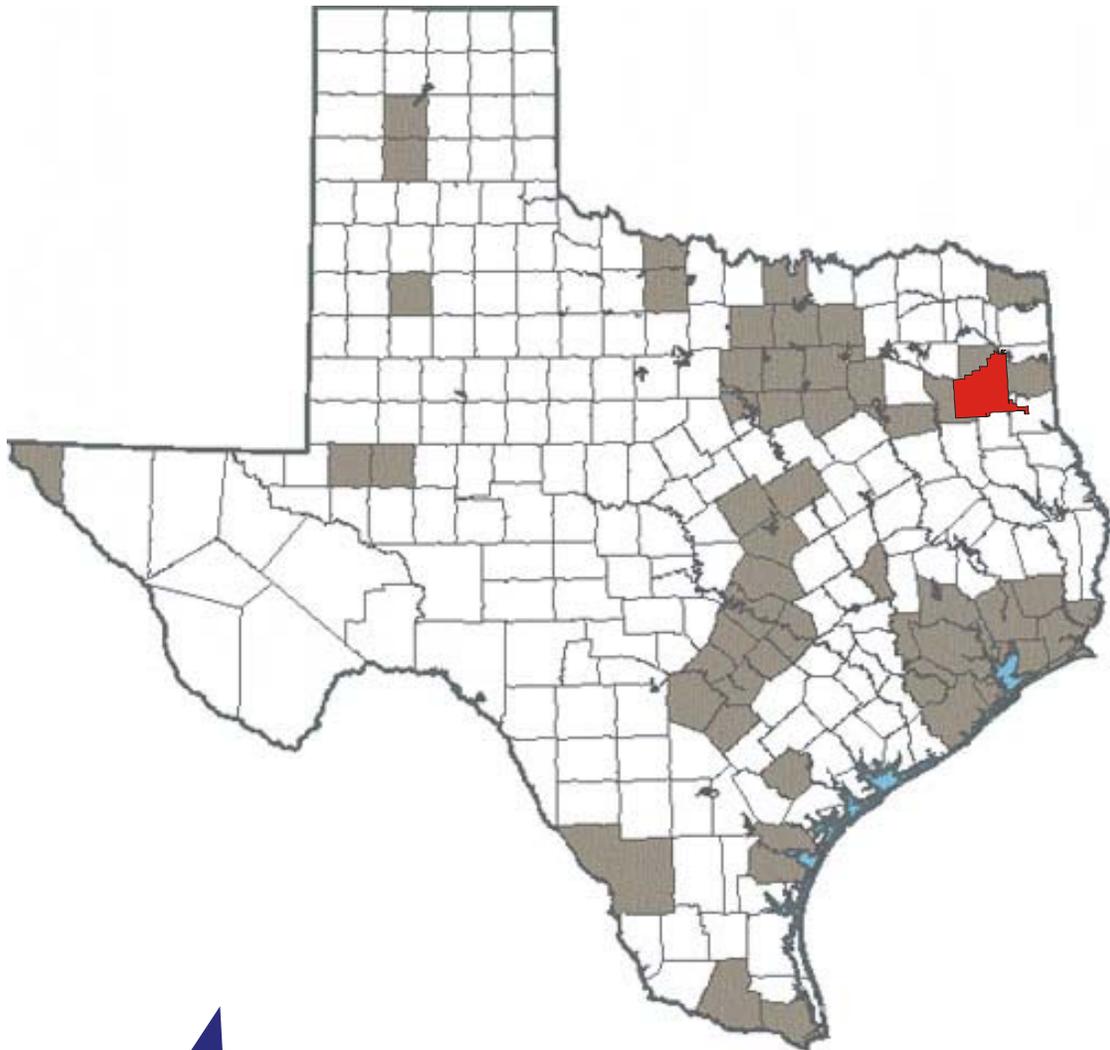


2003 Longview and Gregg County, Texas Household Travel Survey Technical Summary



Prepared by the
Texas Transportation Institute
March 2006

**2003 Longview and Gregg County Texas
Household Travel Survey
Technical Summary**

Sponsored by the
Texas Department of Transportation
In Cooperation with the
Tyler Metropolitan Planning Organization

and

U.S. Department of Transportation
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Texas Transportation Institute
The Texas A&M University System
College Station, Texas

March 2006

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INTRODUCTION

In 2003, the Transportation Planning and Programming Division (TPP) of the Texas Department of Transportation (TxDOT) funded a set of travel surveys in the Longview/Gregg County area as shown in Figure 1. The area surveyed included the counties of Gregg, Rusk, Harrison, and Upshur. This report only presents data for the Longview/Gregg County area. The purpose of these surveys was to provide information on the characteristics of travel into, out of, and within the Longview/Gregg County area. These surveys measure the amount and patterns of travel for a typical weekday during the school year.

To better understand different elements of travel, the surveys performed in the Longview area include households, commercial vehicles, an external station survey, and the collection of travel time and delay on facilities within the area. This report presents a summary of findings from the household travel survey. Results from the external survey and the commercial vehicle survey are reported separately.

The household survey sample design is based on obtaining travel information from a predetermined number of households within certain ranges of household income and household size. The desired number of survey households in each cell is not proportionate to the estimated number of households in the Longview/Gregg County area with those characteristics. Rather, the number of households to be surveyed in each cell is based on the total estimated number of households in the area and the expected number of trips those households will make in a typical day.

The survey design is based on a desired level of accuracy of +/- 10 percent with a confidence level of 90 percent for the total person trips in the area (the area includes all five counties shown in Figure 1). Table 1 shows the percentage of households surveyed in the Longview/Gregg County area stratified by household size and income and the number of households for 2000 from the 2000 census.

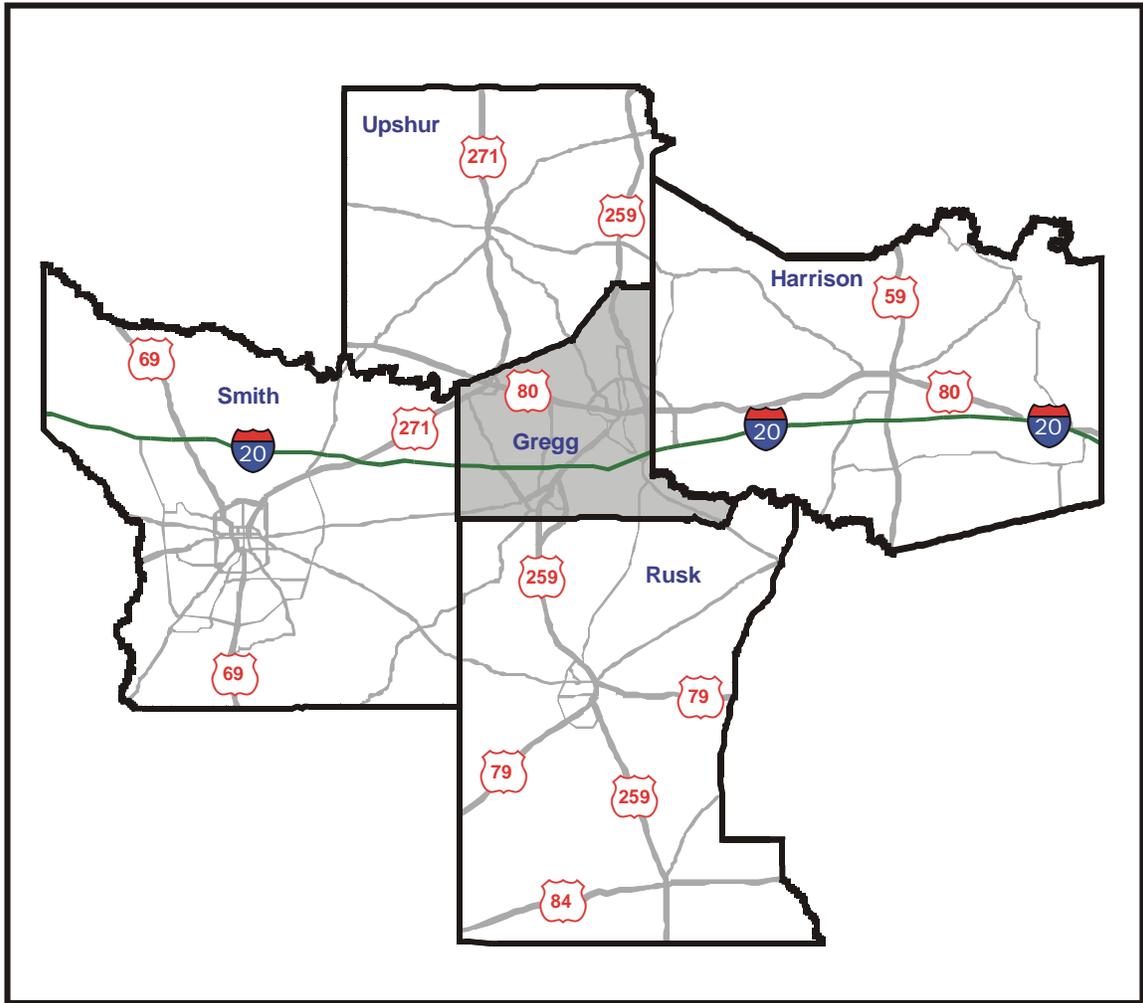


Figure 1. Household Survey Area.

Table 1. Survey and Census Households Stratified by Household Size and Income.

Income Range	Household Size					
	1	2	3	4	5+	Total
Percent of Surveyed Households						
\$0 to \$9,999	3.10%	2.98%	1.15%	0.57%	0.57%	8.37%
\$10,000 to \$19,999	2.98%	6.65%	1.83%	1.26%	0.69%	13.41%
\$20,000 to \$34,999	4.24%	5.96%	2.87%	2.75%	2.18%	18.00%
\$35,000 to \$49,999	2.87%	6.20%	5.85%	5.16%	3.56%	23.64%
\$50,000 +	2.64%	10.89%	9.98%	8.94%	4.13%	36.58%
Totals	15.83%	32.68%	21.68%	18.68%	11.13%	100.00%
Estimated 2003 Number of Households						
\$0 to \$9,999	2,956	1,095	509	282	308	5,150
\$10,000 to \$19,999	2,768	2,028	826	428	453	6,503
\$20,000 to \$34,999	2,670	3,555	1,532	1,001	975	9,733
\$35,000 to \$49,999	1,331	2,747	1,189	877	813	6,957
\$50,000 +	1,476	4,792	3,170	3,277	1,724	14,439
Totals	11,201	14,217	7,226	5,865	4,273	42,782

HOUSEHOLD SURVEY RESULTS

This survey represents a snapshot of household demographics and travel for an average weekday in the fall of 2003. The information contained in this report is based on data collected from travel diaries completed for all occupants of 872 households located in Longview and Gregg County on their specified day of travel.

Key Points Regarding Household Survey Data

- The data represents an average weekday in the fall of 2003.
- The data were tabulated based only on responses of persons who live in surveyed households. Persons living in group quarters, such as nursing homes, correctional facilities, or dormitories, or in households without phone service were not surveyed.
- The data are for persons of all ages unless otherwise noted.
- The data does not include non-household-based travel such as commercial vehicles or tourists or business people staying in hotels.
- The estimated population and number of households is based on expanded survey data and may be different from estimates developed by other agencies.

Important Findings of the Survey

In the Longview Area on a Typical Weekday:

- almost 94 percent of all trips were made in a vehicle;
- of the household population who traveled, 64 percent drove a vehicle, 30 percent rode as a passenger in a vehicle, 3 percent rode in a school bus, 2 percent either walked or rode a bicycle, and less than 1 percent used public transportation;
- just over 16 percent of the total household population did not travel;
- typically, each person made four trips daily;
- the average vehicle trip length was 4.6 miles and took 7.3 minutes;
- the average occupancy for a vehicle was 1.8 persons; and
- households account for an estimated 1.4 million daily vehicle miles of travel (VMT).

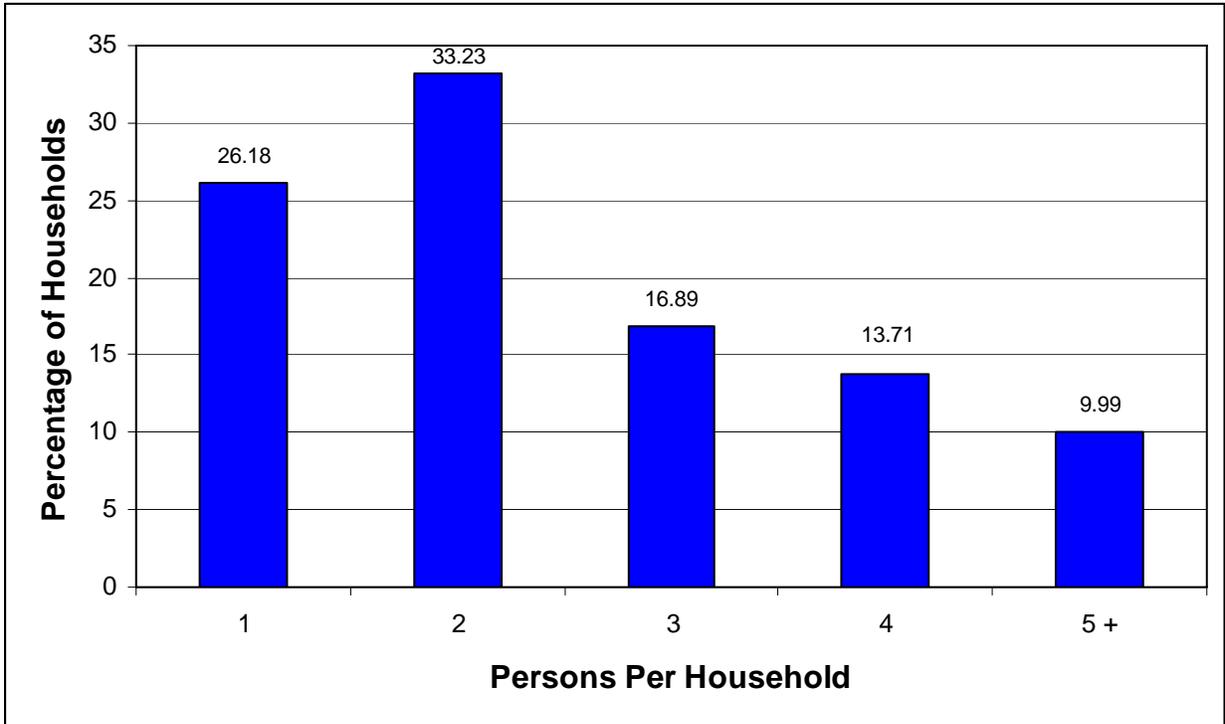
TRAVEL WITHIN THE LONGVIEW/GREGG COUNTY AREA

The following sections highlight the results of the 2003 Household Survey.

The Households

Characteristics of the household influence travel behavior. For example, household size, income, vehicles available, number of persons employed, or family life cycle can affect the amount and time of travel. For this report, households include those people living in residences other than group quarters.

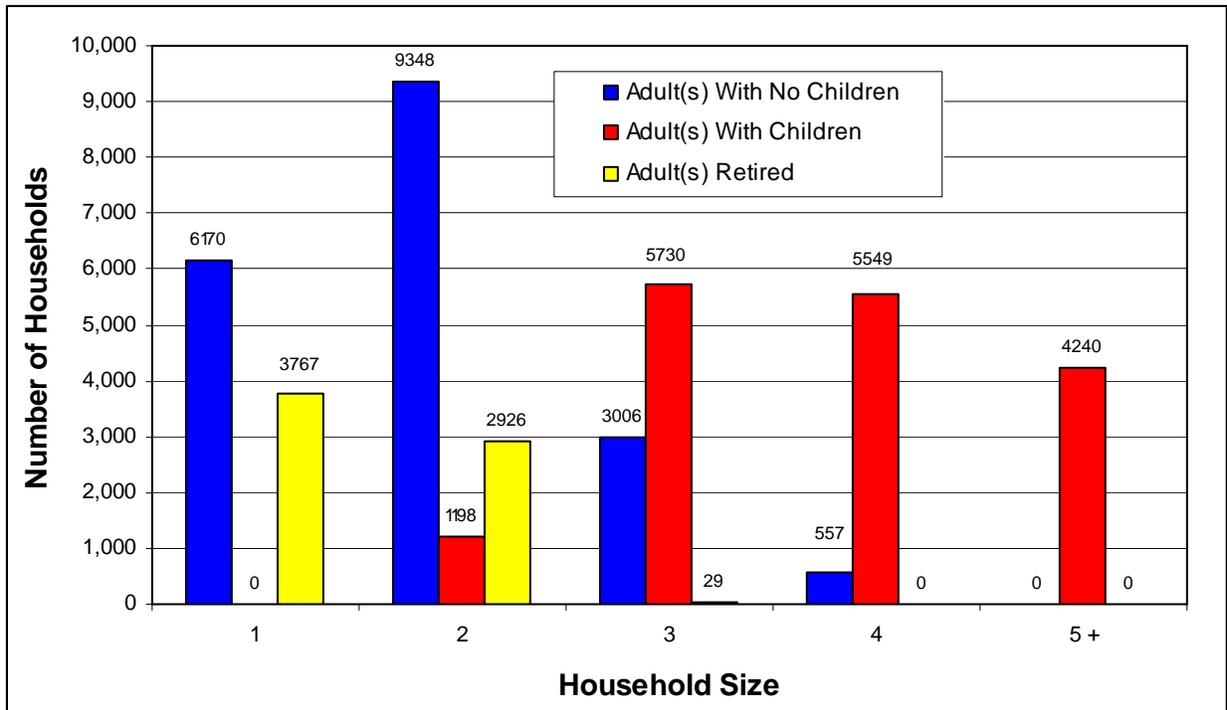
Average household size in the Longview/Gregg County area in 2003 was estimated to be 2.52 persons per household down from 2.54 in 2000. This means that as the population grows, the number of households is increasing at a greater rate since there are fewer persons per household. Because each household must make certain trips, a greater number of households generally results in an increase in the number of trips for an area. Figure 2 shows the percentage of households by household size.



Note: The data represents households within Gregg County. Source: 2003 Longview Household Survey.

Figure 2. Distribution of Households by Size.

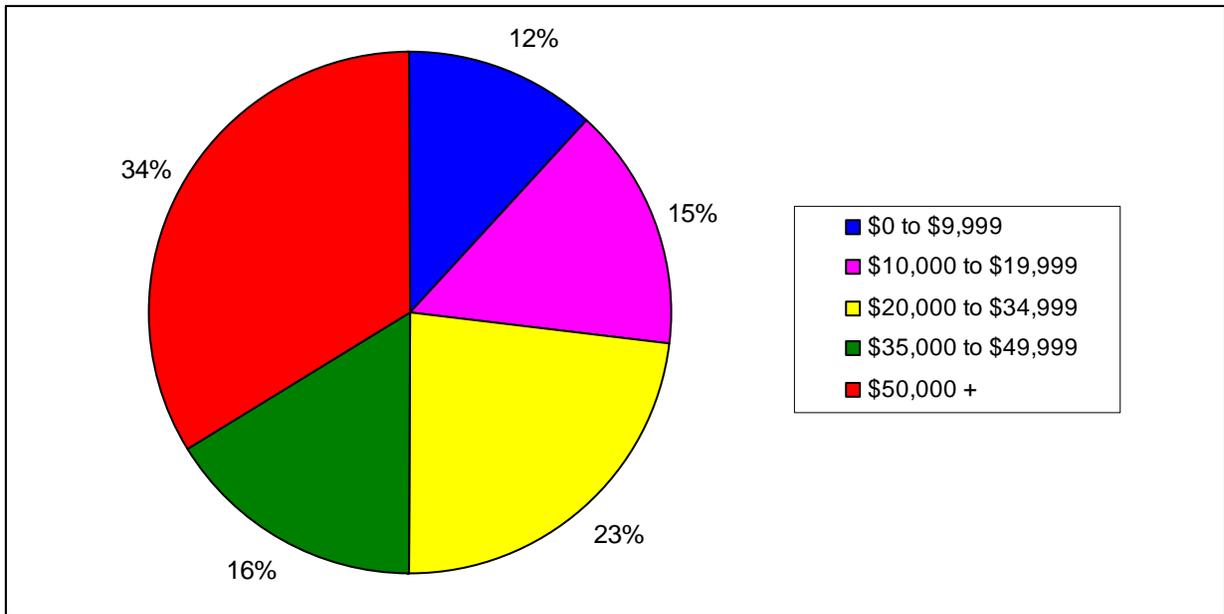
Household life cycle can influence the amount and time of travel. For example, households with children tend to make more trips on an average weekday than households with retired adults. There were 42,782 households estimated in the Longview area in 2003. Most of the households, 44 percent, had no children under the age of 18. Approximately 15 percent of the households had retired adults only (see Figure 3).



Note: The data represents households within Gregg County. The data does not include residents who did not report age. Adults are persons 18 years of age and older. Retired households contain only retired persons. If one person was retired and the other adult still employed, that household was not considered a “retired” household.

Figure 3. Household Life Cycle and Household Size.

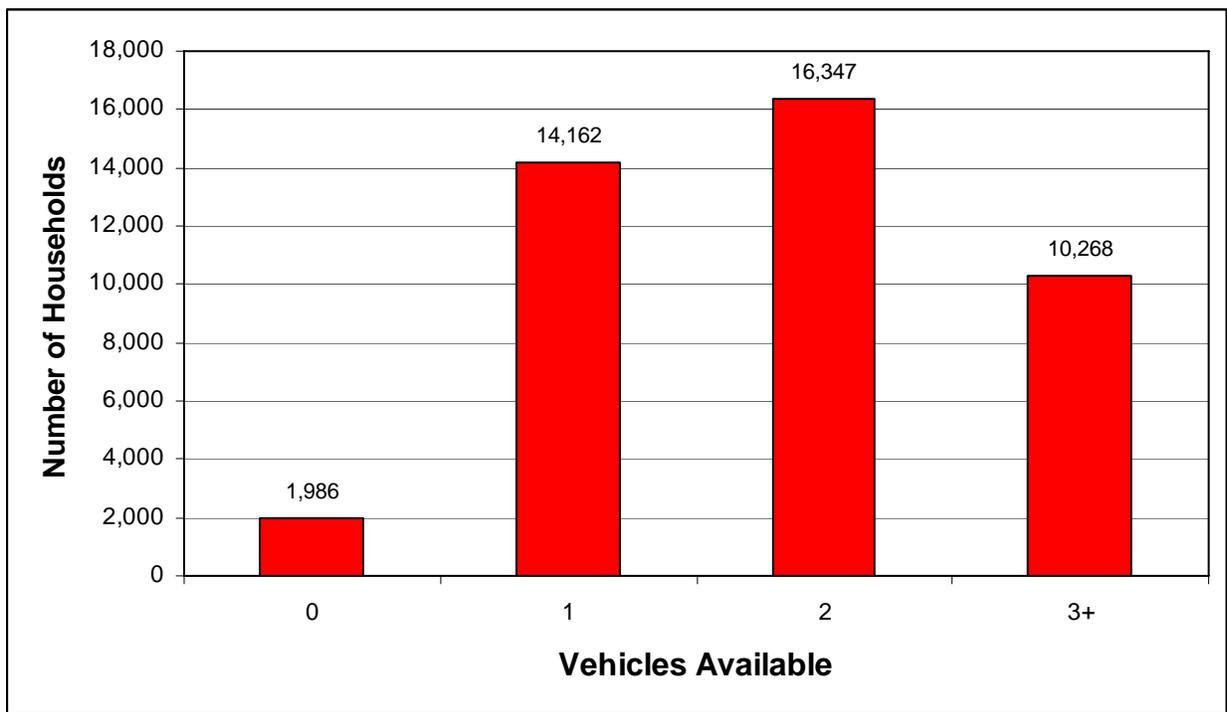
Income influences the amount of travel in that the greater the income for a household, the more money there is to cover the expense associated with travel. The survey showed that within the Longview/Gregg County area, 27 percent of the households earned less than \$20,000 in 2003 while 31 percent earned more than \$50,000. The median household income for those surveyed in 2003 was \$35,000 (see Figure 4).



Note: The data reflects households within Gregg County. Income is for 2003. Source: 2003 Longview Household Survey.

Figure 4. Households by Household Income.

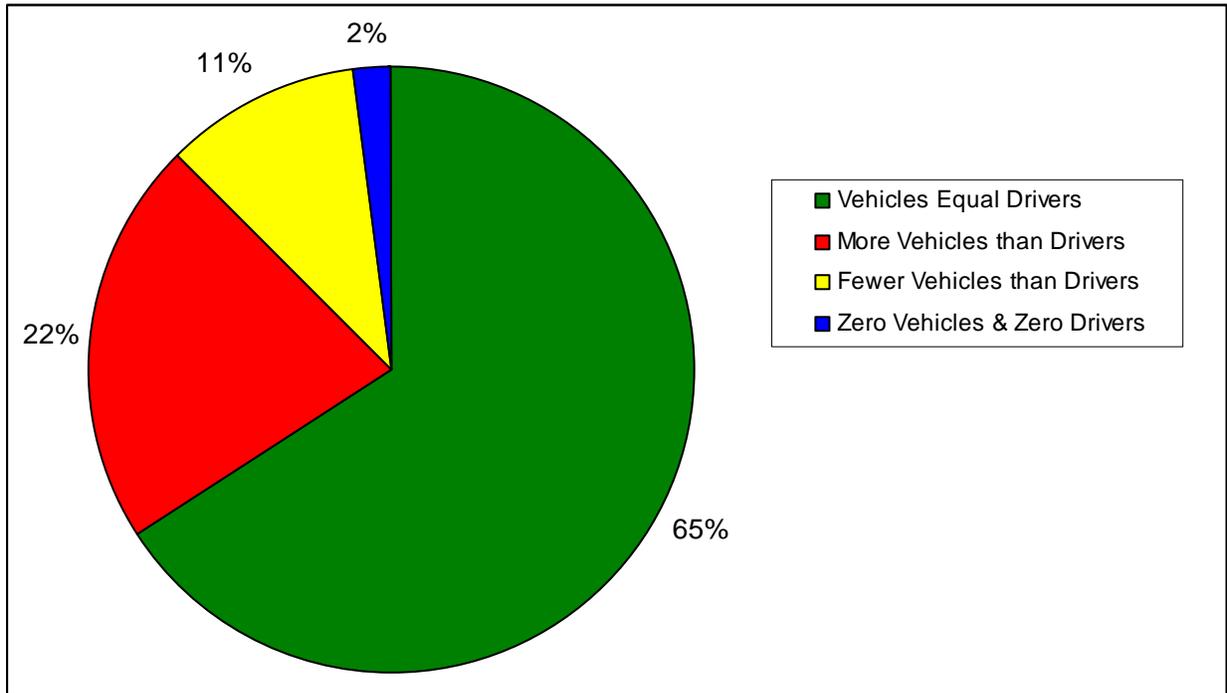
The availability of a vehicle is a major travel determinant. At the time of the survey, 95 percent of the households in the Longview area had one or more vehicles. This translates into roughly 81,286 vehicles or 1.9 vehicles per household. There were nearly 2,000 households, 5 percent, without a vehicle available. The number of vehicles per household has increased from 1.7 vehicles per household in 1990 to 1.9 vehicles per household in the 2003 survey (see Figure 5). This trend, coupled with the trend of more households, indicates an increased potential for travel. The average number of vehicles per household in the U.S. in 2001 was 1.89 (National Household Travel Survey [NHTS] 2001).



Note: For this report, a household vehicle is any motorized vehicle available to a household for travel including motorcycles, trucks, vans, automobiles, sport utility vehicles (SUVs), etc. Data represents vehicles available for travel by all households located within Gregg County. Source: 2003 Longview Household Survey.

Figure 5. Households by Vehicle Available.

Most households, 66 percent, have an equal number of vehicles and licensed drivers. An estimated 22 percent of households have more vehicles than drivers. Only 2 percent of the households have zero vehicles and zero licensed drivers. The average number of vehicles per licensed driver is 1.1 (see Figure 6).



*Note: The data represents vehicles available for travel by all households located within Gregg County.
Source: 2003 Longview Household Survey.*

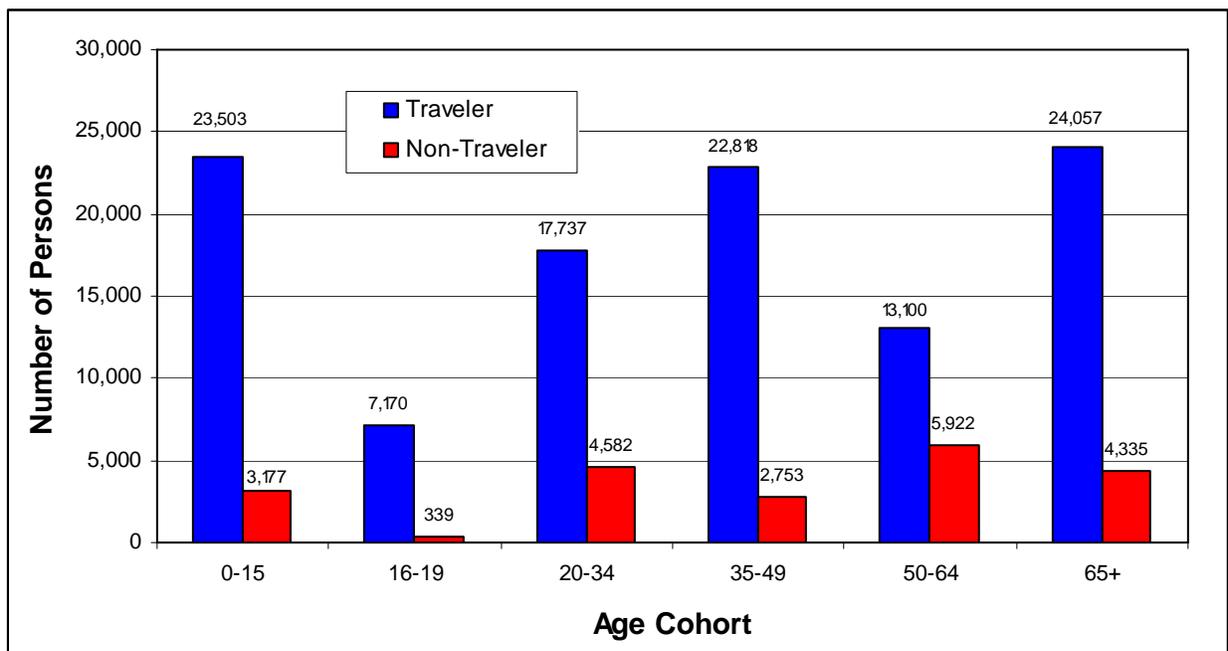
Figure 6. Vehicles and Licensed Drivers per Household.

THE TRAVELERS

Characteristics of population also influence travel behavior. For example, a person's age, sex, and employment status affect the amount and patterns of travel.

The total population in households in Gregg County in 2003 was estimated at 113,624. While most persons made at least one trip, 16 percent did not travel. The age group with the highest percentage of non-travelers, 28 percent, was those persons 65 and over. Persons in the 19 years and under age group were the most likely to travel with 90 percent making at least one trip.

With regard to differences in travel between genders, it was found that overall, men and women, were equally likely to travel. However, women between 16 and 49 years of age were more likely to travel than men of similar age (see Figure 7).



Note: The data represents household member of all ages living within Gregg County. The data does not include residents who did not report age. Source: 2003 Longview Household Survey.

Figure 7. Travelers and Non-Travelers by Age.

Employees traveling to and from work and students traveling to and from school greatly influence travel within an area. Within the Longview area, 57 percent of the persons 15 years of age and older were employed. Of these persons, the majority, 80 percent, were employed full time. A total of 9 percent of the 15+ age group were full-time students (see Table 2).

Table 2. Employment and Student Status.

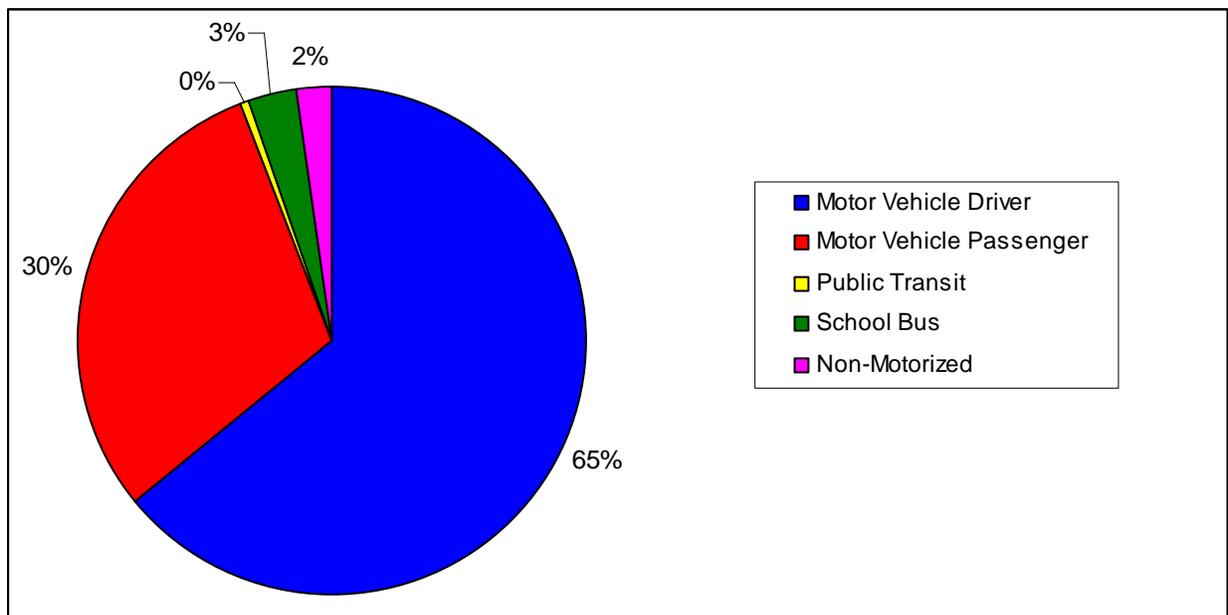
Residents 15+ Years of Age	Number of Persons	Percent of Persons
Employed Full Time	40,726	45.6%
Employed Part Time	10,133	11.4%
Full Time Student	7,974	8.9%
Retired	13,506	15.1%

Note: The data represents persons 15 years of age and older living within Gregg County. Persons who did not report age or employment/student data are not included. Source: 2003 Longview Household Survey.

HOW PEOPLE TRAVELED

The mode by which people traveled included walking, bicycling, public transit, school bus, taxi, and household vehicle. By far the most common mode of travel was a vehicle with more than 94 percent of the trips made as either a vehicle driver or passenger. School buses accounted for 3 percent of the trips and walking and biking just 2 percent of the trips. Less than 1 percent of the trips were made by public transit.

Automobiles and pick-up trucks dominate the vehicle types, accounting for 72 percent of all household vehicles (43 percent automobiles and 29 percent pick-up trucks). SUVs constitute about 17 percent of the vehicles (see Figure 8). Nationally, pick-up trucks account for 18 percent of the vehicles (NHTS, 2001).



Note: The data represents all household trips within Gregg County. Source: 2003 Longview Household Survey.

Figure 8. Mode of Travel.

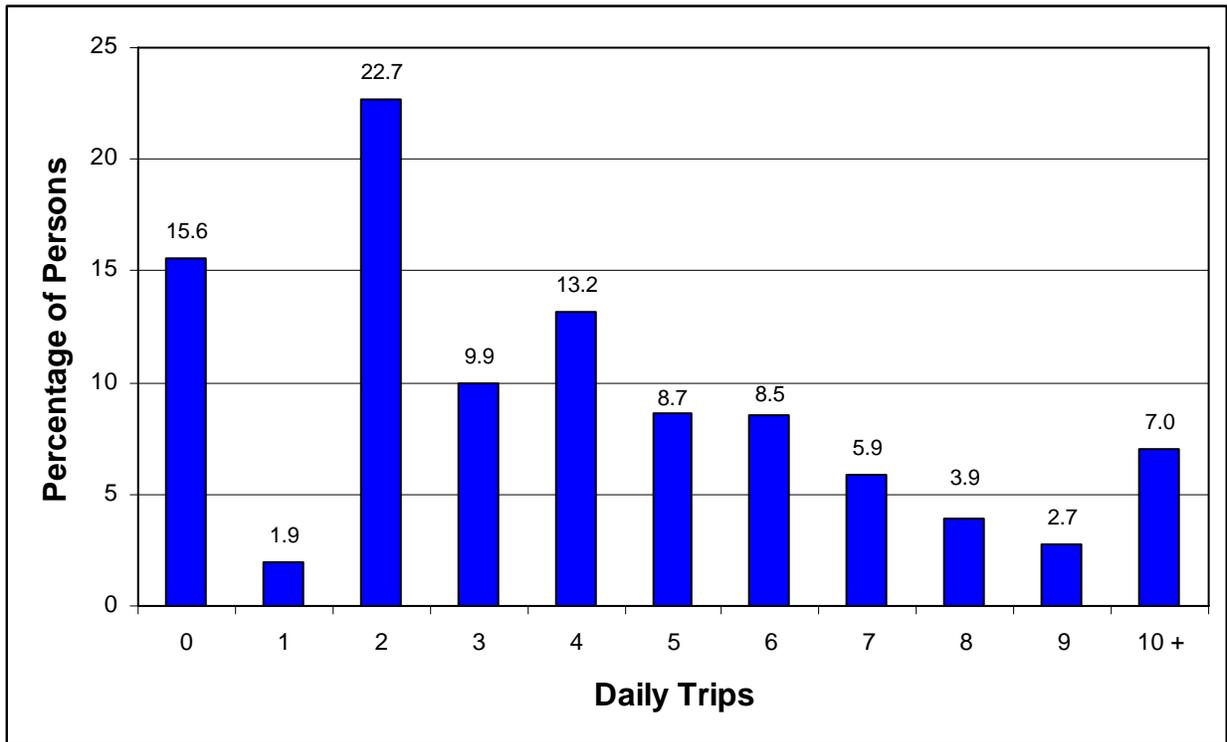
The average vehicle occupancy in 2003 for all vehicle trips was 1.8. The trend in vehicle occupancies has generally decreased since the 1960s due to factors such as smaller household size and increasing vehicle availability.

THE AMOUNT PEOPLE TRAVELED

The amount of travel can be reported in different ways including the number of trips, the trip distance and trip duration, and VMT. These measures can be described using area totals or on a per-trip, per-person, or per-household basis. For this report, travel represents an average weekday during the Fall of 2003. A trip is defined as the movement of one person of any age from one place to another by any means of travel.

VMT is one measure of how much people travel. VMT in this report represents only household travel in vehicles and only travel within Gregg County. It does not include commercial vehicles, public transportation, school buses, or other forms of motorized travel not associated with the movement of persons living in a household. In 2003 the daily vehicle miles traveled (DVMT) within the Longview area was 1.4 million. In 2003, the DVMT in Longview represented an average of 12 miles for each person and 32 miles for each household. According to the 2001 NHTS, the national DVMT per person was just under 37 miles and was 58 miles per household. It should be noted that these numbers are based on the expanded household survey and may not agree with final estimates produced by the travel demand model for the Longview area.

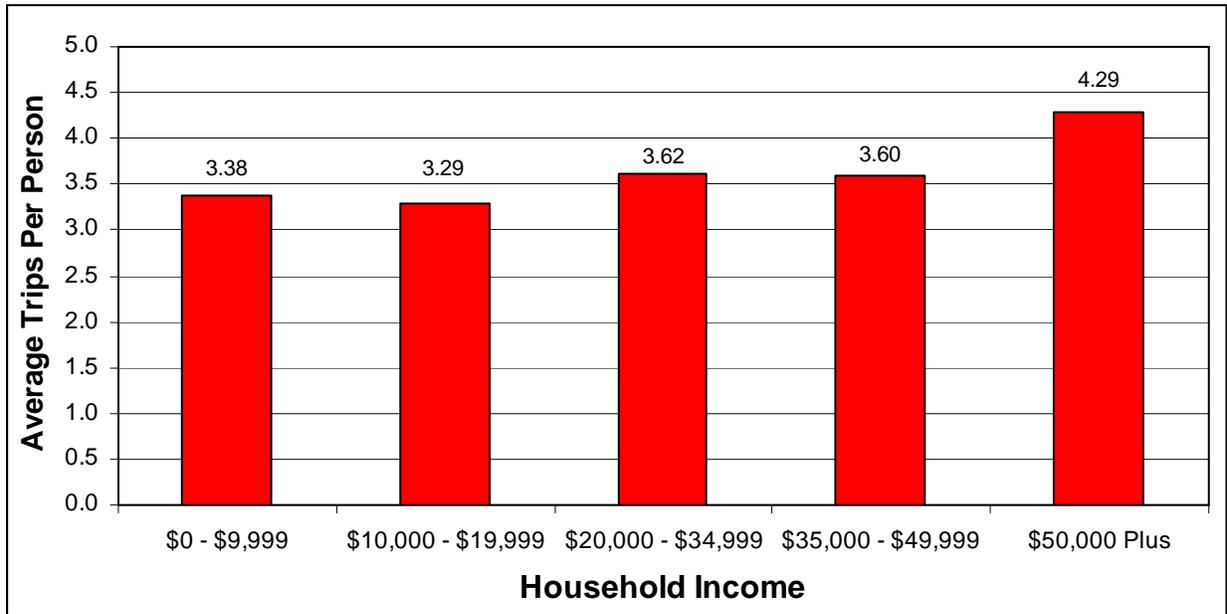
The number of trips people make each day varies. The most frequent amount of travel was two trips per day with almost 23 percent of the persons making two trips. Just over 28 percent of the people made six or more trips a day. The average number of trips per day per person in Gregg County was four in 2003, the same as four trips per day for the U.S. in 2001 (see Figure 9).



Note: The data represents all internal trips made within Gregg County by all persons in households. Source: 2003 Longview Household Survey.

Figure 9. Daily Trips per Person.

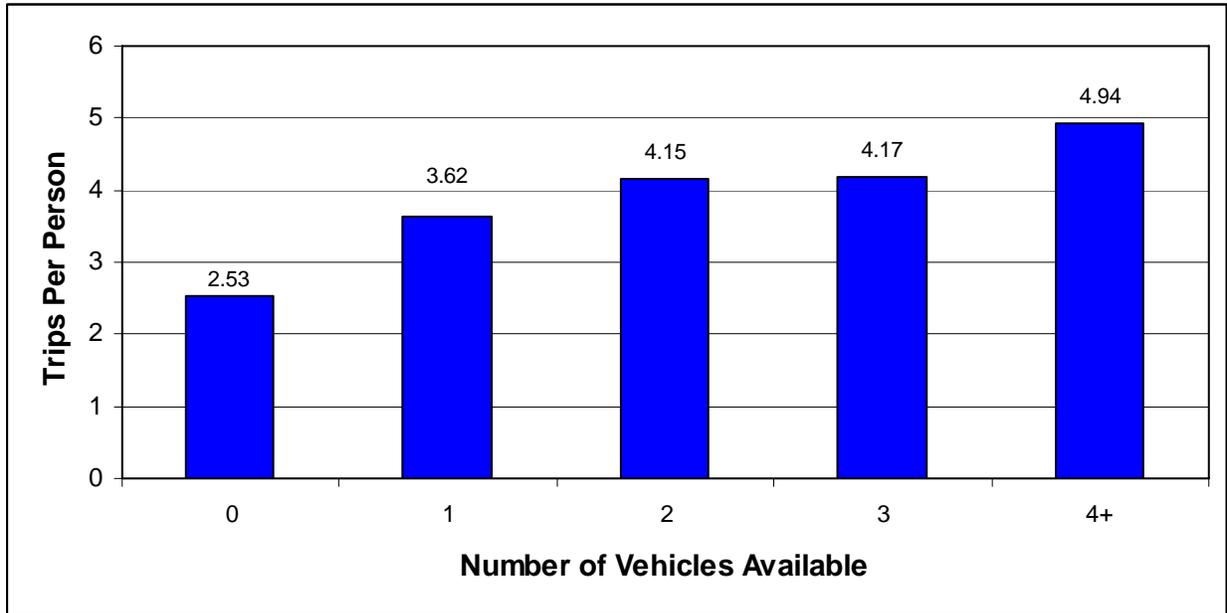
Income influences the amount of travel. Trip rates tend to increase with higher household income even in households of the same size. Within the Longview area, people living in households with incomes of \$50,000 per year or more made 45 percent of the trips while people in households with incomes less than \$10,000 per year accounted for less than 8 percent of the trips (see Figure 10).



Note: The data represents all households in the Longview area. Source: 2003 Longview Household Survey.

Figure 10. Daily Trips per Person by Household Income.

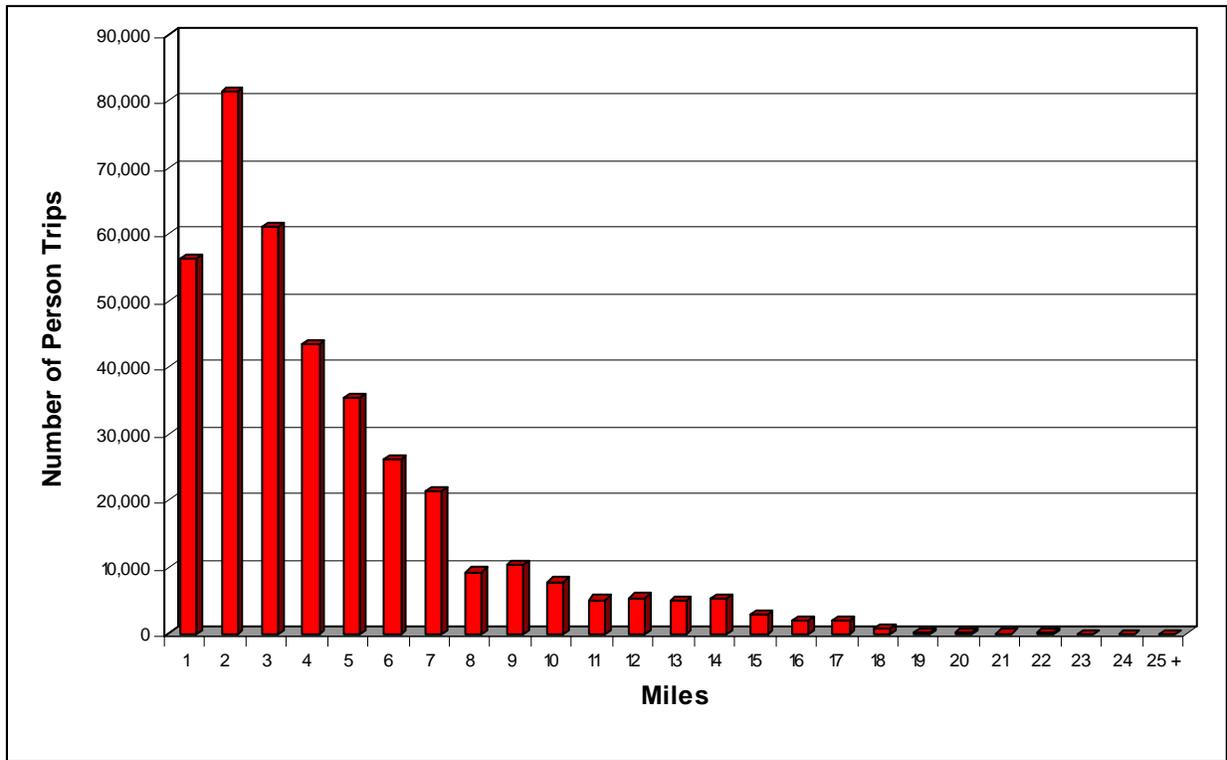
The number of vehicles available to a household also increases the amount of travel. Those households without a vehicle made significantly fewer trips than those with vehicles. The average person in the Longview area made four trips per day (see Figure 11).



Note: The data represents trips made by all persons living in households within the Longview area. Source: 2003 Longview Household Survey.

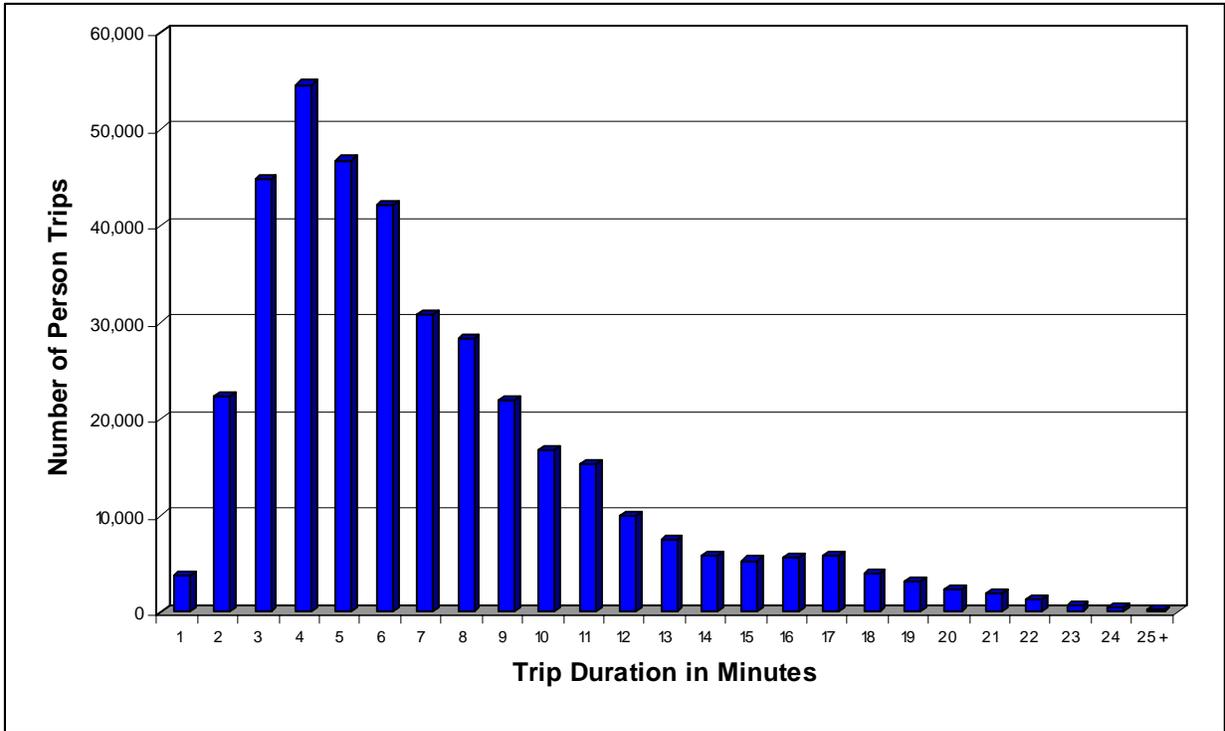
Figure 11. Daily Trips per Person by Vehicles Available.

Most trips were relatively short in terms of distance and duration. More than-half of the trips, 52 percent, were three miles or less, and 80 percent of the trips were six miles or less in length. As with trip distance, the number of trips decreased as travel time increased. Nearly 82 percent of the trips were under 10 minutes in length. The average trip length was 4.4 miles and took about seven minutes (see Figures 12 and 13).



Note: The data represents all trips made within the Longview area by all persons living in households. Source: 2003 Longview Household Survey.

Figure 12. Daily PersonTrips by Distance.

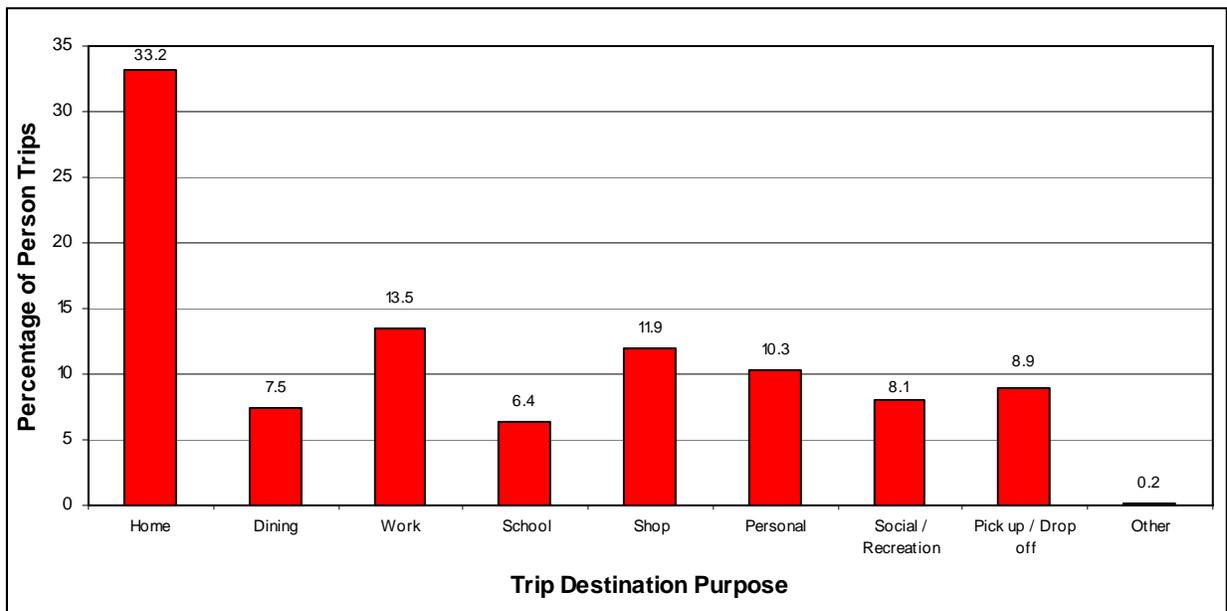


Note: The data represents all trips made within the Longview area by all persons living in households. Source: 2003 Longview Household Survey.

Figure 13. Daily Trips by Duration.

WHY PEOPLE TRAVELED

Trips are made for a variety of purposes such as work, school, shopping, personal business, recreation, and others. For the purpose of this report, the destination of the trip is used to define the purpose of the trip. The most common destination is home accounting for 33 percent of the trips. Work was the destination for nearly 14 percent of the trips while shopping, personal business, and social/recreation accounted for 12 percent, 10 percent, and 8 percent of the trips, respectively (see Figure 14).



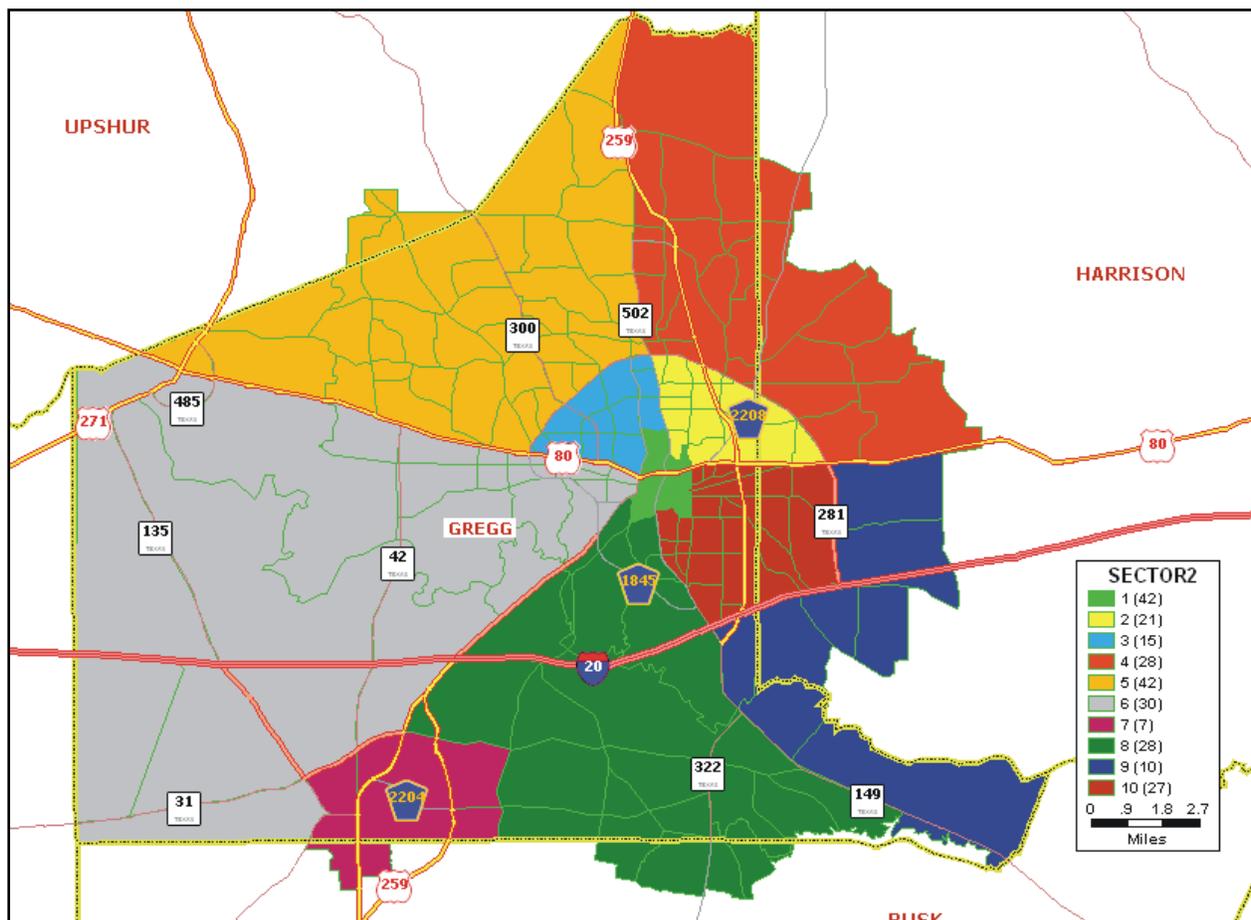
Note: The data represents all trips made within Gregg County by persons living in or visiting households. Source: 2003 Longview Household Survey.

Figure 14. Person Trips by Destination Purpose.

WHERE PEOPLE TRAVELED

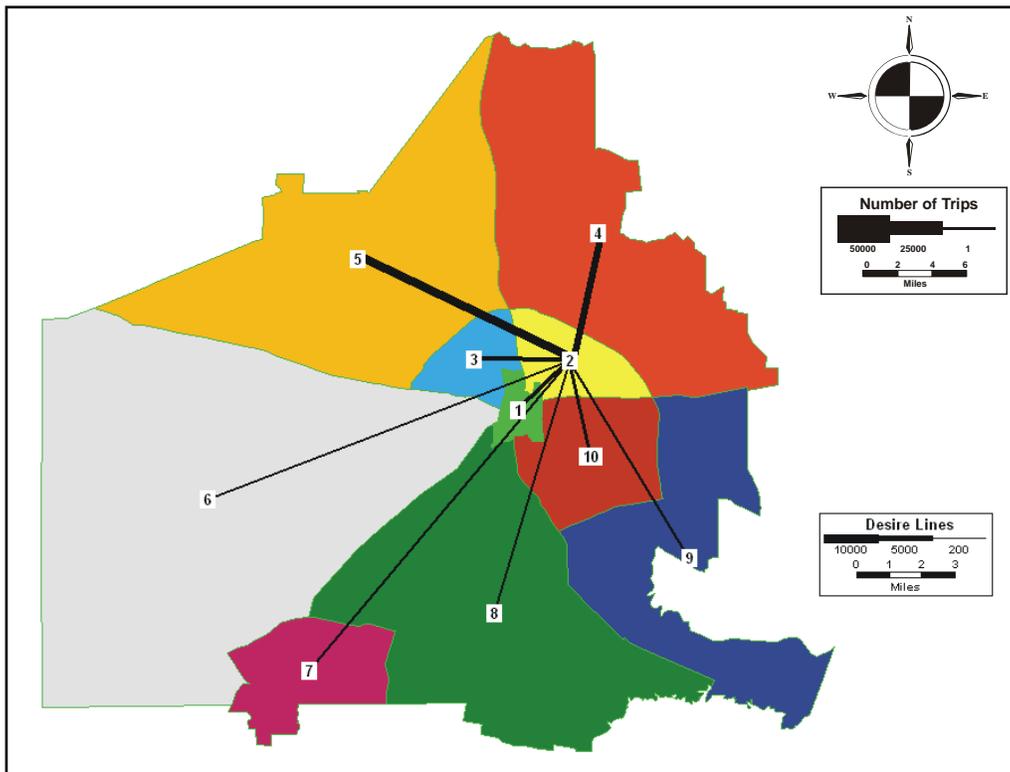
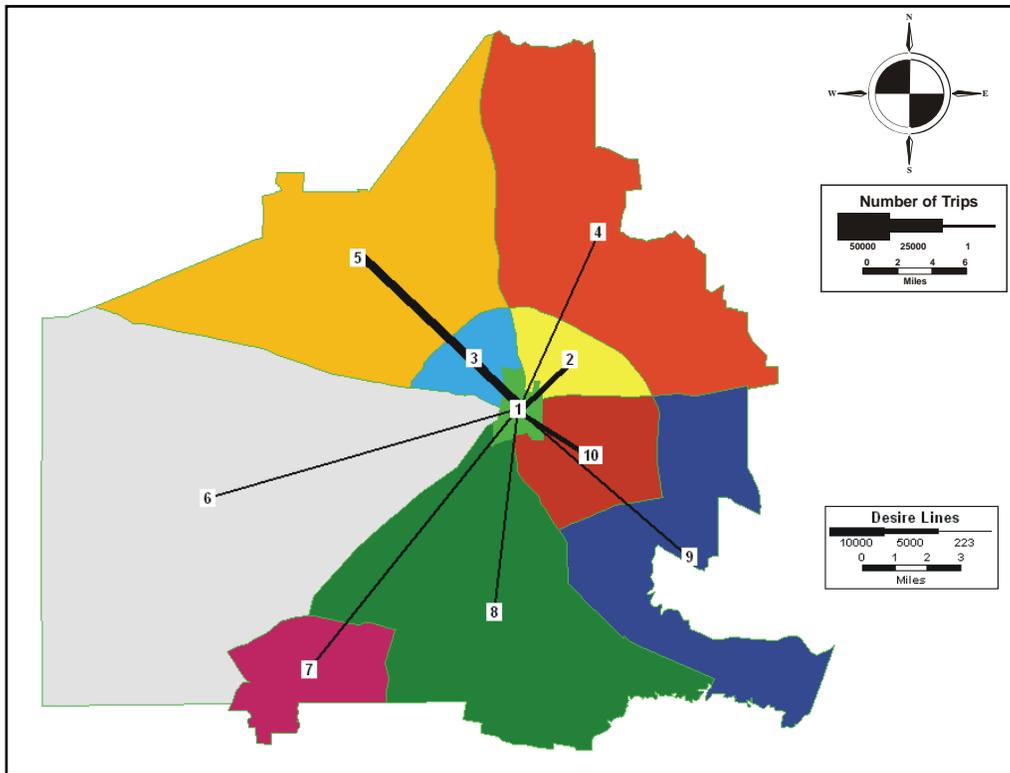
Where people travel within Gregg County is revealed by the geographic distribution of trips. These trip movements are highly related to where people live and work. The Longview/Gregg County study area was divided into 10 sub-areas to illustrate the movement of people within the county.

Most of the person trips between areas, 34 percent, were between Area 5 and the other nine areas. The major travel movement occurred between Area 3 and Area 5 accounting for over 8 percent of the person trips within the County (see Figures 15 and 16).



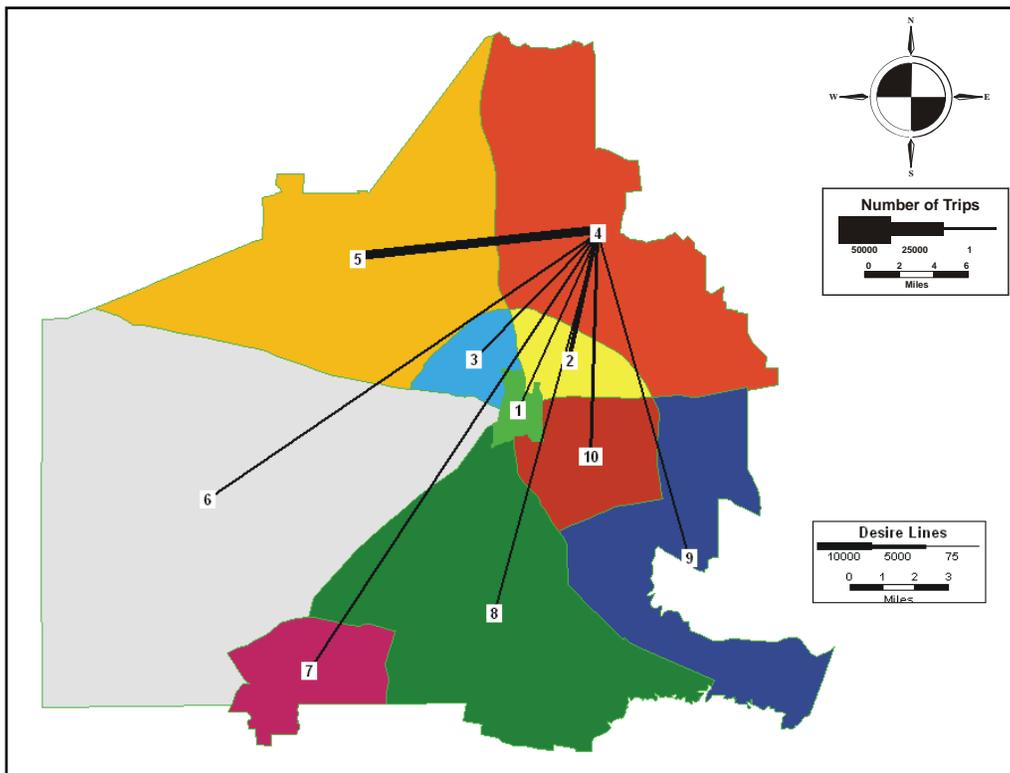
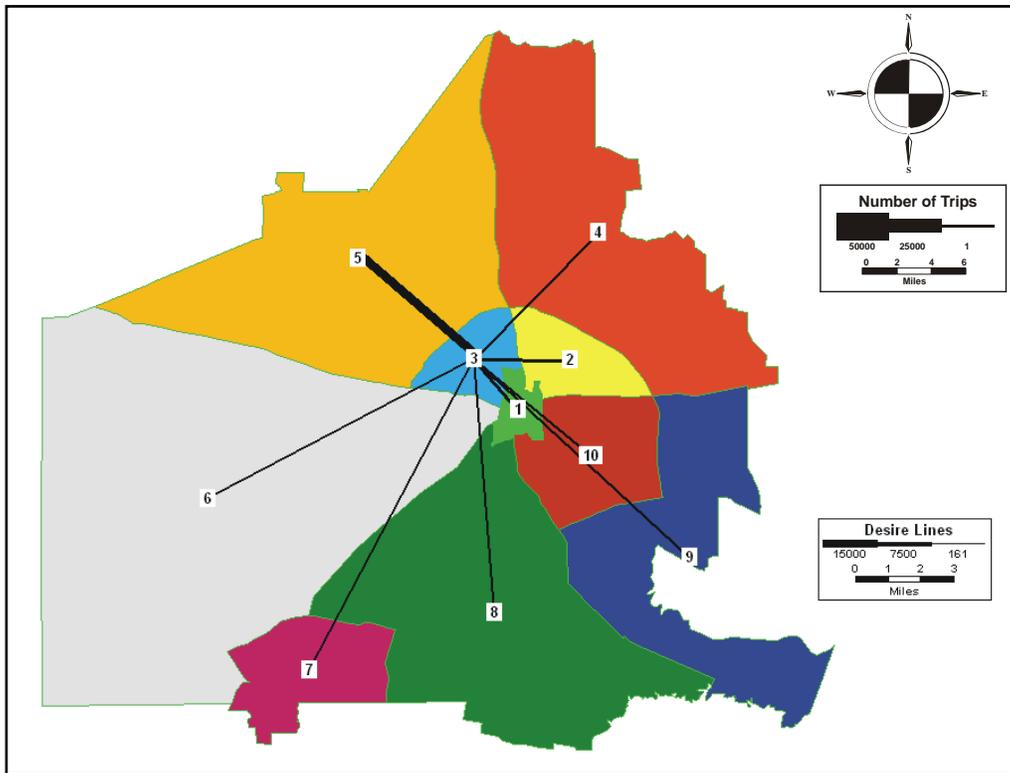
Source: TTI Graphic.

Figure 15. Sub-Areas Within the Longview Study Area.



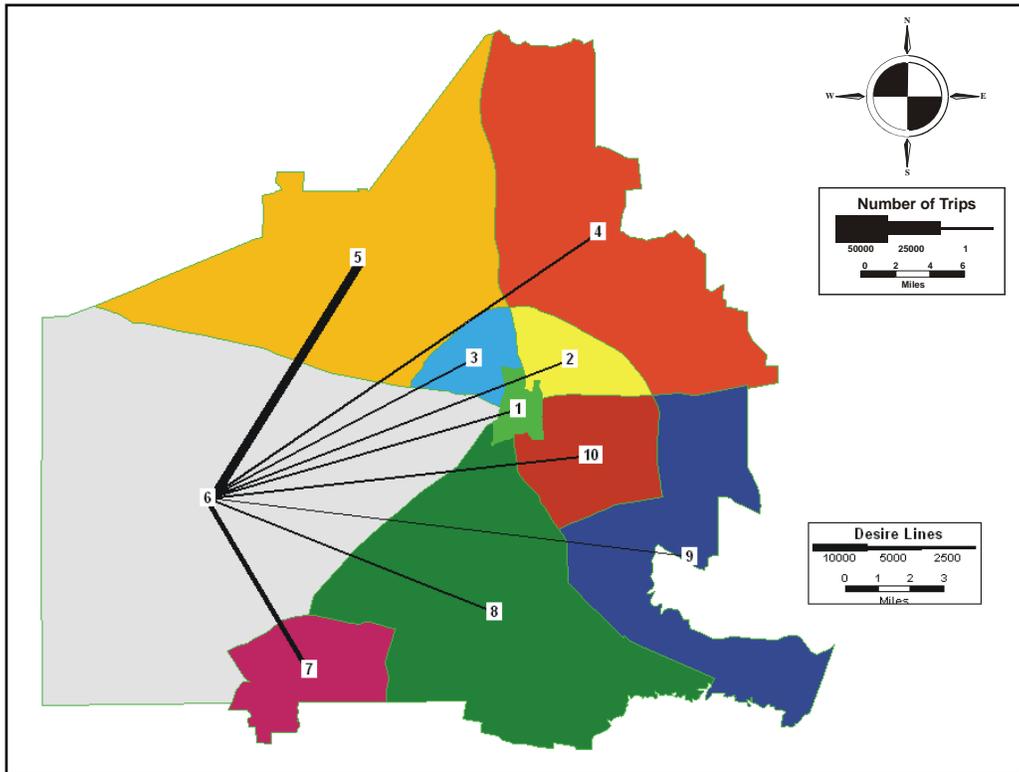
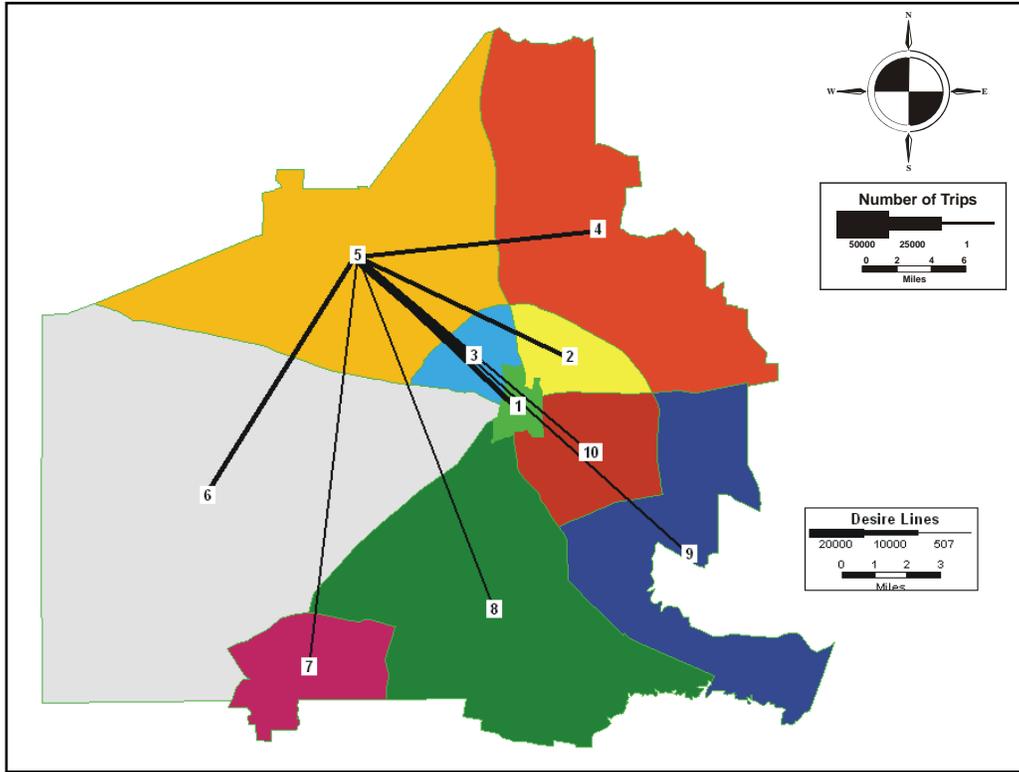
Source: TTI Graphics.

Figure 16. Number of Daily Person Trips between Sub-Areas.



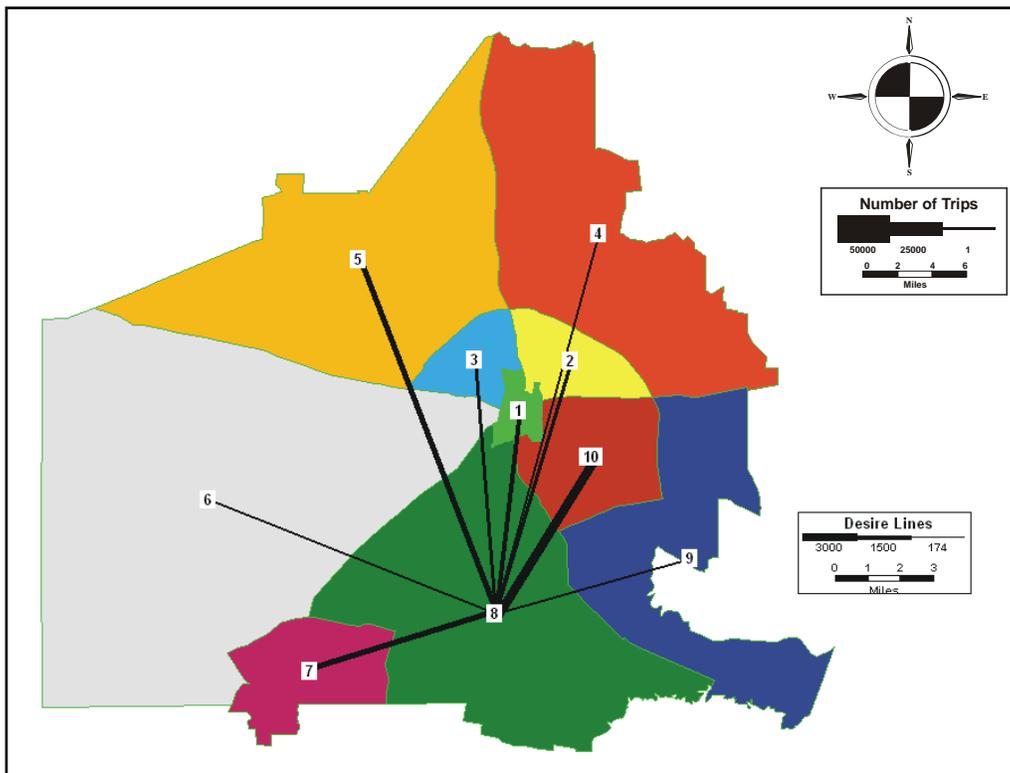
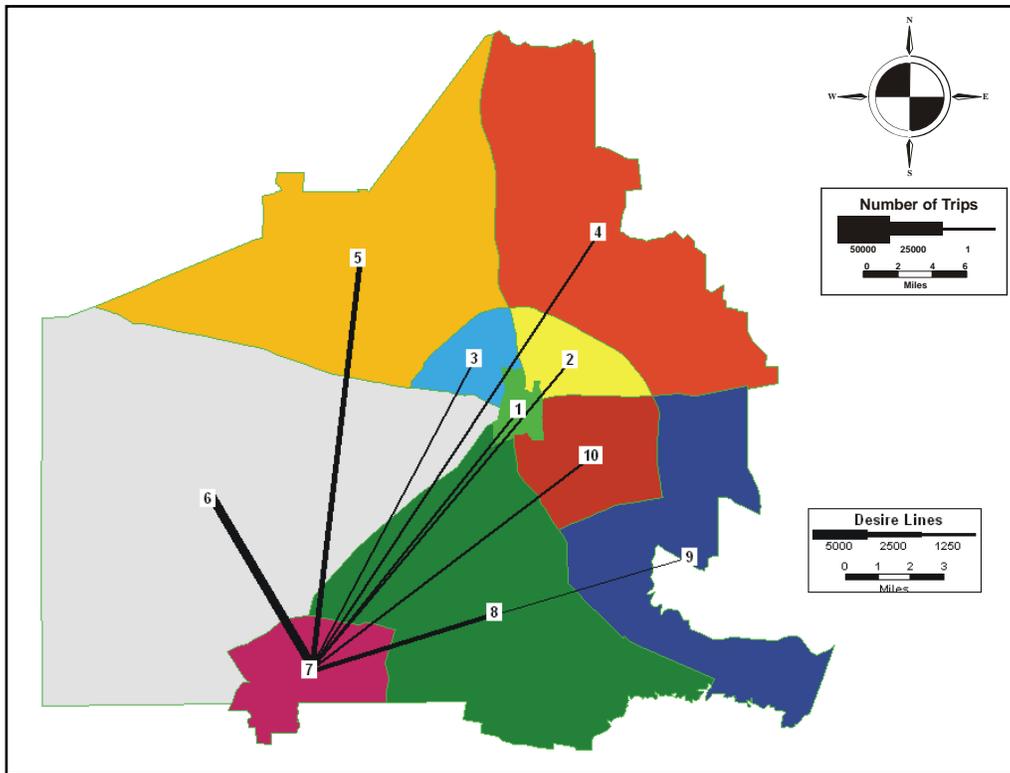
Source: TTI Graphics.

Figure 16. Number of Daily Person Trips between Sub-Areas (continued).



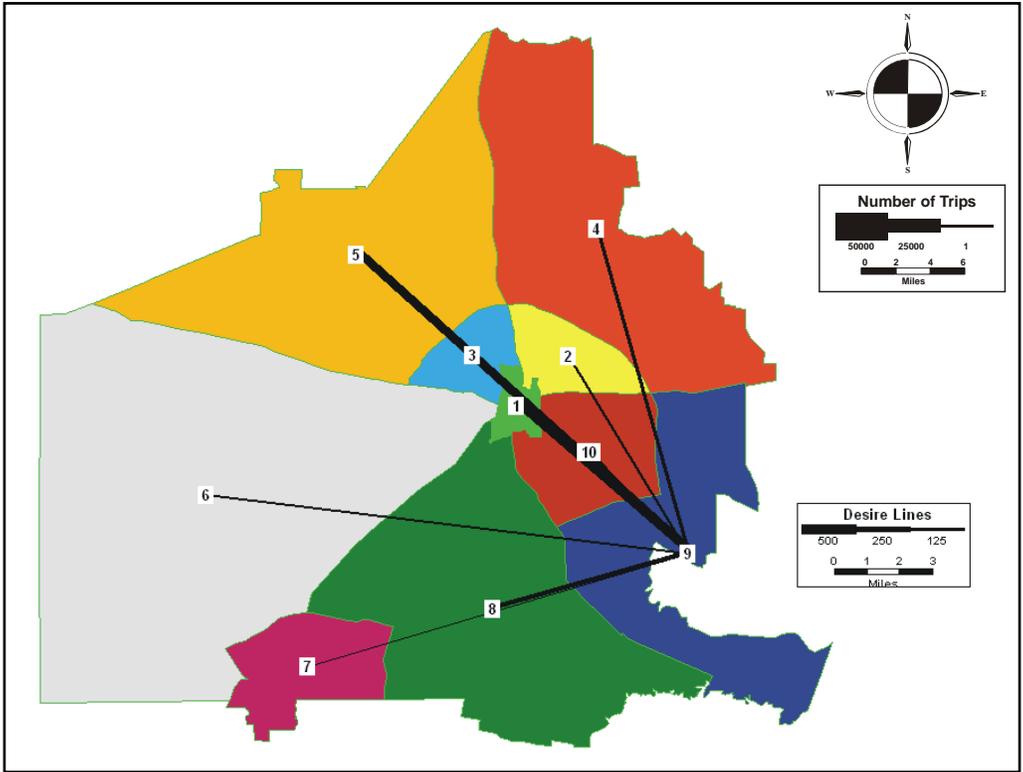
Source: TTI Graphics.

Figure 16. Number of Daily Person Trips between Sub-Areas (continued).



Source: TTI Graphics.

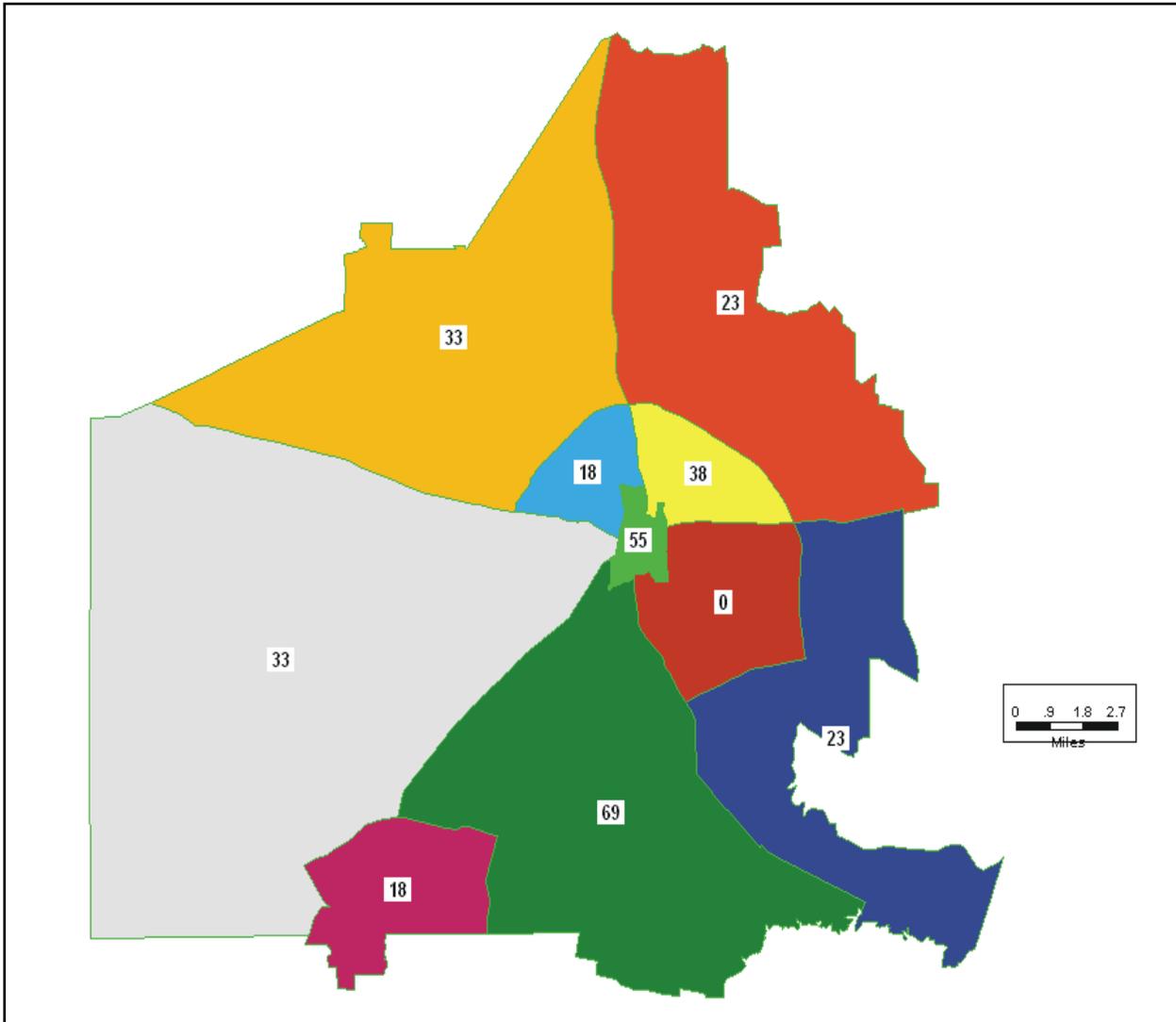
Figure 16. Number of Daily Person Trips between Sub-Areas (continued).



Source: TTI Graphics.

Figure 16. Number of Daily Person Trips between Sub-Areas (continued).

Area 5 has the greatest number of trips that remained within the area, 19 percent. Overall, more than 40 percent of the total trips were not made between areas of the county (see Figure 17).



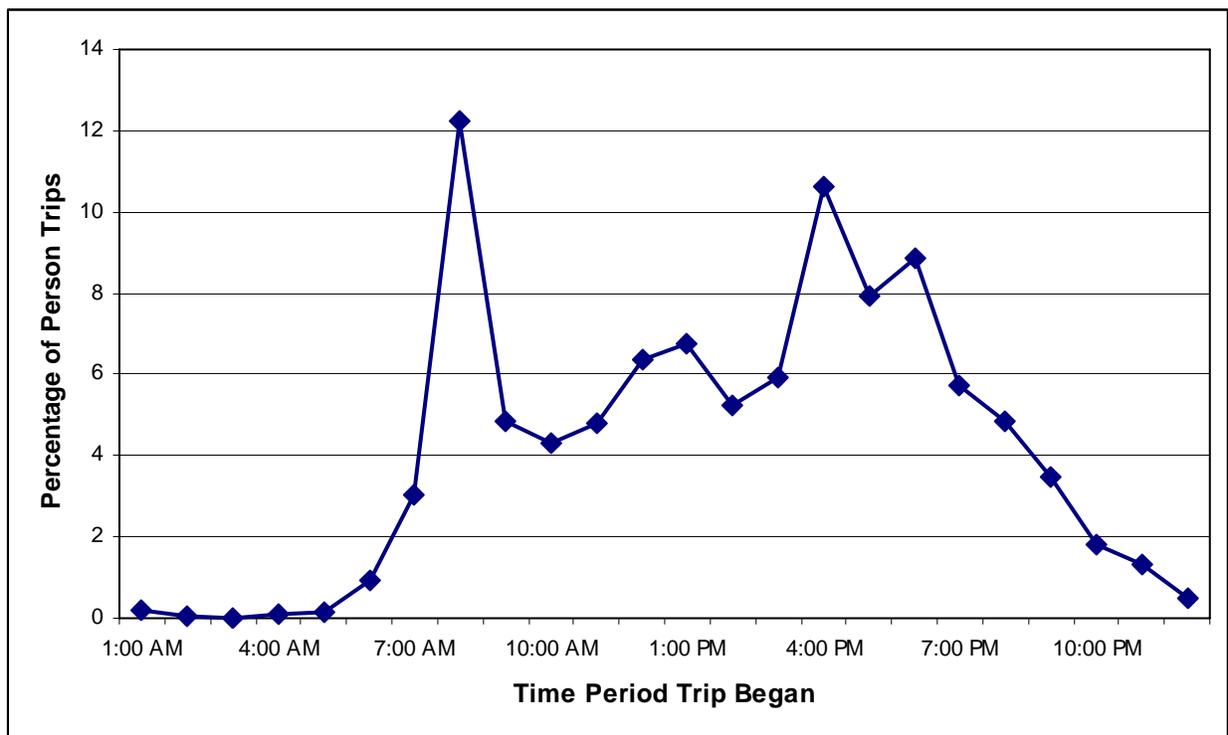
Note: the data represents all trips made within Gregg County by persons living in or visiting households. Source: 2003 Longview Household Survey.

Figure 17. Percent of Daily Trips that Remain Within Areas.

WHEN PEOPLE TRAVELED

The time in which we travel is generally associated with routine or scheduled daily activities such as school and work. Other trips are discretionary in nature and are not made on a routine basis. Shopping and/or recreational trips can occur spontaneously and be canceled or delayed as needed to accommodate changes in people's lives.

The event commonly known as "rush hour" is illustrated in the distribution of trips by start time. The 2003 morning peak is higher on the chart illustrating the large number of work and school trips. The double peak in the afternoon corresponds to the ending times of school and work (see Figure 18).



Note: The data represents all trips beginning in Gregg County by all persons living in or visiting households. The data was tallied in one-hour increments. For example, the 6 a.m. trips represent trips that began between 6:00 a.m. and 6:59 a.m. Source: 2003 Longview Household Surveys.

Figure 18. Person Trips by Time-of-Day.

HOUSEHOLD SURVEY SUMMARY DATA

Following is a summary of basic characteristics obtained from the 2003 household travel survey.

Demographics

Household Population	113,600
Licensed Drivers	74,100
Number of Households	42,800
Average Household Size	2.52
Number of Motor Vehicles	81,300
Motor Vehicles per Household	1.9

Number of Daily Trips by Mode

Total Person Trips	461,000
Auto-Driver Trips	294,800
Motor Vehicle Passenger Trips	138,400
School Bus Trips	14,000
Public Transit Trips	1,800
Walk Trips	8,400
Bicycle Trips	2,100
Other Modes	1,500

Number of Daily Trips by Destination Purpose

Trips to Home	153,100
Trips to Work	62,300
Trips to Shop	54,700
Trips to Pick-up / Drop-off Passenger	41,100
Trips for Personal Business	47,400
Trips for Social/Recreation	37,600
Trips for School	29,400
Trips for Dining	34,500
Other Trips	900

Daily Trip Rates

Trips per Person	4.02
Trips per Household	10.78

Trip Durations

Average Trip Length	4.4 Miles
Average Trip Duration	7.1 Minutes

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