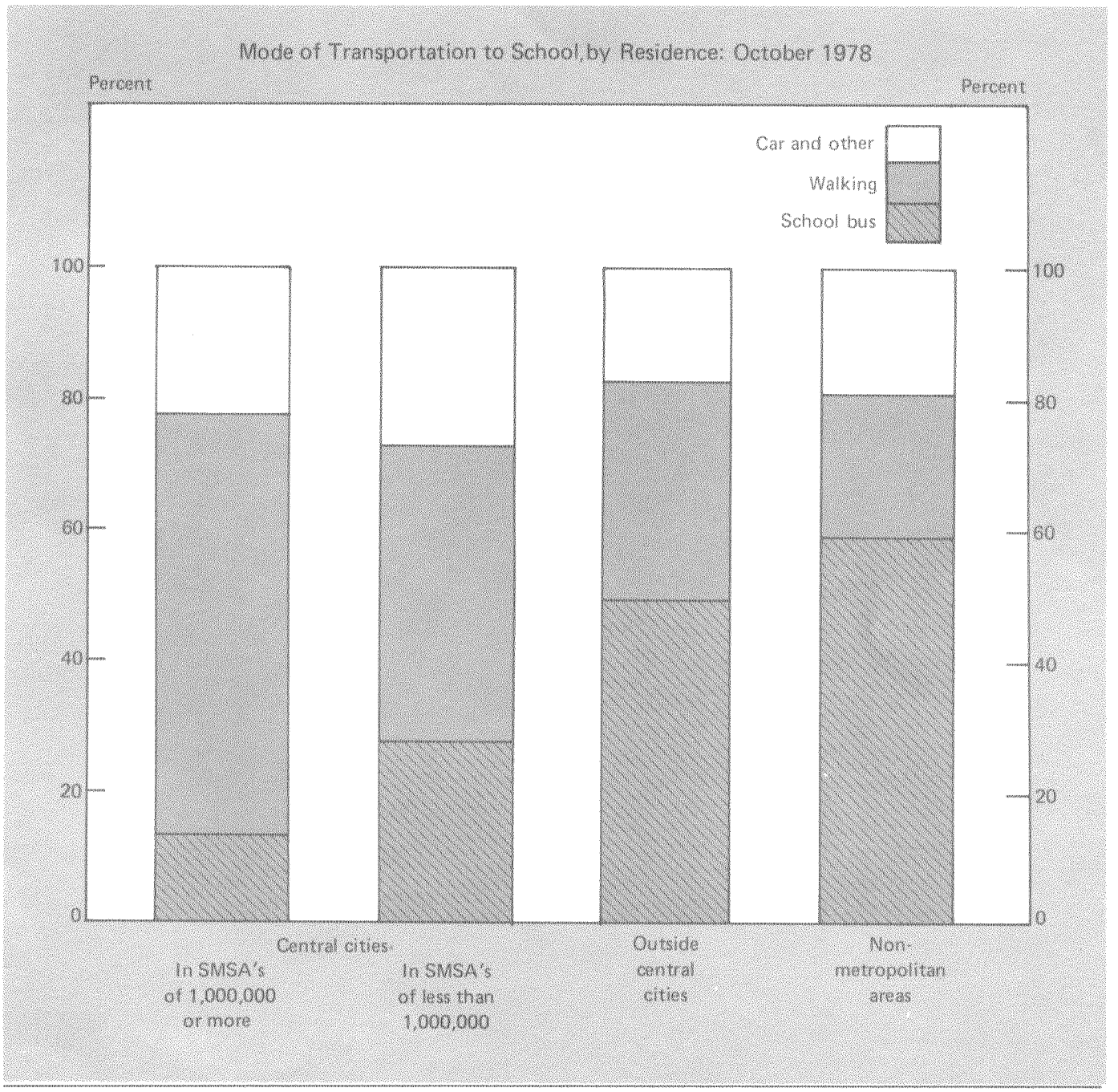
CURRENT POPULATION REPORTS

Population Characteristics

U.S. Department of Commerce
BUREAU OF THE CENSUS

Series P-20, No. 342
Issued September 1979

Travel to School: October 1978



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Symbols Used in Tables

—	Represents zero or rounds to zero.
B	Base less than 75,000.
. . .	Not applicable.
NA	Not available.
<	Less than.

Travel to School: October 1978

INTRODUCTION

The means of travel from home to school have changed drastically during the past 50 years because of school consolidations, the growth of population in areas surrounding cities, and the availability of the automobile. The major change has been the increased use of school buses for transportation to school. According to information provided by school systems, the proportion of public school students transported to school at public expense, i.e., by bus, increased gradually from only 7 percent in 1929 to 55 percent in 1976 (see appendix A). Future changes in the means of travel and the distance traveled to school may be affected by changes in the growth of population in nonmetropolitan areas, decreases in family size (causing the closing of some neighborhood schools), or changes in energy usage. The redistribution of children to achieve racial balance in school systems may also affect the number of children who travel to school by bus rather than by walking or by other means of public transportation.

This report is the first statistical study published by the Census Bureau to describe the distance, time, and mode of transportation of students enrolled in school from the nursery school level through college, as well as for those in vocational schools. Previous reports have been published on commuting to work only. The information was obtained from members of households who were interviewed in the October 1978 Current Population Survey and is presented in this report by characteristics of the student, such as grade level, race, metropolitan residence, and type of school. These statistics may be useful in discussing efficient energy usage and understanding the relationship between residential living patterns and choice of school transportation. They should also be useful as a basis for comparison of changes in transportation patterns in future surveys as the number of children in school changes during the 1980's. A summary of the characteristics of students who use each mode of travel is shown in table A.

In October 1978, 61 million students under 35 years old were enrolled in some type of school: nursery school, kindergarten, elementary school, high school, college, or vocational school (table 1). This number is three-fifths as large as the United States labor force. While 4 million students lived at school, some means of transportation from home to school was required for the 57 million school students who lived at home. About 20 million students arrived at school by school bus; 18 million students were driven, or drove, to school in an automobile; about 2 million took a public bus; and less than a million students rode a bicycle (table 1). About 14 million students were able to walk to school.

Most students lived very close to the school they were attending and thus spent relatively little time traveling to school. About 31 percent lived within 1 mile of school, and only 12 percent lived 10 miles or more from their school. About one-half of the students spent less than 15 minutes traveling from home to school; however, about 7 percent of the students spent 45 minutes or more each day traveling one way to school. These distances traveled and time spent traveling to school are much less than the average for workers traveling to their jobs.[1]

Mode of transportation, travel time, and distance to school are very different for students in lower grades than for those in higher grades. For example, nursery school children were usually driven to school (78 percent), whereas elementary school students (first through eighth grades) and high school students usually rode school buses. About one-third of elementary school children walked to school, but around one-fifth of high school students walked. A very high proportion of high school students arrived at school by car (31 percent) compared with students in other grades (e.g., 14 percent of the seventh and eighth grades), probably because of the greater distances to high school as well as the ability of many students of high school age to drive themselves to school. (According to a 1969 survey conducted for the Department of Transportation, 7 percent of high school students drove themselves and 20 percent were driven by someone else.) At the college level, 21 percent of the students lived on the campus and required no means of transportation other than that provided on campus. Of the college students living at home, the automobile was the chief mode of transportation to college (80 percent); only 11 percent traveled by public or school bus. College students spent much more time traveling to school than did students in grade school. The median travel time for college students was 23 minutes, while the time for elementary school students was less than 15 minutes. The median distance was 9 miles, while the distance for elementary school students was 2 miles. Although one-third of the college students lived within 5 miles of a college campus, 11 percent commuted 25 miles or more to campus.

[1] "The Journey to Work in the United States: 1975," **Current Population Reports**, P-23, No. 99.

Table A. Mode of Travel to School by Characteristics of Elementary and High School Students

(Numbers in thousands. Civilian noninstitutional population. For meaning of symbols, see text)

Characteristics	Total[1]	School bus	Walk	Car	Public bus
Total population	48,778	19,749	13,978	11,637	1,578
Percent	100.0	100.0	100.0	100.0	100.0
Race:					
White	82.7	84.5	77.3	89.6	52.7
Black	15.2	14.0	20.2	8.1	42.0
Spanish origin	6.3	3.0	10.3	6.8	10.1
Age:					
3 to 5 years	10.0	6.6	7.3	20.6	3.2
6 to 13 years	57.0	62.8	68.2	38.8	26.4
14 to 17 years	30.9	29.6	23.2	37.0	63.6
18 years and over	2.1	1.1	1.3	3.6	6.9
Residence:					
In central cities	66.3	55.3	78.5	66.4	91.9
In SMSA's of 1 million or more	13.3	4.0	23.7	10.2	62.6
In SMSA's of less than 1 million	13.1	7.9	16.6	17.3	13.1
Outside central cities	39.9	43.3	38.2	38.9	16.2
Nonmetropolitan	33.7	44.7	21.5	33.6	8.2
Level of school:					
Nursery school	3.7	0.9	1.3	12.0	1.2
Kindergarten	6.1	5.7	5.6	8.6	1.9
Elementary	58.4	64.2	70.0	39.6	26.9
High school	31.7	29.2	23.0	39.9	70.0
Control of school:					
Public	87.3	93.7	92.3	71.8	81.2
Private	12.7	6.3	7.7	28.2	18.9
Distance traveled to school:					
1 mile or less	45.0	16.2	95.8	35.8	
2 to 4 miles	30.0	43.9	4.0	35.8	
5 to 9 miles	15.1	25.8	0.1	15.1	
10 miles or more	7.6	13.4	-	7.1	
Time traveled to school:					
Less than 15 minutes	53.2	27.2	77.2	64.9	
15 to 29 minutes	27.9	38.7	19.8	21.4	
30 minutes or more	16.7	33.4	2.8	7.7	

[1]Total includes some types of transportation (such as bicycle, 715,000) not shown separately.

CHANGES IN THE MODE OF TRANSPORTATION SINCE 1969

The changing residential patterns of the population and the gradual consolidation of small schools into larger districts are the primary reasons for the widespread use of the bus as a means of transporting children to school. For example, the number of elementary schools declined from 238,000 in 1929 to only 63,000 in 1975 mainly because of the closing of many single-teacher schools (see appendix A).

Undoubtedly, other factors have had some effect on the increased reliance on public transportation to schools during the 1929-75 period. For example, lower birth rates in the 1960's and early 1970's forced some school systems to close neighborhood schools which were within walking distance of children enrolled in primary grades. Residential patterns of Blacks and Whites were also responsible for an increased reliance on busing as a means of transporting children to racially balanced schools during the 1970's; although, if any increase in the use of busing for integration purposes occurred, it cannot be reliably distinguished from the increase in busing for all other purposes. The movement of the population from cities to outlying suburbs during the 1950's might also have contributed to the greater reliance on public school buses since other means of public transportation were not as available in suburbs as in cities.

In 1969, the Bureau of the Census conducted a study of transportation of school children for the Department of Transportation. The survey provided statistics on the mode, distance, and time traveled to school. These data were collected in the same manner as the 1978 CPS data used in this report and can be compared with that survey to examine whether changes in transportation of school children have resulted in greater distances traveled or merely a shifting of the mode of transportation (see table B). During the period between these two surveys, the number of children enrolled in kindergarten through sixth grade declined from 29 million to 24 million students because of the declining fertility levels of the 1960's and 1970's. The proportion of these elementary school students who arrived at school by school bus increased from 37 percent in 1969 to 43 percent in 1978. A slight increase occurred in the proportion of elementary school students who were driven to school in an automobile. A smaller percentage walked or rode a bicycle to school in 1978 than in 1969, 36 percent versus 49 percent.

There is some evidence that junior high school students (seventh and eighth grades) were more likely to take a school bus to school in 1978 than in 1969, but a smaller proportion walked. At the high school level, no significant increase in the proportion using any mode of travel occurred during the period.

The changes in the mode of transportation to school from 1969 to 1978 are reflected in the distance school students in kindergarten through the sixth grade lived from school. The proportion of the students in kindergarten through the sixth grade who lived 3 miles or more from school increased from 25 percent in 1969 to 32 percent in 1978, while the proportion who lived within 1 mile from school or within easy walking distance remained the same (45 percent). Because more students lived farther from school in 1978 than in 1969, a higher proportion required bus or automobile transportation.

Surprisingly, however, changes in time spent traveling to and from school appear to be almost insignificant. The travel time of children enrolled in the elementary grades was usually less than one-half hour in both 1969 and 1978; only about 15 percent of the children reportedly took one-half hour or more to reach school in both years. There appeared to be a small increase in the proportion taking an hour or more, however. Thus, while children were spending only a relatively short time traveling to school in both 1969 and 1978, an increased proportion of elementary school children traveled longer distances and spent more time traveling in 1978.

The distances traveled by junior high and senior high school students in 1978 were not greatly different from those in 1969.

METROPOLITAN RESIDENCE

The distance traveled between home and school is shorter for persons living in areas of population concentration, such as in

Table B. Mode of Transportation, Distance, and Time Traveled to School, by Grade Level: 1978 and 1969

(Numbers in thousands. For meaning of symbols, see text)

Mode, distance and time of travel	Kindergarten to 6th grade		7th and 8th grades		High school	
	1978	1969	1978	1969	1978	1969
Number enrolled	24,026	28,951	7,453	8,113	15,475	14,553
Percent	100.0	100.0	100.0	100.0	100.0	100.0
Mode of transportation:						
School bus	43.0	37.3	48.7	42.3	38.3	37.7
Public transportation	1.0	0.8	3.1	2.7	7.3	8.1
Car	19.1	12.2	14.3	12.3	30.9	27.4
Walk or bicycle	36.6	49.3	33.5	41.6	22.8	26.4
Other mode	0.3	0.4	0.4	1.1	0.7	0.4
Distance traveled to school:						
Less than 1 mile	44.9	45.2	30.2	26.3	20.3	16.6
1.0 to 1.9 miles	11.1	17.6	13.1	18.9	12.2	16.6
2.0 to 2.9 miles	12.3	12.4	16.1	17.6	17.2	19.8
3.0 miles or more	31.7	24.8	40.5	37.2	50.3	47.0
Time traveled to school:						
Less than 30 minutes	85.0	85.1	80.2	76.7	79.6	77.0
Less than 15 minutes	60.0	(NA)	45.9	(NA)	43.7	(NA)
15 to 29 minutes	23.8	(NA)	32.5	(NA)	33.3	(NA)
30 to 44 minutes	10.1	10.8	12.5	16.5	13.2	15.9
45 to 59 minutes	3.2	3.5	4.8	6.5	4.1	5.7
60 minutes or more	1.8	0.6	2.5	0.3	3.0	1.4

Source (1969 data): U.S. Department of Transportation, Office of Highway Planning, Nationwide Personal Transportation Study: Transportation Characteristics of School Children, Report No. 4, 1972.

cities and suburbs, than for those living in the more sparsely populated nonmetropolitan areas. Opportunities for the use of public transportation are also more common in the cities. Thus, the area of residence very strongly determines the choice of transportation available to students and the distance they must travel to school. In 1978, regardless of residence, almost all elementary school children traveled to school by school bus, by automobile, or on foot—the choice of mode depended on whether the student lived in a city, suburb, or nonmetropolitan area (table C). For example, among children who lived in central cities of metropolitan areas with a population of 1 million or more, over three-fifths walked to school and nearly one-fifth took the bus; among those in nonmetropolitan areas, three-fifths rode a school bus and one-fifth walked.

The distance traveled to school was considerably longer for those living in nonmetropolitan areas than for those in other areas (table 4). The median distance traveled to school was about 3 miles for elementary school children in nonmetropolitan areas, about 2 miles for children living in suburban areas, and less than 1 mile for those living in central cities. Only about 6 percent of the elementary school children reported that they traveled more than 10 miles to school. Since the respondents were instructed to estimate the distance actually traveled, and not the direct distance between home and school, some of the persons reporting these large distances may have used a school bus, or other means, through districts surrounding their neighborhood. Others who reported this distance may have been traveling long distances to schools outside their neighborhood to achieve racially integrated schools.

Type of residence also affects the transportation of high school students since they are more likely to use public transportation, such as a public bus, or to travel by car and less likely to walk than are elementary school children. High school students who live in central cities of large SMSA's are very likely to travel to school by public bus (37 percent) while only a few of them (10 percent) travel by school bus. In nonmetropolitan areas, only 1 percent of the high school students ride a public bus, whereas 48 percent travel by school bus.

RESIDENCE AND RACE

Black children comprised 15 percent of all elementary school children in 1978; however, Black children accounted for 35 percent of the elementary students who rode a public bus and 20 percent of those who walked to school. Black children accounted for smaller proportions of those who rode a school bus (13 percent) or who traveled by car (9 percent). Some of the differences in the choice of transportation for White and Black elementary school students can be attributed to the higher proportion of Blacks who lived in central cities and used public buses more often than school buses to travel to school. Overall, Black elementary school children were less likely than the White children to ride a school bus, but Black students living in central cities of metropolitan areas and in nonmetropolitan areas were either as likely or more likely than White students to take a school bus (table C). White children in these areas were more likely than Black children to be driven to school by car.

Black students in high school were as likely as their White counterparts to ride a school bus, but were more likely to walk or to ride a public bus, and less likely to ride in or drive a car. About one-third of White high school children were either driven to school or drove a car to school themselves, compared with only one-ninth of the Black high school students.

The frequent use of a car as transportation for White school children at all grade levels compared with Black school children may result from more automobile ownership among White families rather than from their residence in less densely populated areas; White children were more likely than Black children to be driven to school in each residential area shown in table C (except for children living in the central city of metropolitan areas).

PUBLIC AND PRIVATE SCHOOL

Children who attended private schools were less likely to live near the school or to have school-bus transportation than were public school students (table D). At the elementary level, the median distance from home to school was 2.4 miles for private school children and 1.7 miles for public school children (table 2). About one-third of children in private elementary schools lived within 1 mile of school compared with 42 percent of public elementary school children.

Students in private high schools lived farther from their schools than those enrolled in private junior high schools or public high schools. The median distance traveled for children enrolled in private high schools was 5 miles compared with 2 miles for those in the seventh and eighth grades of private schools and 3 miles for public high school students. The distribution of distances between home and school were significantly different for private high school students and other students. Only about 28 percent of the school children in private high schools lived within 3 miles of the school they attended, compared with about one-half of the public high school students. The proportion of private high school children who lived at school was the largest of any category of students below the college level, 9 percent.

The greater distances traveled by private school students probably affected their mode of transportation to school. For example, fewer private school children than public school children could easily walk to school The mode of transportation was also determined by the size of the community in which students were living since private elementary school students were much more likely to be living in the central cities of metropolitan areas than were public school students (43 percent compared with 24 percent).

Choices of transportation for public and private school students living in differing residential areas are shown in table D. Private school children living in the same type of residential areas as public school children were less likely to walk or to take a school bus to school than were public school children and much more likely to drive or be driven to

Table C. Mode of Transportation to School for Elementary and High School Students, by Race and Residence

(Numbers in thousands. Students living at home)

Mode of transportation, grade, and race	United States	Metropolitan areas				Nonmetropolitan areas
		Total	Central cities		Outside central cities	
			In SMSA's of 1 million or more	In SMSA's of less than 1 million		
NUMBER ENROLLED						
Elementary (grades 1 to 8):						
All races	28,490	18,710	3,790	3,689	11,232	9,780
White	23,524	15,040	2,099	2,751	10,191	8,484
Black	4,357	3,221	1,528	877	816	1,135
High school:						
All races	15,475	10,315	2,096	1,952	6,267	5,160
White	12,897	8,423	1,169	1,488	5,765	4,474
Black	2,276	1,660	844	417	399	615
PERCENT WALKING TO SCHOOL						
Elementary (grades 1 to 8):						
All races	34.8	41.9	64.0	45.2	33.4	21.1
White	32.5	38.8	61.4	45.2	32.4	21.3
Black	46.4	55.9	68.9	45.7	42.3	19.8
High school:						
All races	21.4	24.3	31.7	26.3	21.2	15.6
White	20.4	23.0	31.0	23.5	21.2	15.6
Black	26.6	31.1	33.4	35.3	22.1	15.0
PERCENT TAKING SCHOOL BUS						
Elementary (grades 1 to 8):						
All races	45.0	37.6	13.8	27.7	48.9	59.1
White	46.4	40.0	13.3	24.2	49.7	57.7
Black	39.7	29.0	14.5	40.0	44.5	69.9
High school:						
All races	38.3	32.8	10.4	22.8	43.4	49.3
White	38.5	34.2	10.3	20.2	42.7	46.5
Black	38.9	27.3	10.9	33.5	55.0	69.4
PERCENT TRAVELING BY CAR						
Elementary (grades 1 to 8):						
All races	16.4	16.3	15.8	22.9	14.4	16.4
White	17.5	17.5	20.3	26.4	14.5	17.4
Black	9.7	10.1	8.8	11.4	11.3	8.6
High school:						
All races	30.9	29.8	17.2	42.0	30.2	33.0
White	34.3	33.6	26.3	47.9	31.4	35.7
Black	11.7	10.6	5.0	20.3	12.2	14.8
PERCENT TAKING PUBLIC BUS						
Elementary (grades 1 to 8):						
All races	1.5	1.8	5.2	1.9	0.7	0.9
White	1.1	1.2	3.7	1.5	0.6	0.8
Black	3.5	4.4	7.1	2.6	1.3	1.0
High school:						
All races	7.3	10.8	38.4	6.7	2.8	0.6
White	4.4	6.5	28.9	5.5	2.2	0.6
Black	22.4	30.7	50.3	10.8	10.2	0.3

Table D. Mode of Transportation to School for Public and Private Elementary and High School Students, by Residence

(Numbers in thousands. Students living at home. For meaning of symbols, see text)

Mode of transportation, grade, and control of school	United States	Metropolitan areas				Nonmetropolitan areas
		Total	Central cities		Outside central cities	
			In SMSA's of 1 million or more	In SMSA's of less than 1 million		
NUMBER ENROLLED						
Elementary (grades 1 to 8):						
Public	25,252	16,011	2,954	3,147	9,909	9,242
Private	3,238	2,700	836	541	1,322	538
High school:						
Public	14,231	9,245	1,783	1,723	5,739	4,986
Private	1,244	1,070	313	229	528	174
PERCENT WALKING TO SCHOOL						
Elementary (grades 1 to 8):						
Public	35.8	44.1	69.4	48.4	35.2	21.4
Private	27.0	29.1	44.7	27.0	20.0	16.5
High school:						
Public	22.4	26.1	34.9	29.0	22.5	15.8
Private	8.5	8.2	13.0	5.5	6.4	10.6
PERCENT TAKING SCHOOL BUS						
Elementary (grades 1 to 8):						
Public	47.2	39.7	14.5	28.7	50.7	60.2
Private	27.7	25.2	11.2	21.4	35.5	40.3
High school:						
Public	39.7	34.0	10.6	23.5	44.3	50.1
Private	22.2	21.8	9.0	17.0	32.2	23.8
PERCENT TRAVELING BY CAR						
Elementary (grades 1 to 8):						
Public	13.3	12.4	10.3	18.8	11.0	14.9
Private	40.2	40.0	35.5	46.6	40.1	41.5
High school:						
Public	29.3	27.8	14.5	38.7	28.6	32.2
Private	49.7	48.1	32.8	67.0	49.0	60.3
PERCENT TAKING PUBLIC BUS						
Elementary (grades 1 to 8):						
Public	1.3	1.6	4.7	1.7	0.6	1.0
Private	2.9	3.4	7.2	2.6	1.4	-
High school:						
Public	6.5	9.8	37.7	6.4	2.2	0.6
Private	17.2	19.7	42.1	9.2	10.2	0.7

school. The differences in mode of transportation for public and private school children were greatest in suburban and nonmetropolitan areas, perhaps because private schools in those areas were less likely to provide bus transportation. The greater reliance of private school students on automobile travel in every residential area shown in table D may also be due to a higher income level of the families of private school children.

COLLEGE STUDENTS

In October 1978, approximately 9.8 million persons under 35 years old were enrolled in college and another 2.1 million persons were attending vocational schools. Of these 12 million college and vocational school students, 8.6 million were living at home and commuted to school for classes. Another 3.4 million lived at school and required no daily transportation from home. Most college students who traveled to school went by car (80 percent); the median distance traveled was about 7 miles, and the median time traveled was about 23 minutes.

The median number of miles traveled from home to college for full-time first- and second-year students in a 4-year college who were living at home was about the same as for those attending 2-year colleges full time (8 miles). However in determining this distance, the 1 million full-time 4-year college freshmen and sophomores who lived on campus while attending school were excluded.