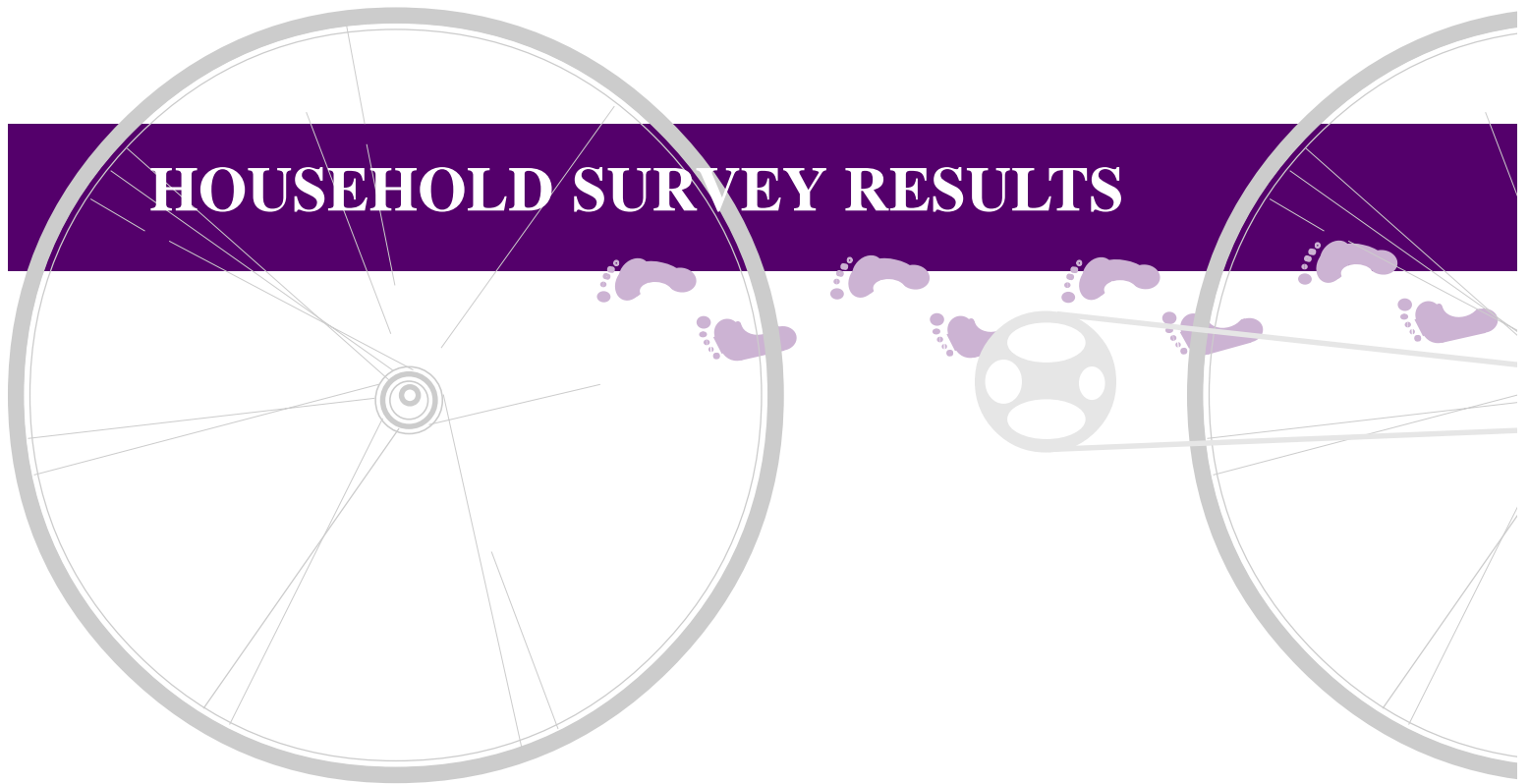
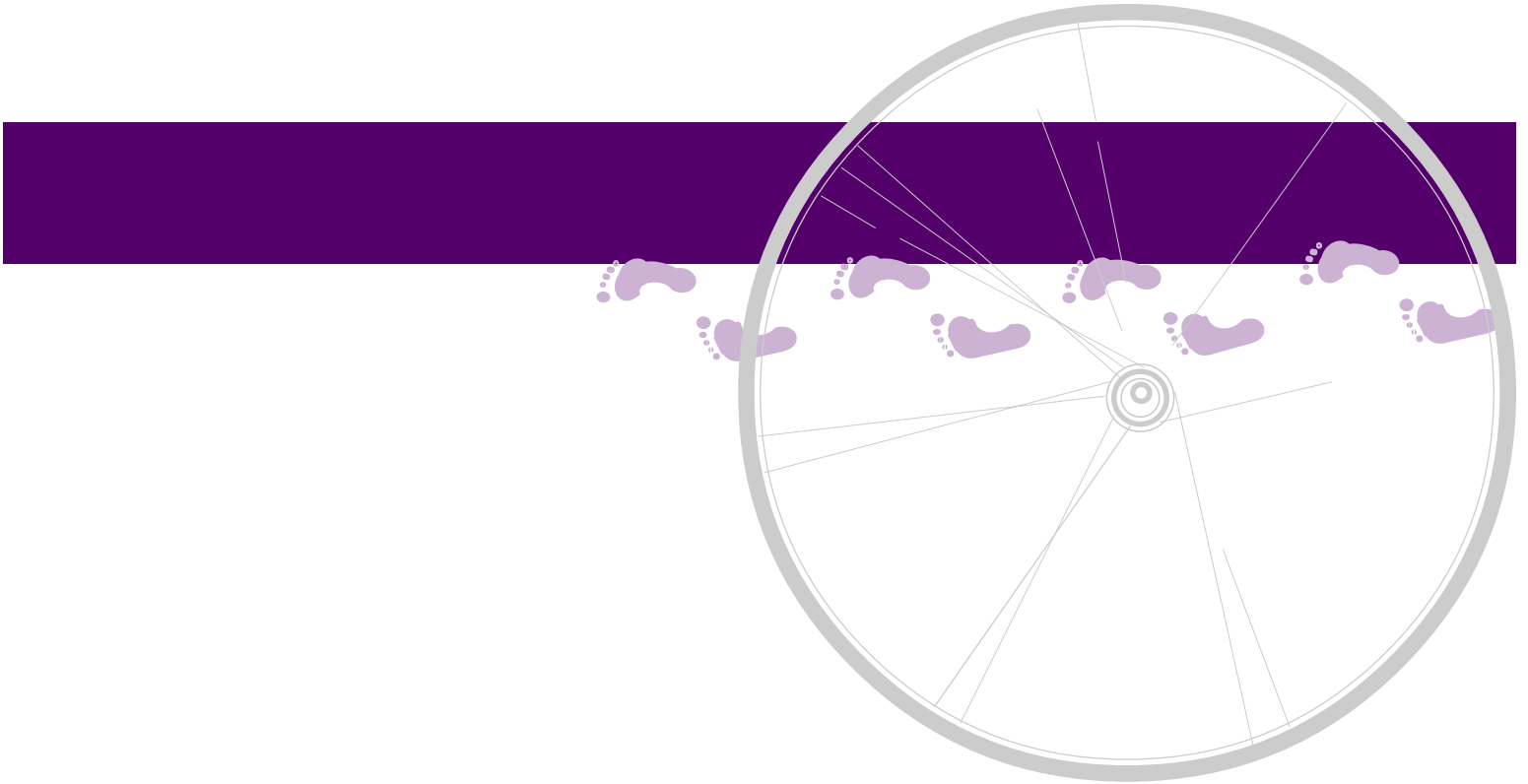


HOUSEHOLD SURVEY RESULTS





I. TRANSPORTATION

In the remainder of this report, the information provided (except as noted otherwise) is based upon population-weighted data. Thus, the information summarized in the remainder of the report can be attributed to the Colorado population as a whole. (Details on weighting procedure are discussed in the appendix.)

A. Commuting to Work Employment

Six percent of males who are under the age of 65 are unemployed. Thirteen percent of females who are in the same age category are unemployed. Of those individuals working, 18 percent of all workers are self employed.

The majority of individuals (66 percent) are working five days per week (see Figure IA.1). Eight percent are working four days a week, and 14 percent are working six days a week. Three percent indicated that they were working seven days a week. Nine percent work three days per week or less.

Figure IA.1 Average Number of Days Worked per Week

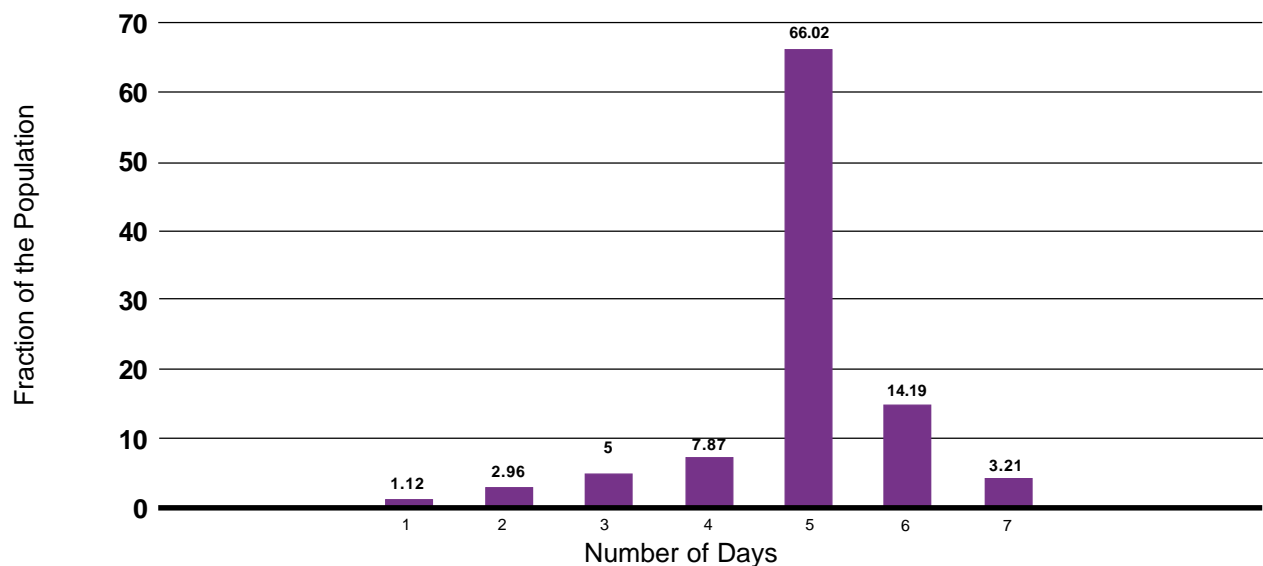
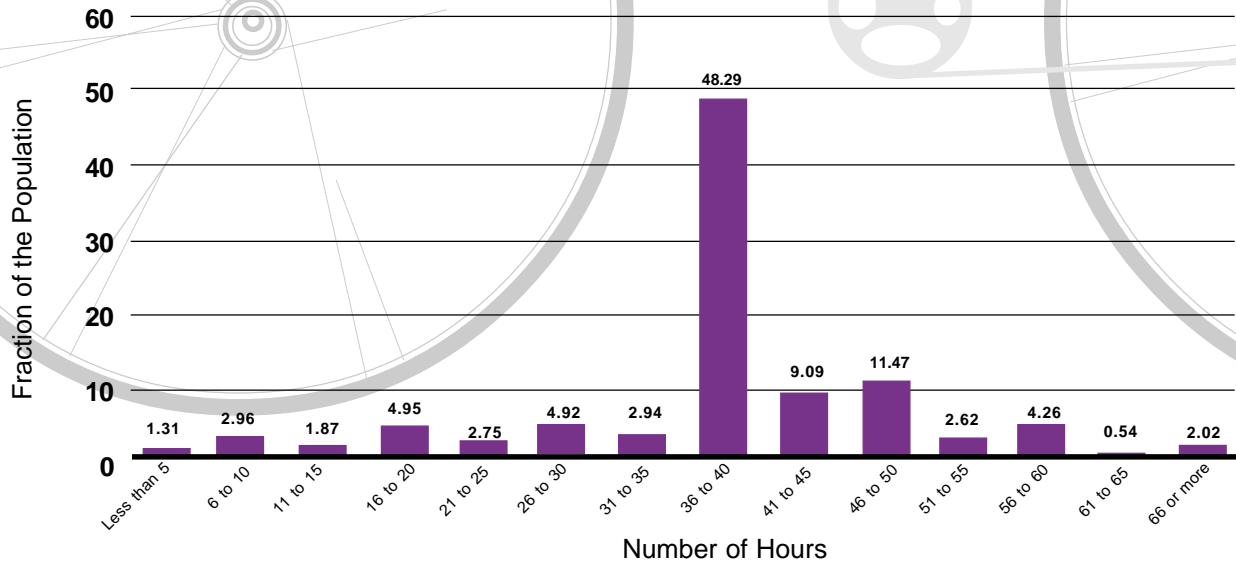


Figure IA.2 portrays the frequency distribution of hours worked per week for those who work. Consistent with Figure IA.1, by far the largest category consists of individuals who work between 36 and 40 hours per week. The second largest category is individuals who work 46 to 50 hour weeks (almost 12 percent). Nine percent work more than 50 hours a week, 11 percent work 21 to 35 hours a week, and another 11 percent work less than 20 hours a week.

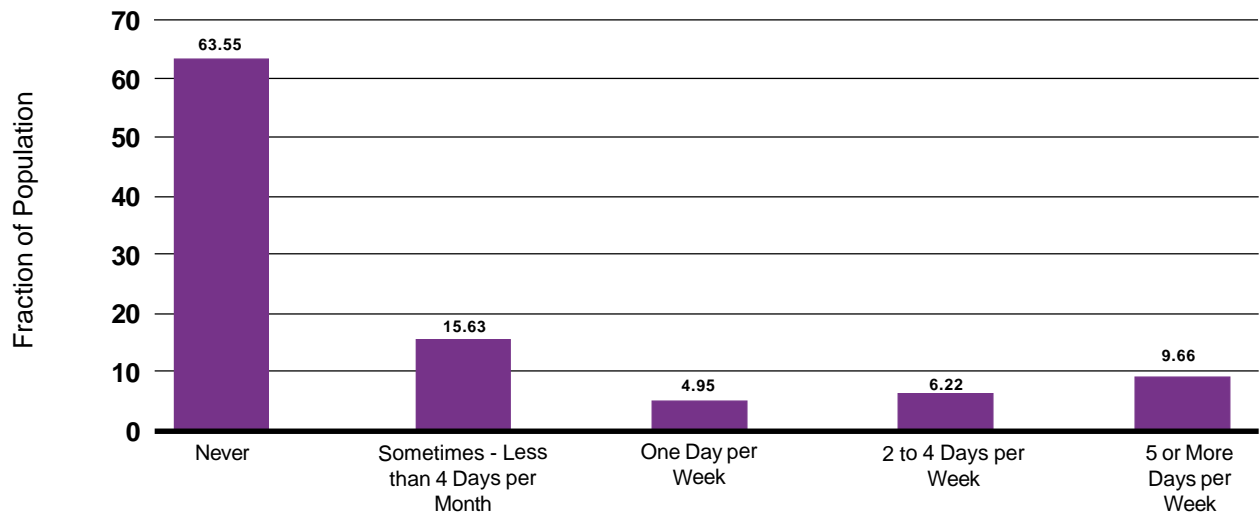
Figure IA.2 Average Number of Hours Worked per Week



Telecommuting

The response to the question “How frequently do you telecommute (use a telephone or computer to work from home)?” is summarized in Figure IA.3. The majority (64 percent) never telecommute. Sixteen percent telecommute infrequently (less than four days per month), five percent telecommute one day per week. Six percent telecommute 2 to 4 days a week, and 10 percent do so at least five days a week.

Figure IA.3 How Often Colorado Residents Telecommute Work



Work Schedules

Workers in Colorado Figure IA.4 displays the information about the time people leave for work in the morning. It resembles a normal distribution with the highest frequency pertaining to those who leave home at 7:00 am. (35 percent). Twenty percent leave for work at 6:00 am, and 18 percent leave around 8:00 am. Eight percent leave around 8:00 am. Eight percent leave at 5:00 in the morning, and five percent leave for work at 9:00 am.

Figure IA.4 Time Begin Work Commute

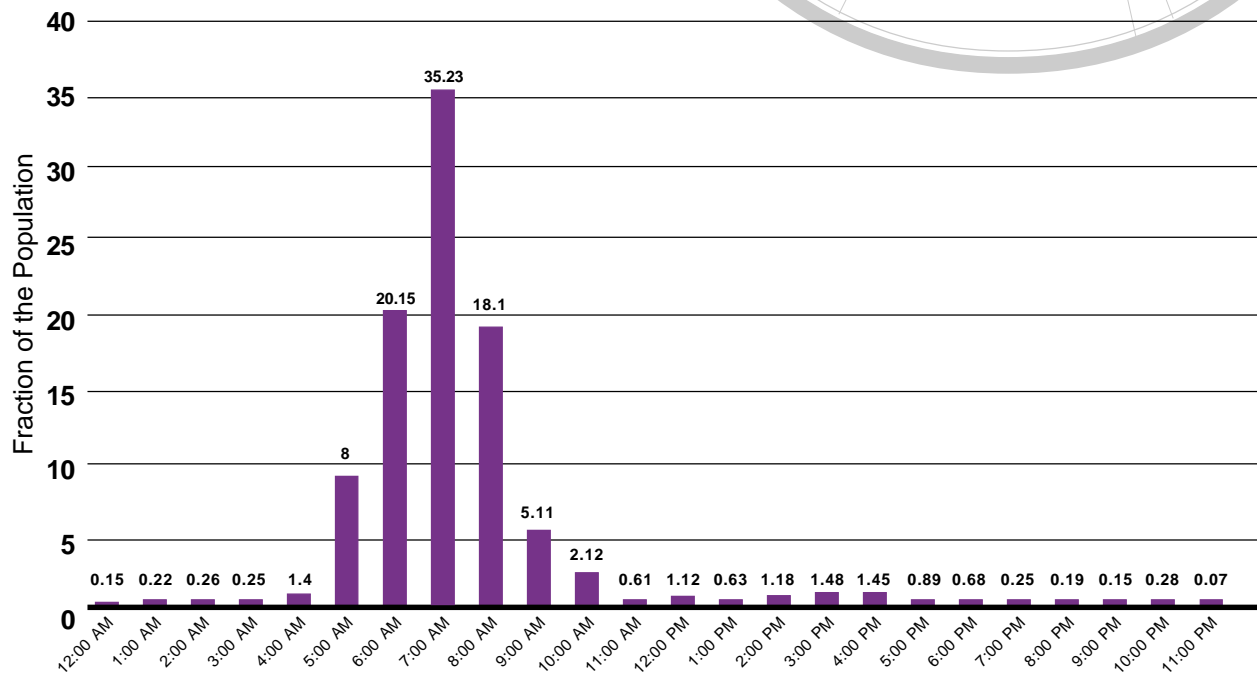
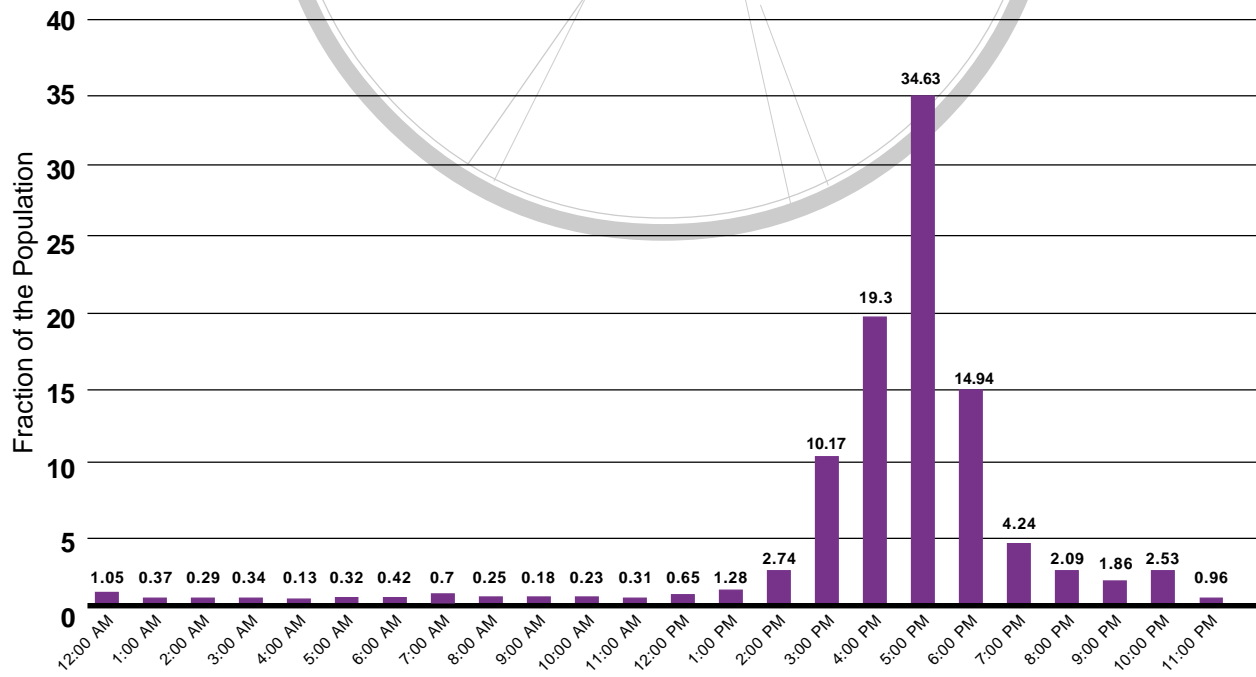


Figure IA.5 demonstrates the frequency distribution of the time individuals leave work. Ten percent leave work at 3:00 p.m. The rate increases to 19 percent at 4:00 p.m., and it peaks at 5:00 p.m. with 35 percent. Fourteen percent leave work at 6:00 p.m., and four percent leave at 7:00 p.m.

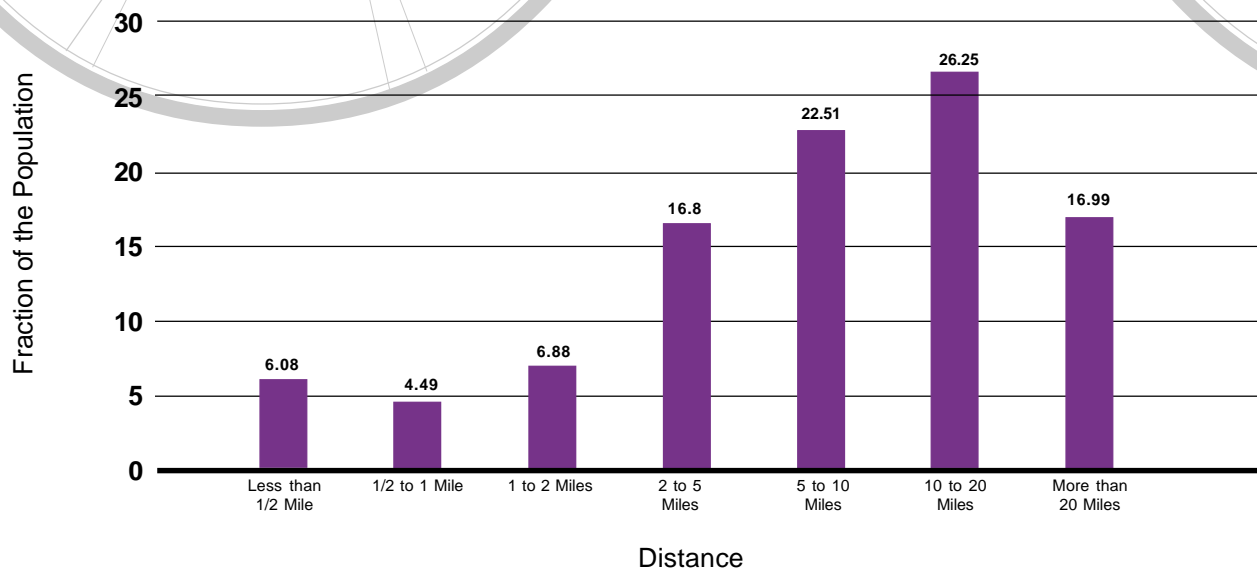
Figure IA.5 Time Leave Work



Commute Distance

Figure IA.6 provides information on the distance between home and work. Eleven percent work within one mile from home. Seven percent travel 1 to 2 miles to go to work, and 17 percent commute 2 to 5 miles. Nearly half of the respondents indicated that they traveled between 2 and 10 miles to go to work, and 17 percent face a work commute of more than 20 miles.

Figure IA.6 Distance from Home to Work



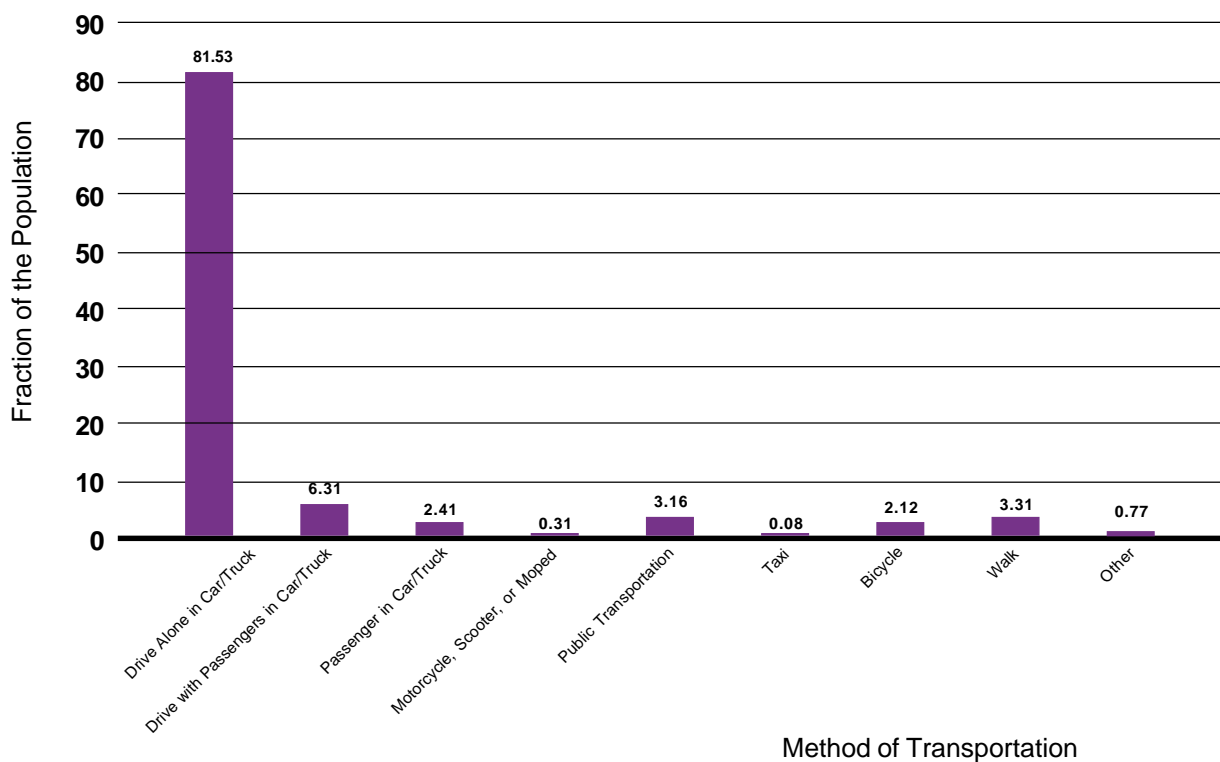
Commuting Mode

Figure IA.7 shows the primary method of transportation to work during a typical good weather week. The overwhelming majority, 82 percent, drive alone in a car or truck. Almost nine percent use a carpool arrangement. They are either passengers, or drive with passengers. Three percent use public transportation as their primary method of transportation to go to work. This is an interesting piece of information, because thirty-five percent of the households are within two blocks of public transportation (see Figure 0.6). This may suggest that the relative price of public transportation (money and/or time price) is high in comparison to driving.

Two percent use a bicycle as their primary method of transportation, 0.3 percent use a motorcycle, scooter or moped, 0.8 percent take a taxi, and 3 percent walk.

It is informative to compare these rates to the nation-wide figures. The data from the 1990 Census indicate that 73 percent of Americans drive alone in a car, truck or van to go to work, and 5.3 percent use public transportation. 3.9 percent walk to work nation-wide, and 0.4 percent bicycle. Thus, the propensity to drive is higher in Colorado in comparison to the national average, and the propensity to use public transportation is lower. The propensity to bicycle to work is five times the national average.

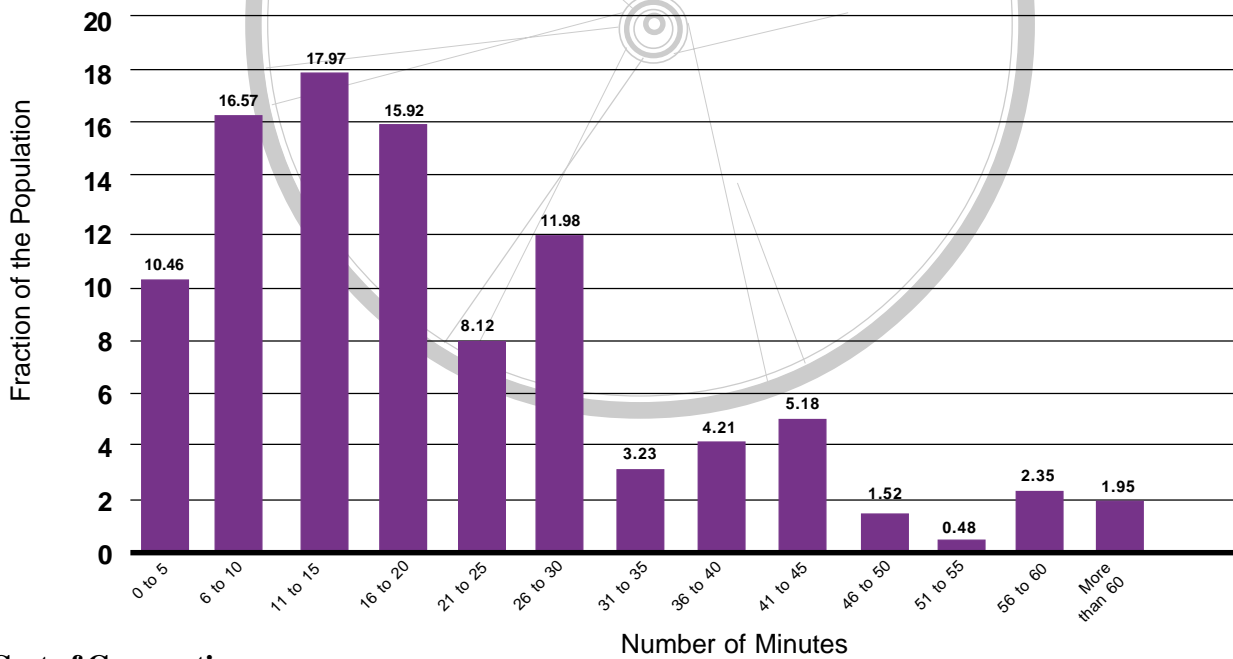
Figure IA.7 Primary Means of Transportation to Work



Travel Time

Figure IA.8 portrays information on the amount of time people spend traveling to work (one way). Forty-five percent of work trips take 15 minutes or less. Thirty-six percent take between 16 and 30 minutes, and 13 percent of the one-way work travel takes 31 to 45 minutes. Four percent of the individuals travel between 45 minutes and hour to go to work, and it takes more than one hour to get to work for two percent of the working population.

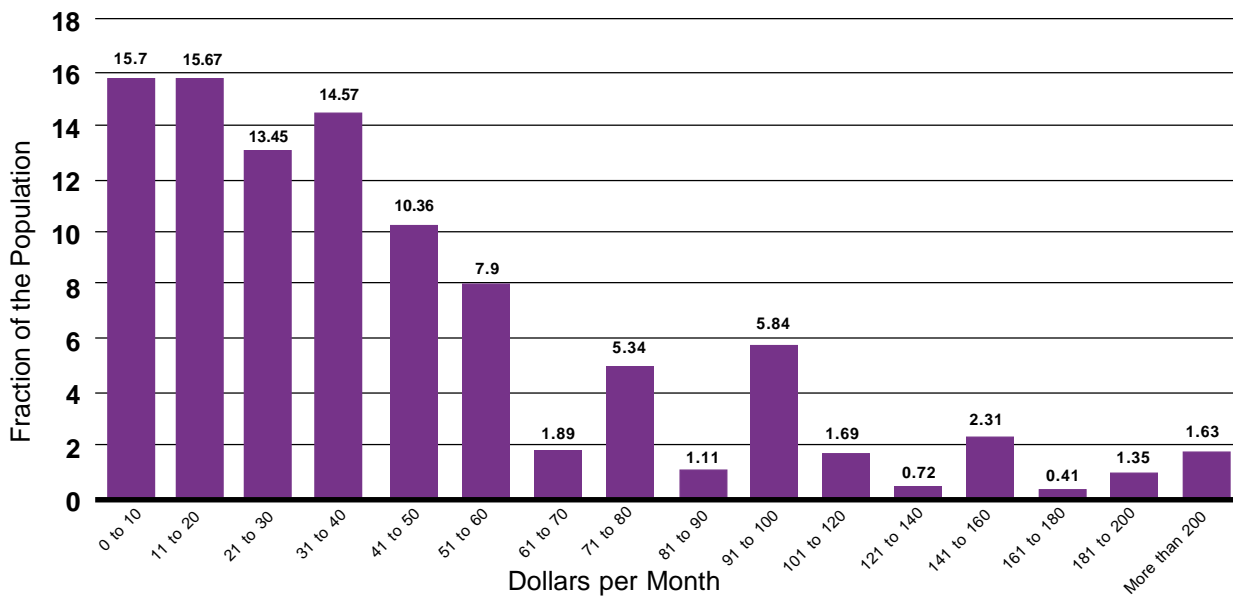
Figure IA.8 Time Required for Work Commute (One Way)



Cost of Commuting

Figure IA.9 presents information on the monthly out-of-pocket spending for commuting to work, including bus fare, gas and parking. Thirty-one percent spend \$20 or less per month to commute to work. Thirty-eight percent spend between \$21 and \$50, and 22 percent spend between \$51 and \$100 per month. Eight percent spend more than \$100 a month for work travel.

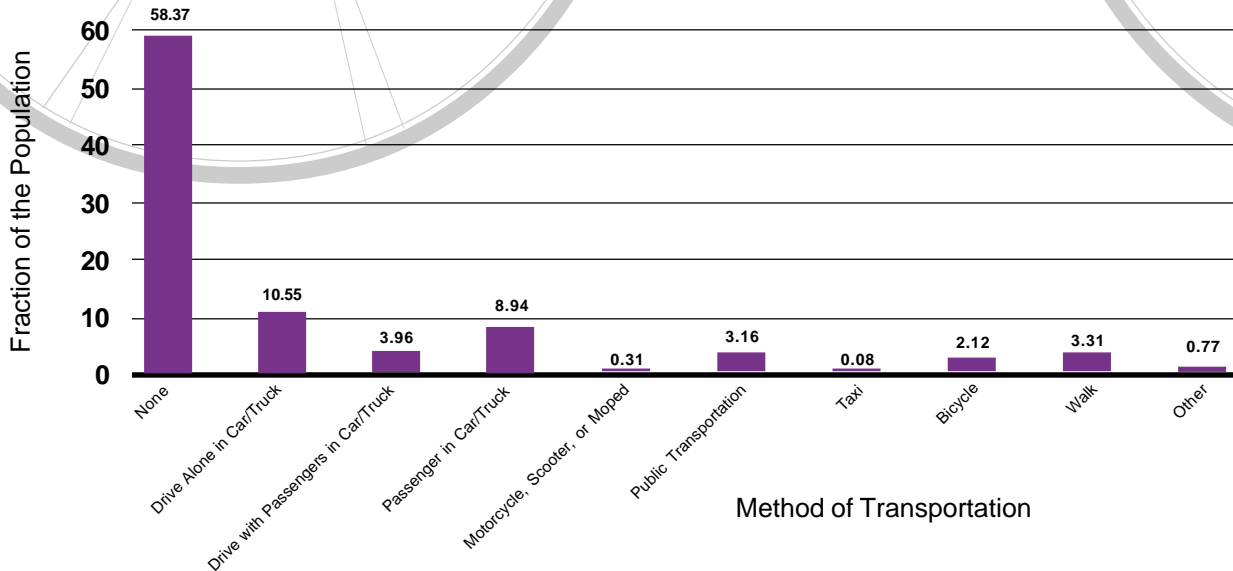
Figure IA.9 Average Cost of the Work Commute per Month



Multiple Methods of Commuting.

Figure IA.10 displays information on the second most frequently used method of transportation to go to work. The majority, 58 percent, do not use a second method of transportation. The secondary method of transportation of 15 percent of individuals who use a secondary method is carpooling (either driving with passengers or being a passenger).

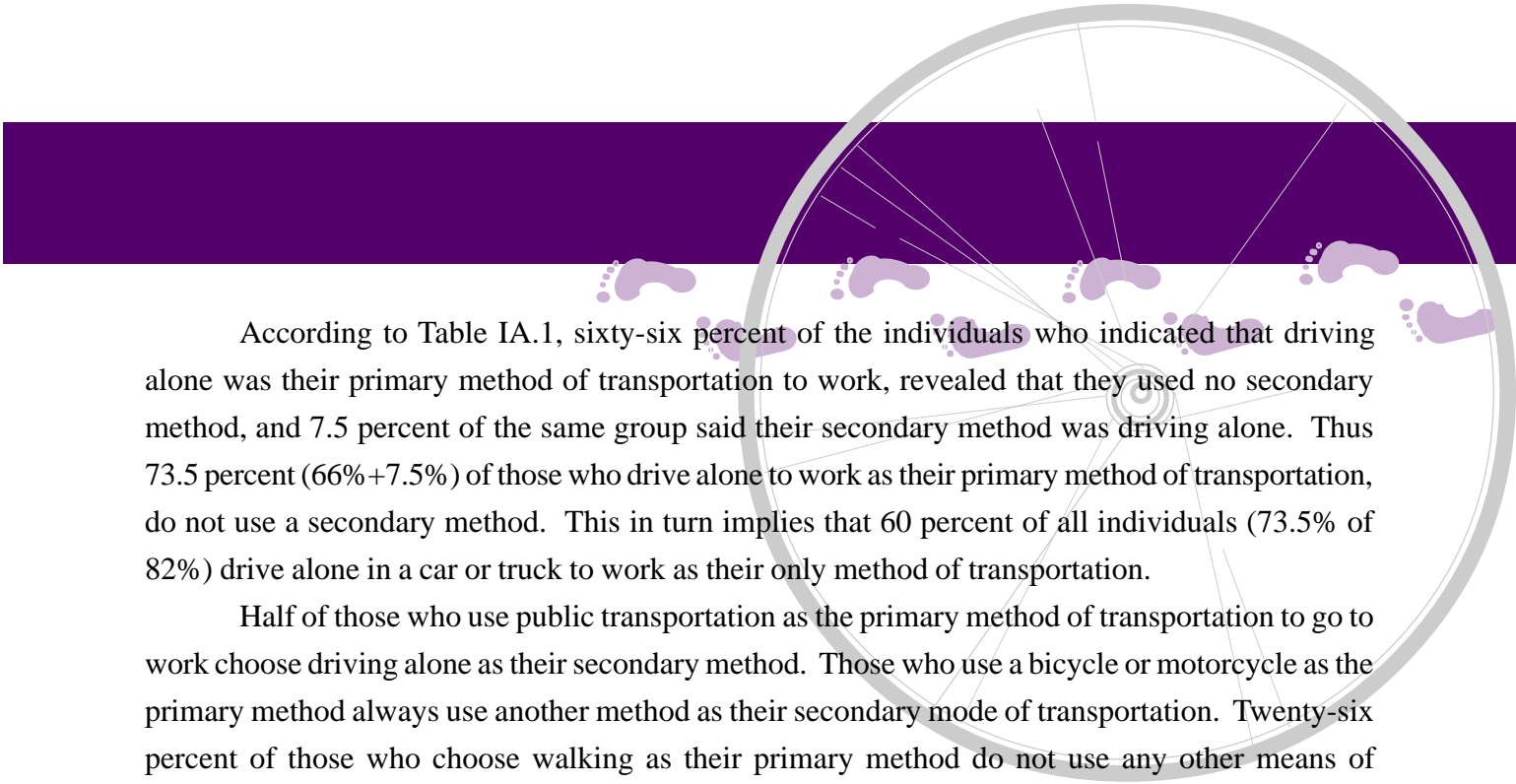
Figure IA.10 Secondary Method of Transportation Used for Work Commute



It is informative to investigate the combination of transportation methods for commuters who use more than one. The distribution of the secondary means of transportation by the primary method of transportation is presented in Table IA.1.

Table IA.1 Work Trips

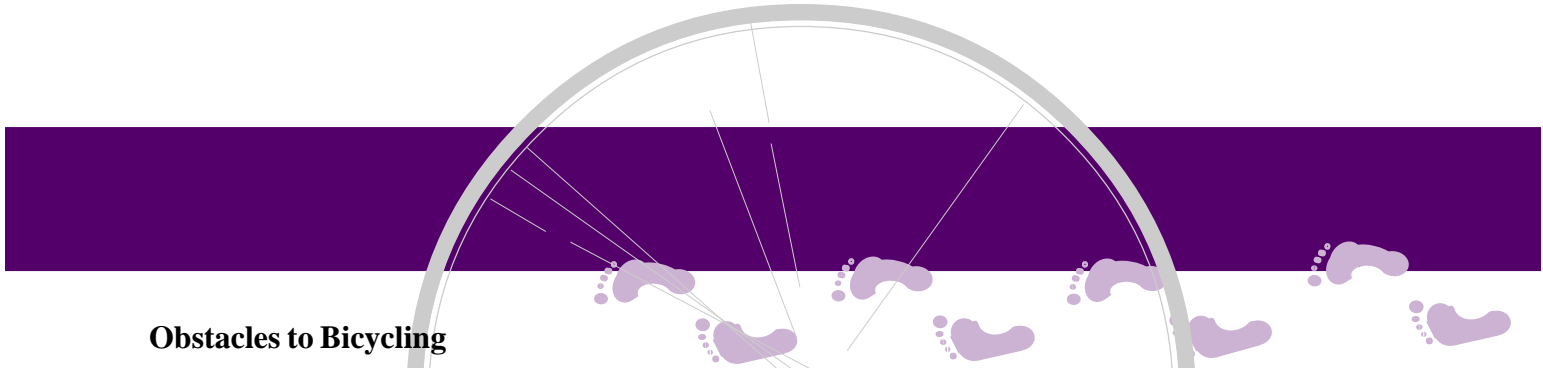
Primary Method	Secondary Method of Transportation						
	No Secondary Method	Drive Alone	Carpool	Motorcycle	Public Transport	Bicycle	Walk
Drive alone	66%	7.5%	8%	2%	5%	6%	4%
Motorcycle	0%	76%	15%	6%	9%	0%	0%
Public Transport	13%	50%	31%	0.4%	0.4%	1.5%	0.8%
Bicycle	0%	63%	7%	0%	13%	2%	13%
Walk	26%	41%	16%	1%	6%	7%	0.6%
Carpool	35%	30%	18%	1%	12%	1%	5%



According to Table IA.1, sixty-six percent of the individuals who indicated that driving alone was their primary method of transportation to work, revealed that they used no secondary method, and 7.5 percent of the same group said their secondary method was driving alone. Thus 73.5 percent (66%+7.5%) of those who drive alone to work as their primary method of transportation, do not use a secondary method. This in turn implies that 60 percent of all individuals (73.5% of 82%) drive alone in a car or truck to work as their only method of transportation.

Half of those who use public transportation as the primary method of transportation to go to work choose driving alone as their secondary method. Those who use a bicycle or motorcycle as the primary method always use another method as their secondary mode of transportation. Twenty-six percent of those who choose walking as their primary method do not use any other means of transportation to go to work. This means that 8 out of 1,000 people (26 percent of 3 percent) use walking as their exclusive means of transportation to commute to work.

The information above indicates that seven percent of the population is using bicycling as either the primary or secondary method of transportation to go to work. Another seven percent of the population is using walking as either the primary or secondary method of transportation to commute to work.



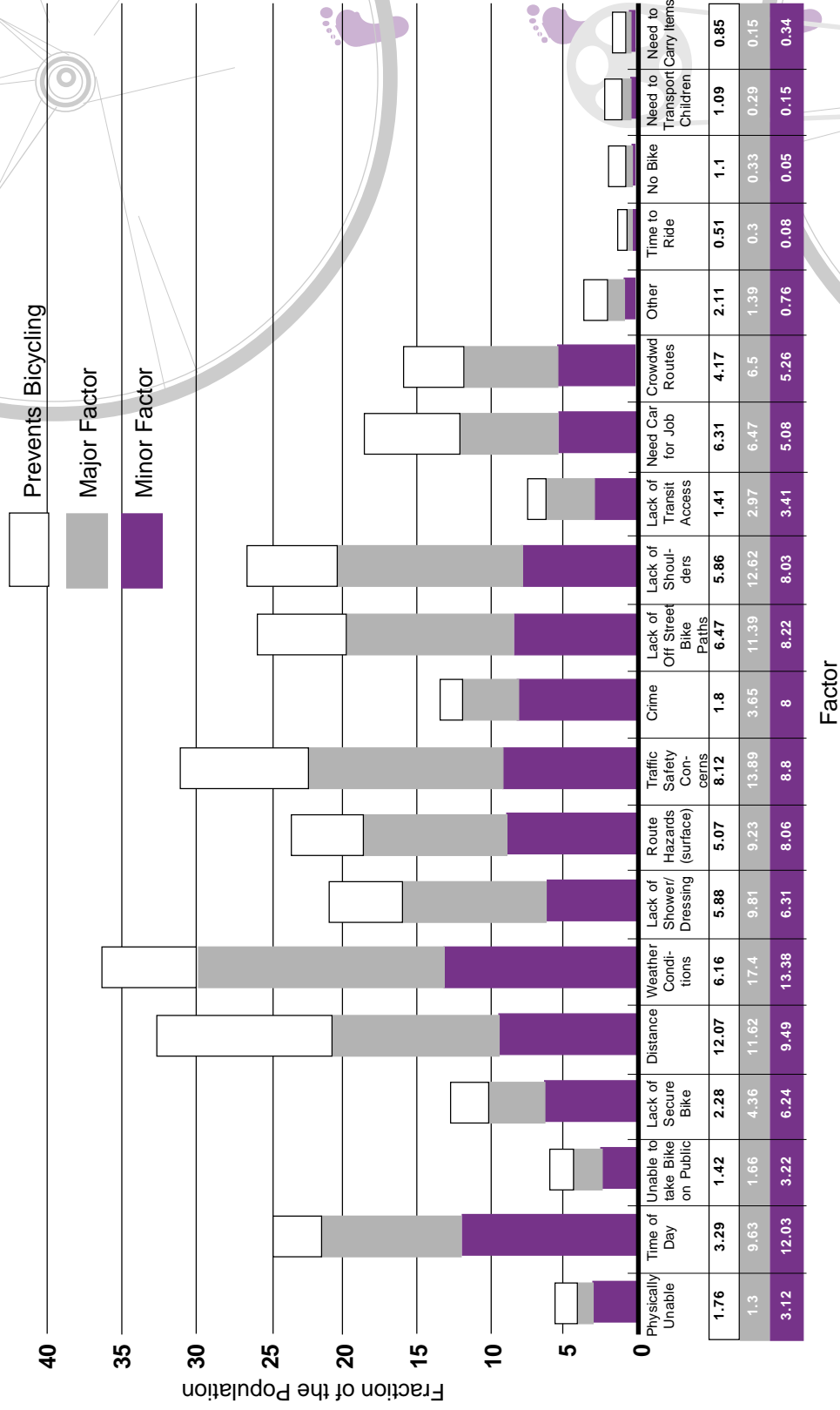
Obstacles to Bicycling

In a separate question, forty-six percent of those surveyed indicated that they never considered using a bicycle to commute to work. The remaining fifty-four percent who consider bicycling as a means of transportation identified the factors which negatively influence their decision to bicycle to work. Figure IA.11 presents information about the factors that impact individuals' decisions to use bicycle to commute to work. The potential factors are listed on the horizontal axis. They are: physically unable, time of day, unable to take bicycle on public transportation, lack of secure bicycle store at destination, distance, weather conditions, lack of shower/dressing facilities at destination, route hazards (gravel, potholes, etc.), traffic safety concerns, lack of personal security (crime), lack of off-street bike paths, lack of shoulders to ride on, lack of transit access, need a car for job, no alternative to crowded routes, time it takes to ride, a need to transport children, a need to carry materials to work and other reasons.

Weather conditions and distance are the most important factors preventing the use of bicycles for commuting to work. Thirty-seven percent of all individuals indicated that weather conditions were either a minor factor, a major factor, or prevented them from bicycling. Twelve percent gave the distance as the reason that prevented them from bicycling to work.

Concerns about traffic safety is the third-leading deterrent to bicycle to work, followed by lack of off-street bike paths and lack of shoulders. Road hazards conditions (e.g. gravel and potholes) and the lack of shower/dressing facilities are the sixth and seventh most important reasons, respectively, that impact people's decision to not bicycle to work.

Figure IA.11 Factors that Prevent Using Bicycle to Commute to Work



Frequency of Bicycle Commuting

Table IA.2 below presents information about the frequency of the use of bicycles to commute to work. This question is asked of all individuals except for those who indicated they never considered bicycling to work. The category “never” in the table below represents people who do consider bicycling to work, but never do so. Eight percent bicycle to work more than once per week. Three percent commute to work by bicycle one a week, and another three percent bicycle to work 2-3 times per month. Seventy-four percent of those who consider bicycling to work never actually do so.

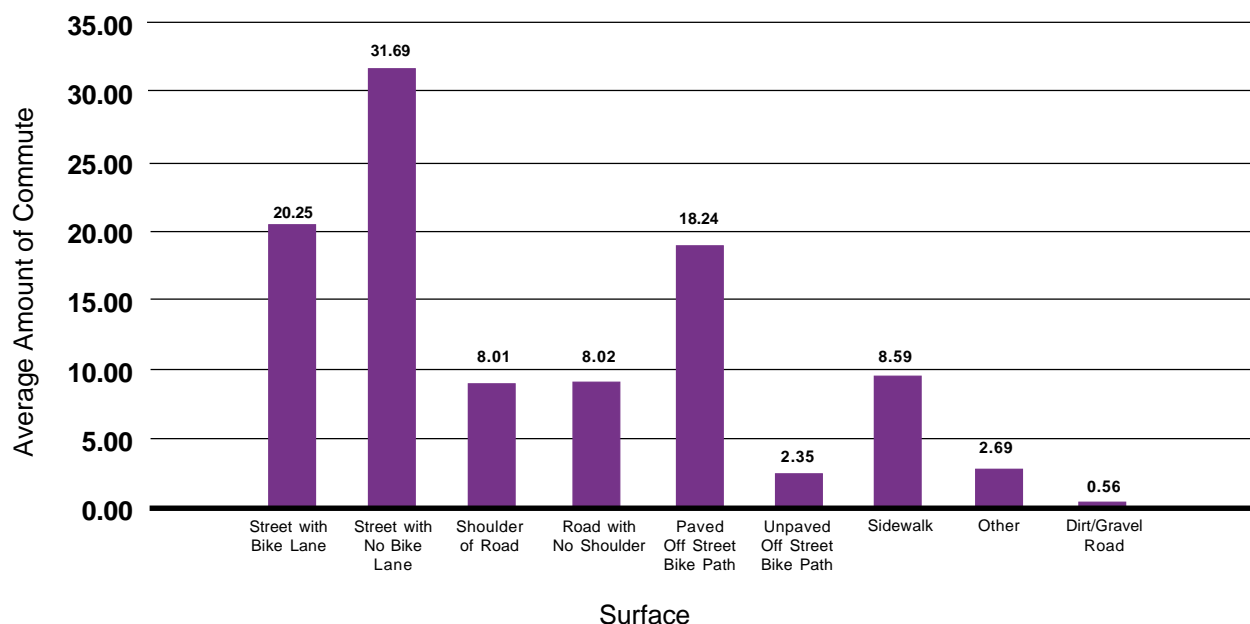
Table IA.2 The Frequency of the Use of Bicycle for Work Travel

More than once per week	Once per week	2-3 times per week	Once per month	Less than once per month	Never
8%	3%	3%	4%	9%	74%

Surfaces Used by Bicycle Commuters

Figure IA.13 displays the distribution of various surfaces used by those who ride their bicycle to work. Thirty-two percent of a typical bicycle work trip takes place on a city street with no bicycle lane/shoulder. Twenty percent of the work bicycle trips use a city street with bicycle lane/shoulder, and 18 percent are on paved off-street bicycle paths.

Figure IA.13 Average Amount of Bicycle Work Commute Ridden on Specific Surfaces



B. School Travel

Fifteen percent of those surveyed are students. It should be remembered that a respondent had to be at least 16 years of age to fill out the survey, so students in our survey attend high school or college. Seventy-five percent of these students go to school full-time.

School Schedules

The majority (56 percent) go to school five days a week. Fifteen percent attend school twice a week. Thirteen percent go to school four days per week, and eight percent go to school once a week.

Figure IB.1 displays the distribution of times students leave home for school. There are two peaks of the distribution: 7:00-8:00 a.m. and 5:00-6:00 p.m. More than half (52 percent) of the students leave home for school between 7:00 and 8:00 a.m., and 17 percent leave for school between 5:00 and 6:00 p.m. Figure IB.2 present the distribution of times students leave school for home. Thirty-eight percent of the students leave school from 2:00-3:00 p.m., nine percent leave at 5:00 p.m., and 15 percent leave school from 9:00-10:00 p.m.

Figure IB.1 Time Leave for School

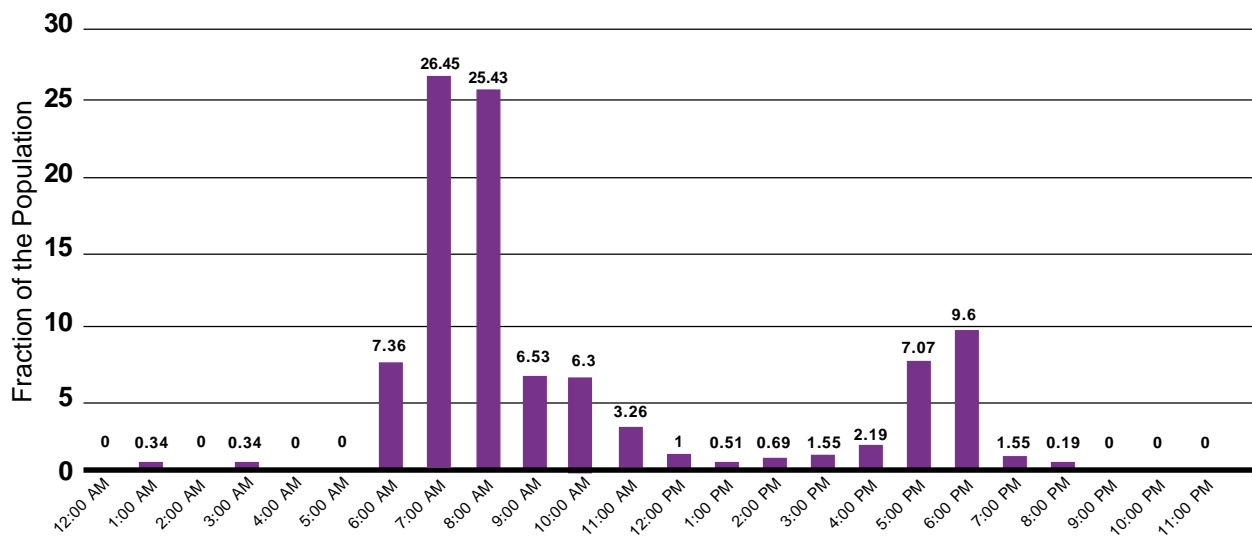
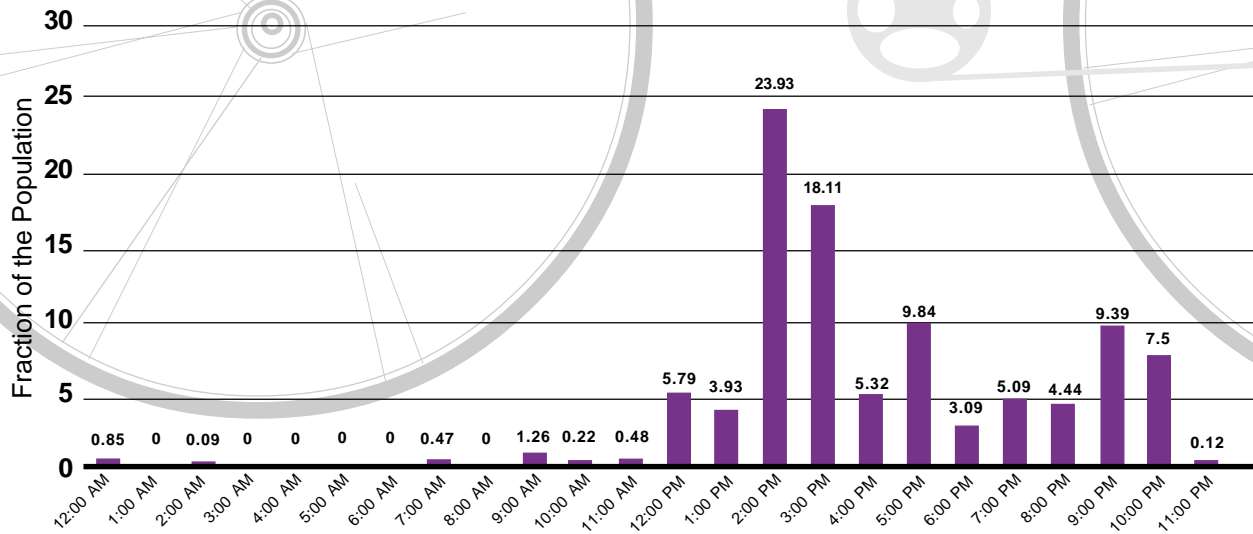


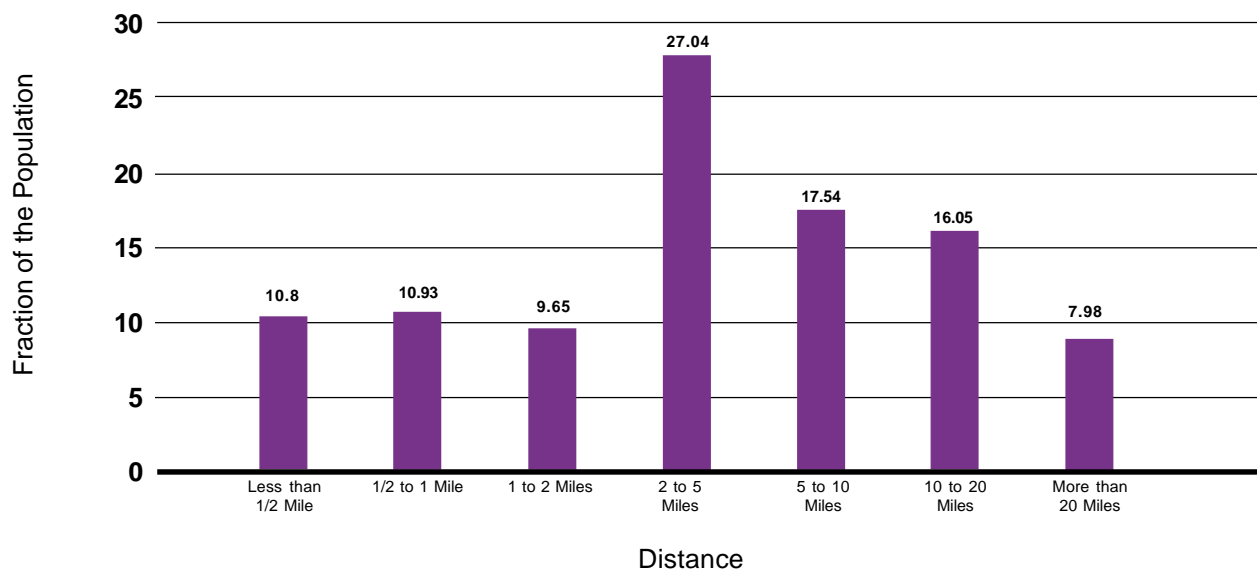
Figure IB.2 Time Leave School



Distance to School

The distribution of one-way travel distance to school is reported in Figure IB.3. Twenty-seven percent of the students travel between 2 and 5 miles to go to school. Eighteen percent travel between 5 and 10 miles, and 16 percent travel between 10 and 20 miles. Twenty-two percent of the student travel less than a mile to go to school, and eight percent travel for more than 20 miles.

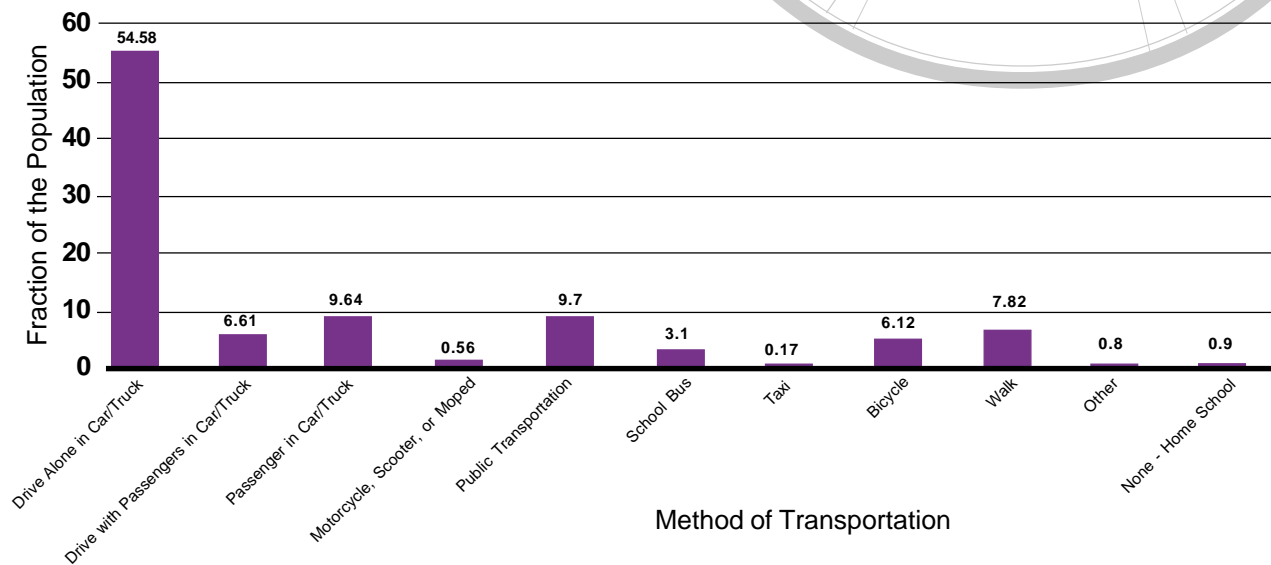
Figure IB.3 One-Way Travel Distance to Class



Method of Commuting to School

The primary commuting method of fifty-five percent of students is driving alone. Sixteen percent are involved in a carpool arrangement, 10 percent use public transportation, six percent use a bicycle as their primary commuting method. Eight percent walk to school (see Figure IB.4). Three percent of all the students who are 16 years of age or older use the school bus as their primary method of transportation.

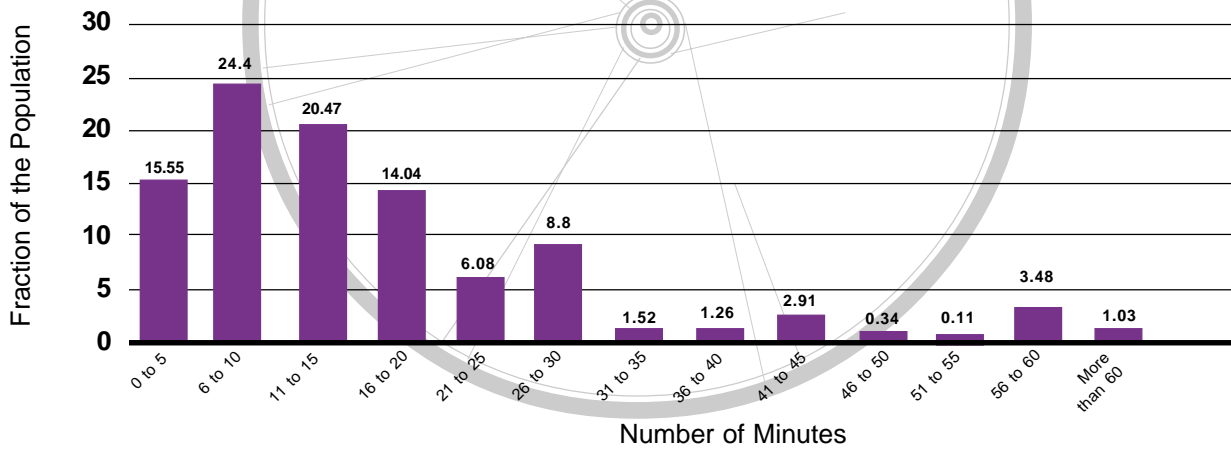
Figure IB.4 Primary Transportation Method for School Commute (16 years and older)



Travel Time

Figure IB.5 shows that 74 percent of the trips to school take less than 20 minutes, which is consistent with Figure IB.3 which reports the distance, and Figure IB.4 which reports the primary transportation method. Only five percent of all school trips last more than 45 minutes (one way).

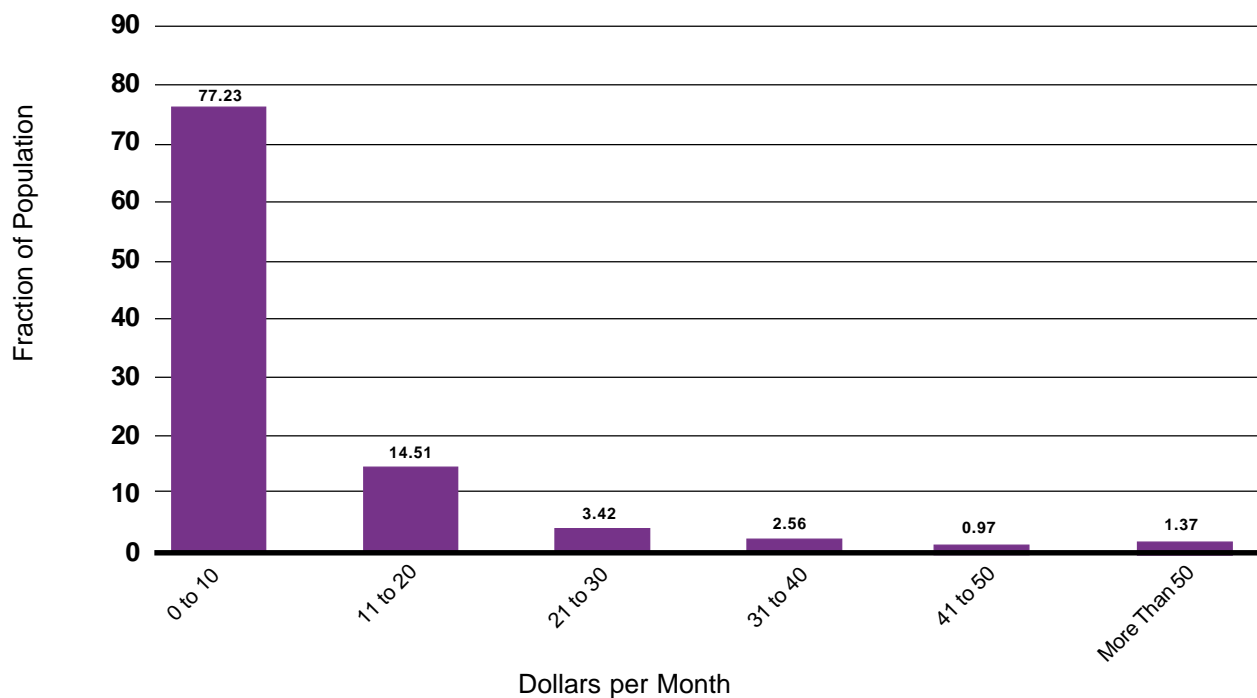
Figure IB.5 Average Time of School Commute (16 years and older)



Cost of Commuting

The weekly out-of-pocket expenditures for school trips are presented in Figure IB.6. The overwhelming majority (77 percent) of the students spend less than \$10 per week. Fifteen percent spend between \$11 and \$20, and only five percent spend more than \$30 per week.

Figure IB.6 Average Cost of School Commute (16 years and older)



Multiple Methods of Commuting

Table IB.1 below presents the distribution of secondary method of commuting to school by the primary method. For example, of students for whom the primary method of commuting to school is driving alone, seven percent use public transportation as their secondary method of transportation to school. Simple calculations reveal that more than one-third of students (36 percent) who are 16 years of age and older drive alone in a car or truck to school as their only method of transportation. Twelve percent of the students who are 16 years of age and older use a bicycle as either their primary or secondary means of transportation to school. Sixteen percent walk to school at least some of the time.

Table IB.1 School Trips

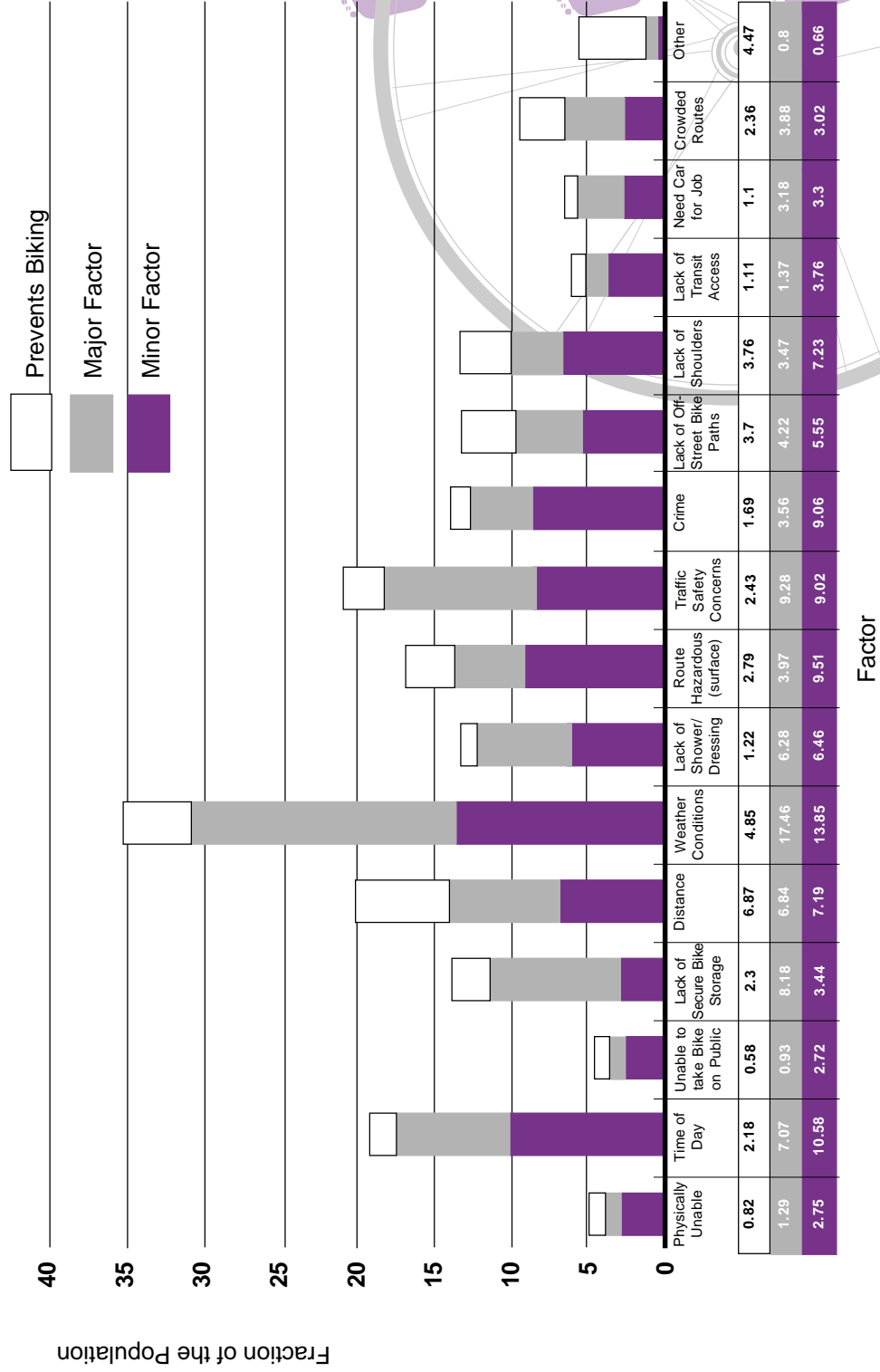
Primary Method	Secondary Method of Transportation						
	No Secondary Method	Drive Alone	Carpool	Motorcycle	Public Transport	Bicycle	Walk
Drive alone	59%	7%	12%	0.4%	7%	7%	1%
School Bus	10%	10%	26%	0%	54%	0%	0%
Public Transport	12%	19%	22%	0%	33%	7%	8%
Bicycle	0%	25%	15%	0%	13%	0%	47%
Walk	23%	16%	14%	7%	5%	17%	12%
Carpool	12%	15%	26%	0%	7%	11%	22%

Obstacles to Bicycling

Figure IB.7 displays the factors that prevent students from bicycling to school. The most significant factor is weather conditions where 36 percent of the students indicated that weather was either a major, or a minor factor, or it prevented them from commuting to school by bicycle. Distance was the second most important factor. Twenty-one percent of students cited distance as a reason. Traffic safety concerns were reported 20 percent of the time as a factor, as was the time of the day.

The frequency of the trips to school in good weather conditions is depicted in Table IB.2 below. This question is asked to all students except for those who indicated they never considered bicycling to school. The category “never” in the table below represents students who do consider bicycling to school, but never do. Twenty-two percent bicycle to school more than once per week. Two percent commute to school by bicycle once a week, and three percent bicycle to school 2-3 times per month. Nine percent bicycle to school one a month, and fifty percent never use a bicycle for commuting to school.

Figure IB.7 Factors that Prevent Using Bicycle for School Commute (16 years and older)



Note that 52 percent of the overall student population indicated that they never considered bicycling to school, indicating that 48 percent did consider it. Table IB.2 indicates that, among those who do consider bicycling 27 percent (22% + 3%) ride their bicycle to school at least one a week. This indicates that 13 percent of all students use bicycles to commute to school at least one a week (0.48×0.27), which is consistent with the information calculated earlier indicating that 14 percent of all student use their bicycles as their primary or secondary means of transportation to school.

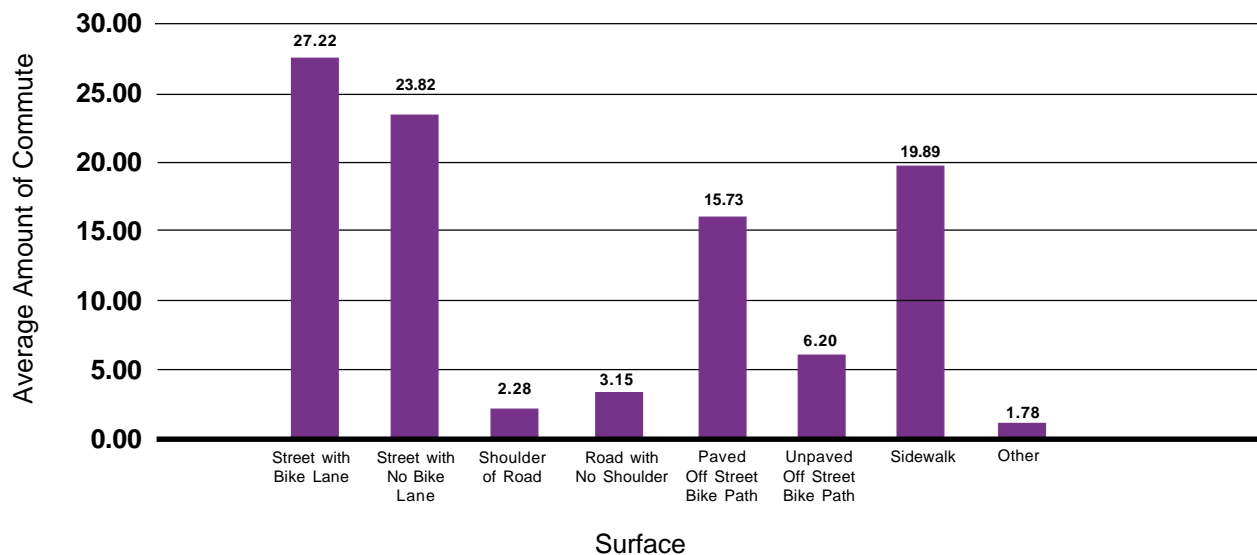
Table IB.2 The Frequency of the Use of Bicycle for Commuting to School

More than once per week	Once per week	2-3 times per week	Once per month	Less than once per month	Never
22%	2%	3%	9%	13%	50%

Surfaces Used by Bicycle Commuters

The distribution of surfaces on which an average trip to school takes place is displayed in Figure IB.8. Students who ride bicycles to school spend 27 percent of the rides on streets with bicycle lanes/shoulders; 24 percent of the rides are on streets with no bicycle lanes/shoulders. Twenty percent of the rides are on sidewalks, and sixteen percent are on paved off-street bicycle paths.

Figure IB.8 Average Amount of Bicycle Work Commute Ridden on Specific Surfaces

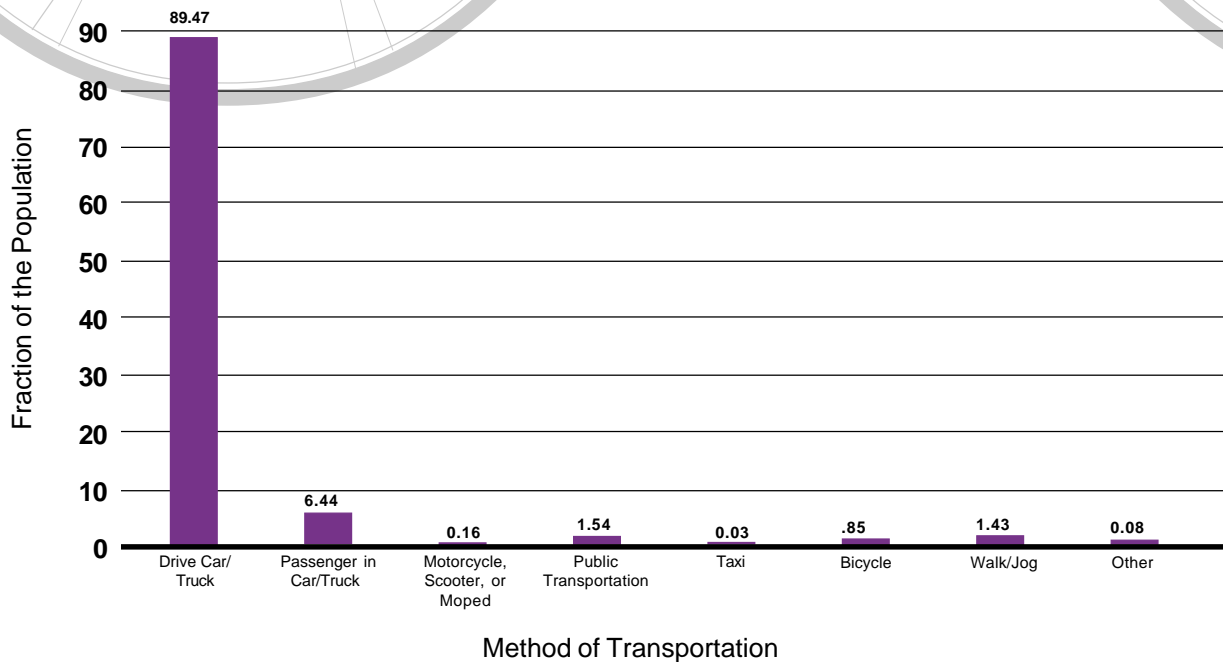


C. Utility Trips: Transportation for Errands

A utility trip is defined as travel to a particular destination (or destinations) for purposes other than work, school or recreation. Examples of these are trips to a friend's house or running errands.

Figure IC.1 presents the distribution of the primary method of transportation for utility trips. Almost 90 percent drive alone for utility trips.

Figure IC.1 Primary Method of Transportation for Most Utility Trips in Good Weather



Method of Transportation

Table IC.1 below presents the distribution of secondary method of commuting for utility trips by the primary method. For example, three percent of the population, for whom the primary method of commuting for utility trips is driving, use public transportation as their secondary method of transportation to school. Simple calculations reveal that more than 40 percent of the population who are 16 years of age and older drive alone in a car or truck on a utility trip as their only method of transportation. Nine percent of the individuals who are 16 years of age and older use a bicycle as either their primary or secondary means of on utility trips. Thirteen percent walk on a utility trip at least some of the time.

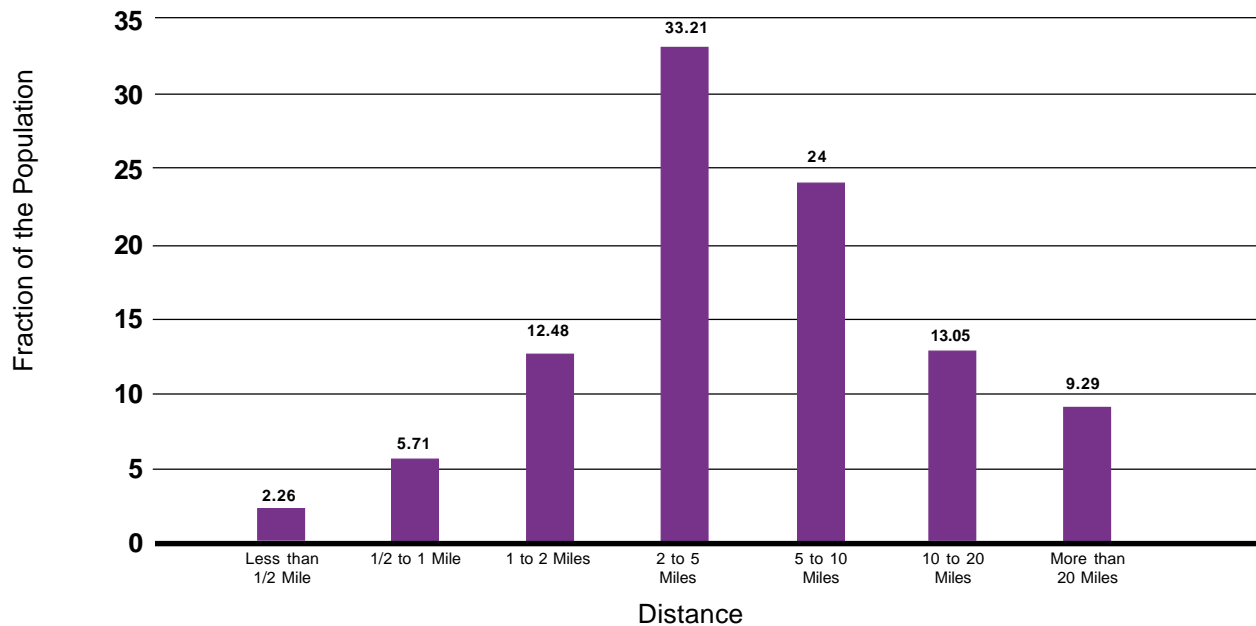
Table IC.1 Utility Trips

Primary Method	Secondary Method of Transportation						
	No Secondary Method	Drive Alone	Carpool	Motorcycle	Public Transport	Bicycle	Walk
Drive alone	46%	5%	23%	2%	3%	8%	12%
Public Transport	4%	12%	48%	0%	4%	3%	20%
Bicycle	1%	43%	34%	0%	3%	7%	10%
Walk	1%	31%	44%	0%	7%	16%	1%
Passenger in Car/Truck	26%	24%	15%	1%	12%	8%	13%

Travel Distance

Figure IC.2 shows the distribution of the travel distance (one-way) for utility trips. One-third of the utility trips are within 2-5 miles, 24 percent are within 5-10 miles. Twenty percent of utility trips are to locations which are two miles or less in distance; 22 percent are to destinations that are more than 10 miles away.

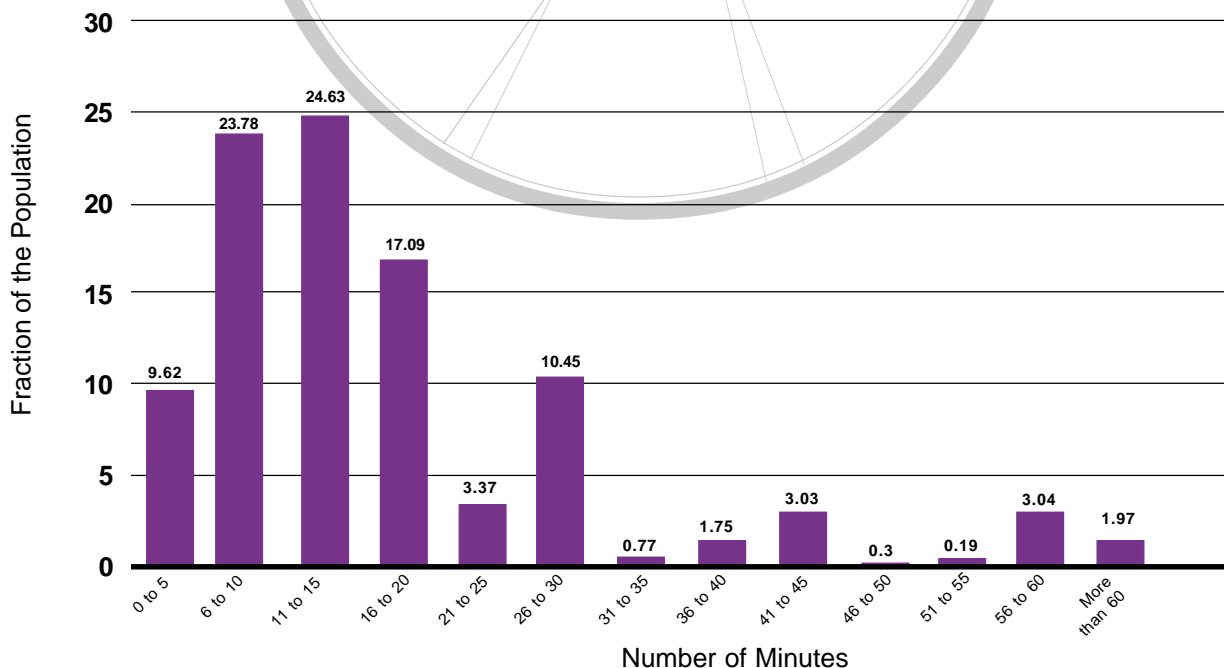
Figure IC.2 One-Way Travel Distance of Average Utility Trip



Travel Time

The distribution of the average travel time of utility trips (one-way) is depicted in Figure IC.3. Fifty-eight percent of the utility trips take 15 minutes or less, and 31 percent take between 15 minutes and half-an-hour.

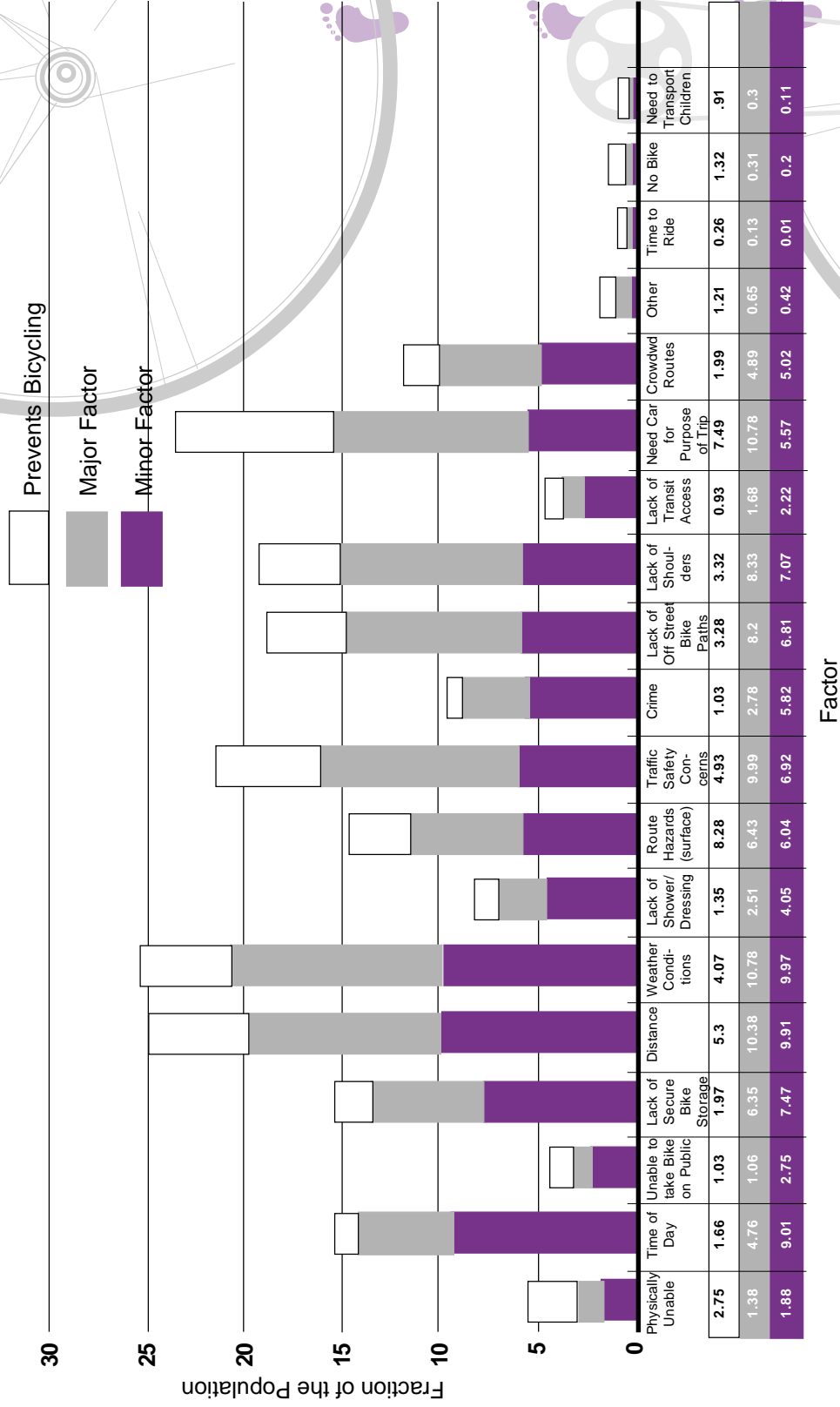
Figure IC.3 Average Travel Time (One Way) of Average Utility Trip



Obstacles to Bicycling

Fifty-eight percent of the population never considered using a bicycle for utility trips. For those who are inclined to use bicycles for utility trips, the factors that prevent them from doing so are presented in Figure IC.4. Weather conditions is the biggest factor, and “the need a car for the purpose of the trip” is a close second. Distance and traffic safety concerns are important determinants as well.

Figure IC.41 Factors that Prevent Using Bicycle for Utility Trips



Frequency of Bicycling for Utility Trips

For those who consider using bicycles for utility trips, the frequency of actual use is presented in Table IC.2.

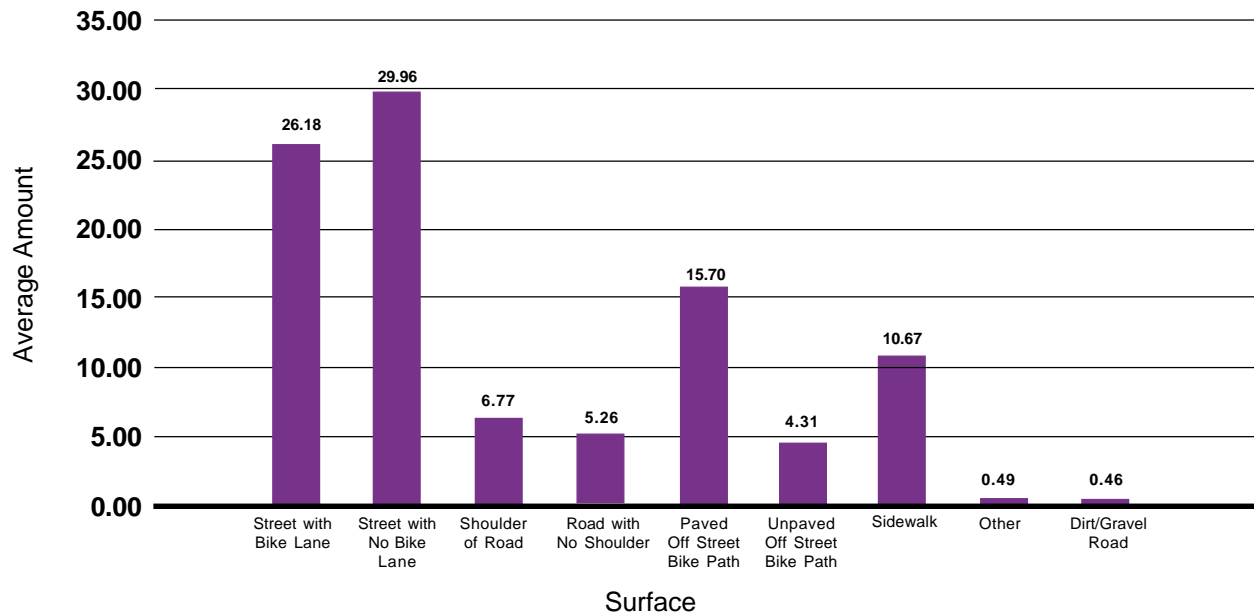
Table IC.2 Frequency of the Use of Bicycle for Utility Trip

More than once per week	Once per week	2-3 times per week	Once per month	Less than once per month	Never
8%	7%	10%	10%	21%	44%

Surfaces Used for Utility Trips

The distribution of the surfaces on which utility trips take place are given in Figure IC.5. Thirty percent of every utility trip takes place on streets with no bicycle lane/shoulder. Twenty-six percent on streets with bicycle lane/shoulders. Sixteen percent is on paved off-street bike paths, and 11 percent on sidewalks.

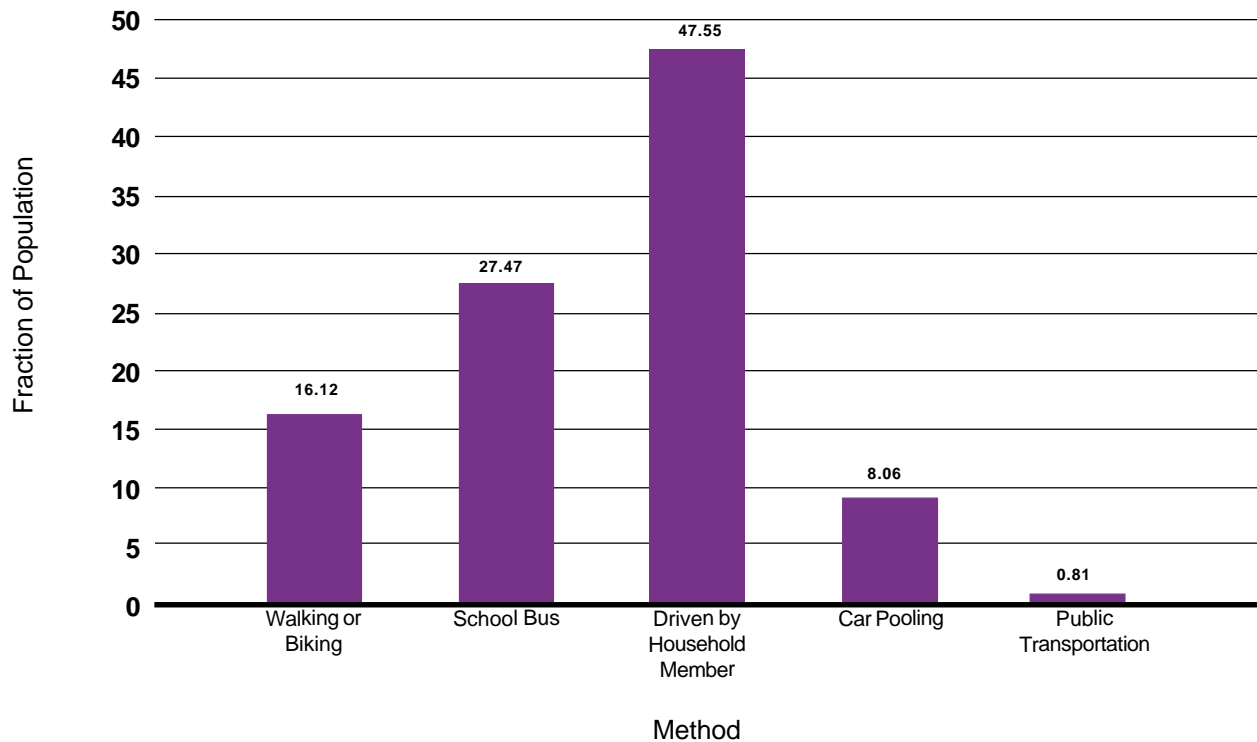
Figure IC.5 Average Amount of Utility Trip Ridden on Specific Surfaces



D. Transportation of Young Children

Twenty-five percent of the households surveyed reported having school-age children present in their household. These respondents were then asked about the method by which the youngest school-age child travels to and from school. Figure ID.1 presents the responses. Nearly half of these families drive the child to school. Children in 27 percent of the households ride a school bus, and 16 percent walk or bicycle to school. Car-pooling is the transportation method used by only 8 percent of these households. Public transportation is very uncommon statewide—less than one percent of the households indicated that their youngest school-age child used public transportation to get to school.

Figure ID.1 Primary Method of Transportation for Youngest School Age Child



Distance to Child's School

As shown in Figure ID2, just over half of these students travel 2 miles or less to get to their school. As shown in Table ID.1 below, children's transportation methods vary by the distance they must travel to school (also shown separately in figures ID3 - ID8). Seventy-six percent of those who live within 1/8 of a mile of the school walk or ride their bikes, although 17 percent of children living near the school are still driven by a family member. Predictably, the proportions walking or bicycling decline and the proportions who use other transportation methods increase as distance from school increases. Among those who live one to two miles from school, only 6 percent walk or bicycle, while 38 percent ride the school bus. Forty-seven percent of these households drive their child to school for the same distance.

Table ID.1 Transporting Children

Distance from School	Primary Method of Transporting Youngest Child to School, by Distance from School.				
	Walking or Bicycling	School Bus	Driven by Family Member	Car-Pool	Public Transportation
Within 1/8 mile	76%	6%	17%	1%	0%
1/8 to 1/4 mile	57%	3%	34%	4%	1%
1/4 to 1/2 mile	41%	11%	38%	10%	0%
1/2 to 1 mile	19%	23%	52%	6%	1%
1 to 2 miles	6%	38%	47%	7%	2%
more than 2 miles	1%	35%	54%	10%	1%

Figure ID.2 Distance to Youngest Childs School

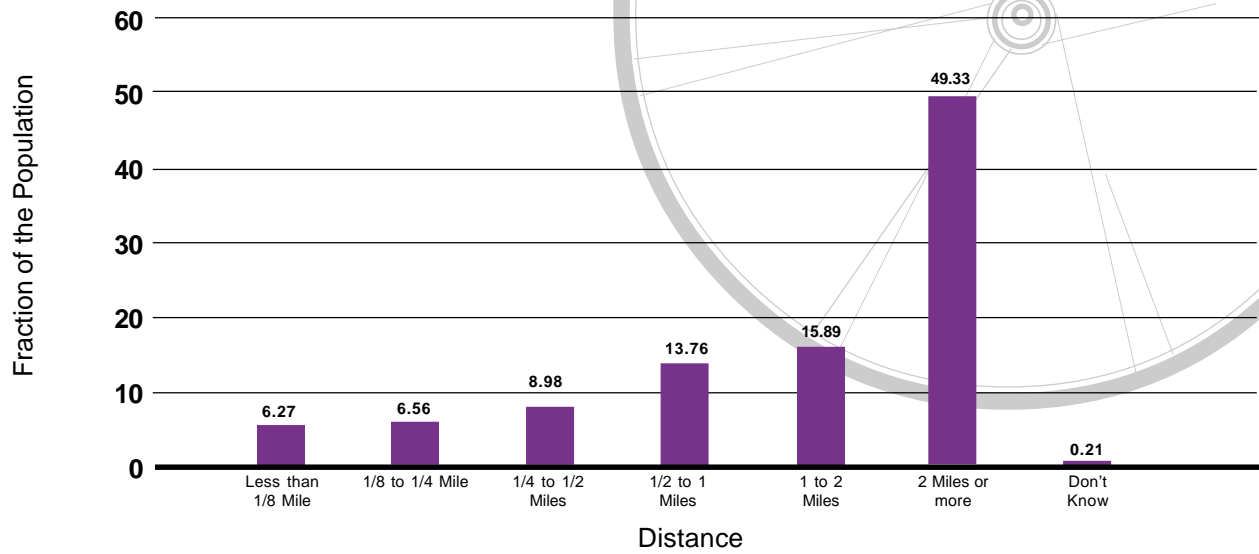


Figure ID.3 Primary Method of Transportation of Youngest Child for School Less Than 1/8 Mile

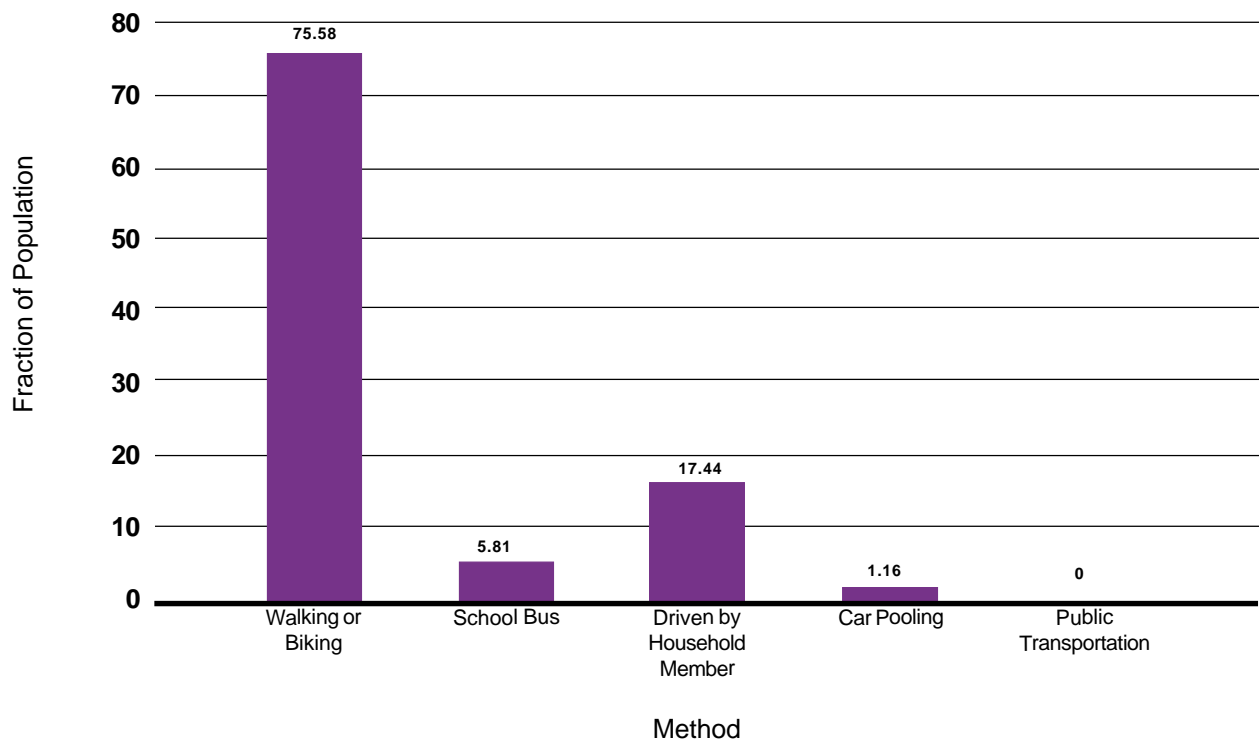


Figure ID.4 Primary Method of Transportation of Youngest Child for School 1/8 to 1/4 Mile Away

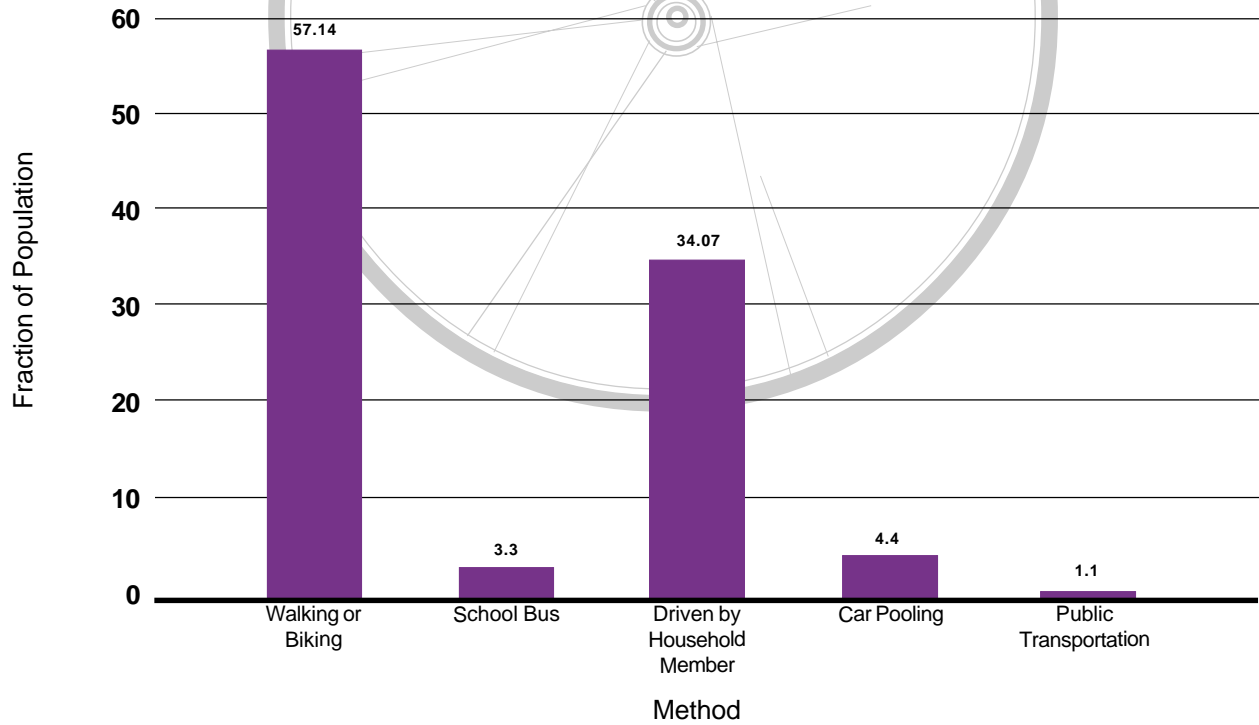


Figure ID.5 Primary Method of Transportation of Youngest Child for School 1/4 to 1/2 Mile Away

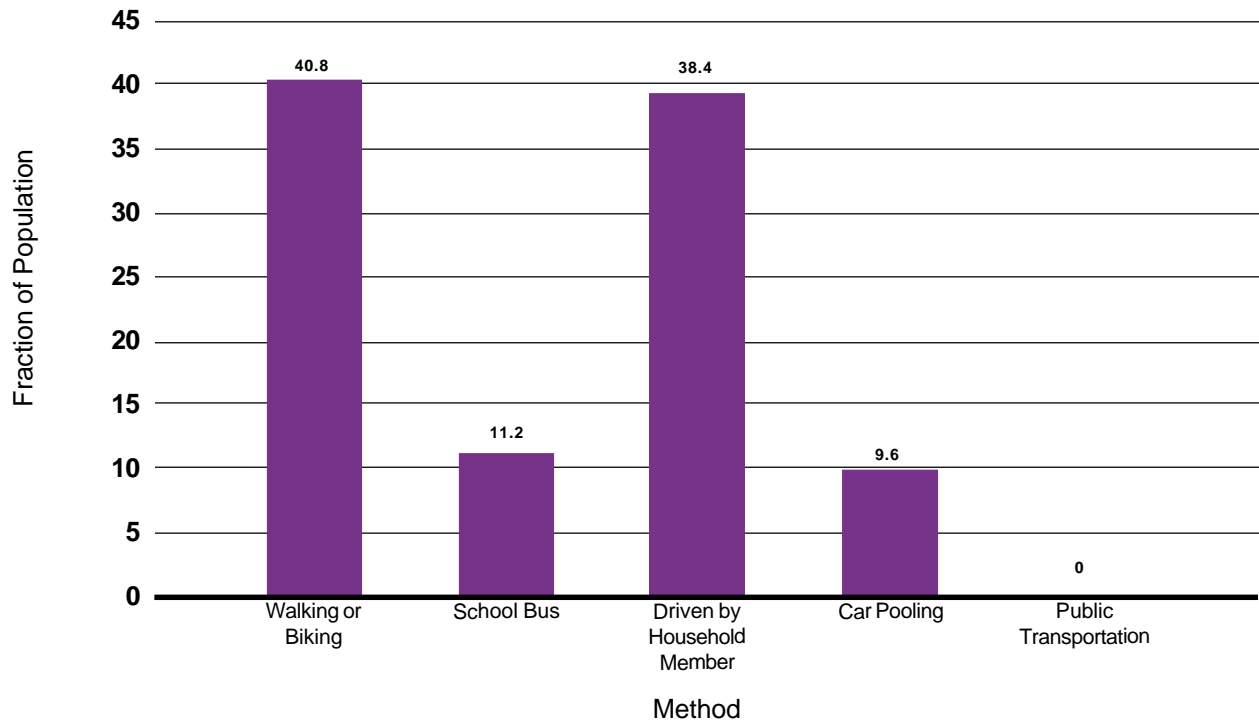


Figure ID.6 Primary Method of Transportation of Youngest Child for School 1/2 to 1 Mile Away

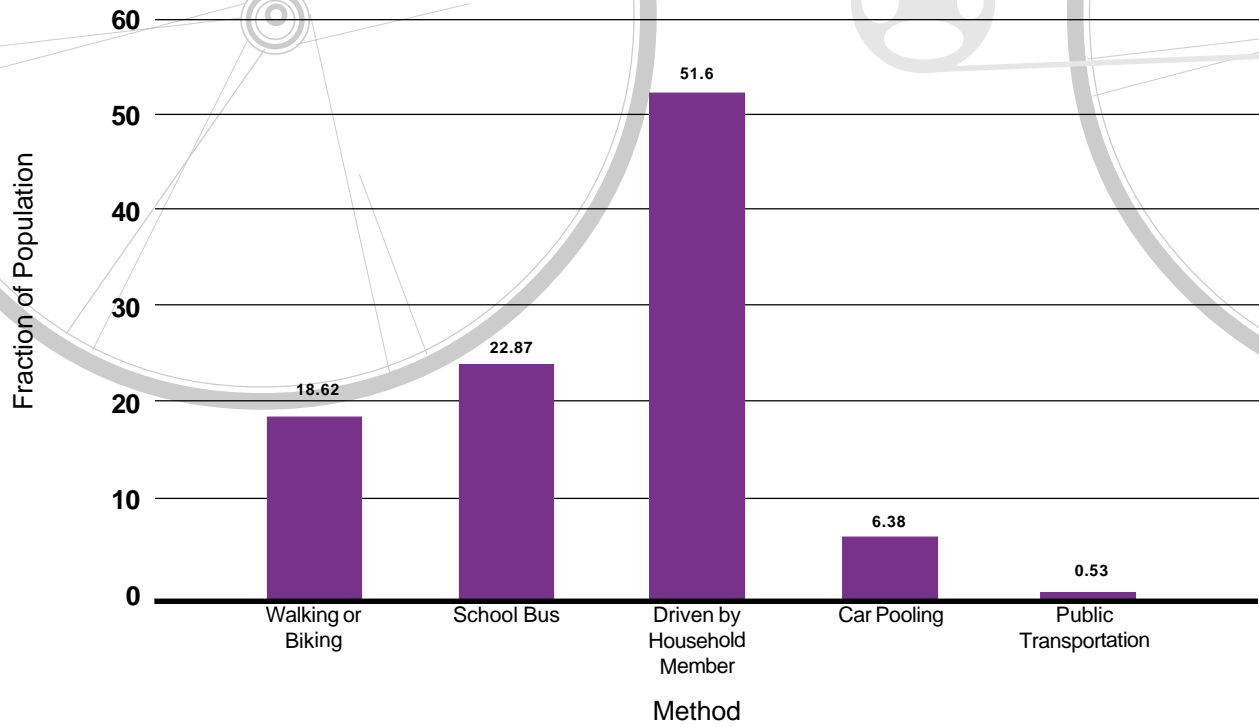


Figure ID.7 Primary Method of Transportation for Youngest School Aged Child

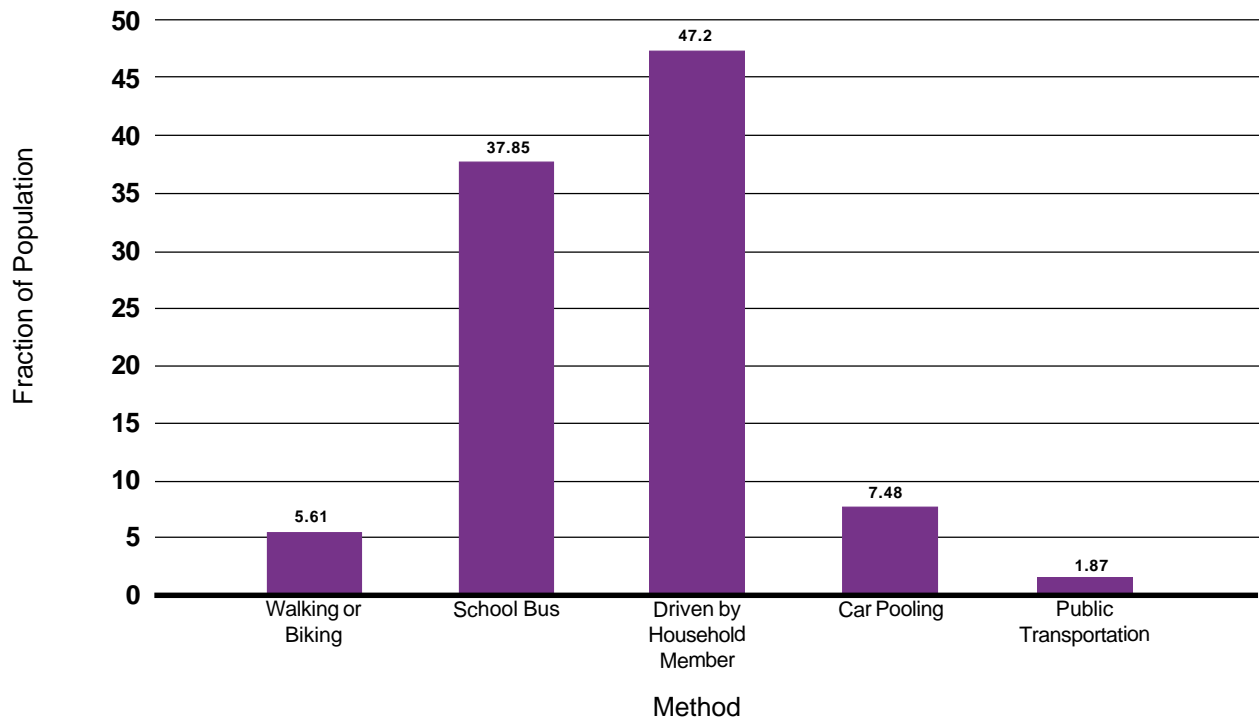
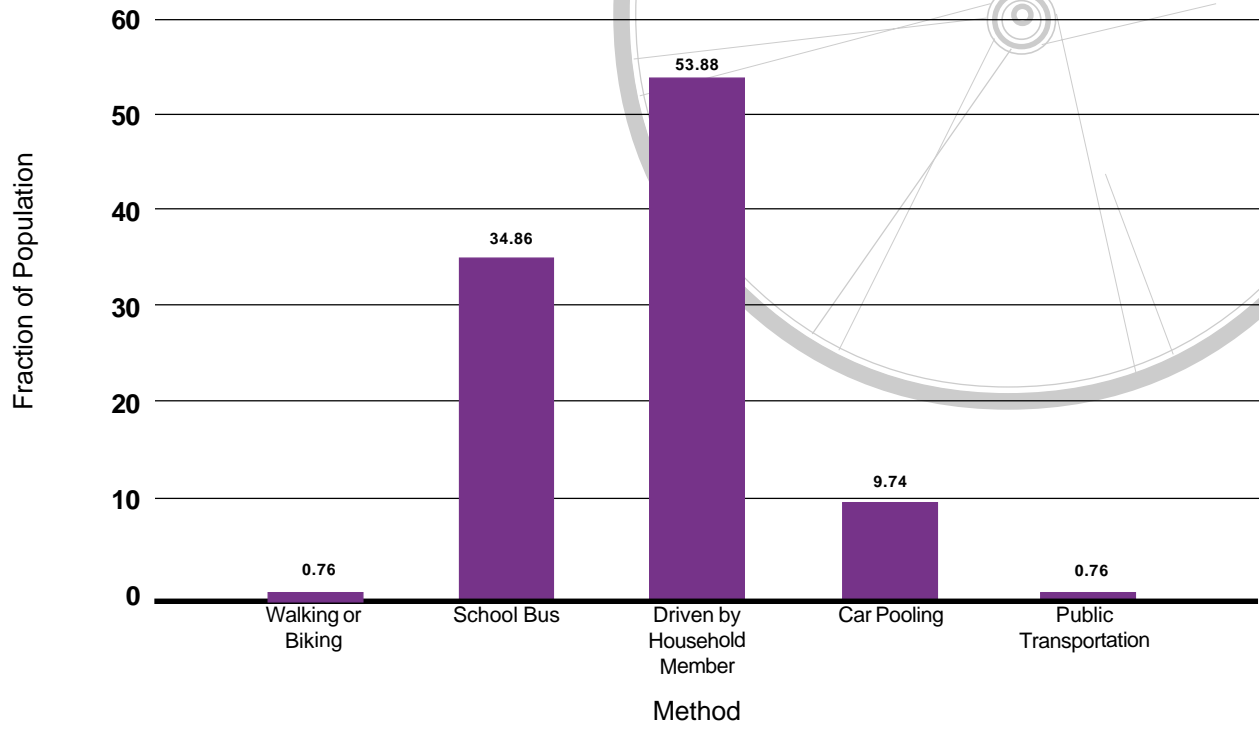


Figure ID.8 Primary Method of Transportation of Youngest Child for School 2 or More Miles Away



Use of Public Transportation

As the table above (Table ID.1) shows, public transportation is not the primary means of transporting children to school—less than 2 percent of Colorado households indicate that the youngest child uses public transportation. However, many of these children live in areas not serviced by public transportation. To get a better idea of the use of public transportation in transporting school children, we look at the transportation methods reported by households located in the urban areas with public transportation. These include households in Aurora, Arvada, Colorado Springs, Denver, Lakewood, Englewood, Northglenn, Thornton, and Westminster. For just this sample of households, the following table (Table ID.2) reports the primary method of transporting the youngest child to school. The proportion of families who have children that use public transportation is slightly higher in the urban areas, though still not a common method.

Table ID.2 Transporting Children to School

Distance from School	Primary Method of Transporting Youngest Child to School, by Distance from School for Households in the Urban Areas				
	Walking or Bicycling	School Bus	Driven by Family Member	Car-Pool	Public Transportation
Within 1/8 mile	79%	2%	19%	0%	0%
1/8 to 1/4 mile	50%	0%	41%	7%	2%
1/4 to 1/2 mile	44%	11%	31%	15%	0%
1/2 to 1 mile	21%	18%	52%	9%	0%
1 to 2 miles	9%	33%	49%	6%	3%
more than 2 miles	0%	21%	62%	14%	1%

