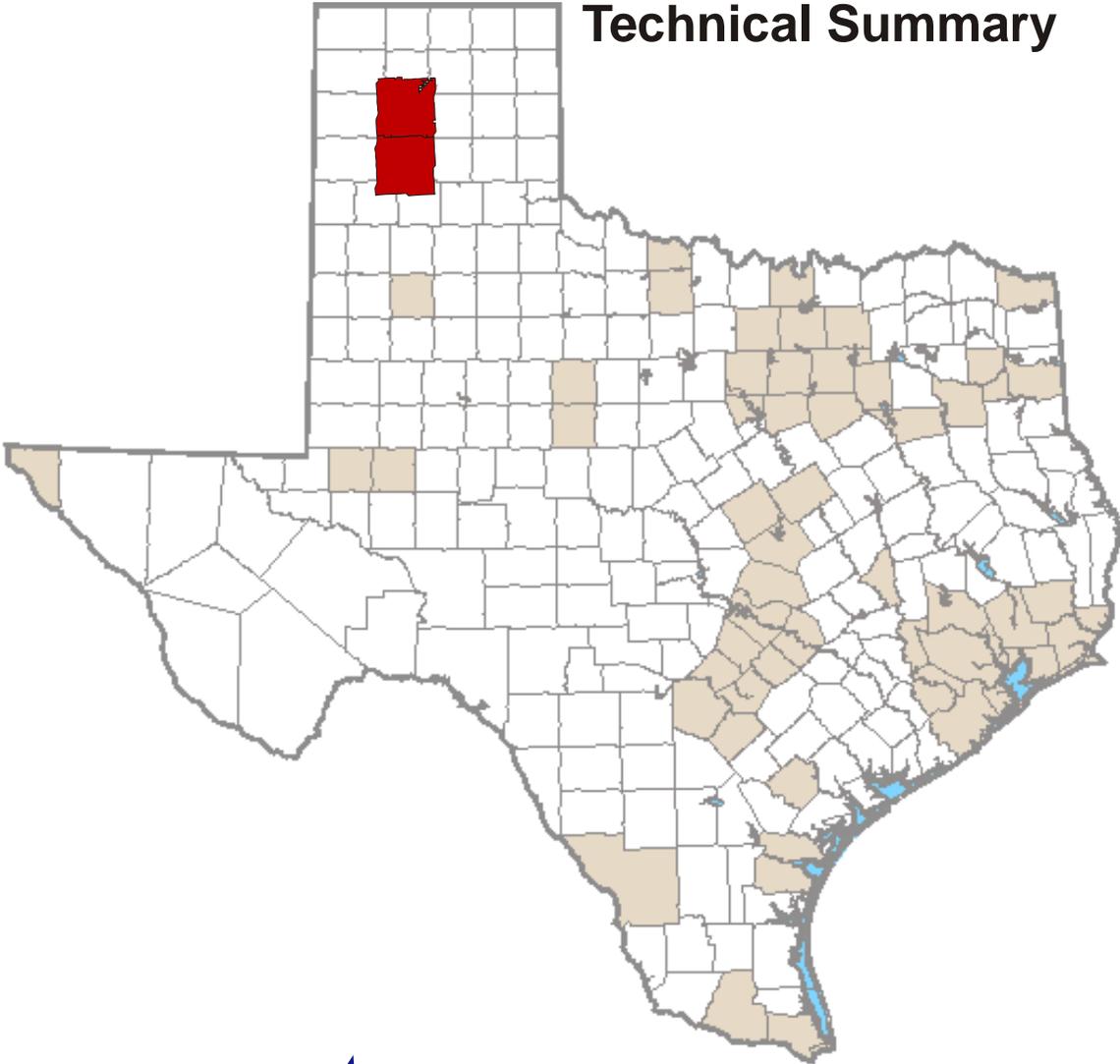


2006-2007 Amarillo Metropolitan Planning Organization Household Travel Survey Technical Summary



Prepared by the
Texas Transportation Institute
August 2008

**2006-2007 Amarillo Metropolitan Planning Organization
Household Travel Survey
Technical Summary**

Texas Department of Transportation Travel Survey Program

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Performed in cooperation with the
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and the
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INTRODUCTION

In 2006-2007, the Transportation Planning and Programming Division (TPP) of the Texas Department of Transportation (TxDOT) funded a comprehensive set of travel surveys in the Amarillo Metropolitan Planning Area, consisting of Potter and Randall counties. The purpose of these travel surveys was to provide information on the characteristics of household travel into, out of, and within this two-county area. The surveys were designed to measure the amount of household travel and the characteristics of this travel for a typical Monday through Friday weekday during the school year.

The travel surveys were designed and conducted to measure household travel within the two-county area that included a Global Positioning System (GPS) component. The travel surveys also included a commercial vehicle survey, an external station survey, and a work place survey. At the time of this report, the commercial vehicle and external surveys had been completed.

This report summarizes the results of the household survey for the two-county area. A variety of household summary information is presented in this report. The summary information is subject to modification as the survey data are further evaluated and analyzed within the context of all the travel surveys conducted. All figures and charts in this technical summary were produced from the analysis of the expanded 2006-2007 Amarillo Metropolitan Planning Organization (MPO) Household Travel Survey (unless otherwise noted). Within the context of the household travel survey technical summary, a number of technical terms are used. For definitions and reference, see the “Terminology” section on Page 42 of this report.

The household survey sample design is based on obtaining travel information from a pre-determined number of households within certain ranges of household income and household size. The number of surveyed households in any household size/income range is not proportional to the estimated number of households in the area. Rather, the number of households to be surveyed in each cell was based on the total estimated number of households in the area and the expected number of trips the households will make during a typical school-year weekday.

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 survey area. Figure 1 shows the survey area. The number of households in the two-county area in 2006-2007 was estimated from the 2000 census and the Texas State Data Center (TSDC) population projections for Potter and Randall counties.

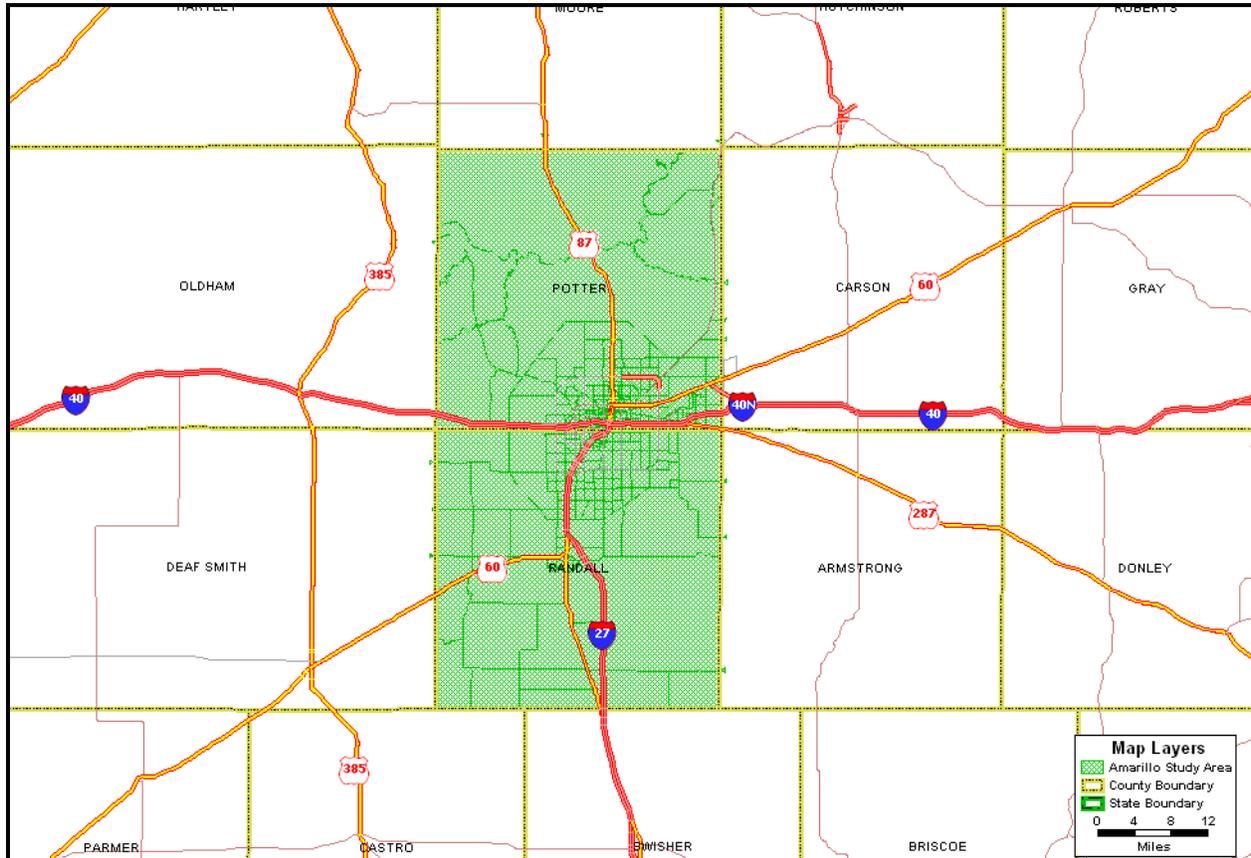


Figure 1. 2006-2007 Amarillo MPO Household Travel Survey Area.

Table 1 shows the estimated number of households in the study area in 2006-2007, the number of households surveyed, and the distribution of the number of households surveyed stratified by household size and household income range. A total of 1,521 households were surveyed. The minimum number of households surveyed in any household size/income range cell was 29 and the maximum number surveyed was 105. The higher number of households surveyed in household sizes one and two is highly desirable due to the high number of households with one or two persons. Of the estimated 88,507 households in Potter and Randall counties, 27 percent

are households with one person and 33 percent are households with two persons — 60 percent of the households are one- or two-person households.

Table 1. Estimated Number of 2006 Households, Number of Households Surveyed, and Percent of Surveyed Households, Stratified by Household Size and Income Range.

| Income Range (2006 \$) | Household Size | | | | | |
|---|----------------|---------------|---------------|---------------|--------------|---------------|
| | 1 | 2 | 3 | 4 | 5+ | Total |
| Estimated 2006-2007 Number of Households | | | | | | |
| \$0 to \$14,999 | 9,391 | 2,965 | 1,726 | 823 | 487 | 15,392 |
| \$15,000 to \$29,999 | 5,709 | 5,222 | 2,682 | 1,912 | 1,106 | 16,631 |
| \$30,000 to \$49,999 | 4,832 | 6,744 | 3,461 | 3,213 | 1,885 | 20,135 |
| \$50,000 to \$74,999 | 2,319 | 6,479 | 3,124 | 2,992 | 1,708 | 16,622 |
| \$75,000 + | 1,549 | 7,682 | 4,186 | 4,124 | 2,186 | 19,727 |
| Totals | 23,800 | 29,092 | 15,179 | 13,064 | 7,372 | 88,507 |
| Number of Households Surveyed | | | | | | |
| \$0 to \$14,999 | 47 | 61 | 46 | 45 | 32 | 231 |
| \$15,000 to \$29,999 | 48 | 99 | 67 | 46 | 67 | 327 |
| \$30,000 to \$49,999 | 35 | 104 | 69 | 67 | 46 | 321 |
| \$50,000 to \$74,999 | 29 | 79 | 65 | 78 | 47 | 298 |
| \$75,000 + | 36 | 105 | 78 | 81 | 44 | 344 |
| Totals | 195 | 448 | 325 | 317 | 236 | 1,521 |
| Percent of Households Surveyed | | | | | | |
| \$0 to \$14,999 | 3.1 | 4.0 | 3.0 | 3.0 | 2.1 | 15.2 |
| \$15,000 to \$29,999 | 3.2 | 6.5 | 4.4 | 3.0 | 4.4 | 21.5 |
| \$35,000 to \$49,999 | 2.3 | 6.8 | 4.5 | 4.4 | 3.0 | 21.1 |
| \$50,000 to \$74,999 | 1.9 | 5.2 | 4.3 | 5.1 | 3.1 | 19.6 |
| \$75,000 + | 2.4 | 6.9 | 5.1 | 5.3 | 2.9 | 22.6 |
| Totals | 12.9 | 29.4 | 21.4 | 20.8 | 15.5 | 100 |

HOUSEHOLD SURVEY RESULTS

This survey represents a sample of household demographic and travel characteristics for a Monday through Friday weekday during the school year in the fall of 2006 and the spring of 2007. The survey data was collected from travel diaries completed on a specified travel day for all occupants of 1,521 households located in the two-county area, Figure 1.

Key Points Regarding Household Survey Data

- The survey data are for an average weekday in the Fall of 2006 and the Spring of 2007.
- The survey data were tabulated only for persons who lived in the 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 survey data are for persons of all ages unless otherwise noted.
- The survey data do not include non-household-based travel such as commercial vehicles or tourists or persons staying in hotels.
- The estimates for population and number of households are based on the expanded survey data and may differ from population and household estimates developed by other agencies.
- The survey data are for trips that began and ended within the two-county area. Trips that began inside the two-county area and ended outside the planning area or vice versa are summarized in the external station survey report.

Findings of the Survey

For the two-county area:

- 97 percent of the households had a vehicle available.
- 98 percent of the households had a licensed driver.
- Trip rates per household increased with household size, with household income, and with vehicle availability.
- The average vehicle occupancy was 1.5 persons per vehicle trip.
- Over 95 percent of all person trips were made in a personal-use vehicle.

- Of the household population that traveled, 63 percent drove a vehicle, 32 percent rode as a passenger in a vehicle, 1.4 percent walked, and slightly less than 1 percent used public transportation.
- Just over 14 percent of the total household population did not make an internal trip within the planning area on their survey day.
- On average, each person made 3.6 person trips per day and each household made 9.4 person trips per day.
- The average person trip length was 4.7 miles and the average person trip duration was 5.9 minutes.
- The average vehicle trip length was 5.0 miles and the average vehicle trip duration was 6.1 minutes.
- The peak hour for household travel was from 7:01 a.m.-to-8:00 a.m. during which 13 percent of the trip starts occurred. The second highest hour for household trip starts was from 3:01 p.m.-to-4:00 p.m. when 12 percent of the daily trip starts occurred.
- Weekday school year household travel internal to the study area accounted for an estimated 2.6 million vehicle miles of travel (VMT).

HOUSEHOLD CHARACTERISTICS

Characteristics of the household influence travel behavior. For example, household size, income, vehicles available, number of persons employed, and family life cycle affect the amount and the time-of-day that trips are made. For this survey, households include only those persons living in residences, and do not include persons living in group quarters. The figures in this section are for the expanded survey data.

Household Size

Figure 2 shows the distribution of households by household size for 2006-2007. Household size and household income range are the two household variables used to stratify the household trip rates calculated from the household travel survey. When forecasting future travel, the forecast population must be estimated by household size and household income range. Average household size in the two-county study area in 2006-2007 estimated from the survey was 2.6

persons per household, equal to the 2.6 persons per household in 1990. Figure 2 shows the estimated percent of households by size in the Amarillo study area.

A typical household makes a certain number of trips on most days to meet household needs, for example, to purchase food and other necessities, to earn an income, to attend school, to visit friends and family, to receive medical care, to attend events, etc. For this reason, the number of households is a better predictor of future travel than using the number of persons.

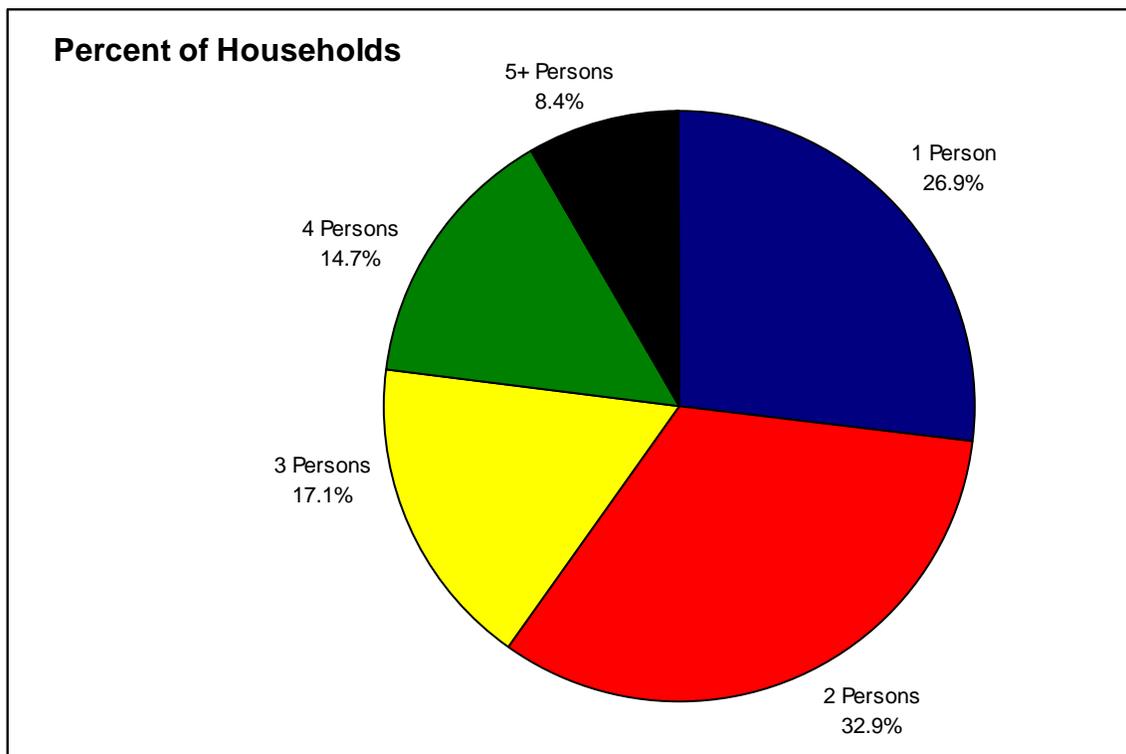
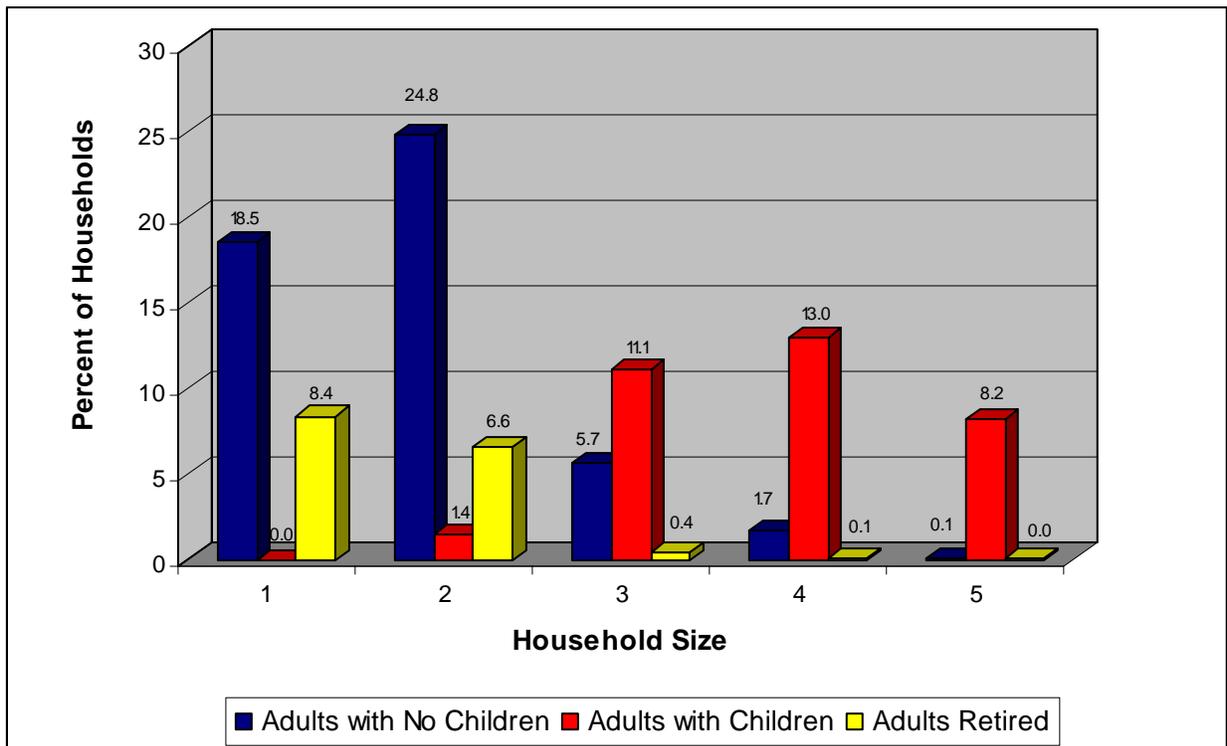


Figure 2. Distribution of Households by Household Size.

Household Life Cycle

Household life cycle influences the amount and time of travel. For example, households with children tend to make more trips than households without children. Households with working adults tend to make more trips than households with retired adults. There were an estimated 88,507 households in the two-county travel area in 2006-2007. Figure 3 shows the distribution of these 88,507 households by those with no children and not retired, those with children, and those with only retired persons. Over one third of the households (34 percent) have children, 51 percent of the households have no children, and 15 percent of the households were retired persons.



Note: The data does not include residents who did not report age. Adults are persons 18 years of age and older. Retired households have only retired persons. If one person in the household was retired and the other adult was employed, that household was not counted as a retired household.

Figure 3. Distribution of Households by Life Cycle.

Household Income

Household income and household size are the two primary variables used to estimate household trip rates. As household income increases, the amount of household travel tends to increase. Additionally, as income increases, vehicle ownership tends to increase and additional financial resources are available to the household to support increased travel. Figure 4 shows the distribution of the 88,507 expanded households in the survey by the combined annual household income range.

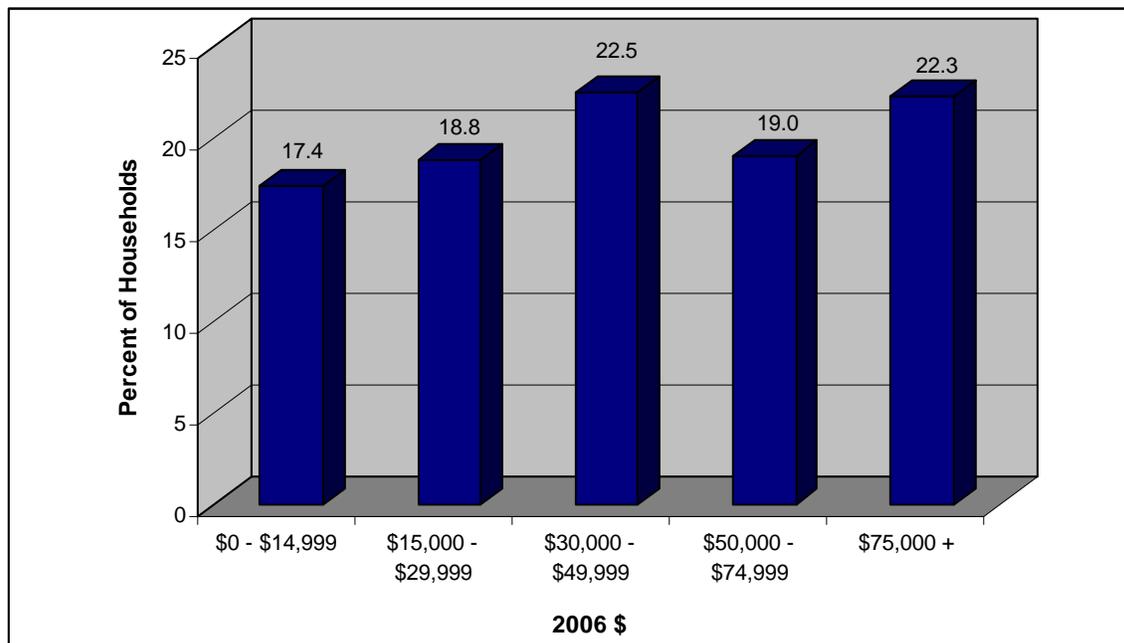
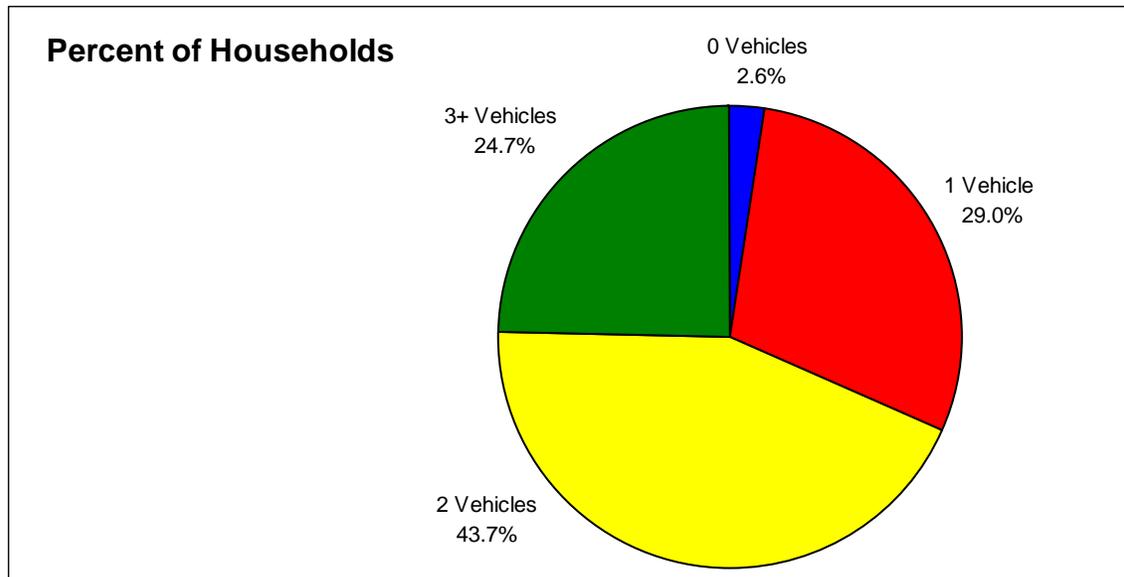


Figure 4. Distribution of Households by Household Income Range.

Household Vehicle Availability and Licensed Drivers

In general, as the number of vehicles available to the household increases, daily household travel increases. This household characteristic also impacts forecasting the demand for public transportation. As household vehicle availability increases, the household demand for public transportation tends to decrease. Figure 5 shows the distribution of the 88,507 expanded households in the survey by the number of vehicles available. Only 2 percent of the households did not have a vehicle available. The average number of vehicles available per household was 2.1.



Note: A household vehicle is any motorized vehicle available to a household for travel including motorcycles, trucks, vans, automobiles, sport utility vehicles, etc.

Figure 5. Distribution of Households by Number of Vehicles Available.

Figure 6 shows the distribution of the 88,507 expanded households by the number of licensed drivers per household. Less than 2 percent of the households did not have a licensed driver.

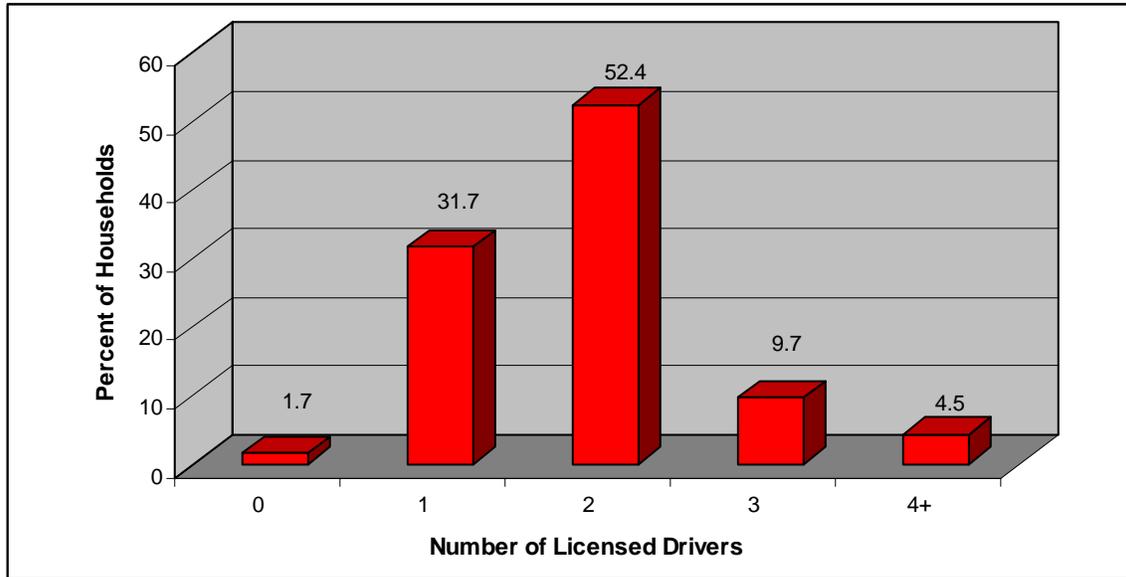


Figure 6. Distribution of Households by Number of Licensed Drivers.

Figure 7 shows the distribution of the 88,507 expanded households by the number of licensed drivers and the number of vehicles available. By far, for the majority of households (69 percent), the number of licensed drivers and the number of vehicles available is equal. For 20 percent of the households, the number of licensed drivers is less than the number of vehicles available, and for slightly less than 10 percent of the households, the number of licensed drivers is greater than the number of vehicles available. Only 1 percent of the households have neither a licensed driver nor a vehicle available.

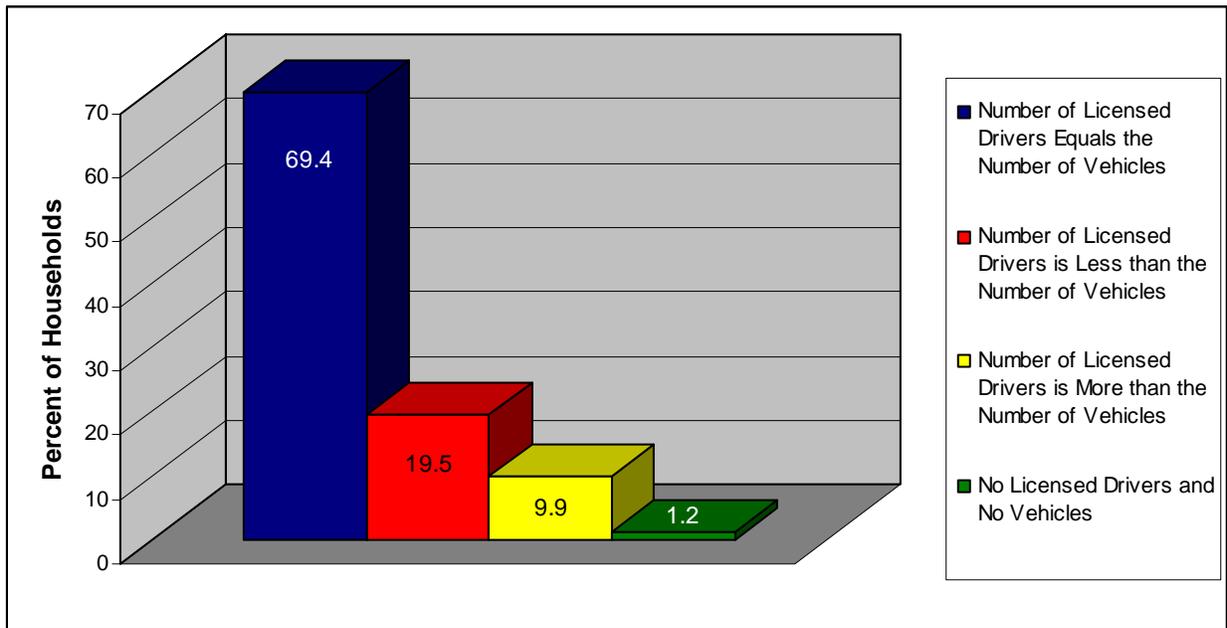


Figure 7. Distribution of Households by Licensed Drivers and Vehicle Availability.

Household Employment

The 88,507 expanded households included 229,693 persons for an average of 2.6 persons per household. Figure 8 shows the distribution of the 88,507 expanded households by the number of persons employed. The estimated number of employed persons is 105,640, however, the Texas Workforce Commission (TWC) estimates the number of employed persons at 98,968, 6 percent less than the 2006 household survey estimation. The difference in total employed persons can be attributed to the omission of “self-employed persons” in the TWC data.

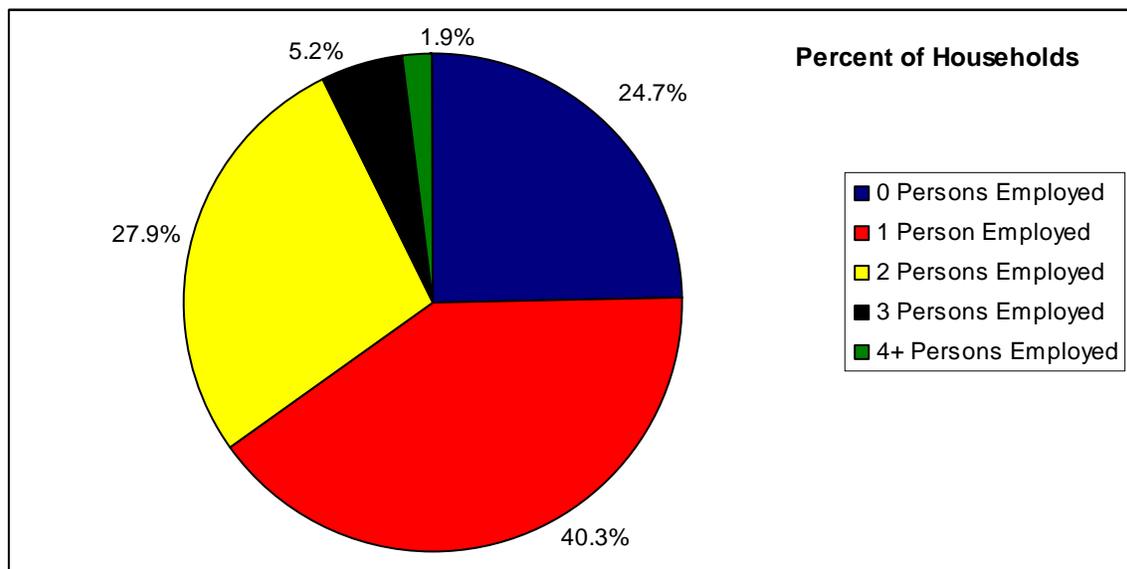


Figure 8. Distribution of Households by Number of Persons Employed.

Figure 9 shows the distribution of all persons regardless of age by employment status. More than 35 percent of the population is employed full time and 22 percent of the population is students. More than 12 percent of the population is retired.

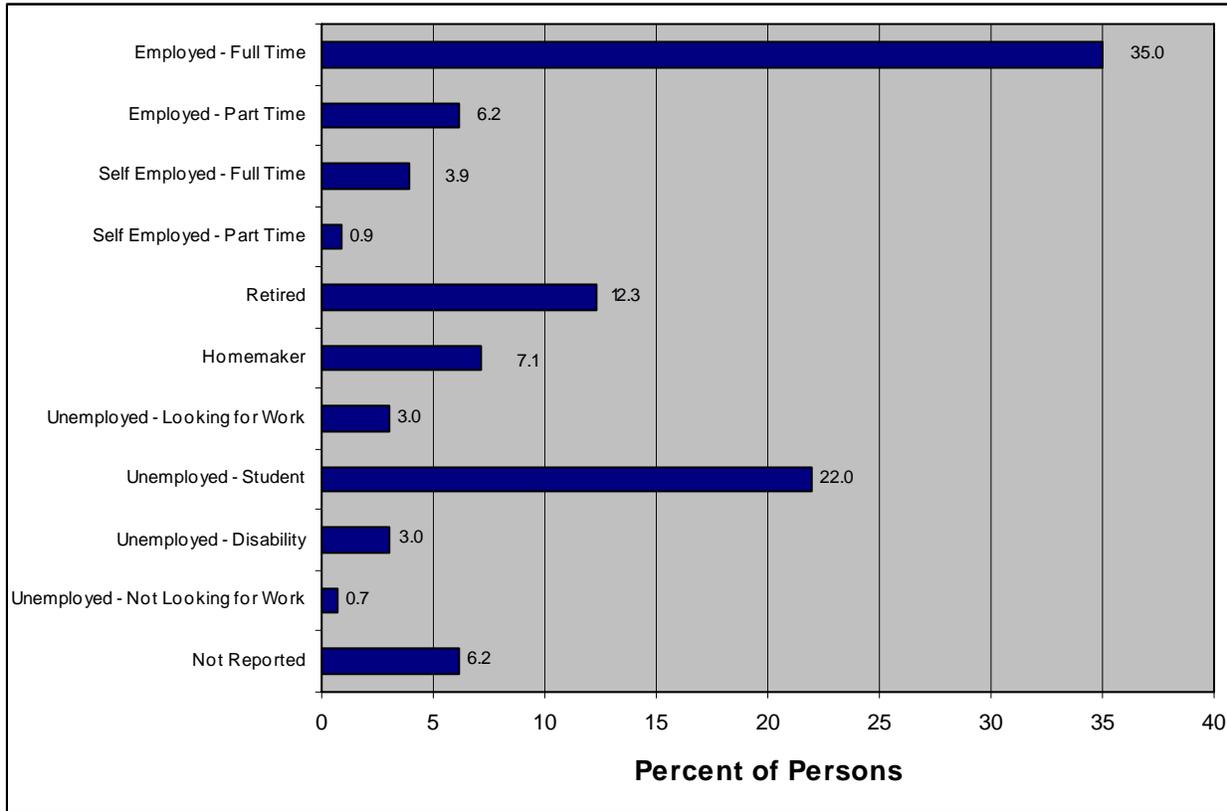


Figure 9. Distributions of Persons by Employment Status.

Figure 10 shows the distribution of the employed persons by the type of employer. The 88,507 households had 105,640 employed persons for an average of 1.2 employed persons per household. The “eating establishment” employer-type accounted for the largest percentage of employed persons, reporting 20 percent. The employer-type “office non-government” includes the second largest percentage of employed persons, having slightly less than 16 percent of those employed.

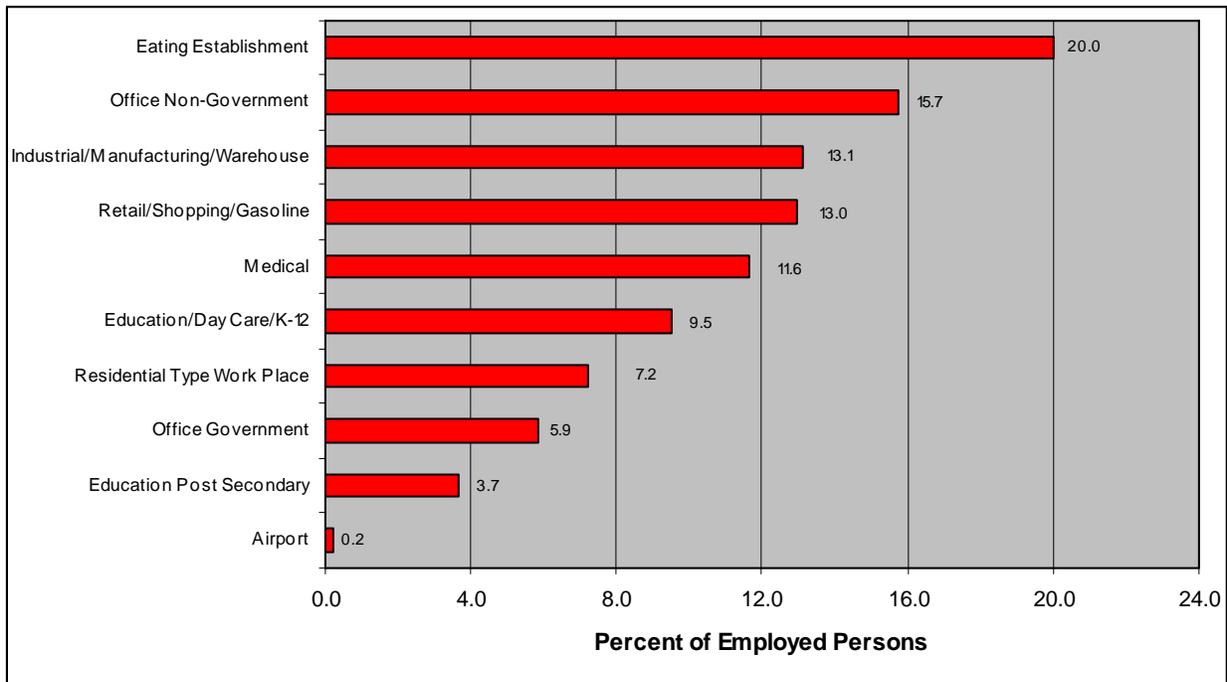


Figure 10. Distribution of Employed Persons by Employer Type.

Ethnicity

Figure 11 shows the distribution of the expanded households in the Amarillo study area by ethnicity, compared to the U.S. Census Bureau data for the area (Potter and Randall counties) in 2006. White/.Caucasian persons appear to be over-represented in the survey poluplation by more than 12 percent, while Hispanic/Mexican American persons and Black/African Americans appear to be under-represented in the survey population by 10 percent and 2 percent, respectively.

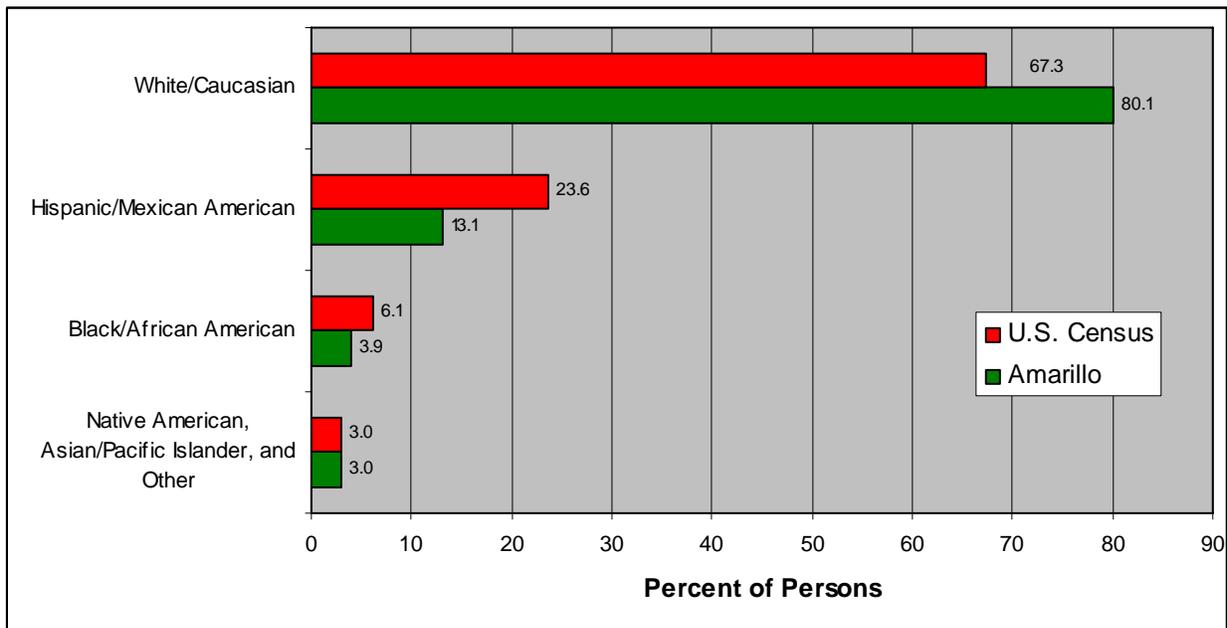


Figure 11. Distribution of Persons by Ethnicity.

TRAVELER CHARACTERISTICS

The previous section reported on a variety of household and person characteristics obtained from the household travel survey. In this section, these household and person characteristics are related to household travel characteristics. Household size, household income, household life cycle, household vehicle availability, household licensed drivers, and household employment all affect the amount of household travel.

Household Trip Rates and Vehicle Occupancy

The household trip rates in this section are for person trips made by all transportation modes. Figure 12 shows household trip rates as a function of household size. As the household size increases, household trip rates increase and become large for large household sizes. For travel forecasting applications, households with five or more household members are grouped and an average trip rate is used for the group. Figure 13 shows the household trip rates as a function of the household income range. As expected, as household income increases, the household trip rate increases.

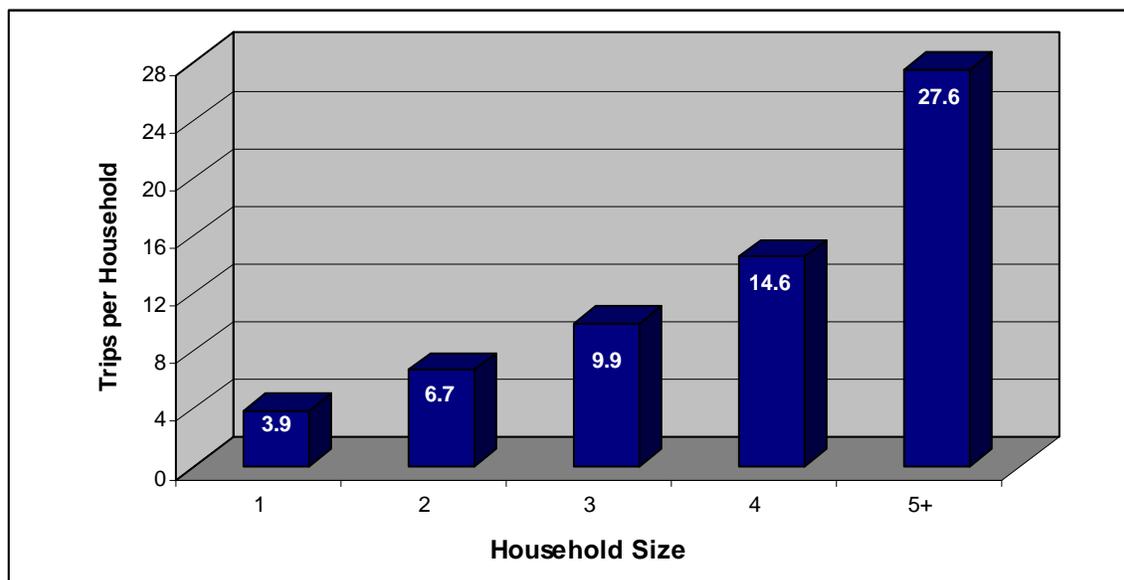


Figure 12. Household Trip Rates by Household Size.

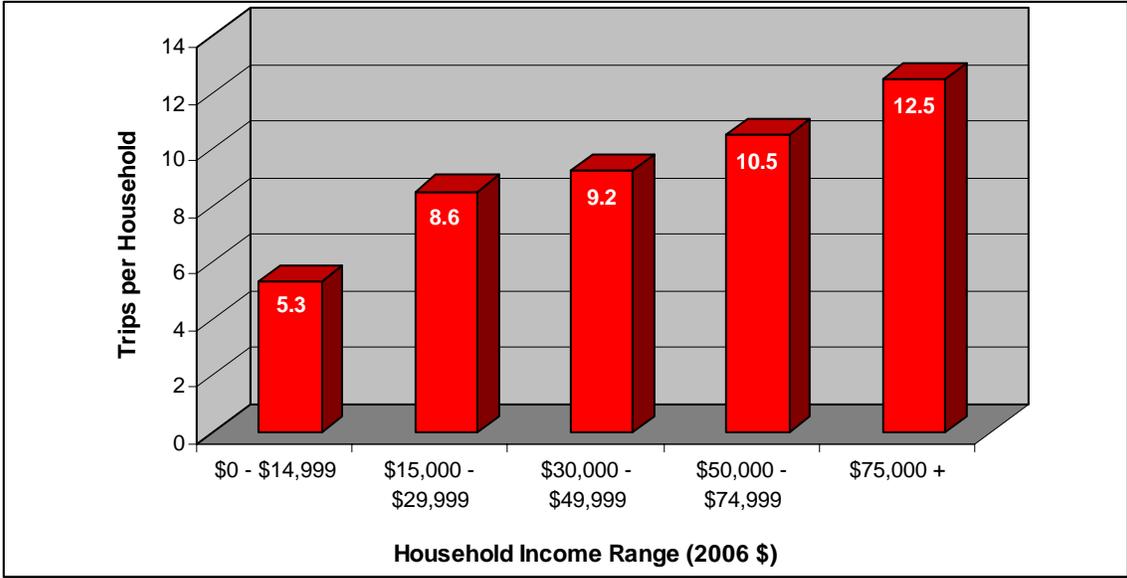


Figure 13. Household Trip Rates by Household Income Range.

Figure 14 shows the household trip rates as a function of the number of vehicles available to household members for travel. Again, as expected, as the number of vehicles available to the household increase, the household trip rate increases, but the rate increases at a lower rate after two vehicles. Note that households with no vehicle available do make a meaningful number of trips. The apparent anomaly in trip rates for households with 7+ vehicles available is due to the small number of observations for these households.

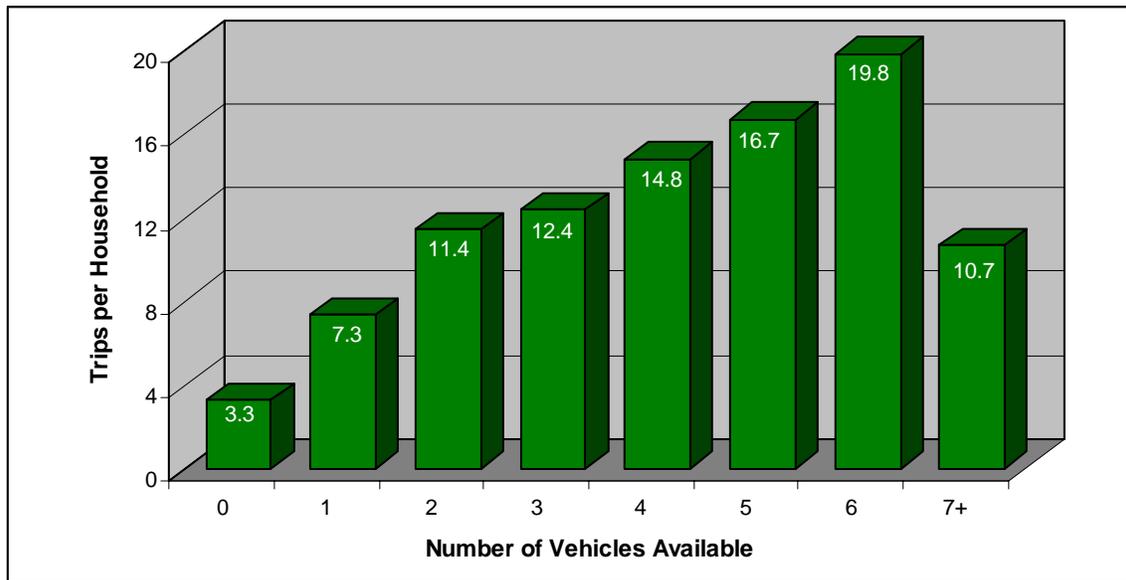


Figure 14. Household Trip Rates by Number of Vehicles Available.

Table 2 shows the person trip rates cross classified by household size and household income for all internal trip purposes combined, that is, trips that begin and end inside the two-county household travel survey area. These trip rates are for all trips by all modes including transit, bicycle, and walk trips. For travel forecasting applications, the cross-classified trip rates are disaggregated by trip purpose into HBW trips, HBNW trips, and NHB trips. (See the terminology section for the definitions of these terms.) As a part of the travel forecasting process, the person trips are divided among the modes during the mode split step. The average, internal to the two-county area, person trip rate for all households was 9.4 trips per household.

Table 2. Person Trip Rates by Household Size and Household Income.

| Household Income Range (2006 \$) | Household Size | | | | |
|-------------------------------------|----------------|------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 + |
| \$0 - \$14,999 | 3.03 | 5.61 | 8.74 | 10.45 | 27.29 |
| \$15,000 - \$29,999 | 4.14 | 6.42 | 8.99 | 12.69 | 32.54 |
| \$30,000 - \$49,999 | 4.41 | 6.90 | 10.49 | 12.26 | 22.51 |
| \$50,000 - \$74,999 | 5.08 | 6.22 | 10.62 | 14.97 | 26.24 |
| \$75,000 + | 4.25 | 7.52 | 10.02 | 17.72 | 30.59 |

Table 3 shows the average vehicle occupancy for person trips made in private vehicles by household size and by household income range. The average vehicle occupancy for all households was 1.5 persons per vehicle.

Table 3. Average Vehicle Occupancy by Household Size and Household Income.

| Household Income Range (2006 \$) | Household Size | | | | |
|-------------------------------------|----------------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 + |
| \$0 - \$14,999 | 1.07 | 1.52 | 1.52 | 1.83 | 4.26 |
| \$15,000 - \$29,999 | 1.03 | 1.34 | 1.77 | 1.70 | 2.46 |
| \$30,000 - \$49,999 | 1.05 | 1.40 | 1.36 | 1.58 | 2.23 |
| \$50,000 - \$74,999 | 1.17 | 1.20 | 1.30 | 1.64 | 2.07 |
| \$75,000 + | 1.06 | 1.18 | 1.25 | 1.65 | 1.78 |

Travel by Age Cohort

A total of 229,693 persons who reported their age were represented in the expanded household survey. Table 4 shows the number of persons and distribution of persons by age cohort that did not make any internal trips on their survey day. As expected, older persons are less likely to travel than are younger persons, but the older population is mobile and contribute significantly to the amount of household travel. The rather high percentage of persons making zero internal trips in the 20-24 age cohort probably is due to under reporting or not reporting of trips by this age cohort.

Table 4. Number of Persons, Percent of Persons, and Percent of Persons Making Zero Trips by Age Cohort.

| Age Cohort | Number of Persons | Percent of Persons | Number of Persons Making Trips | Number of Persons Making Zero Internal Trips | Percent of Persons Making Zero Internal Trips |
|-------------------|--------------------------|---------------------------|---------------------------------------|---|--|
| 0-14 | 51,692 | 22.50 | 46,793 | 4,899 | 9.48 |
| 15-19 | 16,193 | 7.05 | 14,594 | 1,599 | 9.87 |
| 20-24 | 17,036 | 7.42 | 13,354 | 3,682 | 21.61 |
| 25-29 | 16,931 | 7.37 | 14,404 | 2,527 | 14.93 |
| 30-34 | 15,025 | 6.54 | 12,910 | 2,115 | 14.08 |
| 35-39 | 16,485 | 7.18 | 15,442 | 1,044 | 6.33 |
| 40-44 | 16,452 | 7.16 | 14,212 | 2,241 | 13.62 |
| 45-49 | 17,858 | 7.77 | 15,154 | 2,704 | 15.14 |
| 50-54 | 14,542 | 6.33 | 11,746 | 2,796 | 19.23 |
| 55-59 | 11,362 | 4.95 | 9,207 | 2,155 | 18.97 |
| 60-64 | 9,536 | 4.15 | 7,710 | 1,826 | 19.15 |
| 65-69 | 6,976 | 3.04 | 5,920 | 1,056 | 15.14 |
| 70-74 | 6,581 | 2.87 | 5,049 | 1,532 | 23.28 |
| 75-79 | 5,267 | 2.29 | 4,427 | 841 | 15.97 |
| 80 + | 7,758 | 3.38 | 5,180 | 2,578 | 33.23 |
| Total | 229,693 | 100 | 196,099 | 33,594 | 14.63 |

MODE OF TRAVEL

The modes of travel were household automobile-driver, household automobile-passenger, school bus, walk, public transportation, bicycle, carpool/vanpool, and commercial vehicle. Figure 15 shows the distribution of person trips by mode. Automobile travel accounted for 95 percent of the person trips. Commercial vehicle trips accounted for just over 1 percent of the person trips and walking accounted for 1.4 percent of the person trips. The surveyed households made little use of public transportation, accounting for less than 1 percent of the person trips.

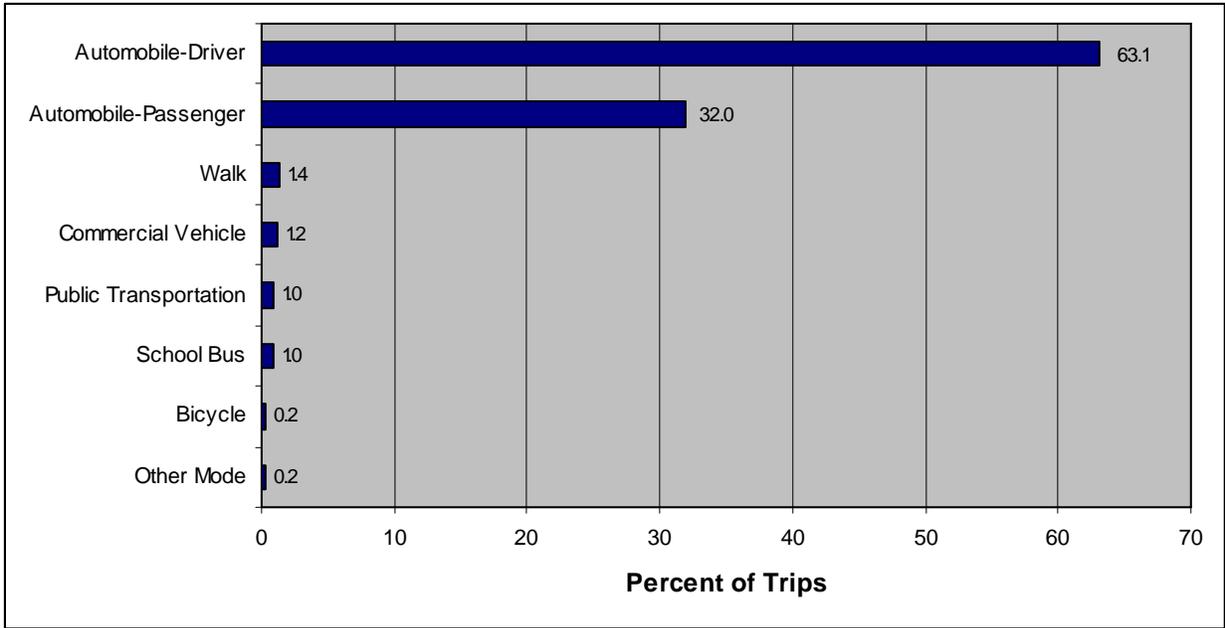


Figure 15. Distribution of Person Trips by Mode of Travel.

AMOUNT OF TRAVEL

Several measures are used to record the amount of travel — the number of person trips, the number of vehicle trips, the trip distances in miles, the trip durations or travel times in minutes, and the vehicle miles of travel.

Trip Distance

Figure 16 shows the distribution of person trips by the length of the trip in miles. The distribution is for internal person trips, trips beginning and ending inside the two-county study area. The average person trip length was 4.7 miles.

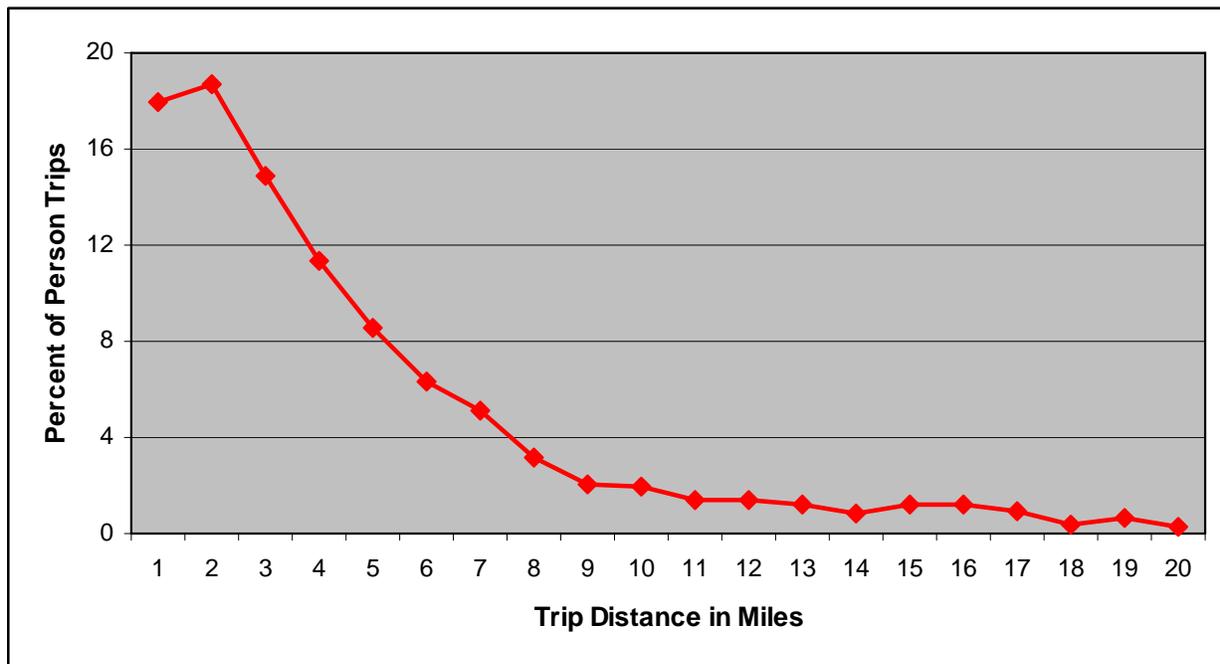


Figure 16. Distribution of Person Trips by Trip Distance in Miles.

Figure 17 shows the distribution of vehicle trips by the length of the trip in miles. The average vehicle trip length was 5.0 miles. For travel demand modeling purposes, the travel modeler needs data about the distribution of vehicle trips in miles and the average vehicle trip length in miles for each internal trip purpose. Distributions similar to Figure 17 are prepared for each internal trip purpose.

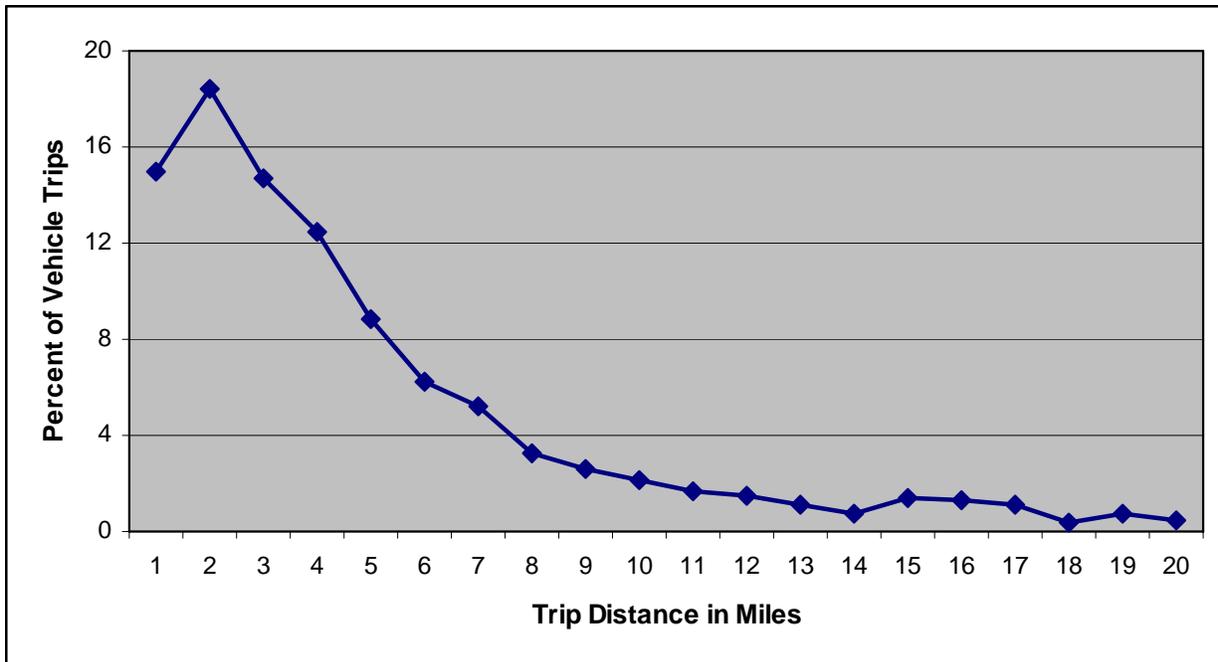


Figure 17. Distribution of Vehicle Trips by Trip Distance in Miles.

Trip Duration

Figure 18 shows the distribution of person trips by the duration of the trip in minutes. The distribution is for internal person trips, trips beginning and ending inside the two-county study area. The average person trip duration was 5.9 minutes.

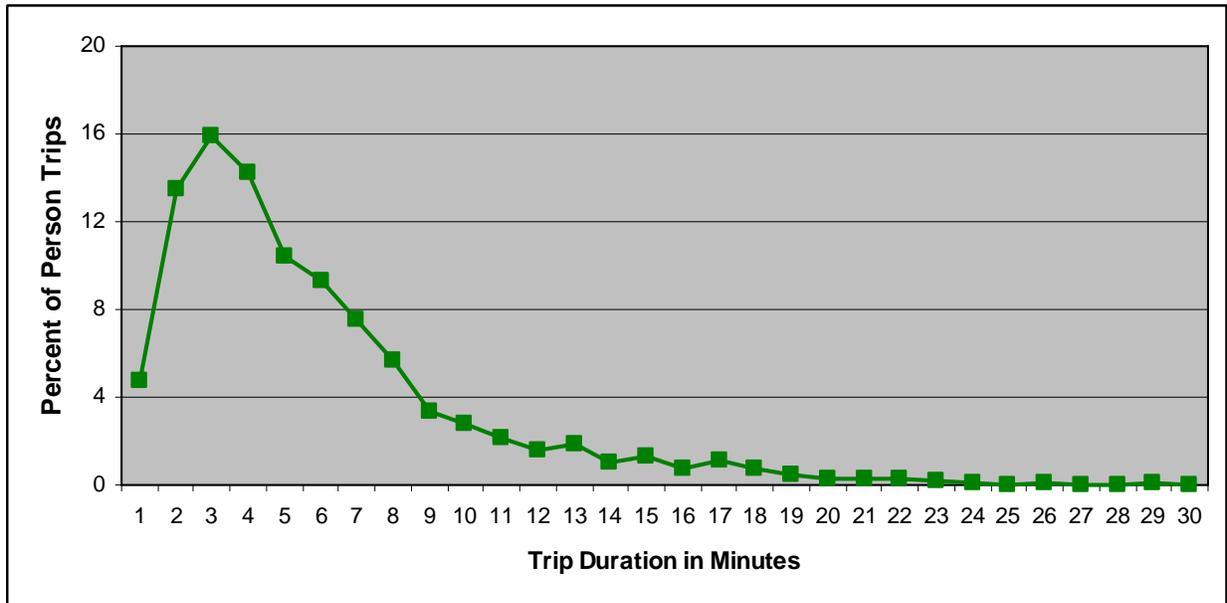


Figure 18. Distribution of Person Trips by Trip Duration in Minutes.

Figure 19 shows the distribution of vehicle trips by the duration of the trip in minutes. The average vehicle trip duration was 6.1 minutes.

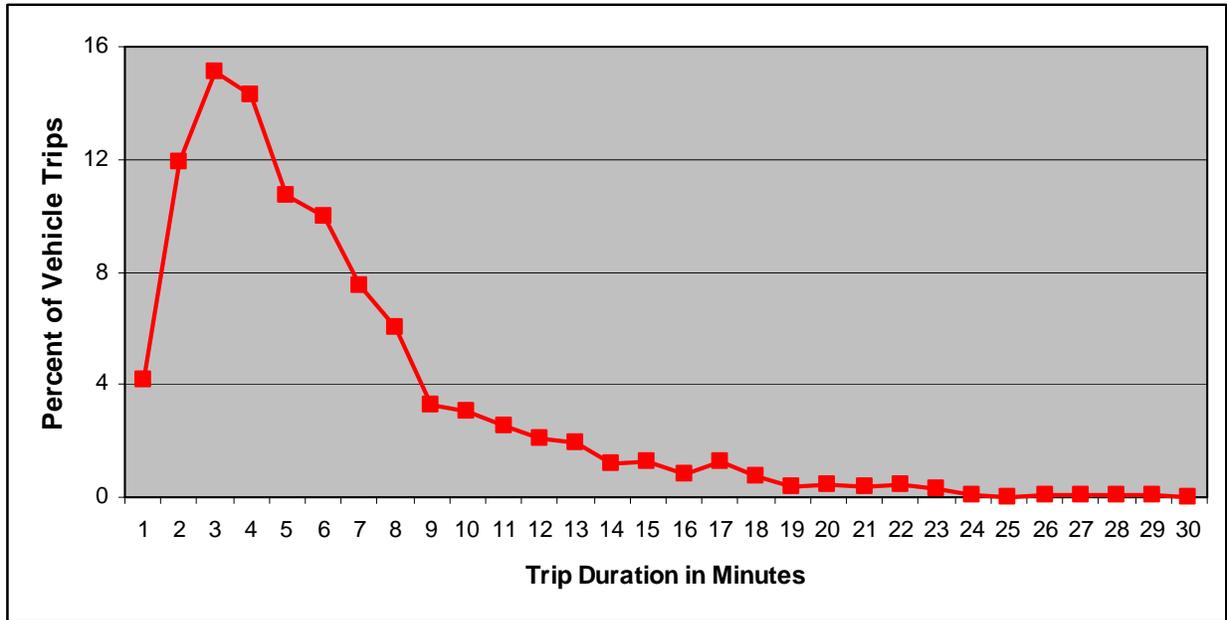


Figure 19. Distribution of Vehicle Trips by Trip Duration in Minutes.

Vehicle Miles of Travel (VMT)

VMT is calculated as the product of the average vehicle trip length in miles and the number of vehicle trips. For household trips internal to the two-county study area, the estimated VMT is 2,623,845 miles per school-year weekday. This is not the total VMT for the study area, as the VMT associated with external-local, external-through, commercial vehicle, visitor travel, and intrazonal trips are not included in the estimate.

TIME OF TRAVEL

The time of travel is a function of the activity to be accomplished. The start times for trips to work and to school are dictated by the time that work and school begin. For other activities, such as trips to shop or for recreation, the trip start times are flexible. As travel during peak periods becomes more congested, some drivers choose to make trips earlier or later to avoid the most congested travel time. Figure 20 shows the distribution of trip start times for a 24-hour weekday during the school year. The morning peak period, 7:01 a.m.-to-8:00 a.m., has the highest percentage (12.9) of daily trip starts. During the morning peak period, trips from home to work and from home to school are the primary destinations. The second highest percentage (12.0) of trip starts occur during the hour of 3:01 p.m.-to-4:01 p.m. During this hour, trips from school to home are the primary destinations. Trip starts during the hour from 5:01 p.m.-to-6:00 p.m., which are trips from work to home, has the third highest percentage (8.1) of daily trip starts.

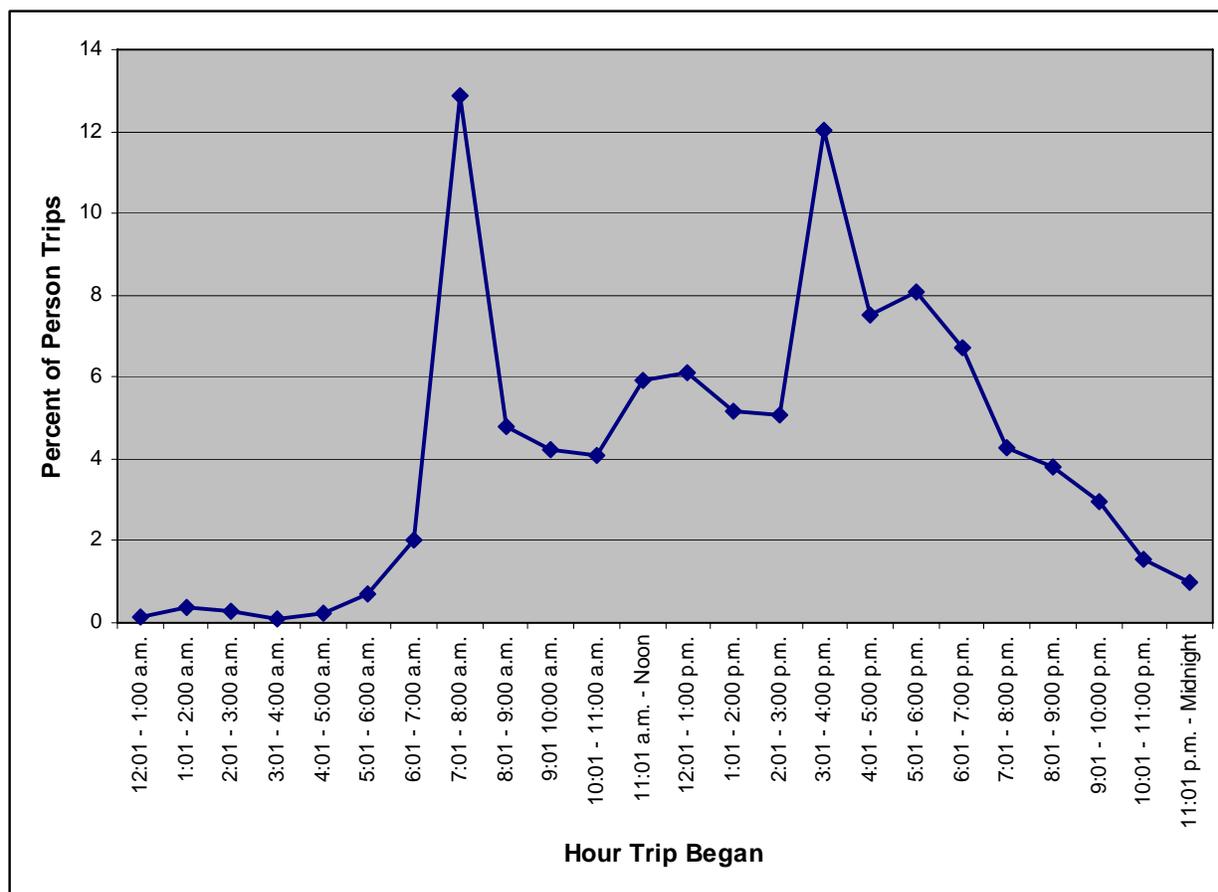


Figure 20. Distribution of Person Trip Start Times by Hour of the Day.

Travel Purpose

As a part of their travel diary, each household member was asked to identify from a list of choices what they did at each trip destination. The information about the trip destination was used to categorize the trip by trip purpose. In travel demand modeling, typically there are three internal trip purposes — home-based work (HBW), home-based non-work (HBNW), and non-home based (NHB) trips. Figure 21 shows the distribution of person trips by the trip destination purposes used in the survey. As would be expected, the most frequent trip destination was the return home trip.

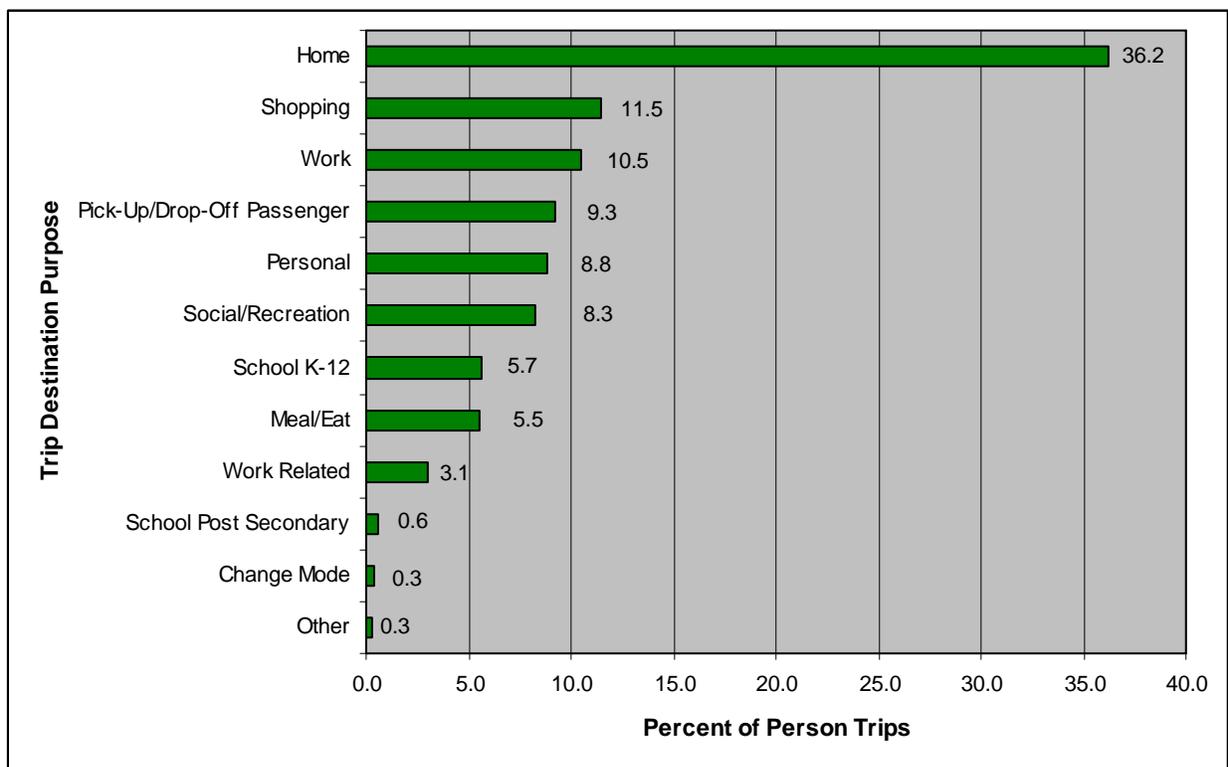


Figure 21. Distribution of Person Trips by Trip Destination Purpose.

Type of Place at Trip Destination

Closely related to the travel purpose and what the traveler did at the destination end of the trip is information on the type of place or business that was at the destination end of the trip. Table 5 shows the distribution of person trips by the types of places identified in the survey for the destination end of the trip.

**Table 5. Number and Percent of Person Trips by
Type of Place at Trip Destination.**

| Type of Place | Person Trips | Percent of Person Trips |
|---|---------------------|--------------------------------|
| Residential | 81,260 | 9.8 |
| Residential Type Work Place | 5,094 | 0.6 |
| Construction Site | 3,679 | 0.4 |
| Transportation Stop | 1,512 | 0.2 |
| Automotive Dealer/Repair | 10,308 | 1.2 |
| Bank/Financial Institution | 16,654 | 2.0 |
| Barber/Beauty/Nail Salon | 10,359 | 1.3 |
| Bookstore/Newsstand | 3,282 | 0.4 |
| Convenience/Drug Store | 27,450 | 3.3 |
| Government Offices | 26,695 | 3.2 |
| Offices Non-Government | 39,384 | 4.8 |
| Grocery | 35,868 | 4.3 |
| Health Club | 9,112 | 1.1 |
| Medical Facility/Hospital | 52,566 | 6.3 |
| Movie Theater/Cinema | 1,507 | 0.2 |
| Restaurant/Fast food, Bar and Grill | 80,023 | 9.7 |
| Educational – 12 th Grade or Lower | 186,211 | 22.5 |
| Educational – College, Trade, Etc. | 19,641 | 2.4 |
| Shopping Mall/Department Store | 99,436 | 12.0 |
| Gas Station | 6,834 | 0.8 |
| Airport | 2,846 | 0.3 |
| Other | 109,577 | 13.2 |
| Total | 829,298 | 100 |

WHERE PEOPLE TRAVELED

The geographic distribution of internal person trips within the study area is shown in Figures 24-33. Figures 24 - 32 show the geographic distribution of internal person trips within Potter and Randall counties and sub-regions of the counties. Figure 33 shows the geographic distribution of internal trips within the two-county study area.

Figure 22 shows the two-county study area and Figure 23 shows the study area and the nine sub-regions. Figure 23 shows the number of person trip interchanges between Area 1 and Areas 2-9. Figure 24 shows the number of person trip interchanges between Area 2 and Area 1 and Areas 3-9. Figure 25 shows the number of person trip interchanges between Area 3 and Areas 1-2 and Areas 4-9. Figure 26 shows the number of person trip interchanges between Area 4 and Areas 1-3 and Areas 5-9. Figure 27 shows the number of person trip interchanges between Area 5 and Areas 1-4 and Areas 6-9. Figure 28 shows the number of person trip interchanges between Area 6 and Areas 1-5 and Areas 7-9. Figure 29 shows the number of person trip interchanges between Area 7 and Areas 1-6 and Areas 8-9. Figure 30 shows the number of person trip interchanges between Area 8 and Areas 1-7 and Area 9. Figure 31 shows the number of person trip interchanges between Area 9 and Areas 1-8. Figure 32 shows the percent of person trips that remain within each sub-area.

Following is a description of the Amarillo Area Sub-Regions:

Area 1 – The Central Business District is bounded by US-60 on the north; Ross Street on the east; IH-40 on the south; and Adams Street on the west; Area 2 – is bounded by Loop-335 on the north and on the east; IH-40 on the south; and Ross Street and US-87 on the west; Area 3 – is bounded by Loop 335 and Cliffside Road on the north; US-87, US-60, and Adams Street on the east; IH-40 on the south; and Loop-335 and Soncy Street on the west; Area 4 – is bounded by IH-40 on the north; IH-27 on the east; Loop-335 on the south and on the west; Area 5 – is bounded by IH-40 on the north; Loop-335 on the east and on the south; and IH-27 on the west; Area 6 – is bounded by Moore County line on the north; Carson County line on the east; IH-40 on the south; and Loop-335 and US-87 on the west; Area 7 – is bounded by Moore County line

on the north; US-87 and Loop-335 on the east; IH-40 on the south; and Oldham County line on the west; Area 8 – is bounded by IH-40 on the north; Loop-335 and IH-27 on the east; Swisher County and Castro County lines on the south; and Deaf Smith County line on the west; and Area 9 – is bounded by Loop-335 and IH-40 on the north; Armstrong County line on the east; Swisher County line on the south; and IH-27 on the west.

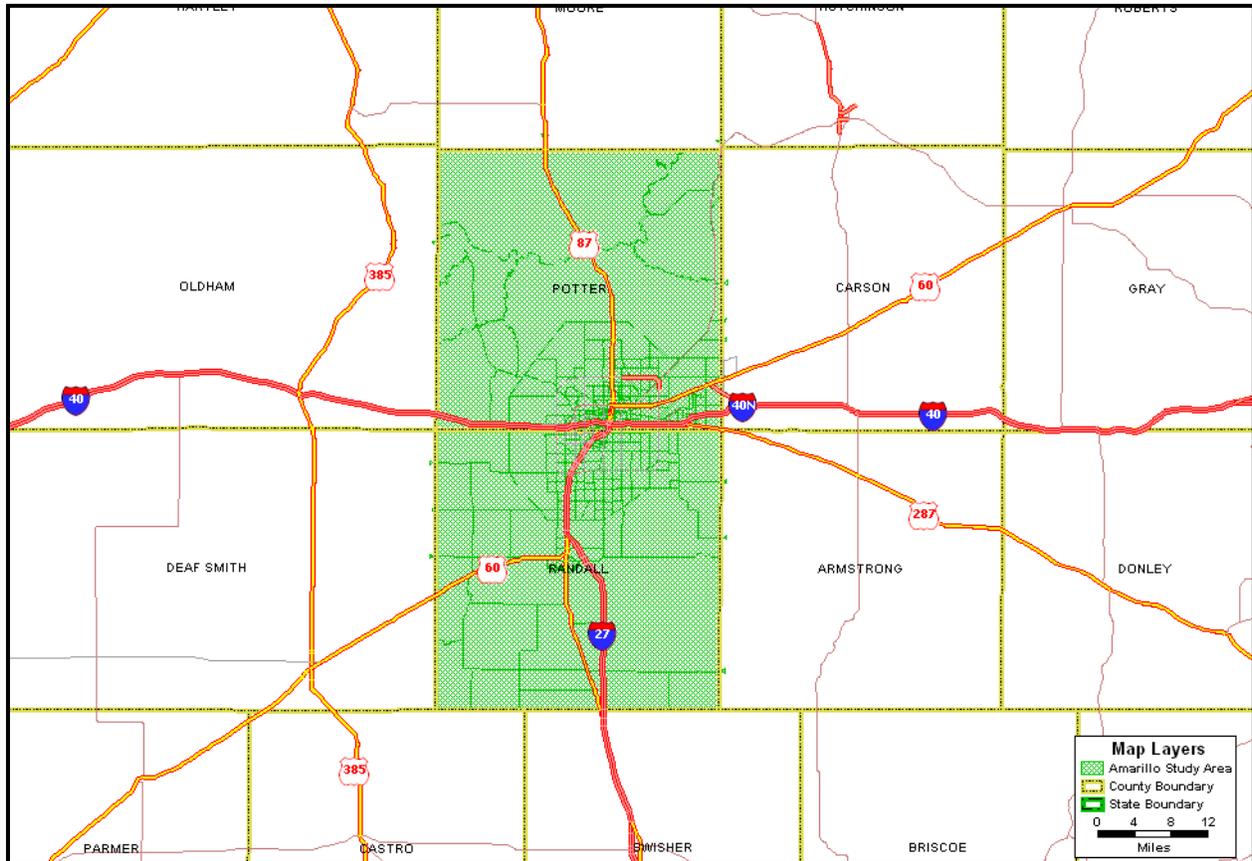


Figure 22. 2006-2007 Amarillo MPO Household Travel Survey Study Area.

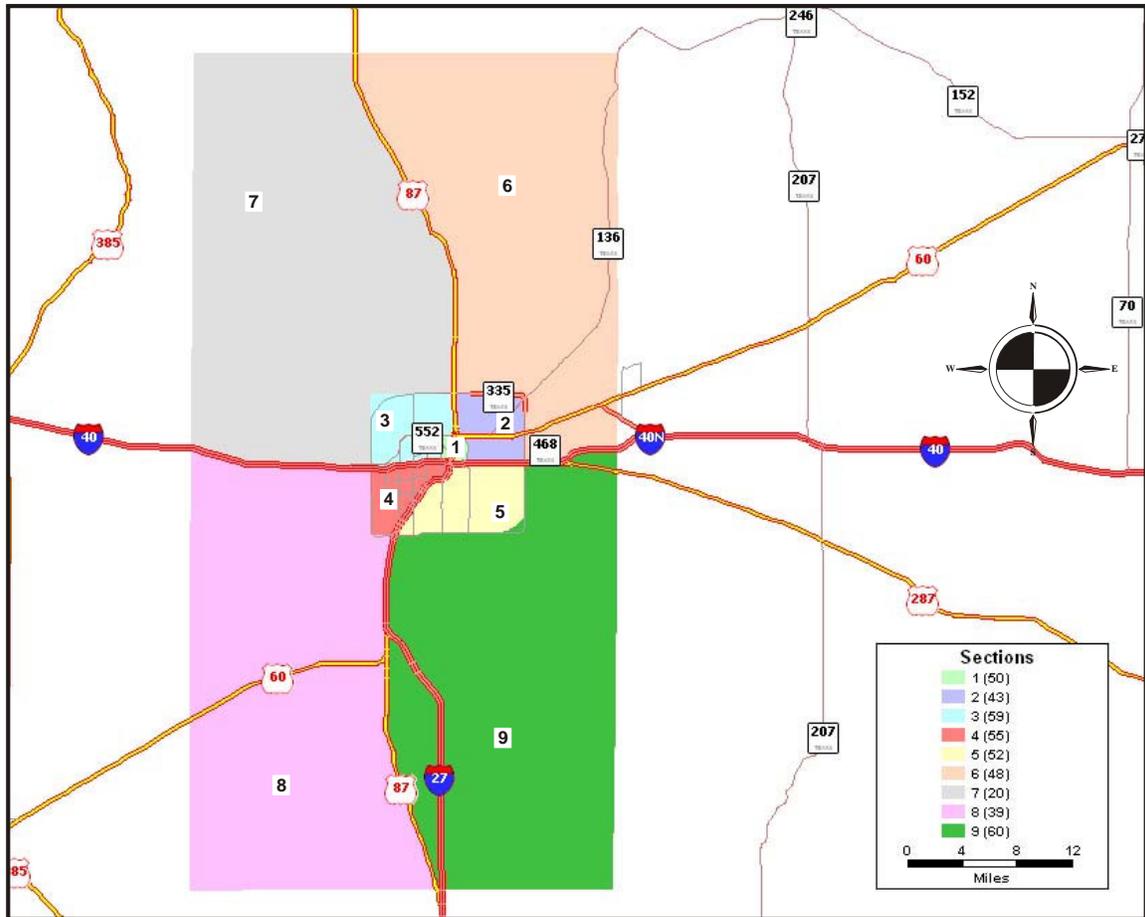


Figure 23. 2006-2007 Amarillo MPO Household Travel Survey Study Area (Potter and Randall Counties and the Sub-Regions within each county).

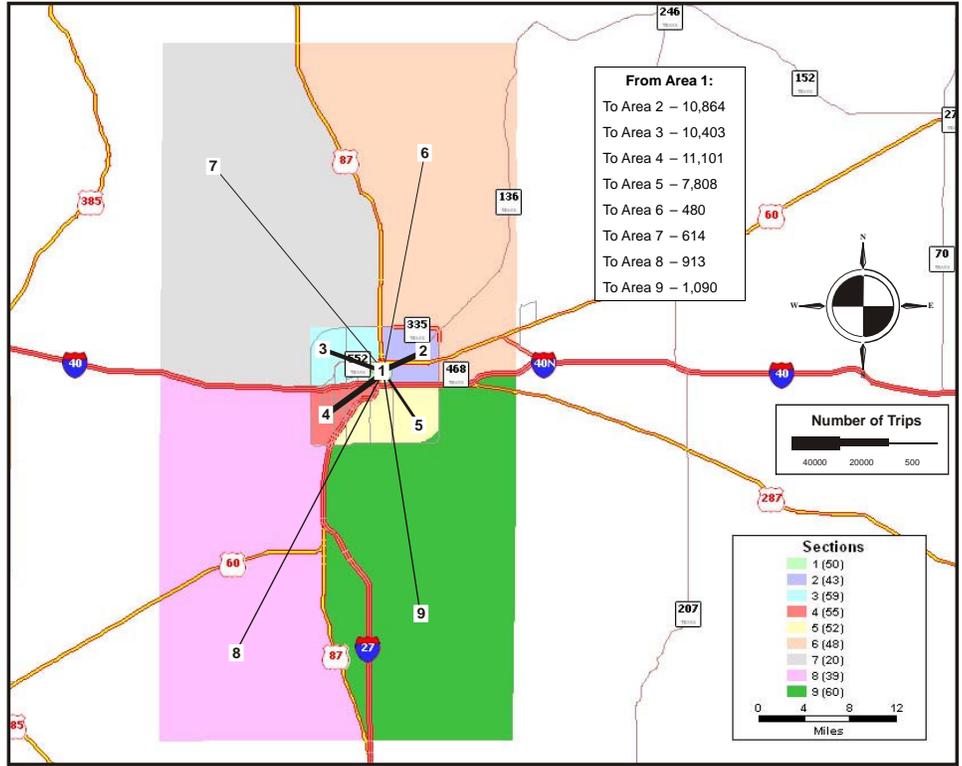


Figure 24. Person Trip Interchanges between Area 1 and Areas 2-9.

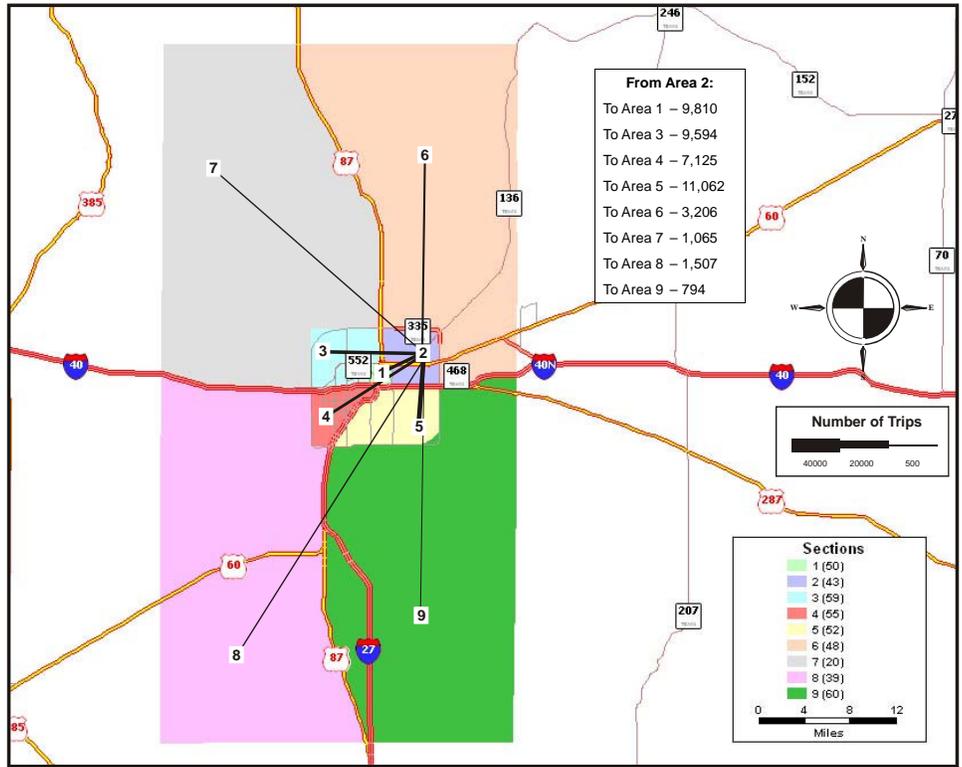


Figure 25. Person Trip Interchanges between Area 2 and Areas 1 and 3-9.

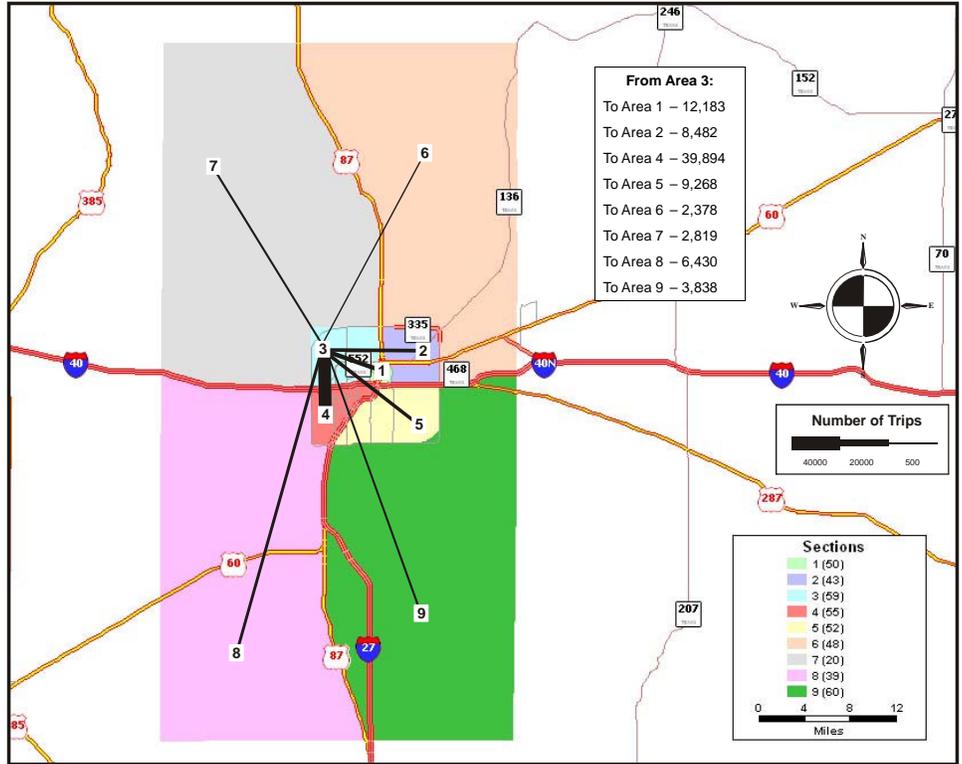


Figure 26. Person Trip Interchanges between Area 3 and Areas 1-2 and Areas 4-9.

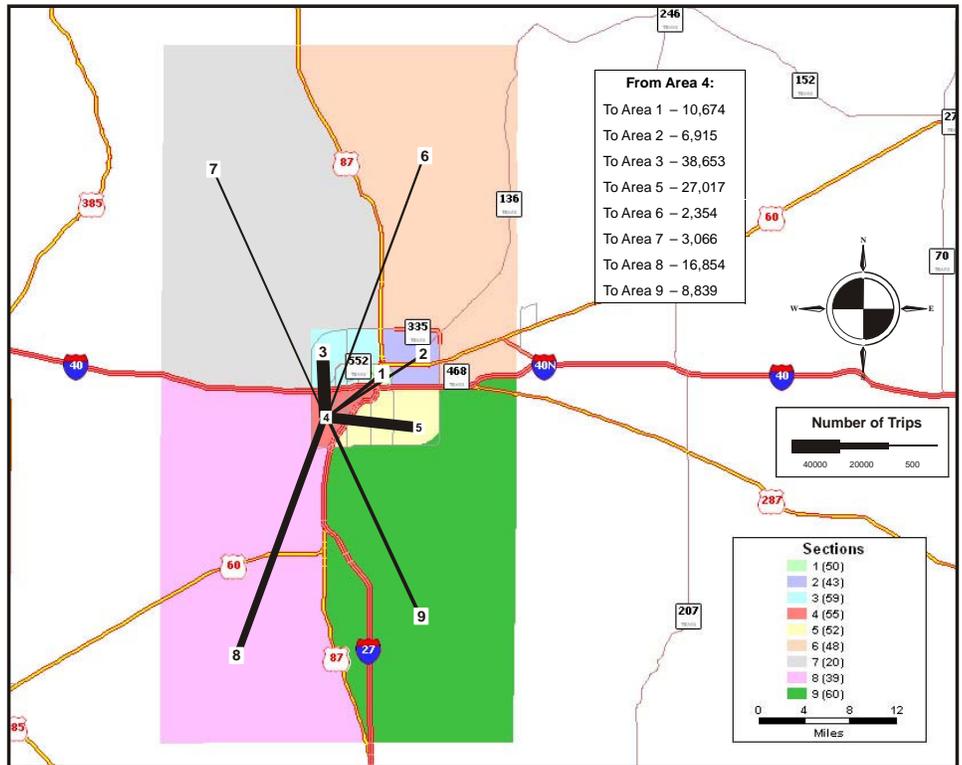


Figure 27. Person Trip Interchanges between Area 4 and Areas 1-3 and Areas 5-9.

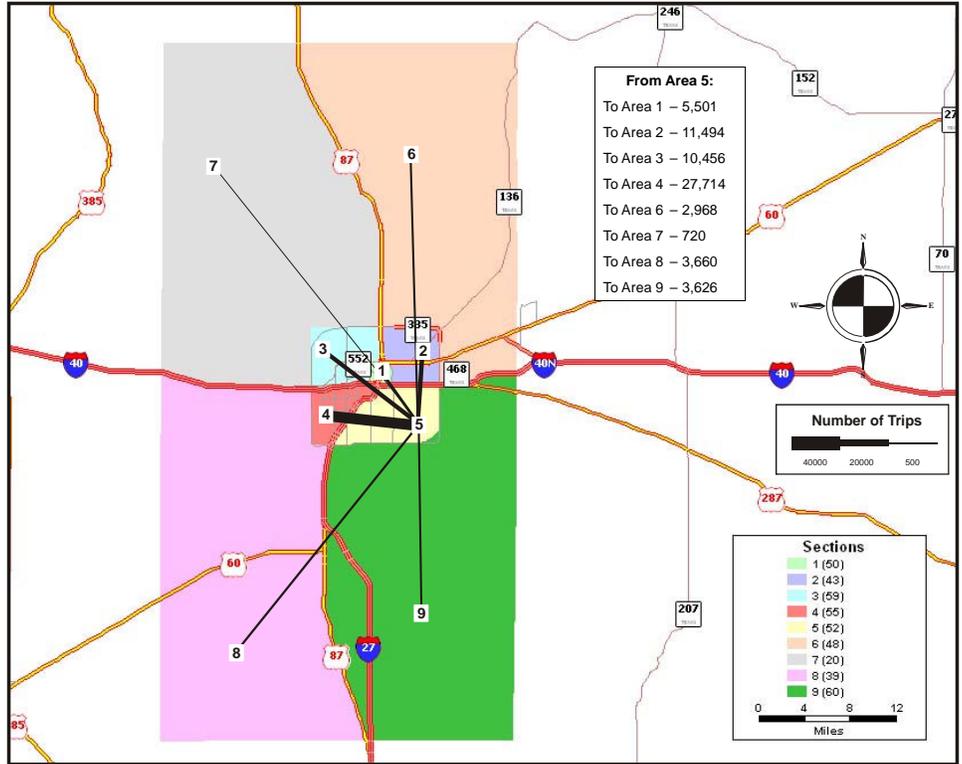


Figure 28. Person Trip Interchanges between Area 5 and Areas 1-4 and Areas 6-9.

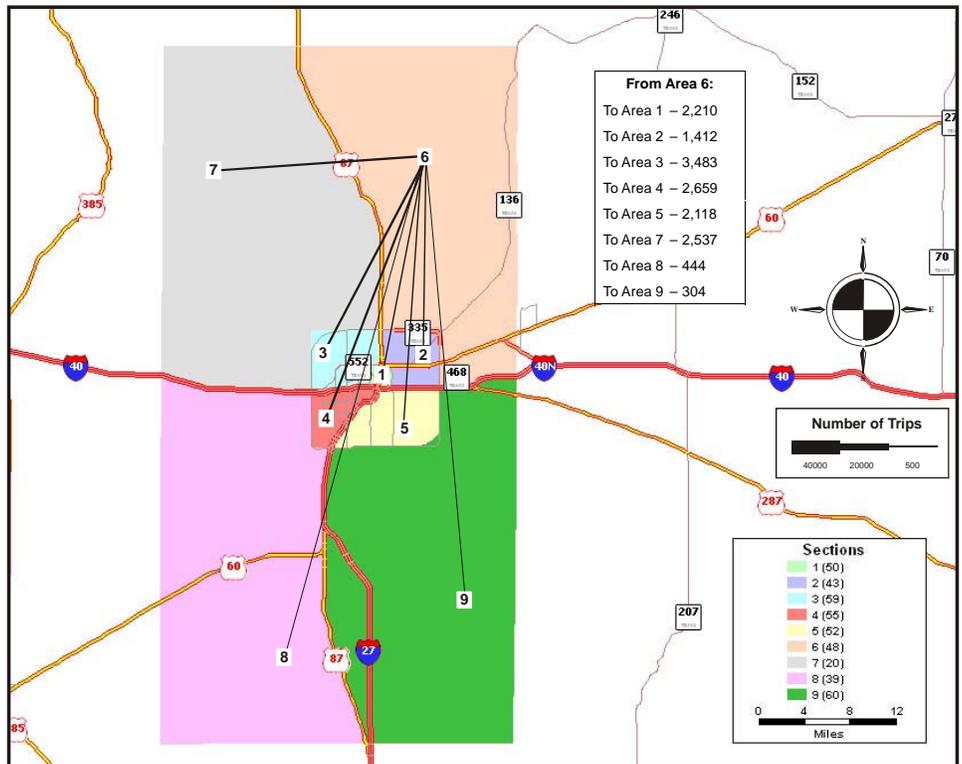


Figure 29. Person Trip Interchanges between Area 6 and Areas 1-5 and Areas 7-9.

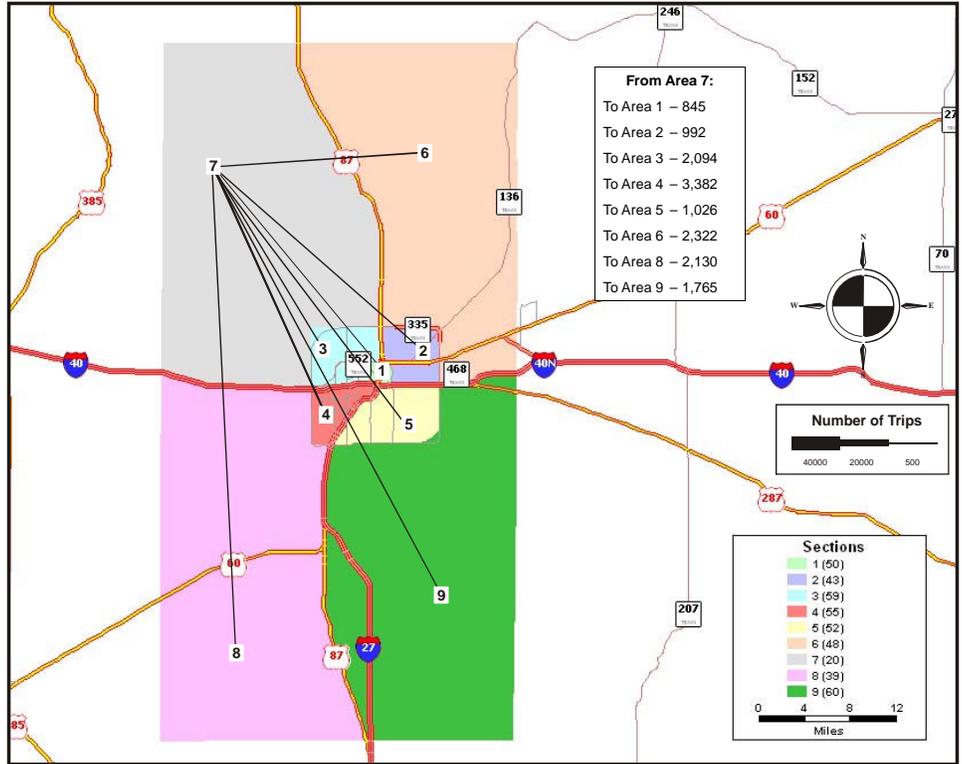


Figure 30. Person Trip Interchanges between Area 7 and Areas 1-6 and Areas 8-9.

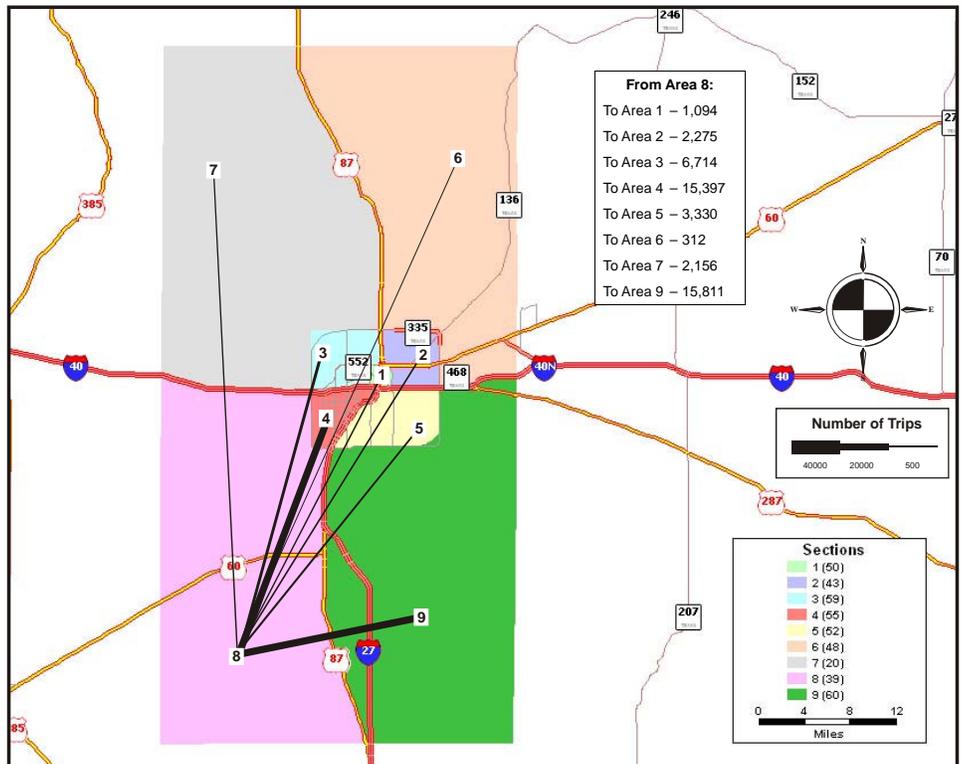


Figure 31. Person Trip Interchanges between Area 8 and Areas 1-7 and Area 9.

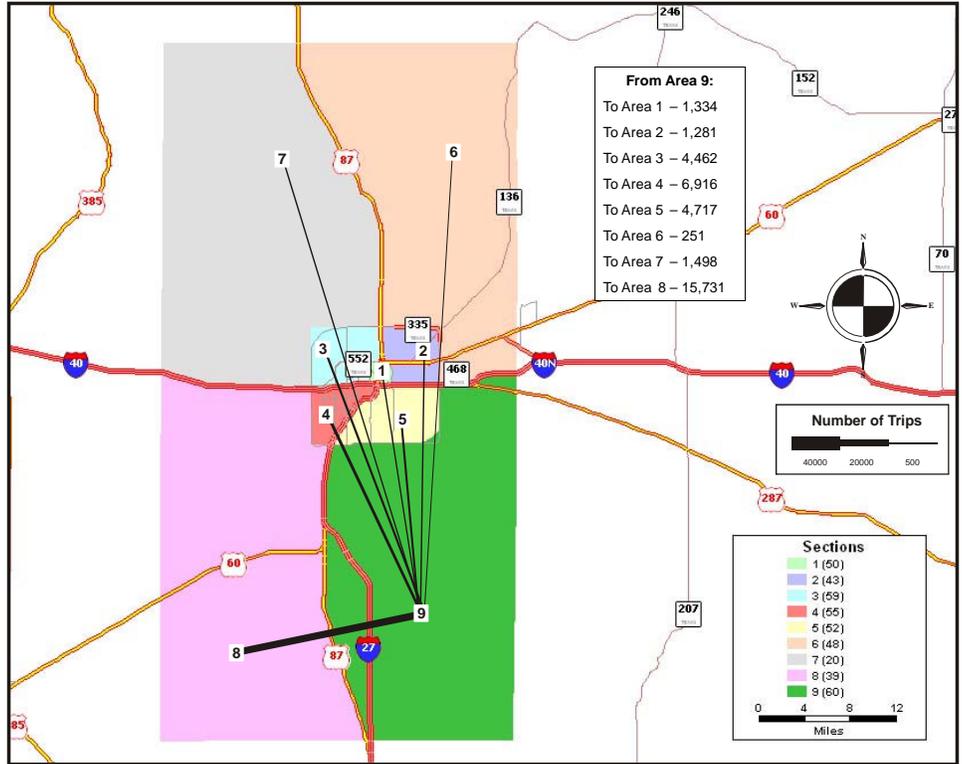


Figure 32. Person Trip Interchanges between Area 9 and Areas 1-8.

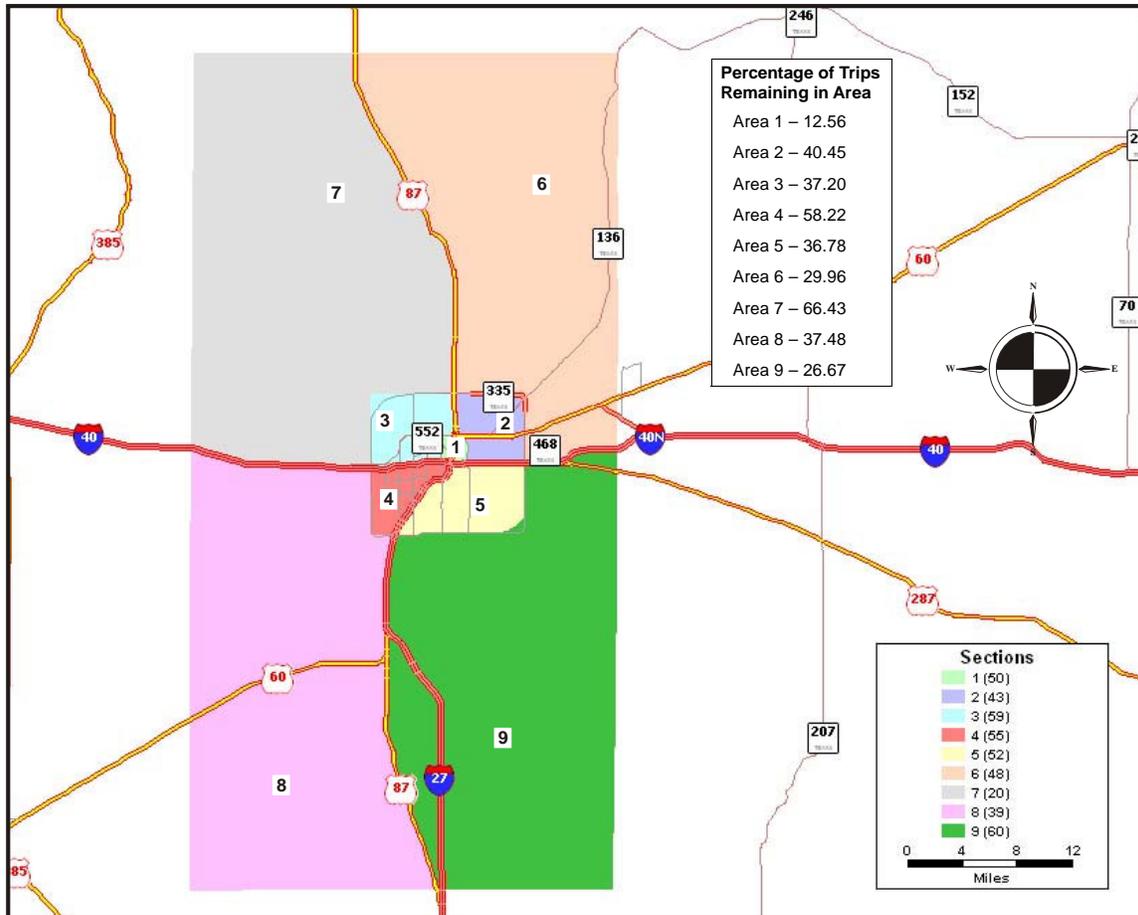


Figure 33. Percent of Person Trips that Remain within Each Sub-Region.

SUMMARY DATA

Table 6 provides household survey summary data for the two-county Amarillo study area (Potter and Randall counties) and for travel surveys conducted in the San Antonio MPO planning area (Bexar, Comal, Guadalupe, Kendall, and Wislon counties), the Rio Grand Valley Region (Cameron and Hidalgo counties), and the Austin area (CAMPO - Capital Area Metropolitan Planning Area) comprised of Bastrop, Caldwell, Hays, Travis, and Williamson counties. Data, more detailed than that provided in this report, has been provided to TxDOT’s TPP Division for their use in updating the two-county study area travel demand model.

Table 6. Comparative Travel Survey Data for Selected Texas Urban Areas.

| Urban Area | Potter and Randall Counties | Bexar, Comal, Guadalupe, Kendall, and Wilson Counties | Cameron and Hidalgo Counties | Bastrop, Caldwell, Hays, Travis, and Williamson Counties |
|---|------------------------------------|--|-------------------------------------|---|
| Demographics | | | | |
| Household Population | 229,693 | 1,791,418 | 1,030,139 | 1,486,117 |
| Licensed Drivers | 164,001 | 1,187,489 | 585,035 | 1,060,436 |
| Number of Households | 88,507 | 641,487 | 294,825 | 574,225 |
| Average Household Size | 2.60 | 2.76 | 3.49 | 2.59 |
| Number of Motor Vehicles | 178,784 | 1,237,425 | 555,443 | 1,065,898 |
| Motor Vehicles per Household | 2.02 | 1.84 | 1.88 | 1.86 |
| Number of Daily Trips by Mode | | | | |
| Total Person Trips | 830,583 | 5,935,476 | 3,583,480 | 5,093,023 |
| Automobile-Driver Trips | 523,635 | 3,720,350 | 2,023,295 | 3,353,404 |
| Motor Vehicle Passenger Trips | 265,544 | 1,677,538 | 1,243,681 | 1,292,793 |
| School Bus Trips | 7,872 | 216,088 | 188,781 | 138,951 |
| Walk Trips | 11,563 | 221,605 | 93,337 | 189,256 |
| Public Transit Trips | 7,872 | 42,868 | 9,889 | 43,475 |
| Bicycle Trips | 2,002 | 11,993 | 6,571 | 31,470 |
| Commercial Vehicle Trips | 9,583 | 34,162 | 14,250 | 37,962 |
| Other Modes/Taxi | 1,873 | 9,137 | 3,709 | 5,712 |
| Number of Daily Trips by Destination/Purpose | | | | |
| Trips to Home | 300,993 | 2,193,323 | 1,322,199 | 1,866,466 |
| Trips to Work | 86,938 | 614,988 | 353,105 | 661,624 |
| Trips Work Related | 25,302 | 162,585 | 109,126 | 158,955 |
| Trips to Shop | 95,421 | 625,747 | 333,674 | 489,085 |
| Trips to Pick-Up/Drop Off Passenger | 77,014 | 592,170 | 410,936 | 434,359 |
| Trips for Personal Business | 73,011 | 573,779 | 228,654 | 356,953 |
| Trips for Social/Recreation | 68,556 | 329,141 | 276,680 | 359,071 |
| Trips for School K-12 | 46,973 | 399,655 | 292,203 | 302,415 |
| Trips for School Post Secondary | 4,897 | 56,547 | 46,762 | 56,962 |
| Trips for Meal/Eat | 46,049 | 330,357 | 171,603 | 325,699 |
| Trips to Change Mode | 2,836 | 56,550 | 24,622 | 76,436 |
| Other Trips | 2,590 | 588 | 3,596 | 4,986 |
| Daily Trip Rates | | | | |
| Person Trips per Person | 3.6 | 3.3 | 3.5 | 3.4 |
| Person Trips per Household | 9.4 | 9.3 | 12.2 | 8.9 |
| Trip Lengths and Durations | | | | |
| Average Person Trip Length in Miles | 4.7 | 6.9 | 6.5 | 7.8 |
| Average Vehicle Trip Length in Miles | 5.0 | 7.4 | 7.0 | 8.4 |
| Average Person Trip Duration in Minutes | 5.9 | 12.5 | 9.2 | 12.8 |
| Average Vehicle Trip Duration in Minutes | 6.1 | 13.3 | 9.8 | 13.8 |
| Vehicle Miles of Travel (VMT) | | | | |
| Household Internal VMT | 2,623,845 | 24,820,000 | 14,245,000 | 26,463,000 |

Source: Selected Texas Household Travel Surveys.

TERMINOLOGY

Person Trip – A person trip is the movement of an individual from one location to another location. In the household survey, trips were recorded for all persons in a surveyed household.

Automobile Driver Trip – An automobile driver trip is the movement of a vehicle from one location to another location. These trips are recorded for the person driving the vehicle. These are also referred to as vehicle trips.

Trip Purpose – The trip purpose is stated in terms of the purpose at the location the trip began and the purpose at the location the trip ended. For example, a trip that began at home and ended at work would be referred to as a home-based work (HBW) trip. There were 11 trip purposes used in the household survey.

Trip Activity – The trip activity is stated in terms of the activity at the location the trip began and/or the location the trip ended. There were 22 activities used in household survey. The activities were recorded in the survey and post processed to identify the trip purpose associated with each trip activity.

Vehicle Availability – Vehicle availability is the number of vehicles available to members of a household for making trips.

Vehicle Occupancy – Vehicle occupancy is the number of occupants in a vehicle during a vehicle trip including the driver of the vehicle.

Mode of Travel – Mode of travel is the physical means used by the household member to make a trip. The modes are walk, vehicle driver, vehicle passenger, carpool driver, carpool passenger, vanpool driver, vanpool passenger, cargo driver, cargo passenger, commercial service vehicle driver, commercial service vehicle passenger, public transportation, school bus, taxi/paid limousine, bicycle, motorcycle/moped, and other.

Home-Based Work (HBW) Trip – An HBW trip is a trip that has one end of the trip at home and the other end of the trip at work. An HBW trip is non-directional in terms of the trip activity/trip purpose, i.e., a trip from home to work or from work to home is defined as an HBW trip.

Home-Based Non-Work (HBNW) Trip – An HBNW is a trip with one end of the trip at home and the other of the trip at a location other than the work location. An HBNW trip is non-directional in terms of the trip activity/trip purpose.

Non-Home-Based (NHB) Trip – An NHB trip is a trip with neither end of the trip at home.

Trip Productions – Trip productions are the number of trips produced by members of a household. Trip productions are calculated by trip purpose and mode of travel. Production rates are the number of trip productions divided by the number of households that produced those trips.

Trip Attractions – Trip attractions are the number of trips attracted to a particular category of land use. Trip attractions are calculated by trip purpose and mode of travel for different land use categories.

APPENDIX A
COMPARISON OF THE 1990 AND 2006-2007 AMARILLO
METROPOLITAN PLANNING ORGANIZATION HOUSEHOLD TRAVEL
SURVEYS

Comprehensive travel surveys were conducted in five urban areas in Texas in 1990 and 1991, including Amarillo. Both the 1990 and the 2006-2007 Amarillo Household Travel Surveys included the same two counties - Potter and Randall. The Amarillo travel survey study area remained unchanged.

This appendix presents a comparison of data between the 1990 household survey and the 2006/2007 household survey. While some data appear directly comparable, there are two significant differences between the 1990 survey and the 2006/2007 survey to keep in mind when examining the data presented in this appendix. First, the 1990 household survey collected travel data for all members of a household five years of age and older. The 2006/2007 household survey collected travel and activity data for all members of a household regardless of age.

Second, the methodology used to expand the survey data was different in 1990 than in 2006/2007. In 1990, the household survey data were expanded based on the number of sampled households within each strata of household size and income to the estimated population of households in each strata. The 2006/2007 household survey was expanded based on the number of sampled persons by age cohort and gender to the estimated number of households in each strata and the estimated number of persons in each age cohort and gender.

These two differences in the 1990 and 2006/2007 may explain some of the differences in the following comparisons.

HOUSEHOLD CHARACTERISTICS

Characteristics of the household influence travel behavior. In this section, selected household characteristics from the 1990 household survey are compared to the 2006-2007 household survey.

Table A-1 shows the estimated population, households, and persons per household for 1990, 2000, and 2006-2007. Travel demand is more closely correlated with the number of households than with the total population. The travel demand model uses household size and household

income as the independent variables in the trip production models. Consequently, the travel demand forecasts are very sensitive to the independent forecast of these two household characteristics.

Table A-1. Estimated Population, Households, and Persons per Household.

| Geographic Area | Year | Population | Number of Households | Persons per Household |
|------------------------|-------------|-------------------|-----------------------------|------------------------------|
| Two-County Area | 1990 | 187,547 | 71,897 | 2.6 |
| Two-County Area | 2000 | 217,858 | 82,000 | 2.7 |
| Two-County Area | 2006-2007 | 232,804 | 88,507 | 2.6 |

Source: U.S. Census Bureau for 1990 and 2000.

Household Size

Figure A-1 shows the distribution of households by household size estimated from the 1990 and 2006-2007 household travel surveys. The percentage of households with four and five-plus persons decreased, and the percentage of two-person households increased from 1990 to 2006. In effect, no changes occurred in the one- and three-person households during the same period. Despite these individual household size changes from 1990 through 2006, the average persons per household for 1990 and 2006 is essentially the same, with 2.6 persons per household.

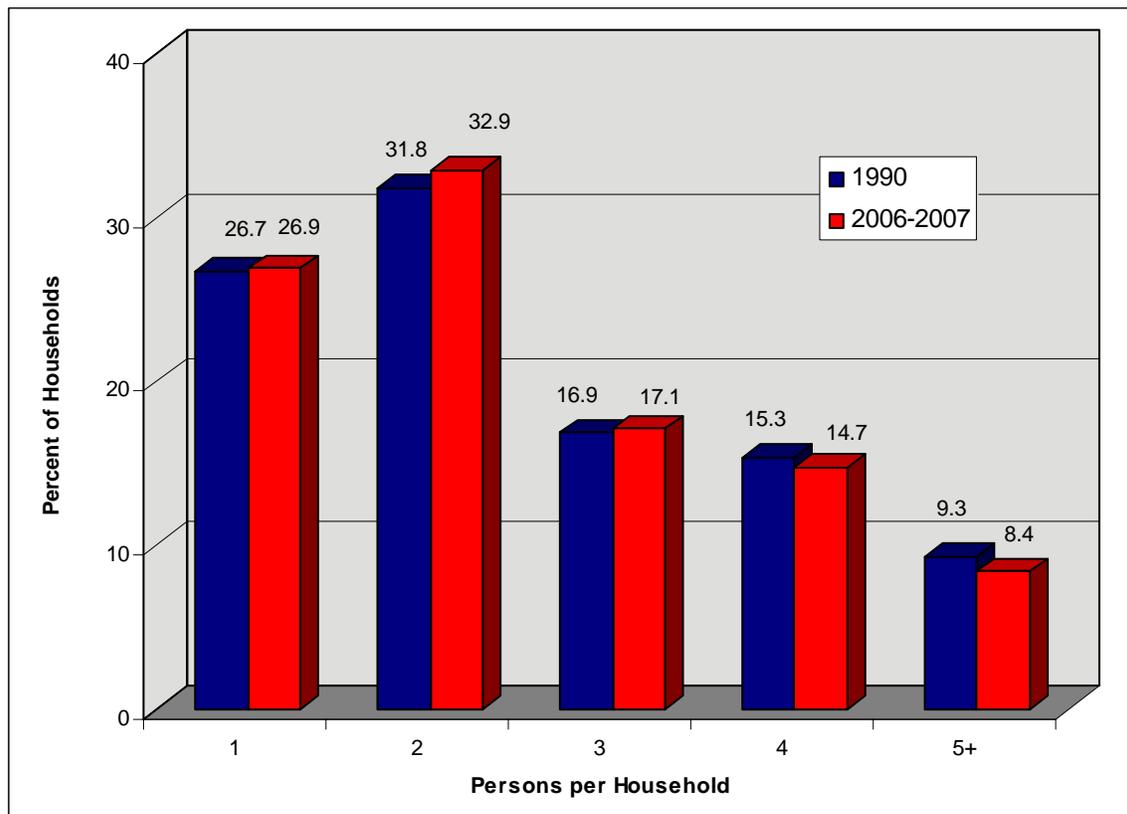


Figure A-1. Distribution of Households by Household Size.

Household Income

Figure A-2 shows the distribution of households by household income range estimated from the 1990 and 2006-2007 Amarillo Household Travel Surveys. The surveys asked for the combined household income for a previous calendar year, 1989 for the 1990 survey and 2005 for the 2006-07 survey. Accounting for inflation between 1989 and 2005, household income appears to be increasing.

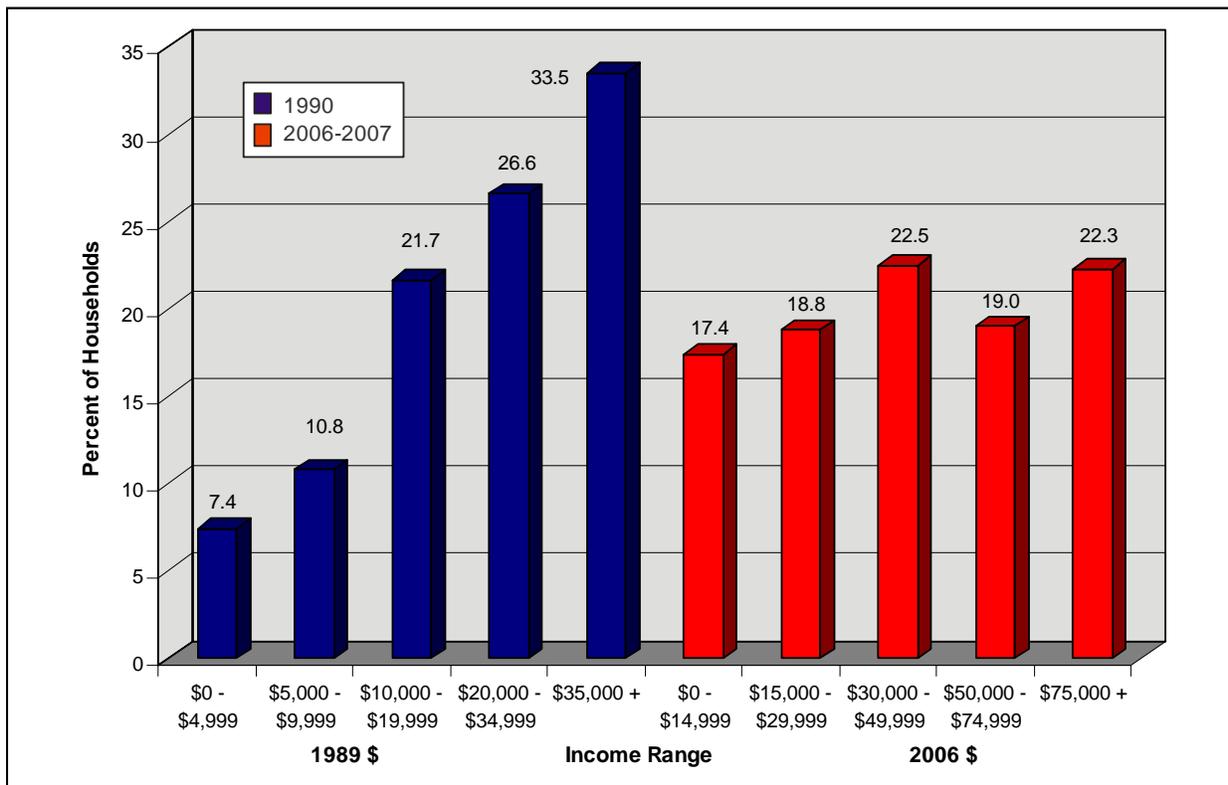


Figure A-2. Distribution of Households by Household Income Range.

Household Vehicle Availability

Figure A-3 shows the distribution of households by the number of vehicles available. In 1990, 58 percent of households had two or more vehicles available, and in 2006, 69 percent of households had two or more vehicles available. On average, more vehicles were available to households in 2006 than in 1990, indicative of rising household incomes.

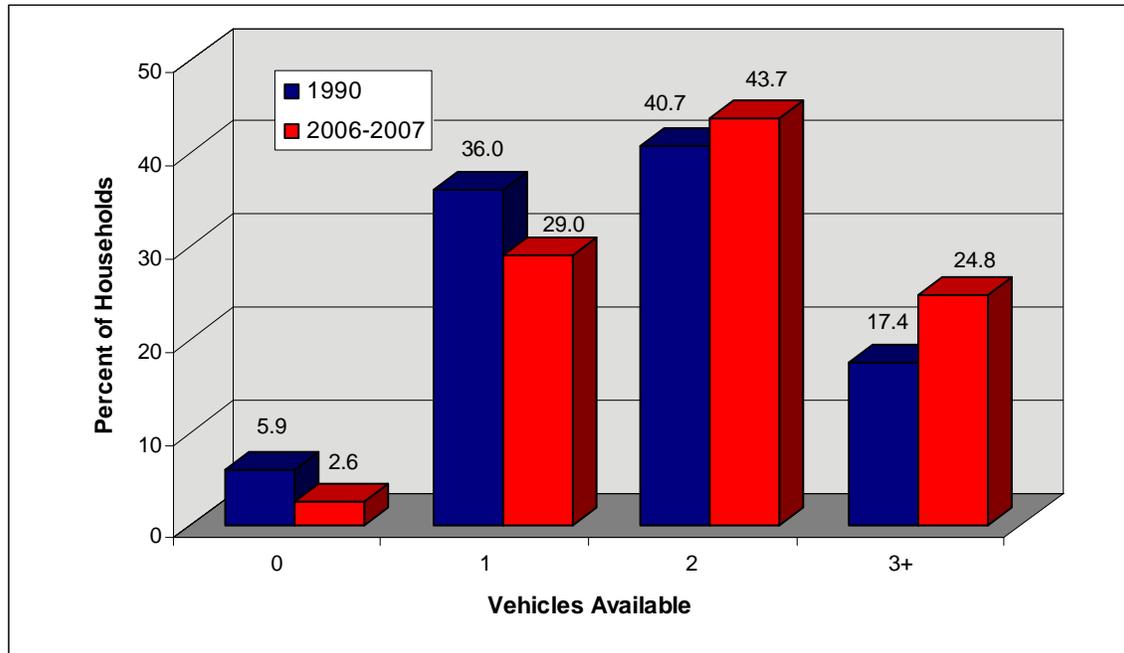


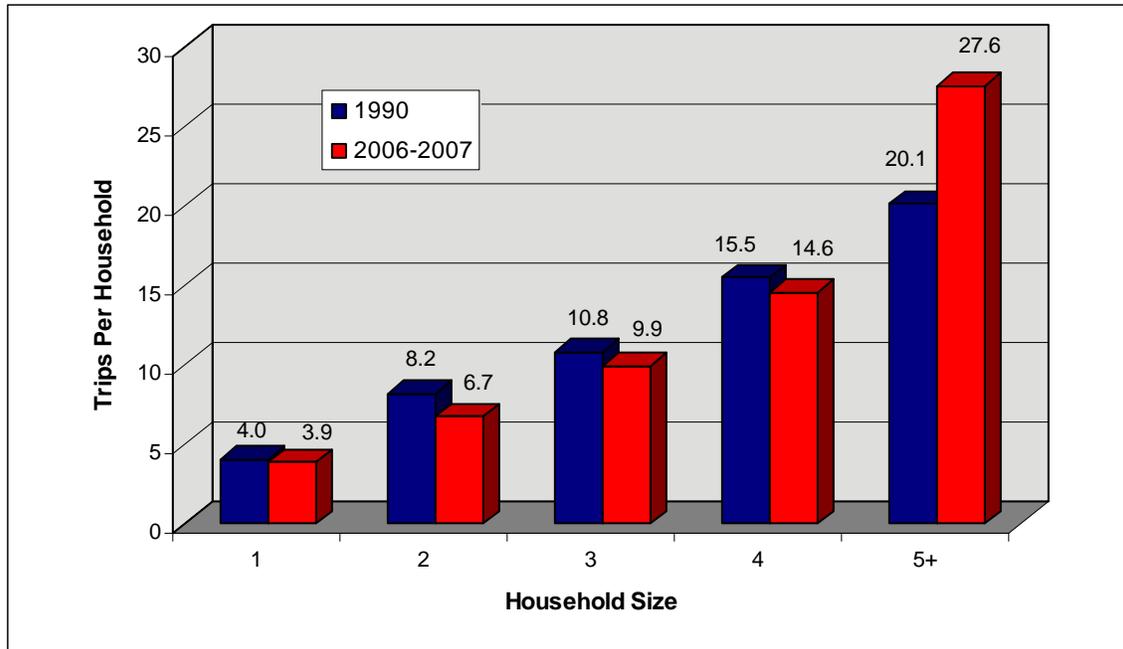
Figure A-3. Distribution of Households by Number of Vehicles Available.

TRAVELER CHARACTERISTICS

Traveler characteristics are related to the household and personal characteristics of the traveler. The most important traveler characteristics estimated from the household travel survey are trip rates by trip purpose. In this section, trip rates for all trip purposes combined are related to the household characteristics of size and income. For the travel demand model, trip rates are estimated for each trip purpose separately (HBW, HBNW, and NHB). HBNW trips may be further divided into HBNW educational, HBNW retail, and HBNW other, etc.

Household Trip Rates

Figure A-4 shows the internal person trip rates by household size estimated from the 1990 and 2006-07 household travel surveys. The average internal person trip rate for all trip purposes combined was 9.8 trips per day, per household, in 1990 and 9.4 trips per day, per household, in 2006. Statistically, these rates are the same. The difference may be attributed to random chance.



Source: 1990 and 2006-07 Amarillo MPO Household Travel Survey Data.

Figure A-4. Household Trip Rates by Household Size.

Travel by Age Cohort

A total of 187,855 persons were represented in the 1990 household travel survey and a total of 229,693 persons were represented in the 2006-07 household travel survey. Table A-2 shows the distribution of these persons by age cohort and the percent of persons making zero trips on their survey day by age cohort. The distributions of persons by age cohort and the percent of persons making zero trips by age cohort are remarkably similar for the two surveys. There may be some under reporting of trips or under representation of persons in the 25-29 and 30-34 age cohorts in the 2006-2007 survey, and in the 20-24 age cohort category in the 1990 survey.

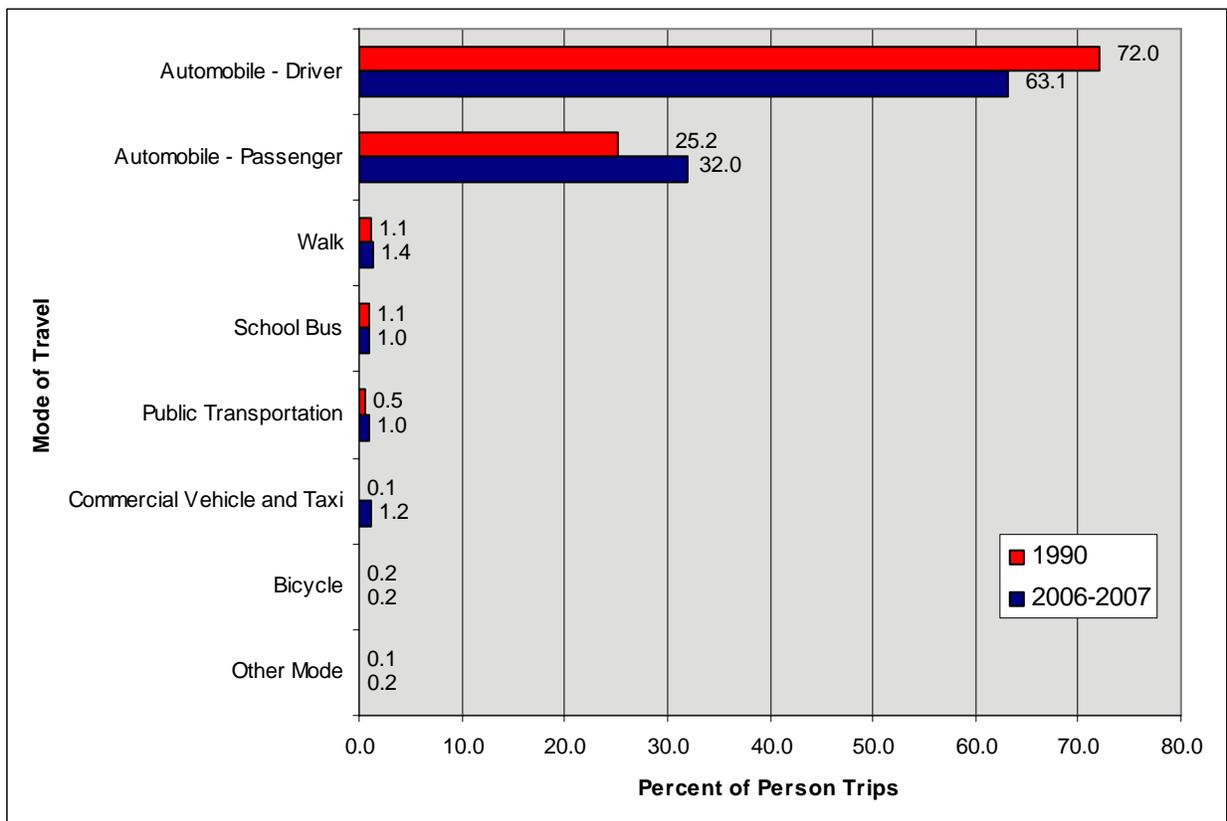
Table A-2. Percent of Persons per Age Cohort and Percent Making Zero Internal Trips.

| Age Cohort | 1990 Percent of Persons | 2006-2007 Percent of Persons | 1990 Percent of Persons Making Zero Internal Trips | 2006-2007 Percent of Persons Making Zero Internal Trips |
|--------------|-------------------------|------------------------------|--|---|
| 0-15 | 20.37 | 22.50 | 10.66 | 9.48 |
| 16-19 | 5.79 | 7.05 | 14.00 | 9.87 |
| 20-24 | 6.26 | 7.42 | 16.12 | 21.61 |
| 25-29 | 8.26 | 7.37 | 10.86 | 14.93 |
| 30-34 | 9.37 | 6.54 | 10.24 | 14.08 |
| 35-39 | 9.46 | 7.18 | 6.76 | 6.33 |
| 40-44 | 8.82 | 7.16 | 12.45 | 13.62 |
| 45-49 | 5.80 | 7.77 | 15.86 | 15.14 |
| 50-54 | 5.26 | 6.33 | 15.36 | 19.23 |
| 55-59 | 4.91 | 4.95 | 15.10 | 18.97 |
| 60-64 | 4.62 | 4.15 | 21.48 | 19.15 |
| 65-69 | 4.15 | 3.04 | 23.47 | 15.14 |
| 70-74 | 3.19 | 2.87 | 35.51 | 23.28 |
| 75-79 | 1.98 | 2.29 | 41.40 | 15.97 |
| 80 + | 1.78 | 3.38 | 51.76 | 33.23 |
| Total | 100 | 100 | 14.89 | 14.63 |

Source: 1990 and 2006-07 Amarillo MPO Household Travel Survey data.

MODE OF TRAVEL

Figure A-5 shows the distribution of person trips by mode. Automobile travel accounted for 97 percent of person trips in 1990 and 95 percent of person trips in 2006-07. The apparent decline in automobile use is countered by an increase in “Public Transportation” use from one-half percent of person trips in 1990 to 1 percent of person trips in 2006-07. In addition, “Commercial Vehicle and Taxi” use appears to have increased from less than 1 percent of person trips in 1990 to 1.2 percent of person trips in 2006-07. The differences may be attributed to improvements in the survey methods since 1990.



Source: 1990 and 2006-07 Amarillo MPO Household Travel Survey Data.

Figure A-5. Distribution of Person Trips by Mode of Travel.

AMOUNT OF TRAVEL

Several measures are used to record the amount of travel, the number of person trips, the number of vehicle trips, the trip distances in miles, the trip durations in minutes and the VMT.

Internal and External Person Trips

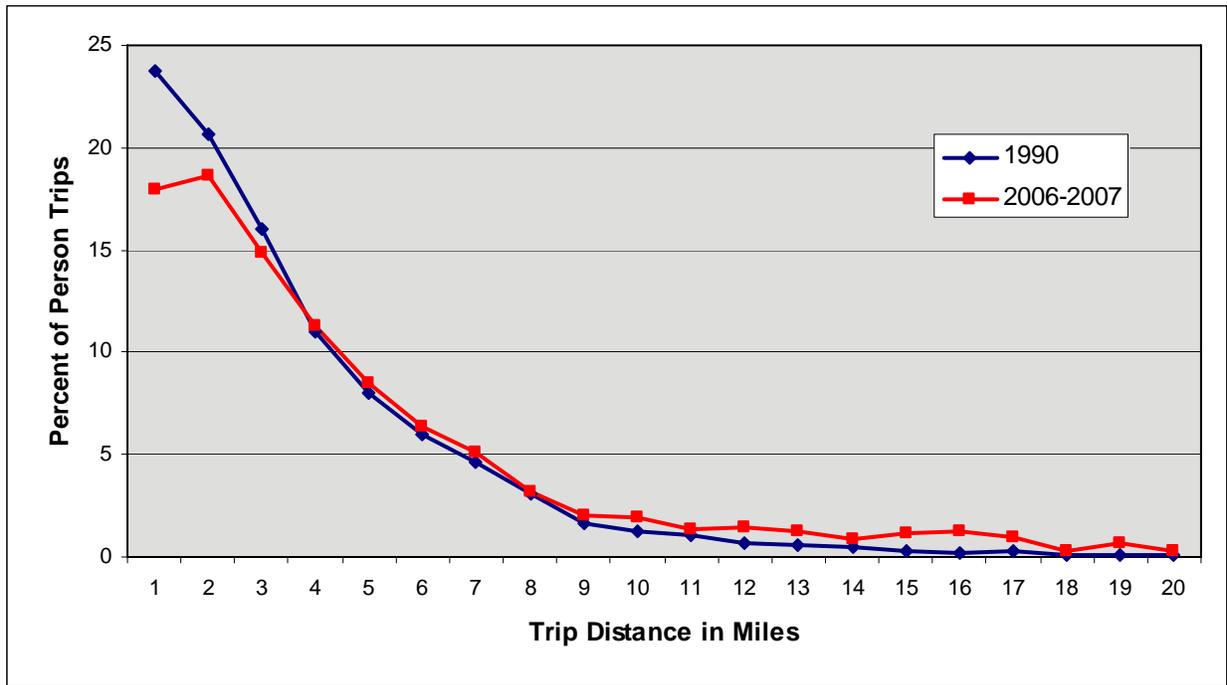
Internal trips are produced and attracted to traffic analysis zones within the study area boundaries. External-local trips are produced outside the study and are attracted to traffic analysis zones inside the study area or vice versa. For example, persons commuting from Carson County into Potter County for work are making external-local trips.

External-through trips pass through the study area without making any stops. For example, many trips being made on IH-40 and US-87/IH-27 pass through the study area without making any stops within the study area.

Travel demand models are better able to forecast internal trips than external-local and external-through trips. For internal trips, the travel demand modeler has knowledge of the household characteristics and trip production rates of the trip makers and knowledge of the workplace characteristics and their associated trip attraction characteristics. The modeler does not have this knowledge about travelers making external-local and external-through trips.

Trip Distance

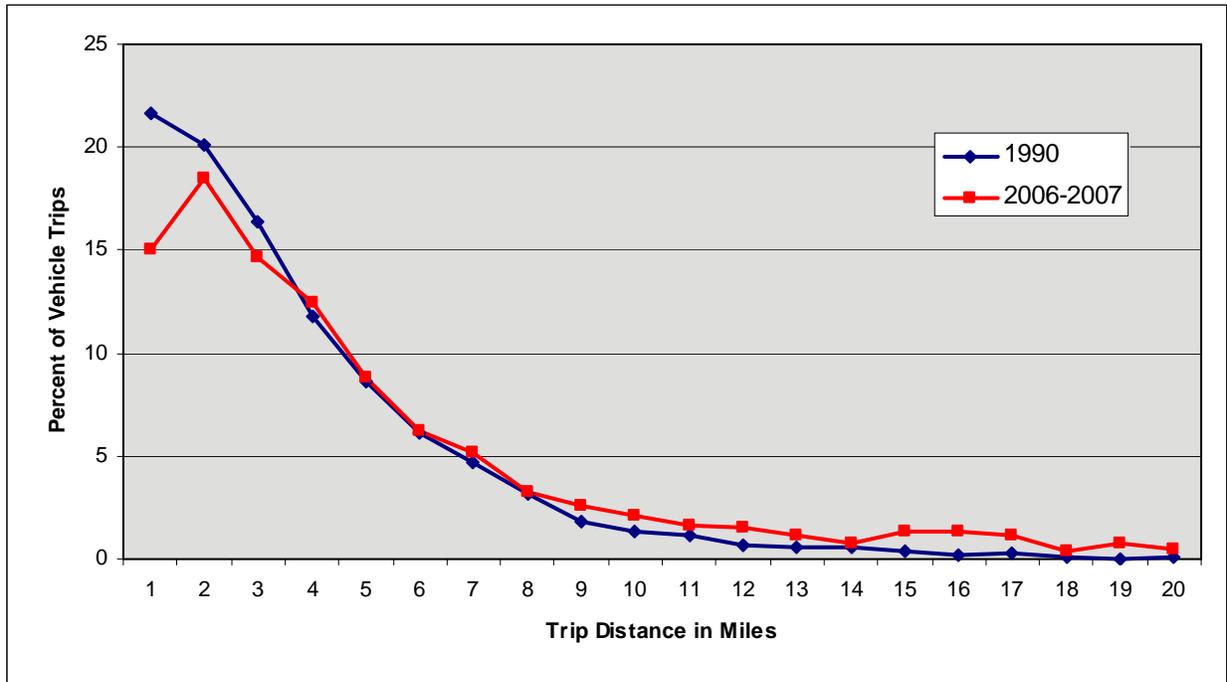
Figure A-6 shows the distribution of internal person trips by the length of the trip in miles for the 1990 and 2006-07 household travel surveys. The average person trip length was 3.7 miles for the 1990 household travel survey and 4.7 miles for the 2006-07 household travel survey.



Source: 1990 and 2006-07 Amarillo MPO Household Travel Survey Data.

Figure A-6. Distribution of Person Trips by Trip Distance in Miles.

Figure A-7 shows the distribution of internal vehicle trips by the length of the trip in miles for the 1990 and 2006-07 household travel surveys. The average vehicle trip length was 3.8 miles for the 1990 household travel survey and 5.0 miles for the 2006-07 household travel survey.

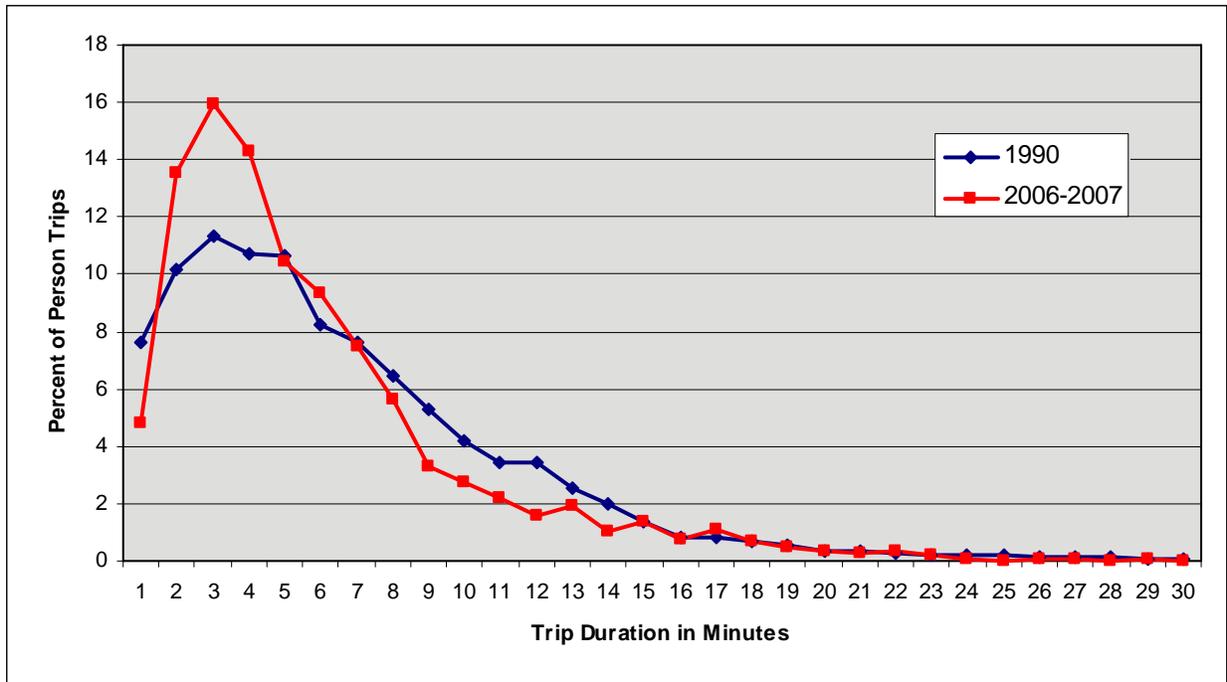


Source: 1990 and 2006-07 Amarillo MPO Household Travel Survey Data.

Figure A-7. Distribution of Vehicle Trips by Trip Distance in Miles.

Trip Duration

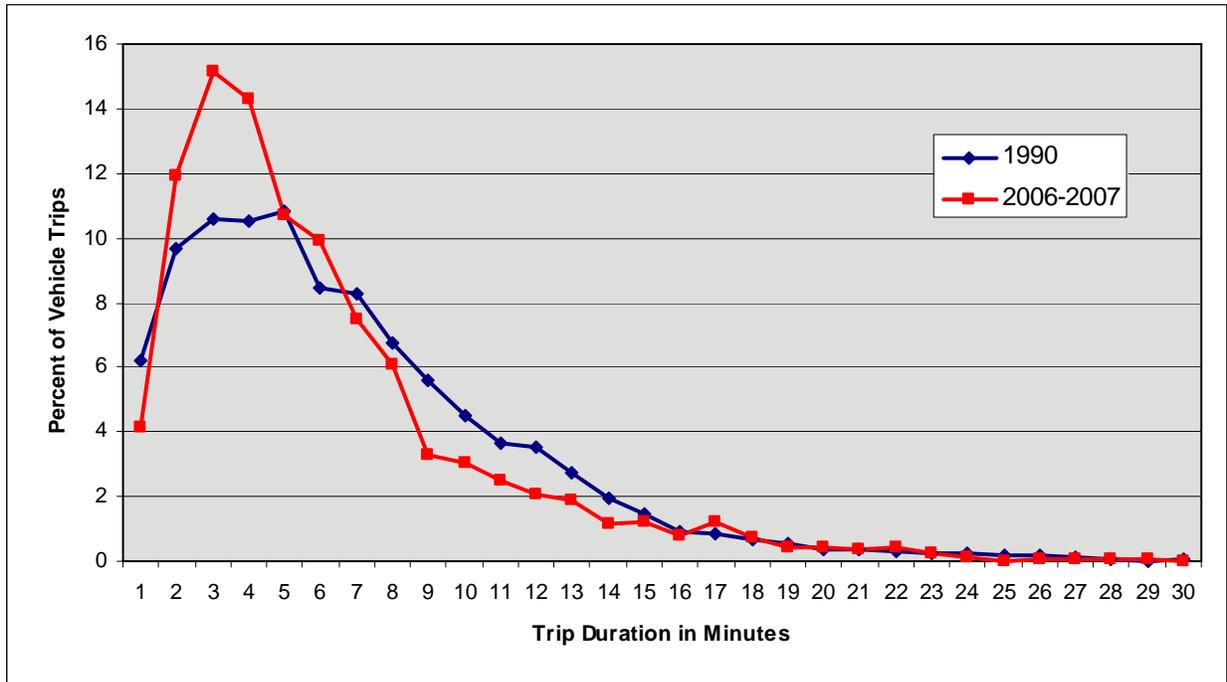
Figure A-8 shows the distribution of internal person trips by the duration of the trip in minutes for the 1990 and 2006-07 household travel surveys. The average person trip duration was 6.6 minutes for the 1990 household travel survey and 5.9 minutes for the 2006-07 household travel survey.



Source: 1990 and 2006-07 Amarillo MPO Household Travel Survey Data.

Figure A-8. Distribution of Person Trips by Trip Duration in Minutes.

Figure A-9 shows the distribution of internal vehicle trips by the duration of the trip in minutes for the 1990 and 2006-07 household travel surveys. The average vehicle trip duration was 6.9 minutes for the 1990 household travel survey and 6.1 minutes for the 2006-07 household travel survey.



Source: 1990 and 2006-07 Amarillo MPO Household Travel Survey Data.

Figure A-9. Distribution of Vehicle Trips by Trip Duration in Minutes.

Vehicle Miles of Travel (VMT)

The VMT was 1,923,465 for vehicle trips internal to the two-county study area in the 1990 household travel survey and 2,623,845 for vehicle trips internal to the two-county study area in the 2006-07 household travel survey. This is not the total VMT for the study area, as the VMT associated with external-local, external-through, commercial vehicle, visitor travel, and intrazonal trips are not included in the estimate. The average VMT per household was 27 for the 1990 household travel survey and 30 for the 2006-07 household travel survey, representing a 10 percent increase in VMT per household.

SUMMARY

The 1990 and 2006-07 trip rates cross classified by household size and household income are similar, this result was expected. The travel demand model assumes that household trip rates by trip purpose do not change during the 20-year forecast. What often does change over time is the number of households, the household size, the household income, and the geographic location of the households.

Travel demand forecasts are very dependent on the accuracy of the household demographic and household location forecasts. In reality, there are some changes in trip rates over time even accounting for changes in household size and household income, thus the need to periodically update household travel surveys.

APPENDIX B
HOUSEHOLD SURVEY INSTRUMENT

| Location 6: Where did you go next? | How did you get to Location 6? | What did you do here? |
|---|---|--|
| When did you arrive at this location? ____ : ____ AM PM | What was the primary type of transportation you used? <input type="checkbox"/> Car, van, truck <input type="checkbox"/> Motorcycle or moped <input type="checkbox"/> Bicycle <input type="checkbox"/> Taxi <input type="checkbox"/> Walk <input type="checkbox"/> School Bus <input type="checkbox"/> Service vehicle <input type="checkbox"/> Cargo transport vehicle <input type="checkbox"/> Transit Bus (Specify Route: _____) <input type="checkbox"/> Other _____ | What did you do at this location? (check all that apply) <input type="checkbox"/> Return Home from your primary job <input type="checkbox"/> Return Home for another reason <input type="checkbox"/> Meal/Eat <input type="checkbox"/> Work <input type="checkbox"/> Work Related <input type="checkbox"/> School <input type="checkbox"/> Personal Business: _____ <input type="checkbox"/> Volunteer/Civic <input type="checkbox"/> Shop <input type="checkbox"/> Social/Recreation/Entertainment <input type="checkbox"/> Pick-Up/Drop-Off Passenger <input type="checkbox"/> Change Mode (car to bus): _____ |
| What is the Name of this Location? _____ | If you used a car, van, or truck for this trip . . . | When did you leave this location? ____ : ____ AM PM |
| What Type of Place/Business Is This? _____ | Were you the . . .? <input type="checkbox"/> driver <input type="checkbox"/> passenger | ----- OR ----- |
| Street Address (be as specific as possible) _____ & _____ | Including yourself, how many TOTAL people were in the vehicle? _____ | This was the last place I went today |
| Nearest Intersecting Streets _____ | Including yourself, how many people from YOUR HOUSEHOLD were in the vehicle? _____ | |
| City _____ County _____ State _____ | Was this a . . .? <input type="checkbox"/> Carpool <input type="checkbox"/> Vanpool <input type="checkbox"/> Neither | |
| Zip Code (if known) _____ | Please indicate the following about the vehicle: Year _____ Make/Model _____ | |
| Did you walk more than a block from a parking lot or bus stop to get to this location? <input type="checkbox"/> Yes If YES: where did you park? <input type="checkbox"/> No | Was this your household's vehicle? Yes No | |
| | How much did you pay to park? \$ _____ | |

If You Forgot a Stop Anywhere Between This Location and Location 7, Provide the Information Below:

For what reason did you stop between Location 6 and 7? _____ Number of minutes stopped: _____

Where did you stop? _____

Name of Stop Location Address or Nearest Intersection City, County, and State

| Location 3: Where did you go next? | How did you get to Location 3? | What did you do here? |
|---|---|--|
| When did you arrive at this location? ____ : ____ AM PM | What was the primary type of transportation you used? <input type="checkbox"/> Car, van, truck <input type="checkbox"/> Motorcycle or moped <input type="checkbox"/> Bicycle <input type="checkbox"/> Taxi <input type="checkbox"/> Walk <input type="checkbox"/> School Bus <input type="checkbox"/> Service vehicle <input type="checkbox"/> Cargo transport vehicle <input type="checkbox"/> Transit Bus (Specify Route: _____) <input type="checkbox"/> Other _____ | What did you do at this location? (check all that apply) <input type="checkbox"/> Return Home from your primary job <input type="checkbox"/> Return Home for another reason <input type="checkbox"/> Meal/Eat <input type="checkbox"/> Work <input type="checkbox"/> Work Related <input type="checkbox"/> School <input type="checkbox"/> Personal Business: _____ <input type="checkbox"/> Volunteer/Civic <input type="checkbox"/> Shop <input type="checkbox"/> Social/Recreation/Entertainment <input type="checkbox"/> Pick-Up/Drop-Off Passenger <input type="checkbox"/> Change Mode (car to bus): _____ |
| What is the Name of this Location? _____ | If you used a car, van, or truck for this trip . . . | When did you leave this location? ____ : ____ AM PM |
| What Type of Place/Business Is This? _____ | Were you the . . .? <input type="checkbox"/> driver <input type="checkbox"/> passenger | ----- OR ----- |
| Street Address (be as specific as possible) _____ & _____ | Including yourself, how many TOTAL people were in the vehicle? _____ | This was the last place I went today |
| Nearest Intersecting Streets _____ | Including yourself, how many people from YOUR HOUSEHOLD were in the vehicle? _____ | |
| City _____ County _____ State _____ | Was this a . . .? <input type="checkbox"/> Carpool <input type="checkbox"/> Vanpool <input type="checkbox"/> Neither | |
| Zip Code (if known) _____ | Please indicate the following about the vehicle: Year _____ Make/Model _____ | |
| Did you walk more than a block from a parking lot or bus stop to get to this location? <input type="checkbox"/> Yes If YES: where did you park? <input type="checkbox"/> No | Was this your household's vehicle? Yes No | |
| | How much did you pay to park? \$ _____ | |

If You Forgot a Stop Anywhere Between This Location and Location 4, Provide the Information Below:

For what reason did you stop between Location 3 and 4? _____ Number of minutes stopped: _____

Where did you stop? _____

Name of Stop Location Address or Nearest Intersection City, County, and State

| Location 2: Where did you go next? | How did you get to Location 2? | What did you do here? |
|---|---|--|
| When did you arrive at this location? ____ : ____ AM PM | What was the primary type of transportation you used? <input type="checkbox"/> Car, van, truck <input type="checkbox"/> Motorcycle or moped <input type="checkbox"/> Bicycle <input type="checkbox"/> Taxi <input type="checkbox"/> Walk <input type="checkbox"/> School Bus <input type="checkbox"/> Service vehicle <input type="checkbox"/> Cargo transport vehicle <input type="checkbox"/> Transit Bus (Specify Route: _____) <input type="checkbox"/> Other _____ | What did you do at this location? (check all that apply) <input type="checkbox"/> Return Home from your primary job <input type="checkbox"/> Return Home for another reason <input type="checkbox"/> Meal/Eat <input type="checkbox"/> Work <input type="checkbox"/> Work Related <input type="checkbox"/> School <input type="checkbox"/> Personal Business: _____ <input type="checkbox"/> Volunteer/Civic <input type="checkbox"/> Shop <input type="checkbox"/> Social/Recreation/Entertainment <input type="checkbox"/> Pick-Up/Drop-Off Passenger <input type="checkbox"/> Change Mode (car to bus): _____ |
| What is the Name of this Location? _____ | If you used a car, van, or truck for this trip . . . | When did you leave this location? ____ : ____ AM PM |
| What Type of Place/Business Is This? _____ | Were you the . . .? <input type="checkbox"/> driver <input type="checkbox"/> passenger | ----- OR ----- |
| Street Address (be as specific as possible) _____ & _____ | Including yourself, how many TOTAL people were in the vehicle? _____ | This was the last place I went today |
| Nearest Intersecting Streets _____ | Including yourself, how many people from YOUR HOUSEHOLD were in the vehicle? _____ | |
| City _____ County _____ State _____ | Was this a . . .? Carpool Vanpool Neither | |
| Zip Code (if known) _____ | Please indicate the following about the vehicle: Year _____ Make/Model _____ | |
| Did you walk more than a block from a parking lot or bus stop to get to this location? <input type="checkbox"/> Yes If YES: where did you park? <input type="checkbox"/> No | Was this your household's vehicle? Yes No | |
| | How much did you pay to park? \$ _____ | |

If You Forgot a Stop *Anywhere* Between This Location and Location 3, Provide the Information Below:

For what reason did you stop between Location 2 and 3? _____ Number of minutes stopped: _____

Where did you stop? _____

Name of Stop Location Address or Nearest Intersection City, County, and State

| Location 7: Where did you go next? | How did you get to Location 7? | What did you do here? |
|---|---|--|
| When did you arrive at this location? ____ : ____ AM PM | What was the primary type of transportation you used? <input type="checkbox"/> Car, van, truck <input type="checkbox"/> Motorcycle or moped <input type="checkbox"/> Bicycle <input type="checkbox"/> Taxi <input type="checkbox"/> Walk <input type="checkbox"/> School Bus <input type="checkbox"/> Service vehicle <input type="checkbox"/> Cargo transport vehicle <input type="checkbox"/> Transit Bus (Specify Route: _____) <input type="checkbox"/> Other _____ | What did you do at this location? (check all that apply) <input type="checkbox"/> Return Home from your primary job <input type="checkbox"/> Return Home for another reason <input type="checkbox"/> Meal/Eat <input type="checkbox"/> Work <input type="checkbox"/> Work Related <input type="checkbox"/> School <input type="checkbox"/> Personal Business: _____ <input type="checkbox"/> Volunteer/Civic <input type="checkbox"/> Shop <input type="checkbox"/> Social/Recreation/Entertainment <input type="checkbox"/> Pick-Up/Drop-Off Passenger <input type="checkbox"/> Change Mode (car to bus): _____ |
| What is the Name of this Location? _____ | If you used a car, van, or truck for this trip . . . | When did you leave this location? ____ : ____ AM PM |
| What Type of Place/Business Is This? _____ | Were you the . . .? <input type="checkbox"/> driver <input type="checkbox"/> passenger | ----- OR ----- |
| Street Address (be as specific as possible) _____ & _____ | Including yourself, how many TOTAL people were in the vehicle? _____ | This was the last place I went today |
| Nearest Intersecting Streets _____ | Including yourself, how many people from YOUR HOUSEHOLD were in the vehicle? _____ | |
| City _____ County _____ State _____ | Was this a . . .? Carpool Vanpool Neither | |
| Zip Code (if known) _____ | Please indicate the following about the vehicle: Year _____ Make/Model _____ | |
| Did you walk more than a block from a parking lot or bus stop to get to this location? <input type="checkbox"/> Yes If YES: where did you park? <input type="checkbox"/> No | Was this your household's vehicle? Yes No | |
| | How much did you pay to park? \$ _____ | |

If You Forgot a Stop *Anywhere* Between This Location and Location 8, Provide the Information Below:

For what reason did you stop between Location 7 and 8? _____ Number of minutes stopped: _____

Where did you stop? _____

Name of Stop Location Address or Nearest Intersection City, County, and State

| Location 8: Where did you go next? | How did you get to Location 8? | What did you do here? |
|---|---|--|
| When did you arrive at this location? ____ : ____ AM PM | What was the primary type of transportation you used? <input type="checkbox"/> Car, van, truck <input type="checkbox"/> Motorcycle or moped <input type="checkbox"/> Bicycle <input type="checkbox"/> Taxi <input type="checkbox"/> Walk <input type="checkbox"/> School Bus <input type="checkbox"/> Service vehicle <input type="checkbox"/> Cargo transport vehicle <input type="checkbox"/> Transit Bus (Specify Route: _____) <input type="checkbox"/> Other _____ | What did you do at this location? (check all that apply) <input type="checkbox"/> Return Home from your primary job <input type="checkbox"/> Return Home for another reason <input type="checkbox"/> Meal/Eat <input type="checkbox"/> Work <input type="checkbox"/> Work Related <input type="checkbox"/> School <input type="checkbox"/> Personal Business: _____ <input type="checkbox"/> Volunteer/Civic <input type="checkbox"/> Shop <input type="checkbox"/> Social/Recreation/Entertainment <input type="checkbox"/> Pick-Up/Drop-Off Passenger <input type="checkbox"/> Change Mode (car to bus): _____ |
| What is the Name of this Location? _____ | If you used a car, van, or truck for this trip . . . | When did you leave this location? ____ : ____ AM PM |
| What Type of Place/Business Is This? _____ | Were you the . . .? <input type="checkbox"/> driver <input type="checkbox"/> passenger | ----- OR ----- |
| Street Address (be as specific as possible) _____ & _____ | Including yourself, how many TOTAL people were in the vehicle? _____ | This was the last place I went today |
| Nearest Intersecting Streets _____ | Including yourself, how many people from YOUR HOUSEHOLD were in the vehicle? _____ | |
| City _____ County _____ State _____ | Was this a . . .? Carpool Vanpool Neither | |
| Zip Code (if known) _____ | Please indicate the following about the vehicle: Year _____ Make/Model _____ | |
| Did you walk more than a block from a parking lot or bus stop to get to this location? <input type="checkbox"/> Yes If YES: where did you park? <input type="checkbox"/> No | Was this your household's vehicle? Yes No | |
| | How much did you pay to park? \$ _____ | |

If You Forgot a Stop Anywhere Between This Location and Location 9, Provide the Information Below:

For what reason did you stop between Location 8 and 9? _____ Number of minutes stopped: _____

Where did you stop? _____

Name of Stop Location Address or Nearest Intersection City, County, and State

| Location 1: Where did you go first? | How did you get to Location 1? | What did you do here? |
|---|---|--|
| When did you arrive at this location? ____ : ____ AM PM | What was the primary type of transportation you used? <input type="checkbox"/> Car, van, truck <input type="checkbox"/> Motorcycle or moped <input type="checkbox"/> Bicycle <input type="checkbox"/> Taxi <input type="checkbox"/> Walk <input type="checkbox"/> School Bus <input type="checkbox"/> Service vehicle <input type="checkbox"/> Cargo transport vehicle <input type="checkbox"/> Transit Bus (Specify Route: _____) <input type="checkbox"/> Other _____ | What did you do at this location? (check all that apply) <input type="checkbox"/> Return Home from your primary job <input type="checkbox"/> Return Home for another reason <input type="checkbox"/> Meal/Eat <input type="checkbox"/> Work <input type="checkbox"/> Work Related <input type="checkbox"/> School <input type="checkbox"/> Personal Business: _____ <input type="checkbox"/> Volunteer/Civic <input type="checkbox"/> Shop <input type="checkbox"/> Social/Recreation/Entertainment <input type="checkbox"/> Pick-Up/Drop-Off Passenger <input type="checkbox"/> Change Mode (e.g., car to bus): _____ |
| What is the Name of this Location? _____ | If you used a car, van, or truck for this trip . . . | When did you leave this location? ____ : ____ AM PM |
| What Type of Place/Business Is This? _____ | Were you the . . .? <input type="checkbox"/> driver <input type="checkbox"/> passenger | ----- OR ----- |
| Street Address (be as specific as possible) _____ & _____ | Including yourself, how many TOTAL people were in the vehicle? _____ | This was the last place I went today |
| Nearest Intersecting Streets _____ | Including yourself, how many people from YOUR HOUSEHOLD were in the vehicle? _____ | |
| City _____ County _____ State _____ | Was this a . . .? Carpool Vanpool Neither | |
| Zip Code (if known) _____ | Please indicate the following about the vehicle: Year _____ Make/Model _____ | |
| Did you walk more than a block from a parking lot or bus stop to get to this location? <input type="checkbox"/> Yes If YES: where did you park? <input type="checkbox"/> No | Was this your household's vehicle? Yes No | |
| | How much did you pay to park? \$ _____ | |

If You Forgot a Stop Anywhere Between This Location and Location 2, Provide the Information Below:

For what reason did you stop between Location 1 and 2? _____ Number of minutes stopped: _____

Where did you stop? _____

Name of Stop Location Address or Nearest Intersection City, County, and State

Start Location: At 3:00 am today, were you . . . ?

At Home

Please proceed to "Location 1" on the next page.

Traveling (you were driving or flying at 3:00 am today)

What type of transportation were you using?

- Car, van, truck Motorcycle or moped
 Bicycle Taxi
 Walk School Bus
 Service vehicle Cargo transport vehicle
 Transit Bus (Specify Route: _____)
 Other _____

Were you the . . . ? driver passenger

Including yourself, how many TOTAL people were in the vehicle? _____

Including yourself, how many people from YOUR HOUSEHOLD were in the vehicle? _____

Was this a . . . ? Carpool Vanpool Neither

Please indicate the following about the vehicle:

Year _____ Make/Model _____

Was this your household's vehicle? Yes No

At Work, or

At Another Location

What is the Name of this Location? _____

What Type of Place/Business Is This? _____

Street Address (be as specific as possible) _____

City _____ County _____ State _____

Zip Code (if known) _____

_____ & _____
 Nearest Intersecting Streets

At what time did you leave your starting location? _____

Location 9: Where did you go next?

When did you arrive at this location?

____ : ____ AM PM

What is the Name of this Location? _____

What Type of Place/Business Is This? _____

Street Address (be as specific as possible) _____

_____ & _____
 Nearest Intersecting Streets

City _____ County _____ State _____

Zip Code (if known) _____

Did you walk **more than a block** from a parking lot or bus stop to get to this location?

- Yes If YES: where did you park? _____
 No

How did you get to Location 9?

What was the primary type of transportation you used?

- Car, van, truck Motorcycle or moped
 Bicycle Taxi
 Walk School Bus
 Service vehicle Cargo transport vehicle
 Transit Bus (Specify Route: _____)
 Other _____

If you used a car, van, or truck for this trip . . .

Were you the . . . ? driver passenger

Including yourself, how many TOTAL people were in the vehicle? _____

Including yourself, how many people from YOUR HOUSEHOLD were in the vehicle? _____

Was this a . . . ? Carpool Vanpool Neither

Please indicate the following about the vehicle:

Year _____ Make/Model _____

Was this your household's vehicle? Yes No

How much did you pay to park? \$ _____

What did you do here?

What did you do at this location? (check all that apply)

- Return Home from your primary job
 Return Home for another reason
 Meal/Eat
 Work
 Work Related
 School
 Personal Business: _____
 Volunteer/Civic
 Shop
 Social/Recreation/Entertainment
 Pick-Up/Drop-Off Passenger
 Change Mode (car to bus): _____

When did you leave this location?

____ : ____ AM PM

.....OR.....

This was the last place I went today

If You Forgot a Stop *Anywhere* Between This Location and Location 10, Provide the Information Below:

For what reason did you stop between Location 9 and 10? _____

Number of minutes stopped: _____

Where did you stop? _____

Name of Stop Location

Address or Nearest Intersection

City, County, and State

Location 10: Where did you go next?

When did you arrive at this location?
____ : ____ AM PM

What is the Name of this Location?

What Type of Place/Business Is This?

Street Address (be as specific as possible)

&
Nearest Intersecting Streets

City _____ County _____ State _____

Zip Code (if known) _____

Did you walk **more than a block** from a parking lot or bus stop to get to this location?

Yes If YES: where did you park?
 No _____

How did you get to Location 10?

What was the primary type of transportation you used?

- Car, van, truck
- Motorcycle or moped
- Bicycle
- Taxi
- Walk
- School Bus
- Service vehicle
- Cargo transport vehicle
- Transit Bus (Specify Route: _____)
- Other _____

If you used a car, van, or truck for this trip . . .

Were you the . . .? driver passenger

Including yourself, how many TOTAL people were in the vehicle? _____

Including yourself, how many people from YOUR HOUSEHOLD were in the vehicle? _____

Was this a . . .? Carpool Vanpool Neither

Please indicate the following about the vehicle:

Year _____ Make/Model _____

Was this your household's vehicle? Yes No

How much did you pay to park? \$ _____

What did you do here?

What did you do at this location? (check all that apply)

- Return Home from your primary job
- Return Home for another reason
- Meal/Eat
- Work
- Work Related
- School
- Personal Business: _____
- Volunteer/Civic
- Shop
- Social/Recreation/Entertainment
- Pick-Up/Drop-Off Passenger
- Change Mode (car to bus): _____

When did you leave this location?

____ : ____ AM PM

----- OR -----

This was the last place I went today

If You Forgot a Stop *Anywhere* Between This Location and the "Additional Locations" Provide the Information Below:

For what reason did you stop between Location 10 and 11? _____ Number of minutes stopped: _____

Where did you stop? _____
Name of Stop Location Address or Nearest Intersection City, County, and State

Work Information

Do you currently work on a regular basis? Yes No

If you do not currently work, please go to the "Start Location" section.

How many different jobs do you have? _____

If you have more than one job, please refer to the job at which you spend the most hours for the following questions.

In which type of industry do you work?

- Agriculture, forestry, fishing and hunting, mining
- Construction
- Manufacturing
- Wholesale trade
- Retail Trade
- Transportation, warehousing, utilities
- Information
- Finance, insurance, real estate, rental, leasing
- Professional, scientific, management, administrative, and water management services
- Education, health, social services
- Arts, entertainment, recreation, accommodation, and food service
- Other services (except public administration)
- Public administration

Of the last seven days, how many did you work at home? ___ days

What is the location of your workplace?

Name of Employer

Type of Business

Street Address

City, _____ County _____ State

Zip Code

&

Nearest Intersecting Streets

Is this location an office in the home or a business operated out of the home? Yes No

Instructions

Please tell us about **ALL locations you traveled to, what you did, and how you got there**, beginning at 3 a.m. Include all changes in location you made whether you were traveling by vehicle, bus, bike, walking, or other means. Give us as much information as you can about each location or place you stopped, no matter how short. For example, if you stop to get gas on your way to work, please record both locations separately. Also, try to record as much detail about the address as possible. For example, write 123 N. Main Street instead of 123 Main.

If you have any questions, please call 1-888-801-5368

ETC Institute

School Information

Do you currently attend school? Yes No
(This includes all levels of school, from day care to college.)

If you do not currently attend school, please go to the "Work Information" section on the next page.

What type of school do you attend?

Day Care/Preschool

K-12 (Elementary – High School)

If your answer to the question is below this line, please also answer the question below.

Vocational or trade school

Post-secondary (College, professional school)

Other (Specify): _____

Are you enrolled for 12 or more hours? Yes No

Bike Use

Of the last seven days,
How many did you ride a bike? ____ days

What was the most common purpose for your bike trip(s)?

Work

School

Shopping

Visiting

Recreation/Exercise

Other (Specify): _____

Additional Locations

Use the additional sheets provided if you have more than 10 Locations where you made a stop.

Questions?

If you have any questions,
please call **1-800-801-5368** toll-free.

ETC Institute
725 W. Frontier Circle
Olathe, KS 66061

Comments

Thank you for your participation in this important survey.

**** Example ****

| | | |
|--|---|--|
| Location 2: <i>Where did you go next?</i> | How did you get to Location 2? | What did you do here? |
| When did you arrive at this location? ____ : ____ AM PM What is the Name of this Location? _____ What Type of Place/Business Is This? _____ Street Address (be as specific as possible) _____ & _____ Nearest Intersecting Streets _____ City County State _____ Zip Code (if known) _____ Did you walk more than a block from a parking lot or bus stop to get to this location? <input type="checkbox"/> Yes If YES: where did you park? _____ <input type="checkbox"/> No _____ | What was the primary type of transportation you used? <input type="checkbox"/> Car, van, truck <input type="checkbox"/> Motorcycle or moped <input type="checkbox"/> Bicycle <input type="checkbox"/> Taxi <input type="checkbox"/> Walk <input type="checkbox"/> School Bus <input type="checkbox"/> Commercial/Service vehicle <input type="checkbox"/> Transit Bus (Specify Route: _____) <input type="checkbox"/> Other _____ <div style="background-color: #cccccc; padding: 2px;">If you used a car, van, or truck for this trip . . .</div> Were you the . . .? <input type="checkbox"/> driver <input type="checkbox"/> passenger Including yourself, how many TOTAL people were in the vehicle? _____ Including yourself, how many people from YOUR HOUSEHOLD were in the vehicle? _____ Was this a . . .? Carpool Vanpool Neither Please indicate the following about the vehicle: Year _____ Make/Model _____ Was this your household's vehicle? Yes No How much did you pay to park? \$ _____ | What did you do at this location? (check all that apply) <input type="checkbox"/> Return Home from your primary job <input type="checkbox"/> Return Home for another reason <input type="checkbox"/> Meal/Eat <input type="checkbox"/> Work <input type="checkbox"/> Work Related <input type="checkbox"/> School <input type="checkbox"/> Personal Business: _____ <input type="checkbox"/> Volunteer/Civic <input type="checkbox"/> Shop <input type="checkbox"/> Social/Recreation/Entertainment <input type="checkbox"/> Pick-Up/Drop-Off Passenger <input type="checkbox"/> Change Mode (car to bus): _____ <div style="background-color: #cccccc; padding: 2px;">When did you leave this location?</div> ____ : ____ AM PM ----- OR ----- This was the last place I went today |

If You Stopped *Anywhere* Between This Location and Location 3, Provide the Information Below:

For what reason did you stop between Location 2 and 3? _____ Number of minutes stopped: _____

Where did you stop? _____

Name of Stop Location Address or Nearest Intersection City, County, and State

Each person completes an activity/travel diary for **ONE** day

See Example on back page

Circle your travel date: Monday Tuesday Wednesday Thursday Friday

Write Travel Date: _____

Person's Age: _____ Gender: Male Female

2005 AMARILLO REGIONAL HOUSEHOLD ACTIVITY/TRAVEL SURVEY

**Amarillo
Metropolitan
Planning
Organization**



APPENDIX C
HOUSEHOLD SURVEY DATA FILE FORMATS

DATA FILE FORMATS

Household / Activity Travel Survey

- Record Type 1, Household Information Data
- Record Type 2, Personal Information Data
- Record Type 3, Vehicle Information Data
- Record Type 4, Activity/Trip Data

8 pages

GPS Data

- Part 1, GPS Administrative Data File Matrix
- Part 2, Matrix of GPS Data Items

1 page

1 page

HOUSEHOLD / ACTIVITY SURVEY
 DATA FILE FORMAT

This file will contain information collected for each household: Record Type 1 - Household Information, Record Type 2 – Person Information, Record Type 3 – Vehicle Information, and Record Type 4 – Trip/Activity Information

RECORD TYPE 1 – HOUSEHOLD INFORMATION

This file will contain the household information collected for each household on Part 1, Household Information in the Household Survey. The data should be in an ASCII data file.

| <u>Item</u> | <u>Begin</u> | <u>End</u> | <u>Type</u> | <u>FIELD COLUMNS</u> | |
|-----------------------------|--------------|------------|--------------|----------------------|--|
| | | | | <u>Format</u> | <u>Description</u> |
| 1. Record Type | 1 | 2 | Numeric RJ | I2 | Code indicating type of record. Here it should be 1. |
| 2. Sample Number | 3 | 9 | Numeric RJ | I7 | Unique non-zero number assigned to each household participating in survey. |
| 3. Phone | 10 | 21 | Alphanum. LJ | A12 | Phone number of household. |
| 4. Month | 22 | 23 | Numeric RJ | I2 | Month of travel day. |
| 5. Day | 24 | 25 | Numeric RJ | I2 | Day of the month of travel. |
| 6. Day of Week | 26 | 26 | Numeric RJ | I1 | Day of the week travel was recorded; 1-Monday, 2-Tuesday, 3-Wednesday, 4-Thursday, 5-Friday. |
| 7. Advance Letter | 27 | 28 | Numeric RJ | I2 | Code indicating if household received advance letter; 1-Yes, 2-No, 98-Don't Know, 99-Refused. |
| 8. Address | 29 | 88 | Alphanum. LJ | A60 | Street address or nearest cross streets of household. |
| 9. City | 89 | 118 | Alphanum. LJ | A30 | City where household is located. |
| 10. Zip Code | 119 | 123 | Numeric RJ | I5 | Zip code of household address. |
| 11. HH County | 124 | 125 | Numeric RJ | I2 | Code indicating county in which household is located: 1-Randall, 2 – Potter, 3 – Lubbock, 98 – Unknown, 99-Refused |
| 12. HH Study Area | 126 | 126 | Alphanum | I1 | Code indicating study area in which household address/TAZ zone is located. Use 'A' if zone is in the Amarillo study area, and 'L' if the zone is in the Lubbock study area. Field should be left blank if location is not within one of these two MPO study areas. |
| 13. HH Zone | 127 | 131 | Numeric RJ | I5 | TAZ number where household is located. The HH address must be coded to a zone in one of the MPOs modeling areas. Unknown zones should be coded 8888. |
| 14. Longitude | 132 | 141 | Numeric RJ | F10.6 | Longitude of household address. If unknown, it should be coded 888.8888. |
| 15. Latitude | 142 | 151 | Numeric RJ | F10.6 | Latitude of household address. If unknown, it should be coded 888.8888. |
| 16. Number Persons | 152 | 153 | Numeric RJ | I2 | Number of persons living in residence. |
| 17. Number Employed | 154 | 155 | Numeric RJ | I2 | Number of persons in household that are employed either full or part time. |
| 18. Vehicles Available | 156 | 157 | Numeric RJ | I2 | Number of cars, vans, light trucks, motorcycles available for use by the HH; 98-Don't Know, 99-Refused. |
| 19. Vehicles Owned / Leased | 158 | 159 | Numeric RJ | I2 | Combined number of cars, vans, light trucks, motorcycles owned or leased by members of the household, 98-Don't know 99-Refused. |
| 20. Bikes | 160 | 161 | Numeric RJ | I2 | Number of working bicycles available for use by members of household; 98-Don't know, 99-Refused. |
| 21. Residence | 162 | 163 | Numeric RJ | I2 | Code indicating the type of residence. See below for code definitions. |
| 22. Other Residence | 164 | 188 | Alphanum. LJ | A25 | If residence is coded as "other", this field contains a description of the type of residence. |
| 23. Tenure | 189 | 190 | Numeric RJ | I2 | Code indicating number of years at residence; 0-<1yr, 1-one year, 2-two years, 3-three years, 4-four years, 5-five or more years. |
| 24. Previous Residence | 191 | 191 | Numeric RJ | I1 | If tenure was less than five years, this code indicates if previous residence was in one of the 9 modeling area counties; 1-Yes, 2-No. |
| 25. Previous Zip Code | 192 | 196 | Numeric RJ | I5 | If tenure was less than five years, this is the zip code of the previous residence. |

Record 1, FIELD COLUMNS – CONTINUED

| <u>Item</u> | <u>Begin</u> | <u>End</u> | <u>Type</u> | <u>Format</u> | <u>Description</u> |
|-------------------------------------|--------------|------------|-------------|---------------|--|
| 26. HH Factors | 197 | 216 | Alphanum LJ | A20 | Code indicating factors that influenced their decision to locate in their current household. If more than one, separate code numbers by comma. See code definitions. |
| 27. Other Factors | 217 | 246 | Numeric RJ | A30 | Other factors influencing their decision to locate in their current household. |
| 28. Income | 247 | 248 | Numeric RJ | I2 | Code indicating combined annual income of all household members. See codes below. |
| 29. Sample HH Income | 249 | 250 | Numeric RJ | I2 | Household income stratification for sampling quota. 1=<20k, 2=20k - <35k, 3=35k - <50k, 4=50k - <75k, 5=75k or more. |
| 30. Day Visitors | 251 | 252 | Numeric RJ | I2 | Number of non-family persons that stopped at this residence for any reason on the travel day; 98-Don't Know, 99-Refused. |
| 31. Overnight Visitors | 253 | 254 | Numeric RJ | I2 | Number of overnight visitors at this residence during their travel day. 98-Don't Know, 99-Refused. |
| 32. Delivery Vehicle | 255 | 255 | Numeric RJ | I1 | Code indicating if someone in household drives a form of delivery vehicle; 1-Yes, 2-No, 98-Don't Know, 99-Refused. |
| 33. Number Delivery Driver | 256 | 257 | Numeric RJ | I2 | Number of persons in household that are delivery drivers or travel within study area as part of their work. |
| 34. Phone Service | 258 | 259 | Numeric RJ | I2 | Number of times within past 12 months household was without telephone service. |
| 35. Time Without | 260 | 261 | Numeric RJ | I2 | Code indicating the average length of time household was without phone service. See code definitions below. |
| 36. HH Vehicle Use by Non HH Number | 262 | 263 | Numeric RJ | I2 | Code indicating if one or more of the HH vehicles were used by a non-household member of the travel day. 1-Yes, 2-No, 3 – Zero vehicle household, 98-Don't Know, 99-Refused. |
| 37. Share Phone | 264 | 265 | Numeric RJ | I2 | Number of households that share a phone line with this household. |
| 38. GPS House | 266 | 266 | Numeric RJ | I1 | Code indicating if household vehicles had GPS equipment installed for GPS survey. |
| 39. Total HH Trips | 267 | 269 | Numeric RJ | I3 | The total combined number of all trips made by all persons in the household on the assigned travel day. |

21. RESIDENCE

- 1 – Unattached Single Family Home
- 2 – Condo
- 3 – Duplex
- 4 – Apartment
- 5 – Mobile Home
- 6 – Other
- 98 – Don't Know
- 99 – Refused

26. HH FACTORS

- 1 – Price of Property
- 2 – Taxes
- 3 – Proximity to Work
- 4 – School District
- 5 – Proximity to School
- 6 – Character of Neighborhood or Area
- 7 – Access to Public Transportation
- 8 – Security / Safety
- 9 – Other
- 98 – Don't Know
- 99 – Refused

35. TIME WITHOUT

- 1 – Less than one week
- 2 – One week to less than two weeks
- 3 – Two weeks to less than three month
- 4 – One month to less than four months
- 5 – Three months to less than six months
- 6 – Six months to less than one year
- 7 – One year or more
- 98 – Don't know
- 99 – Refused

28. HOUSEHOLD INCOME CODES

- 1 – Less than \$5,000
- 2 – \$5,000 to \$9,999
- 3 – \$10,000 to \$14,999
- 4 – \$15,000 to \$19,999
- 5 – \$20,000 to \$24,999
- 6 – \$25,000 to \$29,999

- 7 – \$30,000 to \$34,999
- 8 – \$35,000 to \$39,999
- 9 – \$40,000 to \$49,999
- 10 – \$50,000 to \$59,999
- 11 – \$60,000 to \$74,999
- 12 – \$75,000 to \$99,999

- 13 – \$100,000 to \$124,999
- 14 – \$125,000 to \$149,999
- 15 – \$150,000 or more
- 16 – Below \$35,000
- 17 – \$35,000 or above
- 98 – Don't Know
- 99 – Refused

RECORD TYPE 2 – PERSON INFORMATION

This file will contain the information on each person in the household in Part 2, Person Information. The data should be in an ASCII data file.

| <u>Item</u> | FIELD COLUMNS | | | | |
|----------------------------------|---------------|------------|------------------|---------------|---|
| | <u>Begin</u> | <u>End</u> | <u>Type</u> | <u>Format</u> | <u>Description</u> |
| 1. Record Type | 1 | 2 | Numeric RJ | I2 | Code indicating type of record, here it should be 2. |
| 2. Sample Number | 3 | 9 | Numeric RJ | I7 | Unique non-zero number assigned to each household participating in survey. This number should match the sample number of the above record. |
| 3. Person Number | 10 | 12 | Numeric RJ | I3 | Number assigned to each person in the household with 0 assumed to be the head of household. |
| 4. Relationship | 13 | 14 | Numeric RJ | I2 | Code indicating relationship of person to the head of household. See code definitions below. |
| 5. Head of household | 15 | 16 | Numeric RJ | I2 | Code indicating the person number in the household considered to be the head of household |
| 6. Sex | 17 | 18 | Numeric RJ | I2 | Sex of person; 1-Male, 2-Female, 98- Don't Know, 99 - Refused. |
| 7. Ethnicity | 19 | 20 | Numeric RJ | I2 | Race or ethnicity of person. See code definitions below. |
| 8. Ethnicity Other | 21 | 80 | Alphanumeric RJ | A60 | Description of other ethnicity which is not included in code definitions. |
| 9. Age | 81 | 83 | Numeric RJ | I3 | Age of person. 998-Don't know, 999 - Refused. |
| 10. Licensed Driver | 84 | 85 | Numeric RJ | I2 | Code indicating if person is a licensed driver; 1-Yes, 2-No, 98 - Don't Know, 99-Refused. |
| 11. Employment | 86 | 87 | Numeric RJ | I2 | Code indicating if person is employed in a paying or volunteer job; 1-Yes, 2-No, 98 – Don't Know, 99-Refused. |
| 12. Employment Status | 88 | 89 | Numeric RJ | I2 | If person is employed, this is a code number indicating the person's employment status. See code definitions. |
| 13. Hours | 90 | 92 | Numeric RJ | I3 | On average, the number of hours worked per week. 998 – don't know, 999-varies from week to week. |
| 14. Not Employed | 93 | 94 | Numeric RJ | I2 | Code indicating current status if person is not employed. See code definitions below. |
| 15. Not Employed Other | 95 | 154 | Alphanumeric LJ | A60 | Description of employment status if none of the options in the employment status code is applicable. |
| 16. Delivery | 155 | 156 | Numeric RJ | I2 | Code indicating if person is a delivery driver or not; 1-Yes, 2-No, 98 – Don't Know, 99-Refused. |
| 17. Transporting Cargo | 157 | 158 | Numeric RJ | I2 | Code indicating if cargo is being transported ; 1-Yes, 2-No, 98 – Don't Know, 99-Refused. |
| 18. Providing Commercial Service | 159 | 160 | Numeric RJ | I2 | Code indicating if vehicle is providing a commercial service; 1-Yes, 2-No, 98 – Don't Know, 99-Refused. |
| 19. Flex Time | 161 | 162 | Numeric RJ | I2 | Code indicating if person's employer allows them to work flexible hours or the hours are fixed; 1-Flexible / Variable, 2-Fixed / Unchanging, 98-Don't Know, 99-Refused. |
| 20. Job | 163 | 164 | Numeric RJ | I2 | Code indicating if person has more than one paying job; 1-Yes, 2-No, 98-Don't Know, 99-Refused. |
| 21. Employer Name | 165 | 224 | Alphanumeric. LJ | A60 | Name of person's primary employer. |
| 22. Workplace Type | 225 | 226 | Numeric RJ | I2 | Code indicating type of workplace where person is employed. See code definitions below. |
| 23. Other Workplace | 227 | 256 | Alphanumeric. LJ | A30 | Description of workplace type if "other" is coded. |
| 24. Home Office | 257 | 258 | Numeric RJ | I2 | Code indicating if workplace is a home office or business operated out of the home; 1 = Yes, 2-No, 98 – Don't Know, 99 - Refused. |
| 25. Telecommute | 259 | 260 | Numeric RJ | I2 | If employed 30 or more hours per week, code indicating if person works from home or telecommutes on a regular basis; 1 = Yes, 2-No, 98 – Don't Know, 99 – Refused. |
| 26. Workplace Address | 261 | 320 | Alphanumeric. LJ | A60 | Street address of workplace or nearest intersecting street names. |
| 27. Workplace City | 321 | 350 | Alphanumeric. LJ | A30 | City where workplace is located. |
| 28. Workplace County | 351 | 352 | Numeric RJ | I2 | Code indicating county in which household is located: 1-Randall, 2- Potter, 3- Lubbock, 98 – Unknown, 99-Refused |
| 29. Zip Code | 353 | 357 | Numeric RJ | I5 | Zip code or workplace address. |
| 28. Work Study Area | 358 | 358 | Alphanumeric | I1 | Code indicating study area in which work address and TAZ zone is located. Use 'A' if zone is in the Amarillo study area, and 'L' if the zone is in the Lubbock study area. Field should be left blank if location is not within one of these two MPO study areas. |

| <u>Item</u> | FIELD COLUMNS | | | | <u>Description</u> |
|----------------------------------|---------------|------------|--------------|---------------|---|
| | <u>Begin</u> | <u>End</u> | <u>Type</u> | <u>Format</u> | |
| 31. Work Zone | 359 | 363 | Numeric RJ | I5 | Zone where workplace is located. Those in one of the MPOs modeling area counties should be coded to an urban or rural TAZ. If unknown but in one of the modeling area counties it should be coded 8888. Locations outside of either of the two modeling areas but within Texas should be coded using the Statewide Zone System and preceded by the number 1 in column 355. Unknown locations outside of the modeling area counties but within Texas should be coded 6666. Addresses in Mexico should be coded 7777. Addresses outside of Texas and Mexico should be coded using 9999. |
| 32. Longitude | 364 | 373 | Numeric RJ | F10.6 | Longitude of workplace location. If within either of the modeling area counties, but unknown it should be coded 888.8888. If outside either of the modeling area counties but within Texas and unknown it should be coded as 6666. Locations in Mexico should be coded 777.7777 and addresses outside of Texas and Mexico should be coded 999.9999. |
| 33. Latitude | 374 | 383 | Numeric RJ | F10.6 | Latitude of workplace location. If within either of the modeling area counties, but unknown it should be coded 888.8888. If outside the modeling area counties, but within Texas and unknown it should be coded as 6666. Locations in Mexico should be coded 777.7777 and addresses outside of Texas and Mexico should be coded 999.9999. |
| 34. Days Worked | 384 | 385 | Numeric RJ | I2 | Number of days per week person typically works. 98-Don't Know, 99-Refused. |
| 35. Work at Home | 386 | 387 | Numeric RJ | I2 | Out of the last seven days, the number of days worked at home instead of going to work. Valid responses 0-7, 98-Don't Know, 99-Refused. |
| 36. Second Job Type | 388 | 389 | Numeric RJ | I2 | Code indicating type of workplace where person works at second job. See code definitions below. |
| 37. Second Job Other | 390 | 449 | Alphanum. LJ | A60 | Description of workplace type for second job if "other" is coded. |
| 38. Second Job Employment Status | 450 | 451 | Numeric RJ | I2 | If person is employed in a second job, this is a code number indicating the person's employment status related to the second job. See code definitions below. |
| 39. Total Hours | 452 | 454 | Numeric RJ | I3 | Total hours on average person works per week at all jobs. 888-Don't know, 999-Refused. |
| 40. Primary Occupation | 455 | 456 | Numeric RJ | I2 | Code indicating the type of occupation for primary job. See code definitions below |
| 41. Primary Industry | 457 | 458 | Numeric RJ | I2 | Code indicating the type of industry worked in for primary job. See code definition below. |
| 42. Secondary Occupation | 459 | 460 | Numeric RJ | I2 | Code indicating the type of occupation for secondary job. See code definitions below |
| 43. Secondary Industry | 461 | 462 | Numeric RJ | I2 | Code indicating the type of industry worked in for secondary job. See code definition below. |
| 44. Student Status | 463 | 464 | Numeric RJ | I2 | Code indicating if person is enrolled in any type of school; 1-Yes, 2-No, 98-Don't Know, 99-Refused. |
| 45. School Type | 465 | 466 | Numeric RJ | I2 | Code indicating type of school attended. See code definitions below. |
| 46. School Type Other | 467 | 526 | Alphanum. LJ | A60 | Description of 'other' if other is coded as school type. |
| 47. Hours Enrolled | 527 | 528 | Numeric RJ | I2 | If person is enrolled in a college, trade school, etc., code indicates if person is enrolled for 12 or more hours; 1-Yes, 2-No, 98-Don't know, 99-Refused. |
| 48. Bike Use | 529 | 530 | Numeric RJ | I2 | Number of days person rode bike in last seven days. 98-Don't Know, 99-Refused. |
| 49. Bike Purpose | 531 | 532 | Numeric RJ | I2 | Code indicating the most common trip purpose for person's bike trips. See code definitions below. |
| 50. Disability | 533 | 534 | Numeric RJ | I2 | Code indicating if person has transportation disability; 1-Yes, 2-No, 98-Don't Know, 99-Refused. |
| 51. Travel | 535 | 536 | Numeric RJ | I2 | Code indicating if person traveled on the designated travel day; 1-Yes, 2-No, 96-Indication person was out of town or away from the residence for the entire day and night of their travel day. |
| 52. Person trips | 537 | 539 | Numeric RJ | I3 | The total number of trips the person made on his/her travel day. |
| 53. Why No Travel | 540 | 599 | Alphanum LJ | A60 | Description of why the person did not make any trips on the travel day. |

FIELD COLUMNS

| <u>Item</u> | <u>Begin</u> | <u>End</u> | <u>Type</u> | <u>Format</u> | <u>Description</u> |
|------------------------------|--------------|------------|-------------|---------------|--|
| 52. Diary Use | 600 | 601 | Numeric RJ | I2 | Code indicating if person used diary or if information is based on memory or provided by a proxy. 1 – yes, used diary; 2 – no, did not use diary; 3 – Did not receive diary; 98 – Don't Know; 99 - Refused |
| 54. Proxy | 602 | 603 | Numeric RJ | I2 | 01 – respondent, 02 – proxy, 03 – mailed diary, 04 – internet, 98 – Don't know; 99 – Refused |
| 56. Proxy ID | 604 | 605 | Numeric RJ | I2 | This item identifies the person by person number who provided the information by proxy. 98 – Don't know; 99 – Refused |
| 57. Date data was retrieved. | 606 | 609 | Numeric RJ | I4 | The month and day the data was retrieved. Record all months as 2 digits and all days as 2 digits with the month preceding the day. Example: April 1 st should be coded as 0401. |

4. RELATIONSHIP

- 1 – Husband / Wife / Unmarried Partner
- 2 – Mother / Father / In-law
- 3 – Brother / Sister / In-law
- 4 – Grandfather / Grandmother
- 5 – Grandson / Granddaughter
- 6 – Son / Daughter / In-law
- 7 – Aunt / Uncle
- 8 – Other Relative
- 9 – Other Non-Relative
- 10 – Household Help
- 98 – Don't Know / Refused
- 99 – Refused

7. ETHNICITY

- 1 – Black / African American
- 2 – Hispanic / Mexican American
- 3 – Asian / Pacific Islander
- 4 – Native American
- 5 – White / Caucasian
- 6 – Other Group
- 98 – Don't Know
- 99 – Refused

14. STATUS FOR NOT EMPLOYED

- 1 – Retired
- 2 – Disability Status
- 3 – Homemaker
- 4 – Looking for Work
- 5 – Not Looking for Work
- 6 – Student
- 7 – Other
- 98 – Don't Know
- 99 – Refused

20.34. TYPE OF WORK PLACE

- 1 – Office (Non-government)
- 2 – Office (Government)
- 3 – Retail/Shopping/Gas
- 4 – Industrial/Manufacturing/Warehouse
- 5 – Medical
- 6 – Education – Day Care/K-12
- 7 – Education – College, trade school, other
- 8 – Residential
- 9 – Airport
- 10 – Eating Establishment
- 996 – Other
- 998 – Don't Know
- 999 – Refused

43. SCHOOL TYPE

- 1 – Day Care / Pre-School
- 2 – K-12th
- 3 – Post Secondary, College, Trade
- 4 – Other
- 98 – Don't Know
- 99 – Refused

47. BIKE TRIP PURPOSE

- 1 – Work
- 2 – School
- 3 – Shopping
- 4 – Visiting
- 5 – Recreation / Exercise
- 6 – Other
- 98 – Don't Know
- 99 – Refused

12.36 EMPLOYMENT STATUS

- 1 – Employed full time 30 or more hours per week
- 2 – Employed part time less than 30 hours per week
- 3 – Self employed full time 30 or more hours per week
- 4 – Self employed part time less than 30 hours per week
- 98. – Don't Know
- 99 – Refused

Record Type 2, cont.

38. 40. OCCUPATION

01 – Management, professional, and related occupations
02 – Service occupations
03 – Sales and office occupations
04 – Farming, fishing, and forestry occupations
05 – Construction, extraction, and maintenance occupations
06 – Production, transportation, and material moving occupations
96 – Not applicable (unemployed / student / retired)
98 – Don't know
99 – Refused

39. 41. INDUSTRY

01 – Agriculture, forestry, fishing and hunting, mining
02 – Construction
03 – Manufacturing
04 – Wholesale trade
05 – Retail trade
06 – Transportation, warehousing, utilities
07 – Information
08 – Finance, insurance, real estate, rental and leasing
09 – Professional, scientific, management, administrative,
and waste management services
10 – Education, health, and social services
11 – Arts, entertainment, recreation, accommodation, and
food services
12 – Other services (except public administration)
13 – Public Administration
96 – Not Applicable – (unemployed, student, retired)
98 – Don't Know
99 – Refused

RECORD TYPE 3 - VEHICLE INFORMATION

This file will contain the information on each vehicle available to members in each household. Each vehicle will have a data record. The data should be in an ASCII data file.

| <u>Item</u> | Field Columns | | | | |
|---------------------------|---------------|------------|--------------|---------------|--|
| | <u>Begin</u> | <u>End</u> | <u>Type</u> | <u>Format</u> | <u>Description</u> |
| 1. Record Type | 1 | 2 | Numeric RJ | I2 | Code indicating type of record, here it should be 3. |
| 2. Sample Number | 3 | 9 | Numeric RJ | I7 | Unique non-zero number assigned to each household participating in survey. |
| 3. Vehicle Number | 10 | 11 | Numeric RJ | I2 | Unique non-zero number assigned to vehicle. |
| 4. Type of Vehicle | 12 | 13 | Numeric RJ | I2 | Code indicating type of vehicle. See code definitions below. |
| 5. Other Vehicle Type | 14 | 48 | Alphanum LJ | A35 | Other vehicle type not listed in vehicle code below. |
| 6. Year | 49 | 52 | Numeric RJ | I4 | Year vehicle was manufactured; 9998-Don't Know, 9999-Refused. |
| 7. Make | 53 | 54 | Numeric RJ | I2 | Make of vehicle. See vehicle make code below. |
| 8. Other Make | 55 | 114 | Alphanum LJ | A60 | Specify other make of vehicle if not included in vehicle make code below. |
| 9. Model | 115 | 174 | Alphanum. LJ | A60 | Model of vehicle. |
| 10. Type of Fuel | 175 | 175 | Numeric RJ | I1 | Type of fuel used by vehicle; 1-Gasoline, 2-Diesel, 3-Propane, 4- Natural Gas, 5- Electricity, 6 – Other, 8-Don't Know, 9-Refused. |
| 11. Other Fuel Type | 176 | 190 | Alphanum. LJ | A15 | Other type of fuel specified.. |
| 12. Commercial Use | 191 | 192 | Numeric RJ | I2 | Code indicating if vehicle is used for commercial purposes; 1-Yes, 2-No, 98-Don't Know, 99-Refused. |
| 13. Odometer reading | 193 | 200 | Numeric RJ | I8 | Odometer reading on vehicle at beginning of travel day. Don't Know, 99999998. Refused, 99999999. |
| 14. Ownership | 201 | 202 | Numeric RJ | I2 | Code indicating ownership of this vehicle. 1 – Owned or leased by HH or member of HH, 2 – Owned or leased by another person, 98-Don't Know, 99-Refused |
| 15. Non HH Vehicle Number | 203 | 204 | Numeric RJ | I2 | If one or more household vehicles used by non-household member, this is the number of the vehicle that was used. |
| 16. Non HH Use | 205 | 205 | Numeric RJ | I1 | Code indicating if vehicle was used by a non-household member on the travel day. 1 – Yes, 2 – No, 8 – Don't Know, 9 – Refused. |
| 17. Lighter Working | 206 | 206 | Numeric RJ | I1 | Code indicating if lighter in vehicle is working. 1 – Yes, 2 – No, 8 – Don't Know, 9 – Refused. |

4. Type of Vehicle Codes

- 1 – Motorcycle (includes mopeds)
- 2 – Car (includes station wagons)
- 3 – Van (mini and passenger)
- 4 – Sport Utility Vehicle
- 5 – Pickup Truck
- 6 – Cargo Van
- 7 – Commercial or Service Vehicle
- 8 – Other
- 98 – Don't Know
- 99 – Refused

Record Type 3, cont.

7. Vehicle Make Codes

| | | |
|----------------------|-----------------------------|---|
| 01 – Acura | 29 – Plymouth | 57 – Gillig |
| 02 – Audi | 30 – Pontiac | 58 – Grumman |
| 03 – BMW | 31 – Porsche | 59 – Imperial |
| 04 – Buick | 32 – Range/Land Rover | 60 – International Harvester / Navistar |
| 05 – Cadillac | 33 – Saab | 61 – Iveco / Magirus |
| 06 – Chevrolet | 34 – Saturn | 62 – Kenworth |
| 07 – Chrysler | 35 – Subaru | 63 – Lancia |
| 08 – Dodge | 36 – Suzuki | 64 – Mack |
| 09 – Ford | 37 – Toyota | 65 – MCI |
| 10 – Geo | 38 – Volkswagen | 66 – Merkur |
| 11 – GMC | 39 – Volvo | 67 – MG |
| 12 – Harley Davidson | 40 – Yamaha | 68 – Moto-Guzzi |
| 13 – Honda | 41 – Daewoo | 69 – Norton |
| 14 – Hyundai | 42 – Alfa Romeo | 70 – Peterbuilt |
| 15 – Infiniti | 43 – AM General | 71 – Peugeot |
| 16 – Isuzu | 44 – AMC | 72 – Renault |
| 17 – Jaguar | 45 – Austin / Austin Healey | 73 – Sterling |
| 18 – Jeep | 46 – Bluebird | 74 – Thomas Built |
| 19 – Kawasaki | 47 – Brockway | 75 – Triumph |
| 20 – KIA | 48 – BSA | 76 – White / Autocar-White GMC |
| 21 – Lexus | 49 – Daihatsu | 77 – Yugo |
| 22 – Lincoln | 50 – Diamond Reo / Reo | 78 – Other Make Moped |
| 23 – Mazda | 51 – Ducati | 79 – Other Make Motorcycle |
| 24 – Mercury | 52 – Eagle | 97 – Other (specify) |
| 25 – Mercedes-Benz | 53 – Eagle Coach | 98 – Don't Know |
| 26 – Mitsubishi | 54 – Fiat | 99 – Refused |
| 27 – Nissan/Datsun | 55 – Freightliner | |
| 28 – Oldsmobile | 56 – FWD | |

RECORD TYPE 4 - TRIP INFORMATION

This file will contain the trip/activity information for each person in each household. The data should be in an ASCII data file.

| <u>Item</u> | <u>Begin</u> | <u>End</u> | <u>Type</u> | <u>Field Columns</u> | |
|-------------------------|--------------|------------|--------------|----------------------|---|
| | | | | <u>Format</u> | <u>Description</u> |
| 1. Record Type | 1 | 2 | Numeric RJ | I2 | Code indicating type of record. Here it should be 4. |
| 2. Sample Number | 3 | 9 | Numeric RJ | I7 | Unique non-zero number assigned to each household participating in survey. This number must match the number used for the same household and recorded in the Household Data File. |
| 3. Month | 10 | 11 | Numeric RJ | I2 | Month of survey day. |
| 4. Day | 12 | 13 | Numeric RJ | I2 | Day of the month of the survey. |
| 5. Person Number | 14 | 15 | Numeric RJ | I2 | Number assigned to the person doing this activity. |
| 6. Activity/Trip Number | 16 | 17 | Numeric RJ | I2 | The first trip/activity for each person will be recorded as 0 for where their day began. Each subsequent trip/activity should be numbered sequentially as 1, 2, 3, etc. |
| 7. Activity Type Code | 18 | 19 | Numeric RJ | I2 | Code indicating the type of activity. See activity codes below. This may be posted coded. For activity 0 (where day began), this should be coded as a 1 if it began at home, 4 if day began at work, or as 20 if it began at another location. If this is coded as 20, the activity description should be included in item 8. |
| 8. Activity Description | 20 | 79 | Alphanum LJ | A60 | Description of Activity. |
| 9. Location | 80 | 109 | Alphanum. LJ | A30 | Name of location where activity took place. |
| 10. Location Address | 110 | 169 | Alphanum. LJ | A60 | Street address of location or name of nearest intersecting streets. |
| 11. Location City | 170 | 199 | Alphanum. LJ | A30 | Name of city where location is. |
| 12. Location County | 200 | 201 | Numeric RJ | I2 | Code indicating county where location is; 1- Randall, 2- Potter, 3- Lubbock, 98 – Unknown, 99- Refused |
| 13. Zip Code | 202 | 206 | Numeric RJ | I5 | Zip code of location address. |
| 14. Route description | 207 | 256 | Alphanum LJ | A50 | If location is outside of the Amarillo or Lubbock modeling area, this is the name of the highway/route/road used to exit the applicable study area. |
| 15. Route New | 257 | 261 | Alphanum LJ | A4 | Unused field. Not used in data set. |
| 16. Study Area | 262 | 262 | Alphanum | I1 | Code indicating study area in which activity address/TAZ zone is located. Use 'A' if zone is in the Amarillo study area, and 'L' if the zone is in the Lubbock study area. Field should be left blank if location is not within one of these two MPO study areas. |
| 17. Zone Number | 263 | 267 | Numeric RJ | I5 | Zone number of location address. If in a Amarillo or Lubbock modeling area county but location unknown, it should be coded 8888. Locations in Mexico should be coded 7777 and addresses outside of Amarillo and Lubbock modeling area counties, but within Texas should be coded using the Statewide Zone System and preceded by the number 1 in column 210. Unknown locations outside of Amarillo and Lubbock modeling area counties but within the state of Texas should be coded 6666. Addresses outside of Texas and Mexico should be coded using 9999. |
| 18. Longitude | 268 | 277 | Numeric RJ | F10.6 | Longitude of location. If within Amarillo and Lubbock modeling area counties, but unknown it should be coded 888.8888. If outside Amarillo and Lubbock modeling area counties but within Texas and unknown it should be coded as 6666. Locations in Mexico should be coded 777.7777 and addresses outside of Texas and Mexico should be coded 999.9999. |
| 19. Latitude | 278 | 287 | Numeric RJ | F10.6 | Latitude of location. If within Amarillo and Lubbock modeling area counties, but unknown it should be coded 888.8888. If outside Amarillo and Lubbock modeling area counties but within Texas and unknown it should be coded as 6666. Locations in Mexico should be coded 777.7777 and addresses outside of Texas and Mexico should be coded 999.9999. |

FIELD COLUMNS

| <u>Item</u> | <u>Begin</u> | <u>End</u> | <u>Type</u> | <u>Format</u> | <u>Description</u> |
|------------------------------------|--------------|------------|--------------|---------------|---|
| 20. Type of Place | 288 | 289 | Numeric RJ | I2 | Code indicating the type of place at this location. If coded as "other", specify in the next field. See code definitions below. |
| 21. Other Place | 290 | 309 | Alphanum. LJ | A20 | Description of "other" type of place where activity occurred. |
| 22. Purpose | 310 | 311 | Numeric RJ | I2 | Purpose of trip, developed based on the activity type in Item 7. See code definitions below. |
| 23. Mode of Travel | 312 | 313 | Numeric RJ | I2 | Code indicating mode of travel used in traveling to this location. See travel mode code definitions below. |
| 24. Other Mode | 314 | 343 | Alphanum. LJ | A30 | If "other" is coded in mode of travel, this is the description of the "other" mode. |
| 25. Number of People | 344 | 345 | Numeric RJ | I2 | If travel was by private vehicle, this is the number of persons in the vehicle, including the person driving. Non-private vehicle modes should be coded 96. |
| 26. HH Members | 346 | 347 | Numeric RJ | I2 | Of those in the vehicle, how many were household (HH) members. |
| 27. Persons on Trip | 348 | 357 | Alphanum LJ | A10 | Who was/were the HH members traveling with you? Code person numbers separated by commas. |
| 28. Non HH Members | 358 | 359 | Numeric RJ | I2 | Compute Non HH Members using information from items 24 and 25. |
| 29.HH Vehicle | 360 | 360 | Numeric RJ | I1 | Was a HH vehicle used to make this trip? 1=Yes, 2=No, 8-Don't Know, 9-Refused. |
| 30. Vehicle Used | 361 | 362 | Numeric RJ | I2 | If household vehicle was used for travel, this is the vehicle number (must correspond with vehicle number in household record). If other vehicle is used, this should be coded as 99. |
| 31. Body Type | 363 | 364 | Numeric RJ | I2 | See code set for body type. |
| 32.Other Body Type | 365 | 399 | Alphanum LJ | A35 | If body type is not in code set, describe body type. |
| 33. Other Vehicle Year | 400 | 403 | Numeric RJ | I4 | Year of "other" vehicle used for trip. 9998-Don't Know, 9999-Refused. |
| 34. Other Vehicle Make | 404 | 405 | Numeric RJ | I2 | Make of "other" vehicle used for trip. See code set. |
| 35. Other Vehicle Make Description | 406 | 465 | Alphanum. LJ | A60 | If make of other vehicle is coded as other, this field contains a description of the vehicle make |
| 36.Other Vehicle Model | 466 | 525 | Alphanum. LJ | A60 | Model of "other" vehicle used for trip. |
| 37. Other Vehicle Fuel | 526 | 527 | Numeric RJ | I2 | Code indicating type of fuel used by "other" vehicle; 1- Gasoline, 2-Diesel, 3- Propane, 4- Natural Gas, 5- Electricity, 6 – Other, 98-Don't Know, 99-Refused. |
| 38. Other Fuel | 528 | 544 | Alphanum. LJ | A15 | Description of "other" fuel for "other" vehicle, if not in fuel code above. |
| 39. Other Vehicle Commercial Use | 545 | 546 | Numeric RJ | I2 | Code indicating if "other" vehicle used for commercial purposes; 1-Yes, 2-No, 98-Don't Know, 99-Refused. |
| 40. To Bus Stop | 547 | 548 | Numeric RJ | I2 | Code indicating if they walked more than one block to get to bus stop; 1-Yes, 2-No, 98-Don't Know, 98-Refused. |
| 41. To Activity | 549 | 550 | Numeric RJ | I2 | Code indicating if they parked or got off bus more than one block from this activity; 1-Yes, 2-No, 98-Don't Know, 99- Refused. |
| 42. Off Bus Location | 551 | 600 | Alphanum. LJ | A50 | Street address or nearest intersecting streets where person got off of bus. |
| 43. Parking Location | 601 | 650 | Alphanum. LJ | A50 | Street address of nearest intersecting streets where vehicle was parked. |
| 44. Parking Cost | 651 | 657 | Numeric RJ | F7.2 | Amount paid for parking. |
| 45. Payment Method | 658 | 659 | Numeric RJ | I2 | Time period for parking cost payment; 1-Hourly, 2-Daily, 3-Weekly, 4-Monthly, 5-Annually, 98-Other, 99-Don't Know / Refused. |
| 46. Arrival Hour | 660 | 661 | Numeric RJ | I2 | Hour that person arrived at this location. This hour should be in terms of military time. If this is activity 0, this should be blank since this is where they began their day. |
| 47. Arrival Minute | 662 | 663 | Numeric RJ | I2 | Minute that person arrived at this location. If this is activity 0, this should be blank since this is where they began their day. |
| 48. Departure Hour | 664 | 665 | Numeric RJ | I2 | Hour that person departed this location. This hour should be in terms of military time. If this is the last activity, this should be blank. |
| 49. Departure Minute | 666 | 667 | Numeric RJ | I2 | Minute that person departed this location. If this is the last activity for this person, this should be blank. |

Record Type 4, continued.

TYPE OF PLACE CODES

- | | |
|---|--|
| 1 – Residential | 13 – Health Club |
| 2 – Residential Type Workplace | 14 – Medical Facility/Hospital |
| 3 – Construction Site | 15 – Movie Theater/Cinema |
| 4 – Transportation stop (Bus, Train) | 16 – Restaurant/Fast Food, Bar&Grill |
| 5 – Automotive Dealer/Repair | 17 – Educational – 12 th Grade or lower |
| 6 – Bank / Financial Institution | 18 – Educational – college, trade, etc. |
| 7 – Barber/Beauty/Nail Salon | 19 – Shopping Mall/ Department Store. |
| 8 – Bookstore/Newstand | 20 – Gas Station |
| 9 – Convenience / Drug Store | 21 – Airport |
| 10 – Government/City/County/State/Federal Offices | 22 – Other |
| 11 – Offices (Non-Government) | 98 – Don't Know |
| 12 – Grocery | 99 – Refused |

Record Type 4, Continued.

ACTIVITY TYPES

- | | |
|--|---|
| 1 – At Home; primary job related | 12– Other Services |
| 2 – At Home; other | 13– Social / Recreational |
| 3 – At Home; job and non-job related | 14– Eat Out |
| 4 – Work | 15– Civic Activities (including church) |
| 5 – Work Related | 16 – Pick-up / Drop-off Person at Work |
| 6 – School; post secondary, college, trade | 17 – Pick-up / Drop-off Person at School / Day Care |
| 7 – School; secondary-day care, kindergarten, elementary, middle, high | 18 – Pick-up / Drop-off Person at Other |
| 8 – Incidental Shopping; gas, groceries, etc. | 19 – Change Mode of Travel |
| 9 – Major Shopping; clothes, appliances, etc. | 20 – Other Activity (specify) |
| 10 – Banking | 98 – Don't Know |
| 11– Personal Business; laundry, dry cleaning, barber, medical, etc | 99 – Refused |

TRIP PURPOSE CODES

- 1 – Home (Act. Codes 1,2,3)
- 2 – Meal/Eat (14)
- 3 – Work (Act. Codes 4)
- 4 – Work Related (Act. Code 5)
- 5 – School; K thru 12 (Act. Codes 7)
- 6 – School; Post Secondary (Act. Code 6)
- 7 – Shopping (Act. Codes 8,9)
- 8 – Personal (Act. Codes 10,11,12,15)
- 9 – Social / Recreation (Act. Codes 13,)
- 10 – Pick-up Drop-off Other (Act. Code 16,17,18)
- 11 – Change Mode (Act. Code 19)
- 12 – Other (Act. Code 20)
- 98 – Don't Know
- 99 – Refused

MODE OF TRAVEL CODES

- 1 – Walk
- 2 – Auto / Van / Truck Driver
- 3 – Auto / Van / Truck Passenger
- 4 – Carpool Driver
- 5 – Carpool Passenger
- 6 – Vanpool Driver
- 7 – Vanpool Passenger
- 8 – Commercial Vehicle Driver
- 9 – Commercial Vehicle Passenger
- 10 – Cargo Driver
- 11 – Cargo Passenger
- 12 – Transit Bus
- 13 – School Bus
- 14 – Taxi/Paid Limo
- 15 – Bicycle
- 16 – Motorcycle/Moped
- 17 – Other
- 98 – Don't Know
- 99 – Refused

HOUSEHOLD/ACTIVITY SURVEY
 GPS DATA PART 1 – GPS ADMINISTRATIVE DATA FILE MATRIX

| Item # | Variable Name | Variable Description | Data Type | Justificat | Field Width | Collection Stage | Values |
|--------|---------------|--|-----------|------------|-------------|------------------|--|
| GC-1 | UNIT_ID | ID link to Admin File | I | RJ | 3 | GPS | Ordinal Variable |
| GC-2 | HH_ID | Household ID Number | I | RJ | 6 | Admin | |
| GC-3 | FILE | File Name | A | LJ | 8 | Admin | Travel Date_ Box#(e.g.,0511_b2) |
| GC-4 | VEHNUM | Vehicle Number | I | RJ | 2 | REC | |
| GC-5 | YEAR | Vehicle X – Year | I | RJ | 4 | REC | |
| GC-6 | MAKE | Vehicle X – Make | A | LJ | 20 | REC | |
| GC-7 | MODEL | Vehicle X – Model | A | LJ | 20 | REC | |
| GC-8 | BEG_OD | Odometer Reading when GPS Installed | I | RJ | 8 | GPS | #####.# |
| GC-9 | END_OD | Odometer Reading when GPS Unit Removed | I | RJ | 8 | GPS | #####.# |
| GC-10 | INST_DATE | Date GPS Unit Installed | I | RJ | 6 | GPS | |
| GC-11 | INS_TIME | Time GPS Unit Installed | I | RJ | 4 | GPS | HHMM (Military Time – include leading zero for single digit hour or minute) |
| GC-12 | REM_DATE | Date GPS Unit Removed | I | RJ | 6 | GPS | |
| GC-13 | REM_TIME | Time GPS Unit Removed | I | RJ | 4 | GPS | HHMM (Military time – include leading zero for single digit hour or minute) |
| GC-14 | POWER | Power Source | I | RJ | 1 | GPS | 1=Switched; 2=Continuous |
| GC-15 | | 1 st Vehicle Start Time | I | RJ | 6 | | HHMMSS (Military time – include leading zero for single digit hour, minute, or second) |
| GC-16 | | 1 st Vehicle Stop time | I | RJ | 6 | | HHMMSS (Military time – include leading zero for single digit hour |
| GC-17 | | 2 nd Vehicle Start Time | I | RJ | 6 | | HHMMSS (Military time – include leading zero for single digit hour |
| GC-18 | | 2 nd Vehicle Stop Time | I | RJ | 6 | | HHMMSS (Military time – include leading zero for single digit hour |
| “ | | “ | “ | “ | “ | “ | “ |
| GC-N | | Nth Vehicle Stop Time | I | RJ | 6 | | HHMMSS (Military time – include leading zero for single digit hour, minute, or second) |

HOUSEHOLD/ACTIVITY TRAVEL SURVEY
 GPS DATA PART 2 – MATRIX OF GPS DATA ITEMS

| Item # | Variable Name | Variable Description | Data Type | Just. | Field Width | Coll. Stage | Verify Stage | Values | Formal and Full Text |
|--------|---------------|------------------------------------|-----------|-------|-------------|-------------|--------------|---|----------------------|
| GR-1 | RECTYPE | Record Type | I | RJ | 2 | A | NA | GPS Record Type =5 | CORRECTED DATA |
| GR-2 | GPS_ID | GPS Receiver Unit ID Number | A | LJ | 20 | GPS | NA | AAA1234567 | |
| GR-3 | Unit_ID | ID Number Linked to Admin. ID File | I | RJ | 3 | A | NA | | |
| GR-4 | GMT_DATE | Greenwich Mean Time Date Stamp | I | RJ | 10 | GPS | NA | MM/DD/YYYY (include leading zero for sinel month or day) | |
| GR-5 | GMT_TIME | Greenwich Mean Time Time Stamp | I | RJ | 8 | GPS | NA | HH:MM:SS (Military Time – include leading zero for single hour , minute, or second) | |
| GR-6 | LOC_DATE | Local Date Stamp | I | RJ | 10 | GPS | NA | MM/DD/YYYY (include leading zero for sinel month or day) | |
| GR-7 | LOC_TIME | Local Time Stamp | I | RJ | 8 | GPS | NA | HH:MM:SS (Military Time – include leading zero for single hour , minute, or second) | |
| GR-8 | LAT_RAW | Latitude | F | RJ | 16 | GPS | NA | Degrees | XXX.XXXXXX deg |
| GR-9 | LONG_RAW | Longitude | F | RJ | 16 | GPS | NA | Degrees | XXX.XXXXXX deg. |
| GR-10 | ELEV_RAW | Elevation | F | RJ | 16 | GPS | NA | Meters | |
| GR-11 | VELOCITY | Velocity | F | RJ | 8 | GPS | NA | Meters/second | 0..514.00m/s |
| GR-12 | HEADING | Direction of Vehicle | F | RJ | 6 | GPS | NA | True north | 0.0 ..359.9 deg |