TAHOE REGIONAL PLANNING AGENCY

2005 TAHOE REGIONAL HOUSEHOLD TRAVEL SURVEY

Final Report

November 2005

NuStats

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LIST OF EXHIBITS

EXECUTIVE SUMMARY

NuStats conducted the 2005 Tahoe Regional Household Travel Survey ("Survey") under subcontract to Parsons Brinckerhoff on behalf of the Tahoe Regional Planning Agency (TRPA). A pilot survey was conducted during April 2005 to test the full survey procedures. Very few changes were made as a result of the pilot test. One significant change, however, was the elimination of the advance-mailing phase for the full study. This is detailed in Appendix A.

The full survey was conducted during the months of June through September and entailed the collection of activity and travel information for all household members, regardless of age, during an assigned 24-hour period (Monday, Tuesday, Wednesday, or Thursday). A total of 1,345 surveys were completed among households located in the TRPA planning region as defined by specific Census Tracts in the Tahoe Basin region. A subset of 125 surveys was conducted with "seasonal" residents among the 1,345 total completed surveys.

The project included a two-stage procedure. The first stage included a recruitment telephone interview to collect demographic information from the household, such as income, household size, and age and employment status of all persons in the household. A travel day was also assigned during the recruitment interview. The second stage consisted of a retrieval telephone interview to collect all travel information for the assigned travel day.

The overall response rate of 34% was on the higher end of the scale than that of similar surveys that have been conducted across the US. The response rate of other similar surveys ranged between 28 to 35%. Respondents were well informed of the impending survey due to public communications by TRPA.

The following statistics are for the permanent Tahoe area residents. Significant differences between the seasonal and permanent residents are highlighted in the main results section of this report. The data tables of seasonal residents (unweighted) can be found in Appendix F. All survey data (permanent residents) were weighted to key demographic parameters based on 2000 Census data. Key statistics for the Tahoe area residents include:

- Average household size is 2.4.
- Average number of vehicles per household is 1.9, with 5.7% being zero-vehicle households.
- Approximately three-fourths (76%) of all respondent households are single-family detached with another 11% apartments.
- Nearly three-fourths (73.7%) own their home.
- Median annual household income (2004) is $52,250.
- Average number of workers per household is 1.2.
- Average number of students per household is 0.6.
- Number of trips generated per household is 9.6.
- Average number of licensed drivers per household is 1.7.
- Approximately 20% of trips begin either during the a.m. peak (6 a.m.-9 a.m.) or p.m. peak (5p.m.-7 p.m.) at 21.7% and 18.2%, respectively.
- Other than at home activities, which accounted for just over one-third (33.6%) of the primary activity, work/work-related activities (15.8%), and shopping (10.7%) make up a relatively significant percentage of activities.
- For activities other than at home, the mean duration of activities is just over two hours.
- Mean trip length for all trips is approximately 17.5 minutes.
- Peak hour trip duration is about the same as the trip duration overall (17.5 minutes).
- Number of trips generated per person is 3.9.

1. INTRODUCTION

This report documents the design and implementation of the 2005 Tahoe Regional Household Travel Survey ("Survey") conducted in the Tahoe Regional Planning Agency's (TRPA) jurisdiction as defined by specific Census Tracts in the Tahoe Basin. The appendices contain samples of all survey materials.

The Survey entailed the collection of activity and travel information for all household members, regardless of age, during an assigned 24-hour period (Monday, Tuesday, Wednesday, or Thursday). In addition to providing basic demographic information about each household and its members, the Survey documented activities and specific travel characteristics and trips made, including number of occupants, trip purpose, time-of-day, and questions specific to mode use.

The study conformed to standard procedures for conducting a household travel behavior survey. These procedures included:

- Geocode Home Addresses
- Recruitment Telephone Interview
- Respondent Packet Mailing
- Reminder Call
- Data Retrieval Telephone Interview
- Geocode Trips
- Data Edit Checks and Cleaning
- Data Weighting and Expansion
- Data Delivery

Travel days for the survey were assigned from June 2, 2005 to September 6, 2005. In total, 1,747 households were recruited to participate in the full study. Of these 1,345 completed travel diaries (fully completed and passed edit check procedures), and the information was retrieved from all household members. The map on the following page depicts the geographic distribution of participating households.

A 34% response rate was achieved. The rate is calculated under standards of the Council of American Survey Research Organizations (CASRO). This response rate is slightly on the higher end than what can be expected in conducting household travel surveys. A response rate between 28 and 35% is typical.

In addition to the household specific communications efforts (i.e., telephone calls), TRPA engaged in additional publicity efforts before and during the survey. These further efforts included distributing a press release, providing interviews to local newspapers, and providing information for articles in local planning organizations.

EXHIBIT 1-1: GEOGRAPHIC DISTRIBUTION OF SAMPLED HOUSEHOLDS

(N=1,345)
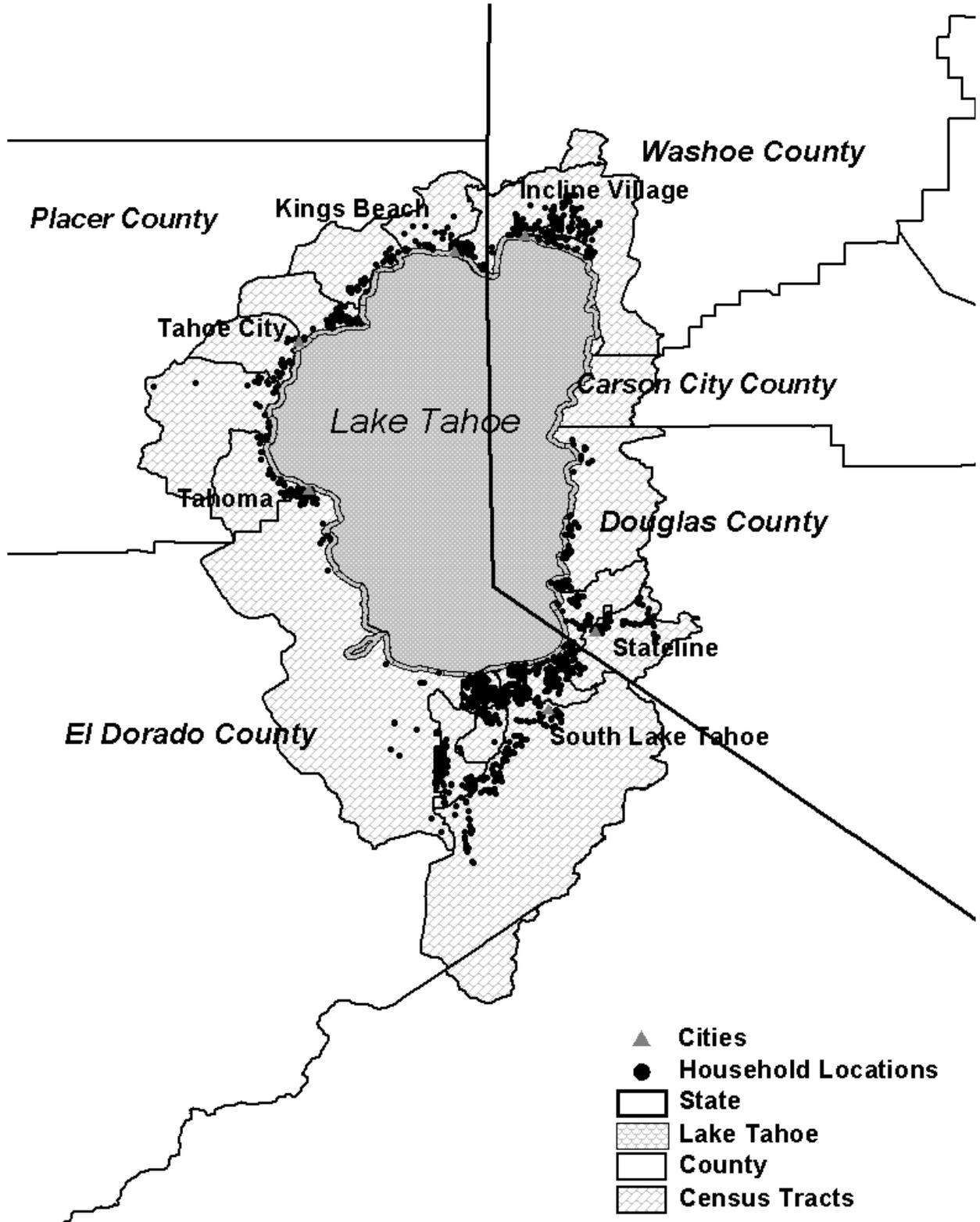
2. SURVEY PROCEDURES

SURVEY UNIVERSE

The universe for the Survey was defined as all households with operational landline telephones located within specific Census Tracts within the Tahoe Basin region. The Census Tracts were divided between North Shore and South Shore as shown in Exhibit 2-1 below.

EXHIBIT 2-1: STUDY AREA DEFINITION

NORTH SHORE			SOUTH SHORE	
CENSUS TRACT	HOUSEHOLDS*		CENSUS TRACT	HOUSEHOLDS*
201.01	363		3.01	894
201.02	487		3.02	968
201.03	467		4	1,171
201.04	713		301.01	136
201.05	721		301.02	1,458
201.06	785		302	1,771
201.07	1,296		303	2,445
33.02	1,765		304.01	1,795
33.04	2411		304.02	1,830
3.00	1,492		305.01	2,375
10.06	2,340		305.02	1,183
			305.03	492
			100	483
Total North Shore Households	**12,840**		*Total South Shore Households*	**17,001**

2000 Census, Summary File 3 (SF3).

According to the 2000 U.S. Census, there are 29,841 households located within this study area of which 12,840 (43%) are located in the North Shore and 17,001 (57%) are located in the South Shore.

In addition to the telephone survey, an additional 125 surveys were completed among seasonal households. Seasonal households were self-defined by the respondent. Surveys were conducted at various locations in the Tahoe Basin where the likelihood of seasonal residents might congregate such as coffee shops, bookstores, the library, recreation centers, etc. Households identified as seasonal were administered the same questionnaire as the telephone-sampled households. Seasonal residents that were to be in the Tahoe Basin for at least three weeks beyond the initial contact were asked to provide their contact information, which was forwarded to the data collection facility for inclusion in the telephone interviewing process. Fifty-nine households were interviewed using this method. For seasonal residents without a local landline telephone or who were leaving the Tahoe Basin within three weeks of the initial contact, retrospective travel and activity data were collected (the weekday prior to the day of interview – with Monday, Tuesday, Wednesday, or Thursday as the valid retrospective days). A total of 66 surveys were collected via retrospective method.

This sampling description provides information on how households were selected for the Survey. A sample is the subset of the universe that is used to gain information about the entire population. The population of inference for the Survey was all households with at least one landline telephone in the study area. A probability design was used to select a sample that would truly represent all such households. This ensured that each household with landline telephone service would have an equal chance of selection. The type of probability sample used was a random digit dial (RDD) sample, in which the primary sampling units were telephone numbers.

Within the study area, a random sample of households with telephones was selected. In addition to the main sample frame, additional, targeted sample was generated to locate households with specific demographic characteristics – namely zero-vehicle households and large households. Specific Census Blocks and Block Groups were identified as having a larger than average proportion of zero-vehicles or households with four or more persons. Listed telephone numbers were then generated for these blocks/block groups.

For the main sample frame, both listed and unlisted telephone numbers were generated using a RDD procedure. Listed numbers were randomly selected in the study area. After identifying all of the area code/exchange and block combinations within the list (i.e., the first eight numbers within a ten-digit phone number), then all of the possible combinations of telephone numbers within these exchanges and blocks were generated. All randomly generated unlisted telephone numbers that were listed in the database (i.e., duplicates) were purged from the sampling frame. In all, 23,581 total telephone numbers were generated into 82 replicates. A replicate is a systematically selected sub-sample of the entire sample frame and is used to manage the sample effectively – i.e., dialing a replicate a pre-specified number of times before releasing another replicate to ensure equal probability of selection.

SURVEY INSTRUMENTS

The objectives of the Survey required comprehensive instruments to collect demographic and socioeconomic details about households and persons, details of school and work addresses, and detailed data of all trips made and activities on an assigned travel day. The survey instruments contained three components: (1) the recruitment questionnaire, (2) the travel log, and (3) the retrieval questionnaire. An overview of each is provided in the following sections. A complete list of variables collected in the survey is attached in Appendix B.

RECRUITMENT QUESTIONNAIRE AND INTERVIEW

The recruitment interview was administered using a computer-assisted telephone-interviewing (CATI) program. At that time, each household was telephoned by an interviewer to determine if they qualified for the study. The respondent was then asked (on behalf of the entire household) to participate in the study. If the respondent agreed, demographic information was collected from the household including income, household size, vehicle ownership, and other household characteristics. In addition, demographic characteristics were collected for each member of the household such as age, gender, employment and school status (see Appendix C for the recruitment questionnaire).

In total, 1,747 households were recruited to participate in the Survey. During the recruitment interview, each recruited household was notified that it would receive a package in the mail that included a personalized travel log for each member in the household.

During the recruitment phase, a recruitment response rate of 49% was achieved. This rate is somewhat higher than other household travel surveys of this type. Typically, anywhere between 35 and 45% can be expected. About 22% of eligible contacts during recruitment refused to participate in the study. The

response rate was calculated under standards of the Council of American Survey Research Organizations (CASRO). It was derived by dividing the number of households that agreed to participate by the sum of the total number of "eligible" households and a portion of the households for whom "eligibility" was unknown. This response rate formula is shown below.

$$RR = \left(\frac{a}{A+(C * ER)} \right)$$

Where,

RR is the recruitment response rate,
a is the number of recruited households,
A is the number of eligible telephone numbers,
C is the number of eligibility unknown, and
ER is the eligibility rate.

$$RR = \frac{1,747}{2,174+(15,714*.09)} = \frac{1,747}{2,174+1,414} = \frac{1,747}{3,588} = 49\%$$

EXHIBIT 2-2: RECRUITMENT CALL OUTCOMES

CALL OUTCOME	FREQUENCY
Eligible Units	
Recruited	1,747
Refused to participate	502
Subtotal Eligible	*2,249*
Ineligible Units	
Disconnected/non-working	2,268
Business/Government	746
Facsimile	749
Over Quota/Not Qualified	1,855
Subtotal Ineligible Units	*5,618*
Eligibility Unknown Units	
No answer	3,900
Call Back	7,164
Answering machine	4,386
Busy	264
Subtotal Eligibility Unknown Units	*15,714*
Grand Total	**23,581**

TRAVEL LOG

A travel log packet was mailed to each recruited household. Each packet contained a brochure, which provided details about the project objectives and methods, and one travel log for each member of the household. (See Appendix D for sample materials.) The travel log was used to record information about each trip made on the assigned travel day, including place name and address, time of travel, travel mode, and activities conducted at each location. A reminder call was made to each recruited household prior to its assigned travel day. During that reminder call, the receipt of the package was confirmed, the assigned travel day acknowledged, and any questions were answered.

Households that did not receive their packet prior to their assigned travel date were asked to verify their address. For correct addresses, households were asked to reschedule their travel to the same day the following week. This maintained the day-of-week distribution as well as allowed enough time for the packet to arrive. In most cases where the packet had not yet been received, the household did not have postal service to their home and had not yet made a trip to their post office to retrieve their mail. To minimize delays in households receiving their packet, interviewers also asked when the household typically retrieves their mail at the post office (in some cases, households only make a trip to the post office once a week) and travel dates were assigned accordingly.

RETRIEVAL QUESTIONNAIRE AND INTERVIEW

The day following each household's assigned travel day, the household was contacted by telephone (or attempted to be contacted) to retrieve the travel and activity information. (See Appendix E for the Retrieval questionnaire.) In total, 1,220 permanent households (i.e., non-seasonal households) provided complete activity and travel information. An additional 125 seasonal households provided travel and activity data through in-person intercept interviews).

The retrieval response rate was 70 percent. This rate was calculated following CASRO standards.

$$RR = \left(\frac{a}{A} \right)$$

Where,

RR is the retrieval response rate,
a is the number of completed surveys,
A is the number of eligible telephone numbers,

$$RR = \frac{1,220}{1,733^{1}} = 70\%$$

The final dispositions for the retrieval call attempts are in Exhibit 2-3.

EXHIBIT 2-3: RETRIEVAL CALL OUTCOMES

CALL OUTCOME	FREQUENCY
Eligible Units	
Completed	1,220
Refused to participate	123
Non-contacts	390
Subtotal Eligible	*1,733*
Ineligible Units	
Disconnected/non-working	14
Subtotal Ineligible Units	*14*
Grand Total	1,747

The overall response rate for the telephone survey was calculated as the product of the response and retrieval rates (49% X 70%) for an overall rate of 34%. This rate is on the higher end of similar household surveys. Typically, an overall response rate of 24 to 35% can be expected.

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[1] Only includes eligible phone numbers (i.e., disconnected/non-working number not included).

During recruitment, each household was assigned a travel day. A slightly higher percentage of households traveled on Mondays as shown in Exhibit 2-4.

EXHIBIT 2-4: TRAVEL DAY DISTRIBUTION

TRAVEL DAY	PERCENT
Monday	28%
Tuesday	23%
Wednesday	24%
Thursday	25%
Total	**100%**

Base: 1,220 Households.

Among seasonal residents, a higher proportion of travel and activity data was collected for Tuesdays (36%), while Thursdays were lowest at 17%. Mondays were 25% and Wednesdays were 22% of the total.

Data collection occurred during late spring, summer, and early fall 2005. The majority of the surveys were conducted within the first two months (June and July), while 14% of the surveys were conducted during the last two months of the data collection period. During the last two months, significant efforts were made to locate and survey zero-vehicle and large households (four or more persons). Over 1,000 households were screened out during August and September as not fulfilling the household size by vehicle ownership categories that were still open. Most of the seasonal resident surveys were conducted in late summer to maximize contact.

EXHIBIT 2-5: MONTH OF TRAVEL DAY DISTRIBUTION

TRAVEL DAY	PERCENT
June	51%
July	35%
August	12%
September	2%
Total	**100%**

Base: 1,220 Households.

DATA WEIGHTING

The final data set includes two weight variables, both of which were developed to account for over sampling or under sampling of particular population segments. The second weight variable includes an expansion factor that projects the data to the total households in the study area. Census 2000 data for the specific Census Tracts in the study area were used to calculate this weight factor.

To compensate for over sampling/under sampling, the Survey data were balanced relative to household size and vehicle ownership, by the proportion of North Shore and South Shore households, and by non-telephone ownership (i.e., to account for non-telephone households – by design, a telephone survey excludes non-telephone households and therefore a weight factor was developed to allow surveyed households to serve as proxies for non-telephone households).

The weight for each cell within a specific sampling parameter (e.g., household size or geography) is calculated by dividing the Census percentage by the Survey percentage. A weight factor less than one means that the Survey over sampled households in that specific sampling category; a weight factor greater than one means that the Survey under sampled households in that specific category.

The seasonal residents surveys were not weighted or expanded because the actual number of seasonal residential households in the study area is not known (i.e., there are no control totals on which to weight the seasonal household data).

The following table shows the household size by vehicle ownership weights that were developed for the study area using an iterative weighting process. The iterative weighting process takes into account all weight factors (household size by vehicle ownership, geography, and telephone ownership) simultaneously until a weight factor is developed that produces the same proportional distributions as the 2000 Census data for each sampling category. The factors shown in Exhibit 2-6 are the final weight factors after three iterations.

EXHIBIT 2-6: HOUSEHOLD SIZE BY VEHICLE OWNERSHIP WEIGHT FACTORS

HOUSEHOLD SIZE	VEHICLE OWNERSHIP			
	ZERO VEHICLES	ONE VEHICLE	TWO VEHICLES	THREE+ VEHICLES
One Person	0.914286	0.952066		
Two Persons	0.888889	2.270270	0.956164	
Three Persons	0.933333	0.937931	0.960000	
Four+ Persons		0.948837	0.965217	0.935065

Exhibit 2-7 shows the geographic weight factors that were developed for each geographic area within the study area. The factors are the final factors after three iterations.

EXHIBIT 2-7: GEOGRAPHIC WEIGHT FACTORS

GEOGRAPHIC AREA	WEIGHT FACTOR
North Shore	1.482759
South Shore	0.803949

To account for non-telephone owning households in a telephone survey, an adjustment is required using data reported by those households reporting episodic telephone ownership. Episodic phone service is characterized by phone service being turned on or off over a given period of time, largely due to a lack of financial resources. As households are able to pay their phone bills, their service is re-activated, only to be de-activated again at a later date due to non-payment (i.e., episodic). This is a different type of household from the true non-telephone household, where no telephone service was established (non-episodic). It is also a different type of household than those without phone service for less than two weeks, as these represent service interruptions due to telephone company repairs or weather events rather than an ability to pay.

As shown in Exhibit 2-8, approximately one-half of 1% of surveyed households reported being without a telephone for two weeks or longer. These households represent other non-telephone households in the state where non-ownership is "non-episodic."

EXHIBIT 2-8: EPISODIC TELEPHONE OWNERSHIP AS REPORTED IN SURVEY — STATEWIDE

LENGTH OF TIME WITHOUT SERVICE	FREQUENCY	PERCENT
Never without service in past 12 months	1,198	98.2%
Less than 2 weeks (Episodic)	18	1.5%
2 weeks or longer (Non-episodic)	4	0.3%
Total:	1,220	100.0%

To determine the weighting factor required in adjusting for non-episodic telephone ownership, the data were compared to non-telephone ownership as reported by the Bureau of the Census (SF3 2000 Census data) for the Census Tracts within the study area. Census shows 1.4% of all households did not have phone service on April 1, 2000 ((this includes both episodic and true non-telephone ownership households). In reality, about half of the non-telephone households are non-episodic since the Census survey asks if there is phone service available on April 1 (i.e., it does not ask if non-service is temporary or episodic and therefore might not be a permanent situation). Although no technical papers have been published that can serve as a resource in this area, this half-rate is determined based on NuStats' experience in conducting in-person interviews and postcard follow-up surveys with non-telephone households on other studies. Based on NuStats' experience, the distribution must be adjusted so that the non-episodic households could be compared with the Census non-telephone household estimates. Since only about one-half of the non-episodic households are truly non-telephone households, the more accurate amount is slightly less than one percent (0.7%).

Once the adjustment is made, this factor is a straightforward calculation, as shown in Exhibit 2-9. (This factor is the data adjusted for non-episodic divided by the survey percent.) In this case, 0.007 (which is the percent value adjusted for non-episodic telephone ownership) is divided by the survey percentage (0.0032787) and the factor is 2.135000. Each of the eight households that are determined as proxies for non-telephone households will have a non-episodic telephone ownership factor of 2.135000 in the data file. All other cases (1,198) will have a factor of 1.011236.

EXHIBIT 2-9: EPISODIC TELEPHONE OWNERSHIP FACTOR

IS PHONE SERVICE EPISODIC?	SURVEY RESPONDENTS	SURVEY PERCENT	CENSUS PERCENT	DATA ADJUSTED FOR EPISODIC OWNERSHIP (1/2 OF CENSUS VALUE)	FACTOR3
No	1,216	99.67213%	98.6%	99.3%	0.996266
Yes	4	0.32787%	1.4%	0.7%	2.135000
Total:	1,220	100.0%	100.0%	100.0%	

The weight factors were then multiplied and adjusted for normalization (i.e., to initially project out to the total number of surveys conducted). This final weight factor (FINWGHT) is used to balance the data to the Census proportions for household size by vehicle ownership, geography, and telephone ownership. Using this weight factor produces tables to the sample size.

For the expansion factor, a multiplier of just under 25 was assigned to each household to expand the data to the study area universe. In other words, each of the 1,220 households in the sample represents approximately 25 other households in the study area. The FINWGTEX variable is used to produce tables that reflect the total number of households in the study area based on 2000 Census data, or 29,782 households.

Geocoding was conducted in ESRI's ArcView geocoding platform using 2004 TIGER coverage files downloaded from the U.S. Census Bureau. Home, work and school addresses were geocoded subsequent to the recruitment interview, while trip end addresses (non-home, non-work, non-school) were geocoded subsequent to the retrieval interview. During the retrieval interview, multiple location information was collected such as place name, address, nearest landmark, nearest cross-street or street intersection to facilitate geocoding. The results presented in this section accounts for all households interviewed – both permanent and seasonal.

Of the home addresses, 100% were geocoded. Out of the 6,946 addresses (a number of them traveled to more than once by a single or multiple members of the same household including to home) that were recorded by households as "traveled to" and that were within the study area, 99% were successfully matched to a latitude/longitude coordinate. Exhibit 2-10 presents the geocoding match rates by location type. Locations that fell outside of the study area (AV_STATU = "O") or did not have a fixed location (AV_STATU = "F") were not included in the match rate percentage calculation.

EXHIBIT 2-10: GEOCODING MATCH RATES

ADDRESS TYPE	NUMBER OF RECORDS	NUMBER MATCHED	PERCENT MATCHED
Home	1,345	1,345	100%
Work	1,034	1,016	98%
School	543	542	99%
Trip Ends	4,024	3,983	99%

GEOCODING QUALITY CONTROL

NuStats ensures the delivery of the most accurate and highest level of quality through the following Quality Control procedures:

✓ A final review of all unmatched locations was conducted to attempt to geocode these records.

✓ All points were displayed and one city at a time was selected to verify that each point falls within the appropriated city limits or verify to be correct if the point falls outside the limits and update the city variable.

✓ Since the study area is defined by a set of Census Tracts, each location was sorted by the geocoded Census Tract and reviewed and verified for the valid zone to check for duplicate locations.

✓ Randomly selected 5% of the geocoded addresses and reviewed the placement of the points in detail to ensure proper placement of the overall latitude/longitude points. This entailed using ArcView and displaying the points on the street layer and comparing the points with DeLorme and other detailed street atlases.

✓ Because cross-street geocoded points do not reference a zone (zip code or city) in ArcView, all cross-street geocodes were queried and analyzed to ensure proper placement of the geocodes.

✓ After completing a geocoding working file, the geocoded zip code, geocoded city, TAZ, and other attributes were attached to the file. GEOZIP and GEOCITY are used to determine the four codes used in the "quality control" flag field. The QCFLAG variable is populated with the following four codes:

- "1" = given zip code matches geocoded zip code and given city matches geocoded city.
- "2" = given zip code matches geocoded zip code.
- "3" = given city matches geocoded city.

- ▪ "4" = visual confirmation required - these records are imported back into ArcView and manually displayed, queried by city, and thoroughly reviewed to ensure accurate geocodes.
  - ✓ Removed all punctuation marks.
  - ✓ Standardized all address suffix and directions.

As a final check of the location file, NuStats used the geocoding, trip duration, and the mode parameters to check mode versus speed (miles per hour) known as a "Speed Check." First, a file was set up to reflect origin and destination geocoding locations for each trip. The distance was calculated between the two points and the following additional variables were added to the speed check file.

The formula used to calculate the distance between the origin and destination is:

$$D = \text{square root } [(X_o\text{-}X_d)^2 + (Y_o\text{-}Y_d)^2], \text{ where}$$

$X_o\text{-}X_d$ = X-coordinate origin and destination, respectively,
$Y_o\text{-}Y_d$ –Y-coordinate origin and destination, respectively,
Sqrt –the square root of the sum of the squares for $X_o\text{-}X_d$ and $Y_o\text{-}Y_d$.

The x and y coordinates were placed into decimal degrees before running this process and thus this formula yielded a distance in decimal degrees. Since the process is to verify a logical miles per hour for the given mode, the distance was changed to miles. By multiplying 69.1105 (factor that changes decimal degrees to miles based on the curvature of the Earth) to our distance factor, the miles are determined.

The trip duration was divided by 60 to determine the trip time (in hours). Finally, the miles were divided by the hours and the result is miles-per-hour (mph).

The following miles-per-hour thresholds, by mode, were allowed (those that meet these specifications were flagged as acceptable):

Mode	Acceptable Speed Threshold
Auto trips	>0 to 70mph
Bus	>0 to 35mph
School Bus	>0 to 45mph
Bicycle	>0 to 10mph
Walk	>0 to 10mph

In the first pass, the cases that did not meet the speed thresholds were flagged. Allowing for a time discrepancy (or rounding by the respondent), five minutes was added to the flagged cases and the file was flagged again for cases that were still out of the acceptable range. These cases were then reviewed again for the following:

- ✓ Did the respondent report an invalid/illogical mode?
- ✓ Did the respondent report incorrect/illogical trip times?
- ✓ Did the respondent report trips to the same place consecutively (same shopping center or business center) thus creating a distance of 0?

All flagged locations along with previous and subsequent trip locations were reviewed for geocoding errors in ArcView and re-geocoded as necessary. Those that failed after these multiple checks were flagged in the final dataset. Of the nearly 12,000 trips, only nine remained unresolved.

DATA FILE CREATION

After completion of data collection, geocoding, and data editing tasks, the survey data were contained in five files. These files contain records for households that met the quality control standards during the edit check stage.

1) *Household data file* – the household is the unit of analysis, with 1,220 records in the permanent household file and 125 in the seasonal household file. These files contain data elements relating to household demographics such as household size, vehicles available to household and household income among others.

2) *Person data file* – persons within households are the units of analysis, with 2,732 records in the permanent person file and 229 records in the seasonal person file. These files contain data elements relating persons, such as age, gender, work and school status, among others.

3) *Vehicle data file* – vehicles within households are the units of analysis, with 2,471 records in the permanent vehicle file and 185 records in the seasonal vehicle file. These files contain the year, make, and model data for each vehicle.

4) *Trip data file* – trips made by persons within households are units of analysis, with 11,048 records in the permanent trip file and 726 records in the seasonal trip file. These files contain information relating to travel, such as locations, activity, mode, and time of travel.

5) *Location data file* – all locations pertinent to households and trips made by persons within households, with 7,466 permanent location records and 517 seasonal location records. The files contain a location number that links each record to the trip, person and household files.[2]

ITEM COMPLETION RATES

Exhibit 2-11 presents completion rates for key variables in the dataset (both permanent and seasonal combined). As shown, these rates are high. Income typically produces the lowest completion rate. The 85% completion rate is comparable to similar household travel surveys.

EXHIBIT 2-11: ITEM COMPLETION RATES

VARIABLE	COMPLETION RATE	REFUSED/TOTAL RECORDS
Household Data		
Household Size	100.0%	0 / 1,345
Vehicles Available	100.0%	0 / 1,345
Income	85.0%	206/ 1,345
Person Data		
Gender	99.5%	14 / 2,961
Age	99.6%	13/ 2,961
Driver License	99.9%	2 / 2,522
Employment Status	99.9%	2 / 2,522
Student Status	99.9%	2 / 2,961
Trip Data		
Arrival Time	100.0%	0 / 11,774
Departure Time	100.0%	0 / 11,774
Trip Purpose	100.0%	0 / 11,774
Mode	100.0%	0 / 11,774

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[2] The location file has fewer records than the trip file because some locations were traveled to more than one time and therefore are included multiple times in the trip file but only listed once in the location file)

3. SAMPLE VALIDATION

The "draft" sample was comprised of 1,220 completed households. For comparison to 2000 Census data, only permanent residents are included in the validation process. The tables in this section compare the sample distributions on key demographic variables with census data. The weighted proportions represent data that have been weighted by geography, telephone service, household size, and vehicle ownership.

As shown in Exhibit 3-1, the unweighted household size sample distribution differed from that of the Census population parameters. The sample contained more two-person households and slightly fewer four or more person households than the study area as a whole.

EXHIBIT 3-1: HOUSEHOLD SIZE

HOUSEHOLD SIZE	SAMPLE PROPORTIONS (UNWEIGHTED)	SAMPLE PROPORTIONS (WEIGHTED)	CENSUS 2000*
One Person	27.5%	25.6%	25.5%
Two Persons	43.0%	37.9%	38.0%
Three Persons	13.9%	14.7%	15.3%
Four or More Persons	15.5%	21.8%	21.2%
Total	**100.0%**	**100.0%**	**100.0%**

Base: 1,220 Households
* Census 2000 Summary File 3

The unweighted sample under represents zero-vehicle and over represents two or more vehicle households. See Exhibit 3-2.

EXHIBIT 3-2: HOUSEHOLD VEHICLES

HOUSEHOLD VEHICLES	SAMPLE PROPORTIONS (UNWEIGHTED)	SAMPLE PROPORTIONS (WEIGHTED)	CENSUS 2000*
Zero Vehicle	2.8%	5.7%	5.7%
One Vehicle	28.0%	31.0%	32.0%
Two Vehicle	45.1%	40.5%	41.4%
Three or More Vehicles	24.1%	22.8%	20.9%
Total	**100.0%**	**100.0%**	**100.0%**

Base: 1,220 Households
* Census 2000 Summary File 3

The unweighted Survey sample over represents the household income in the $50,000 or more categories and under represents households in the categories that are less than $50,000. However, the sample data are not adjusted or indexed to 2000 income levels (i.e., the Survey asked about 2004 income while the Census is based on 2000 data). The unweighted median income is $52,750 and the weighted sample income is $52,250. The Census median income is $52,249. About 15 percent of all households interviewed refused to report income, which is typical for household travel surveys. Exhibit 3-3 summarizes sample validation by income.

EXHIBIT 3-3: HOUSEHOLD INCOME

2004 HOUSEHOLD INCOME	SAMPLE PROPORTIONS (UNWEIGHTED)	SAMPLE PROPORTIONS (WEIGHTED)	CENSUS 2000*
Less than $10,000	2%	4%	6%
$10,000 to less than $14,999	3%	4%	5%
$15,000 to less than $24,999	7%	8%	11%
$25,000 to less than $34,999	12%	11%	13%
$35,000 to less than $49,999	15%	14%	17%
$50,000 to less than $74,999	22%	21%	19%
$75,000 to less than $99,999	14%	15%	11%
$100,000 to less than $149,999	13%	12%	9%
$150,000 to less than $199,999	5%	5%	3%
$200,000 or More	6%	6%	6%
Total	**100%**	**100%**	**100%**

Base: 2,213 households providing income. May not add to 100% due to rounding.
*Census 2000 Summary File 3

The unweighted sample is a fairly good representation of the study area residents by age group overall. However, there is a slight over representation of persons age 65 or older and an under representation of persons between 25 and 34 years old. See Exhibit 3-4.

EXHIBIT 3-4: AGE OF MEMBERS OF HOUSEHOLDS IN THE SAMPLE

AGE	SAMPLE PROPORTIONS (UNWEIGHTED)	SAMPLE PROPORTIONS (WEIGHTED)	CENSUS 2000*
Under 5 years	4%	6%	5%
5 years to 14 years old	10%	12%	14%
15 years to 24 years old	9%	10%	12%
25 years to 34 years old	8%	9%	14%
35 years to 44 years old	14%	14%	17%
45 years to 54 years old	19%	18%	18%
55 years to 64 years old	20%	17%	10%
65 years and older	16%	14%	10%
Total	**100%**	**100%**	**100%**

Base: 2,723 persons reporting age. May not add to 100% due to rounding.
*Census 2000 Summary File 3

Both the weighted and unweighted sample provided an excellent distribution of employed versus non-employed persons in the study area. It contained proportionately the same number of employed persons that are present in the population (as compared to 2000 Census data). Exhibit 3-5 summarizes sample validation by employment status.

EXHIBIT 3-5: EMPLOYMENT STATUS

EMPLOYMENT STATUS	SAMPLE PROPORTIONS (UNWEIGHTED)	SAMPLE PROPORTIONS (WEIGHTED)	CENSUS 2000*
Employed	63%	63%	65%
Not employed	37%	37%	35%
Total	**100%**	**100%**	**100%**

Base: Persons over age 15 reporting employment status.

*May not add to 100% percent due to rounding. *Census 2000 Summary File 3*

4. SURVEY RESULTS

This chapter contains the summary tables for weighted data and is based on unlinked trips. The data are expanded to represent all households in the study area (as defined by the Census Tract). All results are presented for permanent residents and comparisons to seasonal residents are provided where statistically significant differences occur. Data tables for seasonal residents can be found in Appendix F (unweighted).

The 1,220 participating households provided important socioeconomic data that will provide insight into population characteristics for a variety of transportation planning and policy applications.

As expected, as household size increases, the number of trips per household also increases. The largest volumes of trips were among the 2- and 4+-person households. See Exhibit 4.1.

Seasonal residents display a somewhat different trip generation characteristics by household size compared to permanent residents. Among seasonal residents, the overall mean trip rate per household is 5.8. Two-person seasonal residents generated over one-half (52%) of seasonal residents trips, while seasonal households with four or more persons only generated 18% of the total seasonal resident trips.

EXHIBIT 4-1: HOUSEHOLDS AND TRIPS BY HOUSEHOLD SIZE

HOUSEHOLD (HH) SIZE	#HHs	% HHs	# TRIPS	% TRIPS	TRIPS/HH
1	7,622	25%	34,658	12%	2.8
2	11,282	38%	90,444	32%	4.6
3	4,379	15%	54,449	19%	6.3
4+	6,499	22%	106,531	37%	10.2
Total	**29,782**	**100%**	**286,082**	**100%**	**9.6**

Exhibit 4-2 demonstrates that as the number of vehicles available to the household increases so does the number of trips per household. Just over 40% of all trips were made by two-vehicle households, which make up the same percentage of all households in the sample. 4+- vehicle households made nearly 10% of trips, even though they only comprise 7% of the total sample.

Seasonal residents' trip generation by vehicle availability is somewhat different from their permanent resident counterparts. One-vehicle seasonal residents generated 49% of the seasonal trips compared to similar permanent resident households that only generated 23% of the permanent resident trips. Also, seasonal residents that have three or more vehicles available only generated 8% of the total seasonal resident trips, much less than permanent residents at 29%.

EXHIBIT 4-2: HOUSEHOLDS AND TRIPS BY VEHICLE OWNERSHIP

VEHICLES	#HHs	% HHs	# TRIPS	% TRIPS	TRIPS/HH
0	1,703	6%	11,352	4%	5.1
1	9,234	31%	67,015	23%	7.0
2	12,047	40%	126,455	44%	7.9
3	4,469	15%	53,417	19%	7.2
4+	2,329	8%	27,842	10%	6.6
Total	**29,782**	**100%**	**286,081**	**100%**	**9.6**

The number of trips per household increases as the household income increases up to $75,000, and then decreases. One factor contributing to these higher trip rates was that higher income households typically had more household members and/or more vehicles available. For example, just over 40% of households with an income less than $15,000 has four or more persons, whereas just over 25% of households with an income more than $75,000 has as many persons. See Exhibit 4-3.

Seasonal residents follow the same patterns as permanent residents in terms of trip generation by income. As the income category increases, the number of trips increases but only up to a certain point and then decreases. Among seasonal residents, the decline begins at $150,000, whereas among permanent residents the decline begins at $75,000.

EXHIBIT 4-3: HOUSEHOLDS AND TRIPS BY INCOME

HH INCOME	#HHs	% HHs	# TRIPS	% TRIPS	TRIPS/HH
Less than $10,000	1,075	4%	12,274	5%	11.4
$10,000 to less than $14,999	1,110	4%	8,003	3%	7.2
$15,000 to less than $24,999	2,013	7%	16,017	6%	8.0
$25,000 to less than $34,999	2,858	10%	25,581	10%	9.0
$35,000 to less than $49,999	3,672	12%	29,909	12%	8.1
$50,000 to less than $74,999	5,426	18%	54,731	21%	10.0
$75,000 to less than $99,999	3,771	13%	39,426	15%	10.5
$100,000 to less than $149,999	3,084	10%	36,688	14%	11.9
$150,000 to less than $199,999	1,163	4%	15,655	6%	13.5
Greater than or equal to $200,000	1,581	5%	17,252	7%	10.9
Total	**25,753**	**100%**	**255,536**	**100%**	**9.9**

Base: Households providing income data.

As the number of workers increased, the number of trips per household also increased (See Exhibit 4-4). One-worker households make up the largest proportion of the sample at 37%; however, two-worker households generated most trips (39%). Zero-worker households consist of just over one-in-five households, yet generated only 16% of the total trips.

EXHIBIT 4-4: HOUSEHOLDS AND TRIPS BY NUMBER OF WORKERS

WORKERS IN HOUSEHOLD (HH)	#HHs	% HHs	# TRIPS	% TRIPS	TRIPS/HH
0	6,555	22%	46,062	16%	7.2
1	11,054	37%	90,076	31%	6.8
2	9,551	32%	110,977	39%	7.6
3+	2,622	9%	38,968	14%	6.5
Total	**29,782**	**100%**	**286,083**	**100%**	**9.6**

Exhibit 4-5 shows that households with no students make up over six-in-ten (64%) of all households and generated almost the majority (47%) of trips. However, trips per household did increase as the number of students increased. Households with three or more students generated nearly 12 trips per household.

EXHIBIT 4-5: HOUSEHOLDS AND TRIPS BY NUMBER OF STUDENTS

STUDENTS	#HHS	% HHS	# TRIPS	% TRIPS	TRIPS/HH
0	19,063	64%	134,527	47%	4.9
1	5,307	18%	62,253	22%	6.6
2	3,846	13%	57,246	20%	9.7
3+	1,566	5%	32,057	11%	11.7
Total	**29,782**	**100%**	**286,083**	**100%**	**9.6**

Among those responding to the question on student status, about one quarter (24%) of all persons attend school. The majority (61%) of these persons are under the age of 15. Another 24% are between 15 and 24 years old. Children under the age of 15 in school made 3.2 trips compared to 4.1 trips for non-students (students 15-24 made 3.3 trips on average). See Exhibit 4-6.

EXHIBIT 4-6: PERSONS AND TRIPS BY STUDENT STATUS

STUDENT STATUS	# PERSONS	% PERSONS	# TRIPS	% TRIPS	TRIPS/ PERSON
Yes	16,707	24%	57,933	21%	3.5
No	53,485	76%	218,834	79%	4.1
Total	**70,192**	**100%**	**276,767**	**100%**	**3.9**

Base: Persons reporting student status.

As Exhibit 4-7 illustrates, persons under 24 years old or 65 years and older report the lowest trip rates per person (less than four). The highest trip rates are generated by respondents between the ages of 35 and 54 years old.

The mean age of seasonal residents (53.4) is much higher than permanent residents (43.2), with a difference of about 10 years. Seasonal residents over the age of 55 generate just over six-in-ten (63%) seasonal trips, while their permanent resident cohorts generate about 32% of permanent resident trips.

EXHIBIT 4-7: PERSONS AND TRIPS BY AGE

AGE	# PERSONS	% PERSONS	# TRIPS	% TRIPS	TRIPS/ PERSON
Under 5 years	3,896	6%	12,723	5%	3.3
5 years to 14 years old	8,717	12%	27,928	10%	3.2
15 years to 24 years old	7,125	10%	23,825	9%	3.3
25 years to 34 years old	6,140	9%	24,935	9%	4.1
35 years to 44 years old	10,029	14%	43,875	16%	4.4
45 years to 54 years old	12,365	18%	54,901	20%	4.4
55 years to 64 years old	11,830	17%	50,212	18%	4.2
65 years and older	9,832	14%	37,528	14%	3.8
Total	**69,934**	**100%**	**275,927**	**100%**	**3.9**

Base: Persons reporting age.

The trip rate difference between males and females is not statistically significant. This is also true among seasonal residents. Seasonal resident females generate 3.3 seasonal resident trips while males generate 3.1. The trip rate difference between seasonal resident males and permanent resident males is not statistically significant. The same is true between the females. See Exhibit 4-8.

EXHIBIT 4-8: PERSONS AND TRIPS BY GENDER

GENDER	# PERSONS	% PERSONS	# TRIPS	% TRIPS	TRIPS/ PERSON
Male	36,063	51%	140,802	51%	3.9
Female	33,813	48%	134,812	49%	4.0
Refused	335	<1%	1,245	<1%	3.7
Total	**70,211**	**100%**	**276,859**	**100%**	**3.9**

Employed persons (either full-time or part-time) account for 63% of the respondents aged 15 and older, and generated nearly two-thirds of the trips. Regular volunteers (6.2 trips per person) and full-time homemakers (5.2 trips per person) generate the most trips per person. As expected, retired and disabled persons made the least trips per person, with 3.5 and 3.1 respectively. Exhibit 4-9 summarizes trips by employment status.

EXHIBIT 4-9: PERSONS AND TRIPS BY EMPLOYMENT STATUS

EMPLOYMENT STATUS	# PERSONS	% PERSONS	# TRIPS	% TRIPS	TRIPS/ PERSON
Employed full-time	28,314	50%	120,448	51%	4.3
Employed part-time	6,490	11%	28,750	12%	4.4
Regular Volunteer	842	1%	5,250	2%	6.2
Full-time homemaker	2,888	5%	11,582	5%	4.0
Full-time student, not working	1,569	3%	6,352	3%	4.1
Full-time student, working	1,256	2%	3,896	2%	3.1
Disabled	1,383	2%	4,483	2%	3.2
Unemployed, looking for work	947	2%	2,552	1%	2.7
Unemployed, not looking for work	807	1%	2,869	1%	3.6
Retired, not looking for work	10,500	18%	37,845	16%	3.6
Retired, working	1,876	3%	10,141	4%	5.4
Total	**56,872**	**100%**	**234,168**	**100%**	**4.1**

Base: Persons aged 15 and older.

Exhibit 4-10 shows that the majority of employed persons work in the county in which they live. A significant percentage of respondents live in El Dorado County and work in Douglas County and vice-versa. Nearly nine-in-ten (89%) Placer County residents work in Placer County.

EXHIBIT 4-10: COUNTY OF RESIDENCE VERSUS COUNTY OF EMPLOYMENT

COUNTY OF WORK:	HH IN DOUGLAS COUNTY		HH IN EL DORADO COUNTY		HH IN PLACER COUNTY		HH IN WASHOE COUNTY		TOTAL	
	COUNT	PERCENT	COUNT	PERCENT	COUNT	PERCENT	COUNT	PERCENT	COUNT	PERCENT
Douglas	104	69%	157	24%	2	1%	2	1%	265	20%
El Dorado	26	17%	467	71%	1	0%	0	0%	494	37%
Placer	2	1%	24	4%	316	89%	15	8%	357	27%
Washoe	6	4%	3	0%	20	6%	153	85%	182	14%
Carson City	12	8%	5	1%	0	0%	7	4%	24	2%
Nevada (no fixed location)	1	1%	2	0%	15	4%	4	2%	22	2%
Alpine	0	0%	2	0%	0	0%	0	0%	2	0%

Base: Employed persons base excludes missing data.

The vast majority of the trips taken were by car/truck/van. The average driving trip length was 17 minutes. Of those who drove, 78% drove alone. The mean occupancy rate was 1.3 persons. One percent of trips generated in the study were made using public transit. Nine percent of all trips were made using a non-motorized form of transportation (walk or bicycle). See Exhibit 4-11.

The mode split among seasonal residents is fairly similar to permanent residents with 84% of the seasonal residents making their trips by car/truck/van and another 14% by walking or bicycling.

EXHIBIT 4-11: MODE DISTRIBUTION

MODE	COUNT	PERCENT
Car/Truck/Van	10,013	88%
Walk	846	7%
Bicycle	244	2%
School Bus	135	1%
Public Transit	123	1%
Motorcycle/Moped	36	0%
Other	28	0%
Taxi/Shuttle/Limousine	7	0%
Paratransit	6	0%
Casino Shuttle	2	0%
Private Shuttle	2	0%
Gondola	1	0%
Total	**11,443**	**100%**

As Exhibit 4-12 illustrates, over one-third of all primary activities are "At Home Activities." The second most frequent primary activity was "Personal Business" at 11%, while "Minor Shopping" activities were the third most frequently mentioned at 10%. Sixteen percent of all trips were either "work" (either at home or regular workplace) or "work-related."

The primary activity of seasonal residents closely mirrors that of permanent residents with the exception of work or work-related activities, as one would expect. Six percent of seasonal residents' primary activities were work or work-related while similar permanent residents' activities comprised 16% of all permanent resident trips.

EXHIBIT 4-12: PRIMARY ACTIVITY

TRIP PURPOSE	COUNT	PERCENT
At-home activities (sleeping, watching TV, eating, personal care, housework, etc.)	3,872	34%
Personal business (bank, pay bill, dry cleaning, errands, etc.)	1,251	11%
Minor shopping (frequent, grocery, clothes)	1,193	10%
Work (including regular volunteer work)	1,032	9%
Work-related (meeting, errand, etc.)	739	6%
Eating or drinking at restaurant/bar	460	4%
Outdoor recreation participation (skiing, snowmobiling, fishing, hiking, etc.)	455	4%
Visiting friends or relatives	387	3%
Dropping off someone	378	3%
Picking up someone	376	3%
Quick stop (gas, ATM, coffee, newspaper)	305	3%
School	271	2%
Indoor recreation participation (bowling, ice skating, etc.)	206	2%
Medical	203	2%
Working at home (job related-for pay)	74	1%
Major shopping (occasional, COSTCO, appliance, car, etc.)	62	1%
Casino gaming	52	1%
Entertainment (movie, sports event, show, etc.)	52	1%
Religious	39	0%
Community/Political meeting	33	0%
Other	4	0%
Total	**11,444**	**100%**

Base: 27,239 trip records, base excludes missing data.

Trip duration is calculated by subtracting the arrival time from the departure time of the previous trip as reported by the respondent. The majority of the trips are short taking less than ten minutes. Nearly one-third of the trips are five minutes or less in length. Eleven percent of all trips are longer than thirty minutes. The average trip duration for all trips is 17.5 minutes. See Exhibit 4-13.

Seasonal residents take longer trips than permanent residents. At a mean duration of just under 21 minutes, this is nearly five minutes longer than permanent residents.

EXHIBIT 4-13: TRIP DURATION
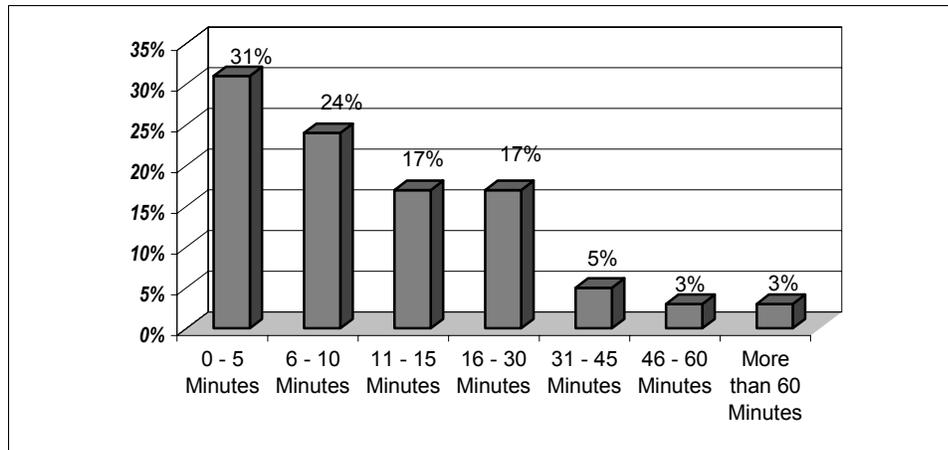
Exhibit 4-14 shows that about one-in-five trips start either in the morning peak period of 6 a.m. to 9 a.m. or in the p.m. peak period of 5 p.m. to 7 p.m. Less than 1% of all trips began in the early morning (before 6 a.m.).

EXHIBIT 4-14: DEPARTURE TIME DISTRIBUTION
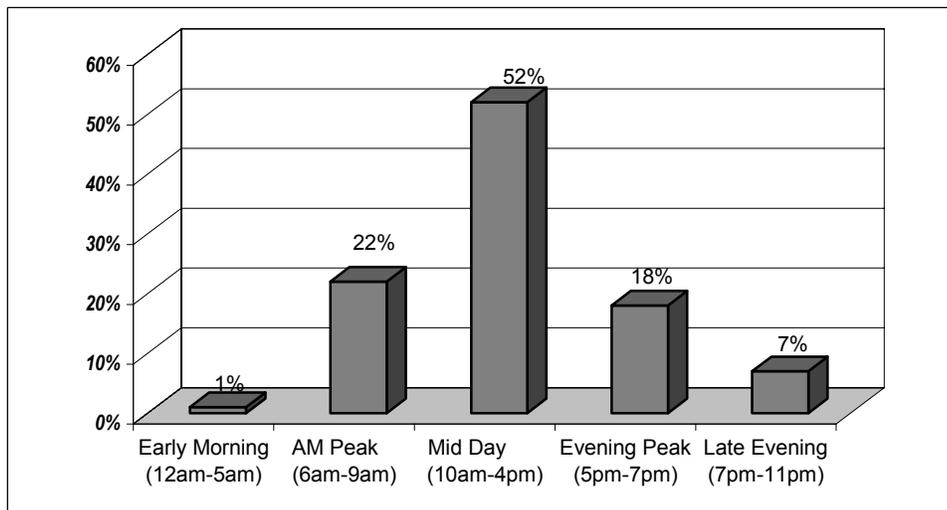
APPENDICES

The Appendices section contains the following:

- Appendix A – Pilot Results
- Appendix B – Data Dictionary
- Appendix C – Recruitment Script
- Appendix D – Diary Packet Materials
- Appendix E – Retrieval Script
- Appendix F – Seasonal Resident Data Tables

APPENDIX A – PILOT RESULTS

TAHOE REGIONAL
HOUSEHOLD TRAVEL SURVEY

Pilot Report

May 2005

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LIST OF TABLES AND FIGURES

1. INTRODUCTION

1.1 BACKGROUND

This report documents the design, implementation, and results of a household travel survey pilot test conducted as part of the Tahoe Basin's Travel Demand Forecasting Model update for the Tahoe Regional Planning Agency (TRPA). The survey is being conducted by NuStats, under sub-contract to Parsons Brinckerhoff. The data collected from the household travel survey will be an essential element in the transportation planning and modeling efforts for the Tahoe Basin.

The Tahoe Regional Household Travel Survey (HTS) is a comprehensive travel survey of 1,250 households located in the North and South Shores of the Basin Region. The survey objective is to collect the data necessary to update regional transportation models and plans. This includes information on work and non-work trip generation, trip distribution, and mode choice.

The HTS is based on both telephone interviews of randomly selected households from within the study area as well as in-person interviews with seasonal residents[1]. Households interviewed by telephone are randomly selected, using a sampling plan that is stratified on vehicle ownership and household size. All members of selected households are provided an activity/ travel log to record their activity and travel information for one 24-hour period with a travel day of Monday, Tuesday, Wednesday or Thursday.

1.2 PILOT TEST PURPOSE

During the month of April 2005, NuStats conducted a pilot test of procedures and instruments designed for use as part of TRPA's Tahoe Regional Household Travel Survey. The objectives of the pilot test were to evaluate and refine the survey procedures, survey materials and the Computer-Assisted Telephone Interviewing (CATI) programs. The pilot test was designed as a "dress rehearsal" and allowed for the full evaluation of the survey procedures from sample generation to data file preparation. Specific areas of assessment included:

- Examining stages of data-flow procedures and the quality assurance process.

- Evaluating respondent reaction to the survey process and exploration of local levels of respondent cooperation and response rates.

- Evaluating project staff training and performance.

Throughout all pilot activities, the goal was to target areas for improvement prior to the start of the full study effort. The role of the pretest was a critical one in the study – it was not designed to "make everyone comfortable," as that approach would result in inadequate and insufficient evaluation of the process. It is referred to as a "dress rehearsal" specifically for this reason – it is a road test of all systems to ensure everything is in place and ready for full-study implementation.

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[1] For purposes of this survey, "seasonal resident" is self-defined by the respondent. Respondents are simply asked if they consider themselves as a seasonal resident (yes or no).

2. METHODS

The purpose of this section is to summarize the methods used to conduct the pilot test. Each section contains a description of a specific procedure used in the pilot test and is in the order in which each procedure was implemented. Recommendations for changes in the study materials and procedures are presented in the final section of this report.

2.1 SAMPLE DESIGN AND OUTCOMES

A total of 835 randomly selected telephone numbers were dialed to produce a total of 22 completed surveys of the 71 recruited households. Table 1 shows, by household size and auto ownership, the distribution of recruited households. For most cross-classification cell categories, the actual number of recruited households was either on target to the goal or within a reasonable percentage. As in most household travel surveys, the households that are harder to survey are the larger households (i.e., four or more persons).

TABLE 1:
HOUSEHOLD SIZE BY VEHICLE OWNERSHIP – RECRUITED HOUSEHOLDS – (ACTUAL)/(GOAL)

Household Vehicles	HOUSEHOLD SIZE				
	1	2	3	4+	Total
0	(3/4%)-(2/3%)	(0/0%)-(1/2%)	(1/1%)-(0/0.6%)	(0/0%)-(1/1%)	(4/6%)-(4/6%)
1	(13/18%)-(13/17%)	(2/3%)-(6/9%)	(2/3%)-(2/3%)	(0/0%)-(3/4%)	(17/24%)-(24/32%)
2	(4/6%)-(4/5%)	(24/34%)-(16/21%)	(1/1%)-(5/7%)	(3/4%)-(7/9%)	(32/45%)-(31/41%)
3+	(2/3%)-(1/1%)	(10/14%)-(5/7%)	(2/3%)-(4/5%)	(4/6%)-(5/7%)	(18/25%)-(16/21%)
Total	(22/31%)-(19/26%)	(36/51%)-(29/38%)	(6/9%)-(11/15%)	(7/10%)-(16/21%)	(71/100%)-(75/100%)

2.2 SURVEY MATERIALS USED

Four sets of survey materials were tested during the pilot. Each of these is included in the report appendix.

Pre-recruitment Brochure – A brochure was mailed to households that have a telephone number listed in the telephone directory. The brochure provides more detailed information about the survey and contact information for questions.

Recruitment questionnaire – Used to collect detailed household, person, and vehicles data and also elicits the household commitment to participate in the survey (assign a travel date).

Activity/Travel log packet – A packet cover letter, a log that serves as a memory jogger used by survey respondents to record key activity and travel data and a reminder sheet are mailed to recruited households.

Activity/Travel data retrieval questionnaire – Used to collect activity/travel data and corresponding data including mode, departure and arrival times, parking cost, fare payment if transit used, and other data.

The recruitment and retrieval questionnaires were programmed in a Computer Assisted Telephone Interviewing (CATI) system. These programs eliminate the need for data entry as the telephone

interviewers, themselves, input data as they conduct the interview. In addition, available responses to most questions were categorized to minimize the need for post-coding.

2.3 IN-PERSON DATA COLLECTION PHASE

In addition to collecting data from randomly selected households in the Basin area, there is a desire to collect data from seasonal residents. Because there are a sizable number of seasonal residents who come to the area, there may be differences between this group and permanent residents in terms of demographics and activity/travel data. Although some seasonal residents may be captured in the random telephone sample, there may not be a sufficient number of them interviewed for any meaningful analysis therefore a supplemental data collection effort is being undertaken to increase the total sample of seasonal residents to about 100 households out of the total sample size of 1,250.

2.3.1 IN-PERSON INTERVIEWS WITH SEASONAL RESIDENTS

As expected, locating seasonal residents to participate in the household travel survey was somewhat challenging for two reasons. 1) The pilot survey was conducted one week following spring break for most California school systems and at the tail end of the ski season. 2) Because seasonal residents do not necessarily live in any specific area within the Basin area (i.e., no easily identifiable locations where they are concentrated).

The strategy for the full study is to locate and interview seasonal residents during the summer season as well to locate them at locations where they might frequently visit. The pilot study revealed a number of locations that provide promising results for encountering seasonal residents including:

- Restaurants that are typically patronized by "locals" during the lunch hour such as Sprouts, Sam's Place Pizza, Red Hut, Waffle Shop, etc.

- Coffee shops such as Alpina Coffee Café and Starbucks during late morning and early afternoon

- Recreational centers such as the ice skating rink and the community center

- Public library

- Public Internet access sites such as business centers

- Housing facilities for seasonal workers such as Heavenly Ski Resort employee housing at the intersection of US50 and Ski Run

- Shopping centers such as Heavenly Village and Factory Stores at the Y

- Personal care businesses such as beauty shops and nail salons

- Attendance at community associations and club meetings such as Toastmasters and Chamber of Commerce

In addition to intercepting seasonal residents at public locations, the pilot test revealed that networking is a valuable resource for identifying seasonal residents. During the interviewing process, three permanent residents identified an acquaintance who they considered a seasonal resident and contacted that individual to arrange for an interview.

A third source that proved fruitful for identifying seasonal residents was contacting local businesses and retailers. During personal visits to local businesses and retail stores, management was asked if any employee was a seasonal worker. If so, management was asked if that individual could be interviewed. Three out of five businesses visited had seasonal workers and the management agreed that the employee

could be interviewed as long as the time it took to conduct the study did not interfere with assisting customers or other work.

This in-person data collection effort included utilizing one of two methods for capturing activity and travel data. The first method was to determine whether or not the household was planning on being in the study area for at least the following three weeks after initial contact and whether or not they have a land line phone available or a cell phone with which we were permitted to contact them. If a respondent said, "Yes" to both questions, the recruitment survey was conducted (i.e., collected household, vehicle, and person data) and the survey data were sent to our telephone data collection facility to conduct a follow-up interview that included assigning a travel date (either April 19, 20, or 21) and mailing the activity/travel logs. A total of six seasonal households were recruited using the in-person method but none were retrieved. Multiple attempts were made to retrieve their travel data but no contacts were made.

If the household indicated that they were not planning on being in the Basin area for the next three weeks after initial contact or they did not have a telephone in which they could be contacted later, the second data collection method was used. For these cases, both the recruitment and a retrospective activity/travel survey were conducted. The retrospective activity/travel survey involved collecting activity/travel data for each person in the household for the previous day. This is essentially the same method used for the telephone survey with the major difference is the use of the activity/travel log as a memory jogger. If the person interviewed did not know the activity/travel details of a household member, another visit to the household would have been required to interview the person directly. For the pilot study, this was not necessary. The pilot survey produced five retrospective surveys.

2.4 TELEPHONE DATA COLLECTION PHASES

The following section provides detail on the various phases of the telephone survey effort including the brochure advance recruitment mailing, recruitment, retrieval and response rate for each telephone calling phases.

2.4.1 PRE-RECRUITMENT BROCHURE MAILING

A brochure was mailed to each household with a known address (i.e., households with a listed telephone number – address listed in the telephone directory) on Tuesday, April 5, 2005, which was approximately one week prior to the start of the recruitment calling effort. The brochure included information about who is conducting the survey, the purpose of the study, and how the survey is conducted. From the sampling frame, NuStats randomly selected 842 telephone numbers for inclusion in the study. From this subset of 842, a total of 247 households were mailed a brochure.

There were approximately 40 brochures that were returned to TRPA as "No postal service provided to this address." This accounted for 16% of the pilot sample. Although there are households in the sample frame with a listed address (i.e., in the telephone directory), they do not receive postal service. In reviewing the sample frame, there are telephone numbers that either includes a physical address or a P.O. Box number. The sample provider indicated that whatever is listed in the telephone directory (i.e., white pages), is what is attached to the telephone number in the sample frame. Since there is no distinction between whether the address is simply a physical address and/or is the mailing address, it is impossible to avoid mailing to households with a physical address but no postal service.

The full study sample frame contains a total of approximately 2,500 listed telephone numbers and with an expected 16% "non-delivery" rate, it is anticipated that approximately 400 will be returned. This is in addition to any non-occupied housing units. This does not seem too unreasonable considering the random selection method employed for the survey.

2.4.2 RECRUITMENT CALL AND COMPONENT RESPONSE RATE

The pilot study recruitment was conducted between Tuesday, April 12 and Friday, April 15, 2005. 71 households completed the recruitment survey and agreed to keep a log of their activities and travel for one 24-hour period. During the recruitment interview, these 71 households were assigned a travel date of either April 19, 20, or 21.

The response rate for the recruitment call phase is the total number of recruits divided by the total eligible sample contacted (i.e., completes and refusals) plus a proportion of eligibility unknown numbers. The calculated component response rate is 49.0%. Table 2 summarizes the recruitment outcomes.

TABLE 2:
PILOT RECRUITMENT CALL OUTCOMES

Call Outcome	Frequency	Percent
Eligible Units		
Recruitment Call Complete	60	7.3%
Final Refusal	13	1.6%
Sub-Total Eligible	73	8.9%
Ineligible Units		
Computer/Fax	64	7.8%
Business/Government	36	4.4%
Disconnect	96	11.7%
Sub-Total Ineligible	196	23.8%
Eligibility Unknown Units		
Busy	8	0.9%
Answering Machine	181	22.0%
No Answer	193	23.4%
Callbacks	173	21.0%
Sub-Total Eligibility Unknown	555	67.3%
Total	824	100.0%

The equation used to calculate the recruitment component response rate is:

$$RR1 \quad \left(\frac{a_1}{A_1 + (C_1 * ER_1)} \right)$$

Where,
RR1 is the Recruitment Component Response Rate,
a_1 is the number of completed surveys during recruitment,
A_1 is the number of eligible telephone numbers,
C_1 is the number of eligibility unknown telephone numbers, and
ER_1 is the eligibility rate (percent of eligible telephone numbers).

Using this formula, the result is a recruitment component response rate is 49.0%, where a_1 is 60; A_1 is 73; C_1 is 555; and ER_1 is 0.089.

2.4.3 ADVANCE CALL AND RESPONDENT DIARY PACKET MAILING

After a household has agreed to participate in the survey (recruitment), a mailing of the activity/travel packet is conducted within 24 hours of the call.

The mailing includes a cover letter (personally addressed to the person who completed the recruitment interview) that explains the purpose of the survey and contact information for question, an example activity/travel log, an activity/travel log personalized for each member of the household, and a reminder sheet that indicates the assigned survey date. The appendix contains the activity/travel packet materials.

2.4.4 REMINDER CALLS

A reminder call was placed to all 71 recruited households (both CATI of which there were 60 and In-person of which there were six) the night prior to the assigned travel day. There was an additional five in-person recruits that also provided retrospective activity/travel diary and these are not included in this count. There are two main purposes for this call. The first purpose is to confirm receipt of the diary packet and the second is to answer any last minute questions.

If a household did not receive their packet, the mailing address is verified and any corrections are made at that time. During the full study, addresses originally recorded in error, the household is rescheduled for another travel date and a new packet is mailed to the household the following day. For those households in which the mailing address is correct, the household is asked to record their trips for the same day the following week; this assumes that the packet is only late in delivery. If, at the time of the next reminder call the household still has not received a diary, a new packet is prepared and mailed.

During the pilot, of the households contacted during the reminder call phase, five households had not received their packets prior to their assigned travel date simply because they had not checked their Post Office Box and only do so on certain days of the week. These households were simply asked to record their travel for the next day if they agreed to check their mailbox. During the full study, a modification to the recruitment call and the reminder call will be made. For specific procedures, see the "Pilot Evaluation and Recommendations" section of this report.

2.4.5 RETRIEVAL CALL AND COMPONENT RESPONSE RATE

Data retrieval occurred between April 20 and May 1, 2005. A total of 40 households completed the survey, however, 13 were deemed out of area after reviewing the household location. The resolution of out-of-area households is discussed in the conclusions and recommendation section of this report.

Of the 27 completed surveys, 22 (31%) were conducted via CATI while the other five were conducted in-person. As mentioned previously, 13 households (18%) were determined to be outside of the study area after data were retrieved. Two households refused to complete the survey (2.8%) while the remaining 34 households (48%) were not contacted after additional attempts to do so during the time frame available for the pilot.

The response rate for the retrieval phase is the total number of completes divided by the total eligible sample (which in the phase is 80% since all 13 households were deemed out-of-area and one household had their telephone disconnected between recruitment and retrieval). The calculated response rate is 43.1%. Table 3 summarizes the retrieval outcomes.

TABLE 3:
PILOT RETRIEVAL CALL OUTCOMES

Call Outcome	Frequency	Percent
Eligible Units		
Retrieval Call Completes	22	31.0%
Final Refusal	2	2.8%
Sub-Total Eligible	24	33.8%
Ineligible Units		
Out-of-Area	13	18.3%
Disconnect	1	1.4%
Sub-Total Ineligible	14	19.7%
Eligibility Unknown Units		
Busy	1	1.4%
Answering Machine	9	12.7%
No Answer	1	1.4%
Callbacks	22	31.0%
Sub-Total Eligibility Unknown	33	46.5%
Total	71	100.0%

The equation used to calculate the recruitment component response rate is:

$$RR2 \quad \left(\frac{a_2}{A_2 + (C_2 * ER_2)} \right)$$

Where,
RR2 is the Recruitment Component Response Rate,
a_2 is the number of completed surveys during retrieval,
A_2 is the number of eligible telephone numbers,
C_2 is the number of eligibility unknown telephone numbers, and
ER_2 is the eligibility rate (percent of eligible telephone numbers).

Using this formula, the result is a recruitment component response rate is 43.1%, where a_2 is 22; A_2 is 24; C_2 is 33; and ER_1 is 0.803.

2.4.6 OVERALL RESPONSE RATE

Using Council of American Survey Research Organization (CASRO) guidelines, the response rate is calculated as the product of the component response rates. The formula use is:

$$RR = \left(\frac{a_1}{A_1 + (C_1 * ER_1)} \right) * \left(\frac{a_2}{A_2 + (C_2 * ER_2)} \right)$$

Where,
RR is the Overall Response Rate,
a_1 and a_2 are the number of completed surveys for each of the two phases (recruitment and retrieval),
A_1 and A_2 are the number of eligible telephone numbers for each of the two phases,
C_1 and C_2 are the number of eligibility unknown for each of the two phases, and
ER_1 and ER_2 are the eligibility rates for each of the two phases.

Using this formula, the Overall Response Rate is 21.1% (0.49 * 0.431). This response rate is below what should be expected household travel surveys. An overall response rate of 26-30% is the minimum that should be achieved. The short time frame for both the recruitment and retrieval calling stages during the pilot significantly impacted the overall response rate. During the full study, more time is allowed for additional callbacks to put closure on pending (eligibility unknown) outcomes during the recruitment stage and allows for additional attempts (i.e., more days) during the retrieval phase.

2.5 DATA COLLECTION PRODUCTIVITY

The pilot was designed to evaluate the survey procedures and estimate data collection productivity (recruitment and retrieval). Productivity is based on the response rate and the number of completed surveys per hour (both at the individual interviewer and overall levels). These two statistics must be balanced – if there is a high productivity level but a low response rate, this indicates that the interviewers may not be adequately varying the dialing times by day of the week and times of the day (e.g., dialing each telephone number once rather than the requisite eight times). One indicator of a low response rate is a high number of "pending" telephone numbers (no answer, busy, answering machine). Pending numbers must be dialed at varying times of the day and days of the week.

The recruitment response rate (49.0%) and the number of recruited households per hour (1.1) was as expected for a household travel survey pilot. The recruitment response rate may increase since the full study will allow for more time to vary the calling times during the day and days of the week.

The retrieval response rate was lower than anticipated (43.1%). For household travel surveys, depending on the geographic area, the rate ranges between 67% (for areas known for low response rates such as the northeast and large metropolitan areas in the west) to 78% (for areas in the mid-west and south). The goal for this project is to retrieve 75% of all recruited households. It is expected that 25% will never be contacted again after recruitment, will decide not to participate after receiving the activity/travel packet, or will have their phone disconnected. During the pilot, nearly half of the recruited households were not contacted after multiple attempts. The multiple attempts made were over a short period of time but the number of days was limited due to the limited duration of the pilot. During the full study, multiple attempts will be made for both time of the day and days of the week.

2.6 GEOCODING

The term "geocoding" refers to the process of evaluating address information with the goal of assigning an exact latitude and longitude. This process took place throughout the pilot test, beginning with geocoding of home addresses, continuing with geocoding the habitual addresses (work and school), and concluding with non-home and non-habitual (work, school) trip ends.

Listed home addresses were geocoded soon after sample generation. Home addresses that were not geocoded were investigated and corrected during the recruitment interview. All home addresses of recruited households were geocoded to an x/y coordinate.

Work and school addresses for all household members were collected during the recruitment interview. Work and school addresses that were not geocoded were investigated and corrected either during the reminder or retrieval calls.

Addresses of trip origins and destinations were geocoded within 48 hours of data retrieval. All addresses that were not geocoded during the recruitment stage prompted the interviewer to ask the respondent for greater detail for those addresses. NuStats' goal for achieving the geocoding match rates for the home, habitual (work/school when combined) and for all trip addresses was on target. During the full study, callbacks to households and other means of address research will be conducted so that NuStats' minimum matching standards are met. Table 4 summarizes the geocoding results.

Address Type	Unique Locations[2]	# Out of Area	Number Matched	Match Rate	Minimum Standard
Home	27	13	27	100%	100%
Work	15	4	12	80%	95%
School	5	0	5	100%	95%
Trip	79	23	78	99%	90%
Total	126	27	122	97%	

The number of additional addresses needed geocoding to reach the minimum standard are relatively small because the total number of records is small (i.e., every additional geocoded record produces a high percentage increase). Two additional geocoded work addresses would have increased the match rate to the minimum standard of 95%.

2.7 DATA PROCESSING

Data quality review was conducted in an on-going manner, from review of frequencies from the CATI program after the first few days of data collection to review of data during processing and editing.

Data checks (noted below) were conducted using data check programs written in Microsoft Access. The program is tailored specifically for this project. NuStats reviewed the pilot data to ensure data conforms to the following standards:

Across all Files:

Range of values for each data item is valid, including values for non-response.

Household File:

Compare number of persons in household with number of person records in person file for that household.

Person File:

Verify that the number of places recorded for each person is at least as many as the number of places the respondent indicates visiting.

Verify driver's license information (licensed to drive or not) is included for ages greater than 15.

Verify each student's education status is given.

Verify each working person's employment status is given.

Verify all work information is complete.

Verify all school information is complete.

Verify person's reporting no travel is correct. Need reason for no travel.

Trip File:

Verify that each person has at least one place per day.

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[2] Unique locations only include those in the study area.

Verify that household and person records exist for each sample number in the trip file.

Place numbers must be sequential and inclusive.

Verify that each place has address and trip data associated with it.

Verify all loop trips - during data retrieval stage (i.e. start and end locations the same)

Location File:

Verify all matched locations have x/y coordinates.

Verify all unmatched/out of area locations that do not have x/y coordinates.

Verify all Household locations that are in the location file.

The errors found in the pilot data and subsequently corrected were not out of the ordinary for a pilot survey. For example, additional interviewer training such as checking for same household members traveling together and verifying that the start and end times and locations are the same will be made.

3. PILOT RESULTS

The following is for informational purposes only and should not be used to make inferences about the Basin area households. The sample size is too small for any meaningful analysis. The results should mainly be used to assess item non-response (i.e., response to specific questions). All results are unweighted and unexpanded.

3.1 HOUSEHOLD DATA

The 27 households have the following characteristics (overall and for seasonal households):

- Average household size is 1.8 overall (seasonal households is 2.8)

- Average number of workers per household is 1.0 (seasonal households is 0.2)

- Average number of students per household is 0.2 (seasonal households is 0)

- Average number of licensed drivers per household is 1.7 (seasonal households is 2.4)

- Average number of vehicles owned per household is 1.74 (seasonal households is 1.8)

- Median 2004 total household income is $81,250 (seasonal households is $87,500)

- Slightly more than seven in ten households (74%) live in a single family detached home (All five seasonal households are staying in a single family detached home)

- Slightly more than eight in ten (85%) households own their home (All seasonal households interviewed own their seasonal home)

- Average number of weekday trips per household per day is 7.6 (seasonal households is 10.4)

3.2 PERSON DATA

The 27 households represent 49 persons (of these 14 persons are seasonal residents). The following are the person characteristics for the retrieved households (overall and seasonal residents).

- More than nine in ten (96%) of persons fifteen or older are licensed to drive (seasonal residents is 86%)

- Of those 16 or older, more than one half (55%) are employed either full- or part-time (seasonal residents is 8%, half are retired.)

- Slightly more than one in ten persons is a student (10%) (None of the seasonal residents is a student in the Basin area)

- Of the students, eight in ten (80%) are attending school at a college or university; two in ten (20%) are enrolled in K-12th.

- Average number of weekday trips per person per day is 4.1 (seasonal residents is 3.7)

3.3 ACTIVITY/TRAVEL DATA

The 27 households made a total of 203 trips (of these, seasonal households made 52). The following are the trip characteristics for the retrieved households (overall and for seasonal households).

- The average weekday trips per household is 7.6 (seasonal households is 10.4)

- Slightly more than nine in ten (92%) of all trips were made by "auto/van/truck," of which 82% were as a driver (seasonal households was 100% by "auto/van/truck" of which 58% were as a driver)

- Six percent of all trips were walk trips (no seasonal residents walked on their survey date)

- Other than at home activities (33%), minor shopping which includes frequent grocery shopping (11%) and personal business trips (8%) were the most frequent trip activities (seasonal residents was home (35%), minor shopping (25%), and entertainment which includes shows, sporting events, or a show (10%).

- Peak trip departure time occurs during noon to mid-afternoon (12 to 4 p.m.) with 38% of all trips (seasonal residents travel mainly between noon and 2 p.m. with 42%)

4. PILOT EVALUATION AND RECOMMENDATIONS

4.1 SURVEY PROCESS

The following are conclusions and recommended improvements to the survey process that will need to be implemented prior to the start of the full survey. Overall, the pilot went as planned with the exception of a few details noted below. These issues will be resolved prior to the start of the full study.

The in-person data collection effort went better than expected even though the pilot was conducted during "off-season" for seasonal residents. We have identified several locations where contacting potential seasonal residents is highly likely. We have also identified a lawn service that provided us with their seasonal client list. It is anticipated that most of the seasonal surveys will be conducted during the summer. We don't anticipate any problems collecting the goal of 100 seasonal household surveys.

4.1.1 SAMPLE FRAME

Thirteen households were deemed "out-of-area" after activity/travel data had been retrieved. After reviewing the sample frame and in discussions with NuStats' sample provider it was determined that there are four telephone exchanges that are used in both the study area and outside of the study area. During the pilot, the four exchanges were included to verify the estimated incidence of "out-of-area" and "in-area" households. Because the incidence is low (less than 10%) of households with these four exchanges, these exchanges will be excluded from the full study sample frame without sacrificing geographic coverage.

4.1.2 PRE-RECRUITMENT

Mailing ten days prior to recruitment to allow households with a PO Box ample time to check mailbox for brochure in advance of recruitment call. It is expected that a certain number of brochures will be returned (16% in the pilot) as "no mail service provided to this address." This will be unavoidable because the address attached to the telephone number for listed sample comes directly from the telephone directory and in some cases the physical address is not the same as the mailing address. For those households that did not receive a brochure will still be called during recruitment and their mailing address will be collected to ensure an activity/travel packet can be delivered if they agree to participate in the survey. The vast majority (84%) will be delivered to listed households prior to the recruitment call.

4.1.3 RECRUITMENT

A few of the recruited households indicated that they did not receive their activity/travel packet up to the day before their assigned survey date. To avoid this, two additional procedures will be implemented during recruitment.

1) Recruitment will occur ten days prior to the assigned survey date to allow for ample time for mail delivery and to allow respondents enough time to check their mail if they use a PO Box.

2) Households that have a mailing address that is different from their physical address will be asked when they pick up their mail from the post office. Depending on the survey date we will assign a survey date that falls after their scheduled mail pick up day. We want to avoid placing a burden on respondents by asking them to make any additional trips to the post office.

4.1.4 RETRIEVAL

The retrieval response rate was much lower than anticipated which brought down the overall response rate below NuStats' standard. Part of the issue is the short time frame to retrieve the activity/travel data from recruited households. The full study will allow for additional calling efforts spread among the days of the week. Varying calling times during the day and over various days of the week will allow us to contact recruited households that may have a non-traditional work schedule (e.g., workers who work the evening shift can be called during the day or those who work multiple jobs during the week can be called on weekends).

NuStats will maintain its standard of replacing households that do not provide their activity/travel data within seven to ten days after their assigned survey date.

4.2 SURVEY MATERIALS

The survey materials appear to work really well. There were no negative comments from respondents about the usefulness of the activity/travel logs and the data set did not include out of the ordinary responses that would warrant a need to change the survey materials.

The NuStats project manager and the 1-800 number provided on the materials did not receive any calls for assistance in completing the survey. The only calls that came in (three) were from respondents who notified us that they were mailing their activity/travel logs back to us.

APPENDIX B – DATA DICTIONARY

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
RECTYPE	Record Type	N	1	1=Household Data		
SAMPN	HH ID Number	N	7	Assigned unique identifier		
HHADDR	Household Location Reference Number	N	7	Unique value linking RECTYPE = 1 to Location File		
AREA	Household location (area)	N	1	1=Northshore; 2=Southshore	Post-processed	Post-processed
HCOUNTY	Household County	N	1		Post-processed	
FTIMERES	Full Time Residency	N	1	1=Yes; 2=No;9=RF	Do you consider yourself a full time resident of the Tahoe Region?	Recruitment
SEASONAL	Seasonal Residency	N	1	1=Yes; 2=No;9=RF	Do you consider yourself a seasonal resident?	Recruitment
SEAVISIT	Visitors at Residence	N	1	1=Yes; 2=No;9=RF	Do you currently have any visitors staying with you?	Recruitment
SEAOFTEN	How often at seasonal residence	N	2		How often do come to the Basin area? How many separate overall stays per year?	Recruitment
SEASTAY	Length of seasonal stay	N	1	1=Less Than 1 Week 2=1 to 2 Weeks 3=3 to 4 Weeks (1 month) 4=1 month to 3 months (Season) 5=More than 3 months 9=REFUSED	How long does your household typically stay in the Basin area?	Recruitment
HHSIZE	No. of persons in household	N	2	Total number of persons in household	How many people, including yourself, live in your household? [includes all persons who sleep there at least 3 nights per week]	Recruitment
REC_HHSZ	Recoded Household Size	N	1	1=1, 2=2, 3=3, 4=4+	Post-processed	Post-processed
STRUCT	Household structure type	N	1	1=Single family detached (includes cabin) 2=Duplex, 4-plex, townhome 3=Apartment 4=Mobile home 7=Other 9=DON'T KNOW/ REFUSED	Do you live in a house, cabin, duplex, townhome, apartment, or mobile home?	Recruitment
OWNRENT	Own or rent status of home	N	1	1=Own 2=Rent 3=Caretaking/Housesitting 9=DON'T KNOW/ REFUSED	Do you own, rent your home? Are you housesitting?	Recruitment

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
NOPHN	Lack of phone service	N	1	1=Yes; 2=No; 8=DK; 9=RF	Have there been times within the past 12 months when the home you were living in did not have telephone service for reasons other than brief service or equipment problems?	Recruitment
LENGTH	Lack of phone service	N	1	1=LESS THAN 1 WEEK 2=1-2 WEEKS 3=2 WEEKS TO LESS THAN ONE MONTH 4=ONE MONTH TO LESS THAN THREE MONTHS 5=3 MONTHS TO LESS THAN 6 MONTHS 6=6 MONTHS TO LESS THAN 1 YEAR 7=ONE YEAR OR LONGER 8=DK 9=RF	[IF NOPHN=1, ASK:] How long were you without phone service?	Recruitment
TOTVEH	Number of motorized vehicles available for use by HH members	N	2	Ordinal Variable	How many vehicles are presently available to members of your household? This includes all cars, vans, trucks, SUVs, motorcycles and mopeds, whether owned or leased or provided by an employer and in working condition.	Recruitment
REC_VEH	Recoded Number of vehicles available	N	1	0=0, 1=1, 2=2, 3=3, 4=4+	Post-processed	Post-processed

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
INCOME	Total 2004 annual household income	N	2	01=Above $50K 02=Below $50K 11=Less than $10,000 12=$10-$14,999 13=$15-$24,999 14=$25-$34,999 15=$35-$49,999 21=$50-$74,999 22=$75-$99,999 23=$100-$149,999 24=$150-$199,999 25=$200,000 or more 99=DON'T KNOW/ REFUSED	What was the total household income in 2004 from all sources before taxes, for all members of your household? I will read you a series of income ranges.	Recruitment

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
TRAVDAY	Travel Day	N	3	258 Monday, June 6 259 Tuesday, June 7 260 Wednesday, June 8 261 Thursday, June 9 265 Monday, June 13 266 Tuesday, June 14 267 Wednesday, June 15 268 Thursday, June 16 272 Monday, June 20 273 Tuesday, June 21 274 Wednesday, June 22 275 Thursday, June 23 279 Monday, June 27 280 Tuesday, June 28 281 Wednesday, June 29 282 Thursday, June 30 287 Tuesday, July 5 288 Wednesday, July 6 289 Thursday, July 7 293 Monday, July 11 294 Tuesday, July 12 295 Wednesday, July 13 296 Thursday, July 14 300 Monday, July 18 301 Tuesday, July 19 302 Wednesday, July 20 303 Thursday, July 21 307 Monday, July 25 308 Tuesday, July 26 309 Wednesday, July 27 310 Thursday, July 28 314 Monday, August 1		Recruitment
DAY	Day of the week of travel day	N	1	1=Monday; 2=Tuesday, 3=Wednesday, 4=Thursday		Recruitment
HHTRIPS	Number of Household activitys on Travel Date	N	2	Sum of activitys per household	Post-processed summary variable	Post-processed
NLICENS	Number of Licensed Drivers	N	2	Sum of licensed drivers per household	Post-processed summary variable	Post-processed

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
NWORK	Number of HH Workers (Full-time and Part-time)	N	2	Sum of workers per household	Post-processed summary variable	Post-processed
REC_NWRK	Recoded Number of workers	N	1	0=0, 1=1, 2=2, 3=3+	Post-processed	Post-processed
NSTUD	Number of HH Students	N	2	Sum of students per household	Post-processed summary variable	Post-processed
REC_STUD	Recoded Number of Students	N	1	0=0, 1=1, 2=2, 3=3+	Post-processed	Post-processed
FINWGHT	Final Weight	N	9.6		Post-processed	Post-processed
FINWGTEX	Final Weight/Expansion	N	9.6		Post-processed	Post-processed
RECTYPE	Record Type	N	1	2=Person Data		Assigned
SAMPN	HH ID Number	N	7	Assigned unique identifier		Assigned
PERNO	Person ID Number	N	2	Person # within each household	Person Number	Assigned
W1_ADDR	Work1 Reference Number	N	7	Number linking RECTYPE=2 to Location File		Assigned
S1_ADDR	School1 Reference Number	N	7	Number linking RECTYPE=2 to Location File		Assigned
AGE	Person X -Age	N	2	98=98 or older , 99 DON'T KNOW/ REFUSED	What is X's age in years?	Recruitment
GENDER	Person X -Gender	N	1	1=Male; 2=Female; 9=Refused	What is X's gender?	Recruitment
LIC	Person X - Valid drivers license	N	1	1=Yes; 2= No; 8=Don't know; 9=Refused	[If AGE>15]: Does X have a valid driver's license?	Recruitment
INTERVWD	Respondent Flag (person interviewed)	N	1	1=Yes; 2= No		Retrieval
RELATION	Relation to head	N	1	0=SELF 1=Husband/wife/unmarried partner 2=Son/Daughter 3=Mother/Father/Mother In-law/Father In-law 4=Other relative 5=Non-relative 6=Household help 7=Not related 9=DON'T KNOW/ REFUSED	What is X's relationship to you?	Recruitment

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
PRIMACT	Work Status	N	2	1= Employed full-time 2= Employed part-time 3= Regular Volunteer 5= Full-time homemaker 6= Full-time student, not working 7= Full-time student, working 8= Disabled 9= Unemployed, looking for work 10= Unemployed, not looking for work 11= Retired, not working 12= Retired, working 97= OTHER, SPECIFY 99= DK/ RF	[If AGE>15]: Which of the following best describes your current situation?	Recruitment
O_PRMACT	Other Work Status	C	60			Recruitment
WRKSHIFT1	Work Shifts	N	1	1=Days 2=Evenings 3=Overnight 8=DON'T KNOW 9=REFUSED	Does your job involve working …? All that apply	Recruitment
WRKSHIFT2	Work Shifts	N	1	1=Days 2=Evenings 3=Overnight 8=DON'T KNOW 9=REFUSED	Does your job involve working …? All that apply	Recruitment
WRKSHIFT3	Work Shifts	N	1	1=Days 2=Evenings 3=Overnight 8=DON'T KNOW 9=REFUSED	Does your job involve working …? All that apply	Recruitment
WRKHOURS	Hours Worked	N	2		On average how many hours do you work per week? (HOURS)	Recruitment

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
WRKSCHED	Work Schedule	N	1	1=I have no flexibility in my work schedule 2=I have some flexibility in my work schedule 3=I'm pretty much free to adjust my schedule as I like 8=DON'T KNOW 9=REFUSED	Which of the following best describes your work schedule?	Recruitment
WRKFLEX	Work Benifts	N	1	1=Yes 2=No 8=DON'T KNOW 9=REFUSED	Does your employer offer compressed work week options? (40 hrs in 4 days or 80 hrs in 9 days)	Recruitment
STUDENT	Student status	N	1	1=Yes; 2= No; 8=Don't know; 9=Refused	Does X attend school or take classes?	Recruitment
SCHOOL	School Type of Main School	N	1	1=Daycare/Pre-School 2=k-12th grade 3=College/University 4=Vocational/Trade 7=OTHER, SPECIFY 9=DON'T KNOW/ REFUSED	[IF STUDENT=1, ASK:] What type of school is it?	Recruitment
O_SCHOOL	School Type of Main School	C	60		[IF SCHOOL=7,ASK] OTHER	
SLOC	School Location	N	1	1=Home 2=Fixed location 9=DON'T KNOW/ REFUSED	[IF STUDENT=1, ASK:] Where is the school located?	Recruitment
JOBLOC	Job Location	N	1	1=Home 2=Fixed location 3=No fixed address 9=DON'T KNOW/ REFUSED	[IF PRIMACT=1-3, ASK:] What kind of location do you work out of?	Recruitment
JOBBASIN	Job Location in or outside Basin	N	1	1=Inside Basin Region, 2= Outside Basin Region	Post-processed	Post-processed
NUMACT	Person activitys	N	2	Sum of activitys per person	Post-processed	Post-processed
NOTRAV	Reason for no Travel on Travel day	C	60		[IF PERactivityS=0] Why did you not travel on this day?	Retrieval
RAGE	Recoded Age	N	1	1=Under 5 years, 2=5 to 14 years, 3=15 to 24 years, 4=25 to 34 years, 5=35 to 44 years, 6=45 to 54 years, 7=55 to 64 years, 8=65 years or older	Post-processed	Post-processed

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
FINWGHT	Final Weight	N	9.6		Post-processed	Post-processed
FINWGTEX	Final Weight/Expansion	N	9.6		Post-processed	Post-processed
RECTYPE	Record Type	N	1	3=Vehicle Data		Assigned
SAMPN	Sample number	N	7	Assigned unique identifier		Assigned
VEHNO	Vehicle number	N	1	Vehicle # within each household		Recruitment
YEAR	Vehicle year	N	4	Model year	What is the year of your vehicle?	Recruitment
BODY	Vehicle body type	N	1	1= Auto/Car/Station wagon 2= Van (mini, cargo, passenger) 3= SUV - sport utility vehicle 4= Pickup Truck 5= Other type of truck 6= RV - recreational vehicle 7= Motorcycle 97= Other (specify) 99= DK/Refused	What type of vehicle is this, auto, van, pickup, etc?	Recruitment
O_BODY	Vehicle body type, Other	C	60		[IF BODY=97, ASK]What type of vehicle is this, auto, van, pickup, etc? OTHER	Recruitment
FUEL	Vehicle Fuel Type	N	1	1=Unleaded Gasoline 2=Diesel 3=Hybrid 7=Other (specify) 9=DON'T KNOW/ REFUSED	What type of fuel does your vehicle operate on?	Recruitment
FINWGT	Final Weight/Expansion	N	9.6		Post-processed	Post-processed
RECTYPE	Record Type	N	1	4=Activity Data		Assigned
SAMPN	HH ID Number	N	7	Assigned unique identifier		Assigned
PERNO	Person ID Number	N	2	Person # within each household		Assigned
ACTIVN	activity Number	N	2	activity # for each person within each household		Retrieval
OLOCNO	Origin Location Reference #	N	7	Number linking RECTYPE=3 to Location File	What is the address of place X	Retrieval

NuStats

Tahoe Household Travel Survey
Data Items Matrix

1/3/2006

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
OPTYPE	Origin Place Type	N	2	01= HOME 02= MY Primary WORKPLACE provided in recruitment 03= MY SCHOOL 04= NAME OF PLACE WITHIN STUDY AREA, SPECIFY NAME OF THE PLACE 05= OUT OF STUDY AREA, SPECIFY CITY AND STATE		Retrieval
DEP_HR	Departure hour	N	2	Military time (0-23)	What time did you depart from place X?	Retrieval
DEP_MIN	Departure minute	N	2	0-59	What time did you depart from place X?	Retrieval
DLOCNO	Destination Location reference number	N	7	Number linking RECTYPE=3 to Location File		Retrieval
DPTYPE	Destination Place Type	N	2	01= HOME 02= MY Primary WORKPLACE provided in recruitment 03= MY SCHOOL 04= NAME OF PLACE WITHIN STUDY AREA, SPECIFY NAME OF THE PLACE 05= OUT OF STUDY AREA, SPECIFY CITY AND STATE		Retrieval

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
ACTIV1	Destination Primary activity purpose	N	2	1 = At home activities (sleeping, watching TV, eating, personal care, housework, etc.) 2 = Working at home (job related-for pay) 3 = Loop trip beginning and ending at home (walking dog, jogging, biking, etc.) 4 = Work (including regular volunteer work) 5 = Work-related (meeting, errand, etc.) 6 = Minor Shopping (frequent, grocery, clothes) 7 = Major Shopping (occasional, COSTCO, appliance, car, etc.) 8 = Quick stop (gas, ATM, coffee, newspaper) 9 = Medical 10 = Personal business (bank, pay bill, dry cleaning, errands, etc.) 11 = Visiting friends or relatives 12 = Religious 13 = Community/Political meeting 14 = School 15 = Eating or drinking at restaurant/bar 16 = Outdoor recreation participation (skiing, snowmobiling, fishing, hiking, etc.) 17 = Casino Gaming 18 = Indoor recreation participation (bowling, ice skating, etc.) 19 = Entertainment (movie, sports event, show, etc.) 20 = Picking up someone 21 = Dropping off someone 97=OTHER SPECIFY	What was the MAIN activity you did at this location?	Retrieval
ACTIV2	other activity purpose at this location	N			What was the SECOND activity you did at this location?	Retrieval
ACTIV3	other activity purpose at this location	N			What was the THIRD activity you did at this location?	Retrieval

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
ACTIV4	other activity purpose at this location	N			What was the FOURTH activity you did at this location?	Retrieval
O_ACT	Other Origin Primary activity purpose	C	60		[IF activity_ACT=97]	Retrieval
MODE1	Mode to activity	N	2	1=Car/Truck/Van 2=Motorcycle/Moped 3=School Bus 4=Public Transit 5=Paratransit 6=Casino shuttle 7=Private shuttle (e.g., ski lodge, snowmobile tour) 8=Taxi/Limousine 9=Gondola 10=Ferry 11=Bicycle 12=Walk 97= Other, specify 99= DON'T KNOW/ REFUSED	How did you get to the place? MULTIPLE CHOICE	Retrieval
MODE2	Mode to activity	N	2	1=Car/Truck/Van 2=Motorcycle/Moped 3=School Bus 4=Public Transit 5=Paratransit 6=Casino shuttle 7=Private shuttle (e.g., ski lodge, snowmobile tour) 8=Taxi/Limousine 9=Gondola 10=Ferry 11=Bicycle 12=Walk 97= Other, specify 99= DON'T KNOW/ REFUSED	How did you get to the place? MULTIPLE CHOICE	Retrieval

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
MODE3	Mode to activity	N	2	1=Car/Truck/Van 2=Motorcycle/Moped 3=School Bus 4=Public Transit 5=Paratransit 6=Casino shuttle 7=Private shuttle (e.g., ski lodge, snowmobile tour) 8=Taxi/Limousine 9=Gondola 10=Ferry 11=Bicycle 12=Walk 97= Other, specify 99= DON'T KNOW/ REFUSED	How did you get to the place? MULTIPLE CHOICE	Retrieval
OTHMODE	Mode to activity, OTHER	C	60		[IF MODE=97, ASK]	Retrieval
DRIVER	Driver on activity	N	1		[IF MODE = 1 or 2, ASK]: Were you the driver or passenger on this trip?	Retrieval
PAYPARK	parking cost	N	4.2		[IF MODE = 1 or 2, ASK]: How much did you pay for parking?	Retrieval
FAREAMNT	Fare amount	N	4.2		[IF MODE = 4-10, ASK]:How much did they pay for ride?	Retrieval
VEHAVAIL	Vehicle Available	N	1	1=Yes; 2= No; 8=Don't know; 9=Refused	[If mode=1,2,5,6,7, or 97, ask] Was a personal automobile available for this activity?	Retrieval
PARTY	Members in Travel Party	N	2	99=DON'T KNOW/ REFUSED	[Ask if MODE=3-4] How many people, including yourself, were on this activity?	Retrieval
HH_MEM	Number of household members on activity	N	2	Ordinal Variable, 99=DON'T KNOW/ REFUSED	[Ask if PARTY>0] How many other household members were on this activity with you?	Retrieval
PER_TRP1	Person on activity	C	10	Person # on activity, 10= More than 5 persons traveling with	[IF HH_MEM>0], ASK:] Who was the person?	Retrieval
PER_TRP2	Person on activity	C	10	Person # on activity, 10= More than 5 persons traveling with	[IF HH_MEM>0], ASK:] Who was the person?	Retrieval
PER_TRP3	Person on activity	C	10	Person # on activity, 10= More than 5 persons traveling with	[IF HH_MEM>0], ASK:] Who was the person?	Retrieval
PER_TRP4	Person on activity	C	10	Person # on activity, 10= More than 5 persons traveling with	[IF HH_MEM>0], ASK:] Who was the person?	Retrieval

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
PER_TRP5	Person on activity	C	10	Person # on activity, 10= More than 5 persons traveling with	[IF HH_MEM>0], ASK:] Who was the person?	Retrieval
ARR_HR	Arrival hour	N	2	Military time (0-23)	What time did you arrive at place X?	Retrieval
ARR_MIN	Arrival minute	N	2	0-59	What time did you arrive at place X?	Retrieval
TRPDUR	Trip Duration	N	4	Calculated (Arrival Time-Departure of Previous Place)	Post-processed	Post-processed
REC_TDUR	Recoded Trip Duration	N	1	1=0-5 minutes, 2=6-10 minutes, 3=11-15 minutes, 4=16-30 minutes, 5=31-45 minutes, 6=46-60 minutes, 7=More than 60 minutes	Post-processed	Post-processed
ACTDUR	Activity Duration	N	4	Calculated (Departure Time-Arrival Time of Same Place)	Post-processed	Post-processed
REC_ADUR	Recoded Acitivity Duration	N	1	1=0-5 minutes, 2=6-10 minutes, 3=11-15 minutes, 4=16-30 minutes, 5=31-45 minutes, 6=46-60 minutes, 7=More than 60 minutes	Post-processed	Post-processed
SPDFLAG	Speed Violation Flag	N	1	0=No speed violation 1=Respondent error. Miles=0 Same area but gave different location 2=Add 5 minutes, passes speed check 3=Add 10 minutes, passes speed check 4=Add 15 minutes, passes speed check 5=Unresolved speed violation	Post-processed	Post-processed
FINWGHT	Final Weight	N	9.6		Post-processed	Post-processed
FINWGTEX	Final Weight/Expansion	N	9.6		Post-processed	Post-processed
RECTYPE	Record Type	N	1	5=Location Data		Assigned
LOCTYPE	Location type	N	1	1=Home 2=Work 3=School 5=activity end	Pulls from master LOC	Post-processed
LOCNO	Location number	N	7	Reference Number linked to household, person and activity data		Assigned
LOCATION	Name of place	C	60		What is the name of the location to where you went?	Retrieval
ADDRESS	Place address	C	90		What is the street address of that place?	Retrieval

Tahoe Household Travel Survey
Data Items Matrix

Var Name	Variable Description	Data Type	Width	Values	Actual Question Text (Interviewers' Version)	Capture Point
CITY	Place city	C	24		In what city is the place located?	Retrieval
XSTREET	Place xstreets	C	60		What is the nearest cross street or streets to that place?	Retrieval
LANDMARK	Nearest Landmark	C	60		What is the nearest major landmark?	Retrieval
COUNTY	Place County	C	50		In what county is that place located?	Retrieval
STATE	State	C	2		Which state is that in?	Retrieval
ZIP	Zip code	N	5		What is the zip code of that place?	Retrieval
XCORD	Longitude of place	N	18.6			Post-processed
YCORD	Latitude of place	N	18.6			Post-processed
AV_STATU	Arcview Status	C	1	M=Matched U=Unmatched C=Cursor Match O=Out of Area Y=Match to City Centroid Z=Match to Zip Code Centroid F=No fixed address		Post-processed
AV_ADD	Arcview Address	C	50			Post-processed
AV_ZONE	Arcview Zip Code	N	5			Post-processed
QCFLAG	Quality Control Flag	N	1	1=Given City matches geocoded city and Given Zip matches geocoded zip code 2=Given Zip matches geocoded zip code 3=Given city matches geocoded city 4=Point Verified Visually (or verified unmatched, out of area)		Post-processed
GEOZIP	Geocoded Zip code	N	5			Post-processed
GEOCTY	Geocoded County (FIPS Code)	N	5			Post-processed
GEOCITY	Geocoded City	C	32			Post-processed
TRAVEL_T	Location is traveled to	N	1	1=Yes		Post-processed
TRACT	Census Tract	N	10			Post-processed
FINWGHT	Final Weight	N	9.6		Post-processed	Post-processed
FINWGTEX	Final Weight/Expansion	N	9.6		Post-processed	Post-processed

APPENDIX C – RECRUITMENT SCRIPT

Introduction

Hi – my name is _____ and I'm calling on behalf of the Tahoe Regional Planning Agency. We're interviewing families in the region about their daily travel. This study will benefit your community by providing information about residents travel patterns for better transportation planning.

May I speak with [Imported Name]?

We're conducting a study to understand why and how people travel as part of planning for future transportation needs. You may have received a postcard from TRPA providing information about the study. The study is purely a research effort, your participation is voluntary, and your answers will be completely confidential.

For the first part of the study, I'll be asking some questions about your household. These questions are important to making sure that everyone in the Tahoe Region is properly represented in the study.

For the second part of this study, we're asking households to record their travel for a 24-hour period. The travel details help us to understand how and when people are traveling in the Tahoe region. We will send you logs to use to record your trip information.

In order to prepare those logs, I need to get some information about each person in your household. Again, I want to assure you that this information is for research purposes only and will be held in strict confidence.

Seasonal Data

S1 – FTIMERES
    Do you consider yourself a full time resident of the Tahoe Region?
        1   Yes
        2   No
        9   REFUSED – terminate "Thank you but without this information, your household will not be
                eligible to participate in this study." PAUSE AND GIVE FINAL OPPORTUNITY FOR
                RESPONDENT TO ANSWER BEFORE TERMINATING

[If FTIMERES =2]- ELSE SKIP TO H1

S2 – SEASONAL
    Do you consider yourself a seasonal resident?
        1   Yes
        2   No
        9   REFUSED

S4 – SEAOFTEN
    How often do come to the Basin area? How many separate overall stays per year?
        ENTER NUMBER
        99   REFUSED

S5 – SEASTAY
    How long do you typically stay in the Basin area?
        1   Less Than 1 Week
        2   1 to 2 Weeks
        3   3 to 4 Weeks (1 month)
        4   1 month to 3 months (Season)
        5   More than 3 months
        9   REFUSED

[If SEASONAL =1]- ELSE SKIP TO H1

S3 – SEAVISIT
Do you currently have any visitors staying with you?
    1   Yes
    2   No
    9   REFUSED

Household Data

H1 – HHSIZE
How many people, including yourself, live in your household? [Includes all persons who sleep there at least 3 nights per week]
    ENTER NUMBER
    98   DON'T KNOW – TERMINATE WITH BELOW TEXT
    99   REFUSED – terminate "Thank you but without this information, your household will not be eligible to participate in this study." PAUSE AND GIVE FINAL OPPORTUNITY FOR RESPONDENT TO ANSWER BEFORE TERMINATING

H2 – TOTVEH

How many vehicles are presently available to members of your household? This includes all cars, vans, trucks, SUVs, motorcycles and mopeds, whether owned or leased or provided by an employer and in working condition.

    ENTER NUMBER
    98   DON'T KNOW – TERMINATE WITH BELOW TEXT
    99   REFUSED – terminate "Thank you but without this information, your household will not be eligible to participate in this study." PAUSE AND GIVE FINAL OPPORTUNITY FOR RESPONDENT TO ANSWER BEFORE TERMINATING

H3 – STRUCT
Do you live in a house, cabin, duplex, town home, apartment, or mobile home?
    1   Single family detached (includes cabin)
    2   Duplex, 4-plex, town home
    3   Apartment
    4   Mobile home
    7   Other
    9   DON'T KNOW/ REFUSED

H4 – OWNRENT
Do you own, rent your home? Are you house sitting?
    1   Own
    2   Rent
    3   Caretaking/ House sitting
    9   Don't Know/ Refused

H5 – NOPHN
Have there been times within the past 12 months when the home you were living in did not have telephone service for reasons other than brief service or equipment problems?
    1   Yes
    2   No
    8   Don't Know
    9   REFUSED

[If NOPHN=1]- ELSE SKIP TO H7

H6 – LENGTH
How long were you without phone service?
1   LESS THAN 1 WEEK
2   1-2 WEEKS
3   2 WEEKS TO LESS THAN ONE MONTH
4   ONE MONTH TO LESS THAN THREE MONTHS
5   3 MONTHS TO LESS THAN 6 MONTHS
6   6 MONTHS TO LESS THAN 1 YEAR
7   ONE YEAR OR LONGER
8   DK
9   REFUSED

H7 – INCAT
Including all 2004 income sources before taxes was your household income above or below $50,000?
1   ABOVE $50K
2   BELOW $50K
99   DON'T KNOW/ REFUSED

H8 – INCOME
More specifically, what range does your household income fall into, Stop me when I read the correct range.
11   Less than $10,000
12      $10-$14,999
13      $15-$24,999
14      $25-$34,999
15      $35-$49,999
21      $50-$74,999
22      $75-$99,999
23      $100-$149,999
24      $150-$199,999
25      $200,000 or more
99   DON'T KNOW/ REFUSED

Vehicle Data

Now I need to get some information about each vehicle.   Starting with the vehicle that is driven the most, what is the vehicle year, make, and model?

V1 – YEAR
What is the year of your vehicle?
ENTER NUMBER – [1900 – 2006]

V2 - BODY
And which of the following best describes this vehicle?
1   Auto/Car/Station wagon
2   Van (mini, cargo, and passenger)
3   SUV - sport utility vehicle
4   Pickup Truck
5   Other type of truck (work truck)
6   RV - recreational vehicle
7   Motorcycle
97   Other (specify)
99   DON'T KNOW/ REFUSED

V3 - FUEL
>   And what type of fuel does your vehicle operate on?
>   1   Unleaded Gasoline
>   2   Diesel
>   3   Hybrid
>   7   Other (specify)
>   9   DON'T KNOW/ REFUSED

Person Data

Now I need to get some information about each person in your household, so I can prepare individual travel logs. Again, I want to assure you that this information is for research purposes only and will be held in strict confidence. Earlier you indicated that there were<HHSIZE>persons in your household.

BEGIN SERIES OF QUESTIONS WITH RESPONDENT, THEN COLLECT FOR OTHER HOUSEHOLD MEMBERS

P1 – NAME
>   What is person#/your first name?

P2 – RELATION
>   What is NAME's relationship to you? [DO NOT ASK FOR RESPONDENT]
>   1   SELF
>   2   Husband/wife/unmarried partner
>   3   Son/Daughter
>   4   Mother/Father/Mother In-law/Father In-law
>   5   Other relative
>   6   Non-relative
>   7   Household help
>   9   DON'T KNOW/ REFUSED

P3 – GENDER
>   And what is NAME's gender?
>   [RECORD BY OBSERVATION FROM RELATION or ASK RESPONDENT]
>   1   MALE
>   2   FEMALE
>   9   REFUSED

P4 – AGE
>   How old is NAME?
>   ENTER IN YEARS
>   98   98 or older
>   99   DON'T KNOW/ REFUSED

[If AGE>15]- ELSE SKIP TO P19

P5 – LIC
>   Do(es) you/he/she have a valid driver's license?
>   1   Yes
>   2   No
>   8   Don't Know
>   9   REFUSED

P6 – PRIMACT
>   Which of the following best describes your/his/her current situation?
>   1   Employed full-time
>   2   Employed part-time

3	Regular volunteer
4	Retired
5	Full-time homemaker
6	Full-time student, not working
7	Full-time student, working
8	Disabled
9	Unemployed, looking for work
10	Unemployed, not looking for work
97	Other – [O_PRMACT]
99	DON'T KNOW/ REFUSED

[If PRIMACT= (1,2,3,7)]- ELSE SKIP TO P19

P7 – JOBLOC
What kind of location do(es) you/he/she work out of? or volunteer at?
1	Home
2	Fixed location
3	No fixed address
9	DON'T KNOW/ REFUSED

P8 – WNAME

What is the name of [your/his/her] employer? IF SELF-EMPLOYED, OBTAIN NAME OF BUSINESS

[If JOBLOC=2]- ELSE SKIP TO P19

P9 – P14
Where is NAME's job located?
[WADDR] -	Address:
[WCITY] -	City
[WSTAT] -	State:
[WZIP] -	ZIP:
[WXSTR] -	Cross Streets:
[WLAND] -	Landmarks:

P15 – WRKSHIFT
Does your job involve working …? CHECK ALL THAT APPLY
1	Days
2	Evenings
3	Overnight
8	DON'T KNOW
9	REFUSED

P16 – WRKHOURS
On average how many hours do you work per week? (HOURS)
98	DON'T KNOW
99	REFUSED

P17 – WRKSCHED
Which of the following best describes your work schedule?
1	I have no flexibility in my work schedule
2	I have some flexibility in my work schedule
3	I'm pretty much free to adjust my schedule as I like
8	DON'T KNOW
9	REFUSED

P18 – WRKFLEX

Does your employer offer compressed work week options? (40 hrs in 4 days or 80 hrs in 9 days)
1   Yes
2   No
8   Don't Know
9   REFUSED

P19 – STUDENT

Does NAME attend school or take classes?
1   Yes
2   No
8   Don't Know
9   REFUSED

[If STUDENT=1]- ELSE SKIP TO H9

P20 – SCHOOL

What type of school is it?
1   Daycare/Pre-School
2   k-12th grade
3   College/University
4   Vocational/Trade
5   Post Graduate
7   OTHER, SPECIFY
9   DON'T KNOW/ REFUSED

P21 – SLOC

Where is the school located?
1   Home
2   Fixed location
9   DON'T KNOW/ REFUSED

P22 – SNAME

What is the name of [your/his/her] school?

[If SLOC=2]- ELSE SKIP TO H9

P23 – P28

Where is this location?
[SADDR] -   Address:
[SCITY] -   City
[SSTAT] -   State:
[SZIP] -   ZIP:
[SXSTR] -   Cross Streets:
[SLAND] -   Landmarks:

Household Data

H9 – TRAVDAY

Okay – we're almost finished. First, we'd like everyone in your household to keep track of their travel on [DAY and DATE]. Is this okay?
Enter assignment number
999   NOT AVAILABLE ON ABOVE DAYS

H10 – H15

And what is your address? [IF LISTED SAMPLE, CONFIRM ADDRESS, IF UNLISTED: OBTAIN]
PHYSICAL ADDRESS. NO P.O. BOXES ALLOWED

[HADDR] -   Address:
[HCITY] -   City
[HSTAT] -   State:
[HZIP] -   ZIP:
[HXSTR] -   Cross Streets:
[HCNTY] -   County:

H16

Is this also your mailing address? IF NOT, OBTAIN MAILING ADDRESS

H17 - RETTIME

After you record your travel, we'll call you back to obtain your travel information. When would be the best time to reach you?

    1   Morning

    2   Afternoon

    3   Evening

H18 – ALTPHON

And should we call you at this telephone number or is there a different phone number where you would prefer to be called?
    1 This number
    2 Different number ___ - ___ - ____

Thank you for participating in this study. Please tell the other members of your household how important their participation is. We'll call you on [DAY PRIOR TO TRAVEL DAY] to make sure you've received your travel logs and to answer any questions you might have.

If you have any questions or comments, you can reach us at 1-877-261-4621.

Thank you and have a good day/night.

APPENDIX D – DIARY PACKET MATERIALS

Tahoe Regional Travel Survey 2005

c/o NuStats DataSource
133 West San Antonio Street
San Marcos, Texas 78666

Dear Johnson Family:

Thank you for participating in the *Tahoe Regional Travel Survey*. By completing this study, you will be helping to ensure our region's transportation system continues to meet the needs of area residents for the next 20 years. The information will help us design transportation improvements that use our resources most effectively and develop strategies for prioritizing where those improvements would make the most difference.

The study is conducted on our behalf by NuStats, a professional research company in Austin, Texas. NuStats has conducted these types of surveys all over the U.S. and ensures that all information collected is strictly confidential and will be used for our research purposes only. The information from your household will be used only in combination with data from other participating households.

There are three main components to completing the *Travel Survey*:

1) Review the Example Log (found inside the travel log),

2) Have each household member use the enclosed travel logs to record all travel on the assigned survey day of

‹THURSDAY, APRIL 29›

3) Report your travel information to us when we call (or you can call us at the number listed below to provide us with your information at your convenience).

If you have any questions, do not hesitate to call NuStats DataSource at **1-877-261-4621** between 9am and 7pm, Monday - Friday, or 10 and 3pm, Saturday or Sunday, Pacific Time or see answers to frequently asked questions at www.nustats.com/tahoetravel. For more general information about the study, please contact Bobbi Coulter of Tahoe Regional Planning Agency (TRPA) at 775-771-7320 or bjcoulter@charter.net.

I would like to thank you again for your participation and willingness to do the research that will help us improve regional mobility.

Sincerely,

John Singlaub
Executive Director, TRPA

Enclosures
1. Travel Log for each household member
2. Example Travel Log (found inside the log)
3. Postage Paid Envelope for returning completed surveys (after we've talked with you by phone)

TAHOE REGIONAL PLANNING AGENCY

John Singlaub, Executive Director

"We've heard from the public through recent outreach efforts that transportation is a top issue of concern for the community. As we chart a 20-year vision for Lake Tahoe, we will be relying on travel information from this survey. It's really important that everyone's voice is heard as we develop transportation solutions for the future."

PATHWAY 2007
A VISION FOR TAHOE'S FUTURE
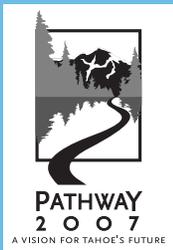
PATHWAY 2007 is an effort to ensure coordination between the Tahoe Regional Planning Agency, USDA Forest Service, the Lahontan Regional Water Quality Control Board and the Nevada Division of Environmental Protection. The agencies are working together to update important resource management plans by 2007 for the Lake Tahoe Basin. They understand that any transportation improvements will be extremely important to the health of the Lake Tahoe environment and that this survey will help guide the planning for future transportation options.

PO Box 5310
Stateline, NV 89449

TAHOE REGIONAL PLANNING AGENCY

Tahoe Regional Travel Survey
2005

YOU CAN HELP THE REGION PREPARE FOR ITS FUTURE TRANSPORTATION NEEDS!

Find out how to participate inside.

Survey conducted by NuStats
on behalf of the:

Tahoe Regional Planning Agency

TAHOE REGIONAL PLANNING AGENCY

WHY THIS SURVEY?

The design, construction, and maintenance of roads, bikeways, sidewalks, and public transit cost taxpayers a lot of money. The Tahoe Regional Travel Survey collects data about where people in the Tahoe Basin region travel for work, school, recreation, shopping, or other purposes to prioritize transportation needs. The results are used to plan the construction of future roads, bridges, sidewalks or bike routes, changes in transit service, and other projects that affect mobility, access to jobs, air quality, or quality of life.

HOW WAS YOUR HOUSEHOLD SELECTED?

A small number of households in the Tahoe Basin were randomly selected through a statistical process. This process might also include unlisted telephone numbers. Because survey organizations are exempt from Do-Not-Call lists, everyone in your area has an equal chance of being selected to participate in our study.

CONFIDENTIALITY

All information your household provides will be kept strictly confidential.

Your information will be combined with that from other residents for analysis and your name will not be associated with your responses.

WHAT DOES YOUR PARTICIPATION INVOLVE?

In the next 2-3 days, you will receive a phone call between 5:00pm and 9:00pm. The phone call will be from an interviewer at NuStats/DataSource, a nationally recognized survey research firm. Questions will be asked to ensure that our survey represents all types of households in the Tahoe Basin. Such information includes the number of people, their ages and race/ethnicity, and where they work or go to school. The interviewer who calls can answer any questions that you have about the survey.

To plan for future transportation needs, decision makers rely on the information YOU provide about your actual travel habits. But, your household's information can only be used for planning and decision-making if everyone in the household participates.

Next, all persons in the household will receive personalized travel logs in the mail. The logs are to record all the places that members of your household travel to in the Tahoe Basin region for one-day. Logs should be self-completed by all persons ages 12 and older. Parents should fill out the logs of all children under age 12.

An interviewer will call after your travel day to collect information from each person in the household. The interviewer must speak directly with each person age 12 and older, so a specific appointment (day and time) will be set. If the logs were used to record exactly where people went, this interview is quick.

THANK YOU FOR YOUR PARTICIPATION!

If you need help filling out your Travel Log, please call toll free at:

877-261-4621

For more information about the survey, please call:

Jesse Casas, NuStats
800-447-8287, ext. 2226
jcasas@nustats.com

or

Bobbi Coulter, TRPA
775-771-7320
bjcoulter@charter.net

or

visit the project web page at
www.nustats.com/tahoetravel

SURVEY CONDUCTED BY NUSTATS ON BEHALF OF:

TAHOE
REGIONAL
PLANNING
AGENCY

NuStats

Tahoe Regional Travel Survey 2005

PERSONAL ONE-DAY TRAVEL AND ACTIVITY LOG FOR:

LOG INSTRUCTIONS:

Record each PLACE you go to and the ACTIVITIES you do there beginning at 3 a.m. *(or when you wake up)* on your assigned survey day and ending at 2:59 a.m. the following day *(or when you go to sleep on your travel day)*.

💡 **HINT!** Carry this log with you on your assigned survey day and record your activities and trips as you go - *this helps you record all the places you visit, the activities you do there, and to provide accurate arrival/departure times and complete addresses.*

START — Record each PLACE you go to below, beginning with wherever you are at 3 a.m. on your survey day:

Most people are home asleep at 3 a.m. If so, check **"Home,"** write all the activities you did there and then record the exact time you leave for the first time. If you are someplace other than your Home or Work, please provide the name and address of the location.
If you work as a driver (bus, taxi, commercial vehicle, ambulance, etc.) do not record trips made as part of your job.

RECORD the following information about each place: Place name: / Address, City/State/Zip, Cross street/Landmark:	What TIME did you ARRIVE? *(record exact times)*	HOW did you GET there? *(use LIST 1 CODES - list all modes)*	NUMBER of people in your travel party? *(including yourself)*	COST of Parking or Transit Fare? *(exact amount)*	Was a PERSONAL VEHICLE available?	WHAT did you DO there? *(use LIST 2 CODES - list all activities)*	What TIME did you LEAVE? *(record exact times)*
PLACE 1 — WHERE were you at **3 a.m.**? *(place name & address)* ☐ Home ☐ Work ☐ Other *(provide place name & address)*	------	------	------	------	------		: am/pm
PLACE 2 — WHERE did you go next? *(place name & address)*	: am/pm			$ _____	☐ Yes ☐ No		: am/pm
PLACE 3 — WHERE did you go next? *(place name & address)*	: am/pm			$ _____	☐ Yes ☐ No		: am/pm
PLACE 4 — WHERE did you go next? *(place name & address)*	: am/pm			$ _____	☐ Yes ☐ No		: am/pm
PLACE 5 — WHERE did you go next? *(place name & address)*	: am/pm			$ _____	☐ Yes ☐ No		: am/pm
PLACE 6 — WHERE did you go next? *(place name & address)*	: am/pm			$ _____	☐ Yes ☐ No		: am/pm
PLACE 7 — WHERE did you go next? *(place name & address)*	: am/pm			$ _____	☐ Yes ☐ No		: am/pm
PLACE 8 — WHERE did you go next? *(place name & address)*	: am/pm			$ _____	☐ Yes ☐ No		: am/pm

STOP — Did you record EVERY PLACE you went, even short walks, quick stops, and any place you went after returning home from work?
Did you record exact place names, complete addresses and all activities? Did you include your trip home if it was the last trip of the day?
If you have more than eight PLACES on your survey day, record the additional PLACES on a separate piece of paper.

LIST 1 CODES: HOW did you get there?

1. Car/Truck/Van
2. Motorcycle/Moped
3. School bus
4. Public transit
5. Paratransit/dial-a-ride
6. Casino shuttle
7. Private shuttle *(ski lodge, snowmobile tour, etc.)*
8. Taxi/Limousine
9. Gondola
10. Ferry
11. Bicycle
12. Walk
97. Other: *(write code 97 and specify)*

LIST 2 CODES: WHAT did you do there?

At-Home Activities:
1. At home activities *(sleeping, watching TV, eating, personal care, housework, etc.)*
2. Working at home *(job related-for pay)*
3. Loop trip beginning and ending at home *(walking dog, jogging, biking, etc.)*

Work/Work-Related:
4. Work *(including regular volunteer work)*
5. Work-related *(meeting, errand, sales call, etc.)*

Personal/Household:
6. Minor shopping *(frequent, grocery, clothes)*
7. Major shopping *(occasional, COSTCO, appliance, car, etc.)*
8. Quick stop *(gas, ATM, coffee, newspaper)*
9. Medical
10. Personal business *(bank, pay bill, dry cleaning, errands, etc.)*
11. Visiting friends or relatives
12. Religious
13. Community/Political meeting

School
14. School

Social/Entertainment:
15. Eating or drinking at restaurant/bar
16. Outdoor recreation participation *(skiing, snowmobiling, fishing, hiking, etc.)*
17. Casino gaming
18. Indoor recreation participation *(bowling, ice skating, etc.)*
19. Entertainment *(movie, sports event, show, etc.)*

Other:
20. Picking up someone
21. Dropping off someone

Annotations (left side):
- Record every PLACE you go, even short walks and quick stops.
- Begin your Log at 3 a.m. on your travel day
- Record codes from LIST 1 (on flap in Log)
- Record exact place name & complete address information (including cross street & landmarks).

Annotations (right side):
- Record exact times
- Record codes from LIST 2 (on flap in Log)
- Loop trips are trips that begin and end at home - like walking the dog, going for a jog or bike ride without stopping at another PLACE. Record code 3 and any other code that applies.

RECORD the following information about each place: Place name:	Address City/State/Zip Cross street/Landmark:	What TIME did you ARRIVE? (record exact times)	HOW did you GET there? (use LIST 1 CODES - list all modes)	NUMBER of people in your travel party? (including yourself)	COST of Parking or Transit Fare? (exact amount)	Was a PERSONAL VEHICLE available?	WHAT did you DO there? (use LIST 2 CODES - list all activities)	What TIME did you LEAVE? (record exact times)
PLACE 1 — WHERE were you at 3 a.m.? (place name & address) ☑ Home ☐ Work ☐ Other (provide place name & address)	Home address was provided in telephone interview.	------	------	------	------	------		6:58 am/**pm**
PLACE 2 — WHERE did you go next? (place name & address) Al Tahoe Elementary	School address was provided in telephone interview.	7:16 **am**/pm	1	2	$ 0	☑ Yes ☐ No	21	7:18 **am**/pm
PLACE 3 — WHERE did you go next? (place name & address) My Work	Work address was provided in telephone interview.	7:25 **am**/pm	1	1	$ 0	☑ Yes ☐ No	4	12:16 am/**pm**
PLACE 4 — WHERE did you go next? (place name & address) Heavenly Gondola	Heavenly Village Way/ Hwy 50 S. Lake Tahoe, CA 96150	12:30 am/**pm**	1, 9	2	$ 6 parking $20 Gondola	☑ Yes ☐ No	15, 16	2:32 am/**pm**
PLACE 5 — WHERE did you go next? (place name & address) My Work	Work address was provided in telephone interview.	2:51 am/**pm**	9, 1	2	$ 0	☑ Yes ☐ No	4	5:27 am/**pm**
PLACE 6 — WHERE did you go next? (place name & address) Al Tahoe Elementary	School address was provided in telephone interview.	5:46 am/**pm**	1	1	$ 0	☑ Yes ☐ No	20	5:51 am/**pm**
PLACE 7 — WHERE did you go next? (place name & address) My Home	Home address was provided in telephone interview.	6:02 am/**pm**	1	2	$ 0	☑ Yes ☐ No	1	7:05 am/**pm**
PLACE 8 — WHERE did you go next? (place name & address) Walk around the neighborhood	No address needed for walk/bike trips that start & end at the same place.	7:05 am/**pm**	12	2	$ 0	☑ Yes ☐ No	3, 16	7:45 am/**pm**
PLACE 9 — WHERE did you go next? (place name & address) My Home	Home address was provided in telephone interview.	7:45 am/**pm**	12	2	$ 0	☐ Yes ☐ No	1	------

Bottom annotations:
- Remember to record any PLACES you go in the evenings (such as the park, after-school activities, or the video store after returning home from work).
- Record any transit fare (bus, taxi, etc.) and/or cost of parking (parking garage or lot).
- If you did not travel in your own personal vehicle, was your personal vehicle available to use?

For assistance, call NuStats toll free at 877-261-4621

Photo example on back! →

Example Travel Day

PLACE 1

At home at 3 a.m.
Leave home
Depart 6:58 a.m.

PLACE 2

Arrive 7:16 a.m.
Drop off child
at school
Depart 7:18 a.m.

PLACE 3

Arrive 7:25 a.m.
Arrive at work
Depart 12:16 p.m.

PLACE 4

Arrive 12:30 p.m.
Eat Lunch & Hike
Depart 2:32 p.m.

PLACE 5

Arrive 2:51 p.m.
Work
Depart 5:27p.m.

PLACE 6

Arrive 5:46 p.m.
Pick up child
from school
Depart 5:51 p.m.

PLACE 7

Arrive 6:02 p.m.
Arrive at home
Depart 7:05 p.m.

PLACE 8

Leave Home 7:05 p.m.
Go for a walk
Return Home 7:45 p.m.

PLACE 9

Arrive 7:45 p.m.
At home for the night
Didn't go out again

NuStats

APPENDIX E – RETRIEVAL SCRIPT

Introduction

Hi – my name is _____ and I'm calling on behalf of the Tahoe Regional Planning Agency, regarding the Transportation Travel Study your household recently completed. May I please speak with [RESPONDENT] or someone over the age of 18? I'm calling to collect your travel information.

Our records show that you recorded travel on [ASSN].

Activity Data

DATA IS GATHERED FOR EACH HOUSEHOLD MEMBER

ENTER PERSON #

P1 – INTERVWD
    Note to Interviewer: WAS THIS PERSON INTERVIEWED
        1   Yes
        2   No

P2 - PTYPE
    IF PLACE 1: Okay, let's start at the beginning of your travel day. Where were you at 3 am on [ASSN]?
    OTHERWISE: Where did you go next?
        01   HOME
        02   MY PRIMARY WORKPLACE PROVIDED IN RECRUITMENT
        12   CORRECTED / NEW PRIMARY WORK ADDRESS
        03   MY SCHOOL
        13   CORRECTED / NEW SCHOOL ADDRESS
        77   PREVIOUSLY ENTERED PLACE   > ROW NUMBER
        88   NEW PLACE
        99   OUT OF THE TRAVEL STUDY AREA

[If PTYPE=12,13,88 or 99]- ELSE SKIP TO ARR_TIME

P3 – P9
    OBTAIN NAME AND ADDRESS INFORMTAION FOR PLACE
        [PNAME] -   Location:
        [PADDR] -   Address:
        [PCITY] -   City
        [PSTAT] -   State:
        [PZIP] -   ZIP:
        [PXSTR] -   Cross Streets:
        [PLAND] -   Landmarks:

P10 – ARR_TIME
    IF PLACE 1: ENTER 0300. What time did you arrive at this location?
        [ENTER IN MILITARY TIME]

P11 – MODE
How did you get to this place? MULTIPLE CHOICE
1 Car/Truck/Van
2 Motorcycle Moped
3 School Bus
4 Public Transit
5 Para transit
6 Casino shuttle
7 Private shuttle (e.g., ski lodge, snowmobile tour)
8 Taxi/Limousine
9 Gondola
10 Ferry
11 Bicycle
12 Walk
97 Other, specify
99 DON'T KNOW/ REFUSED

[If MODE = 1 or 2]- ELSE SKIP TO PARTY

P12 – DRIVER
Were you the driver or passenger on this trip?
1 DRIVER
2 PASSENGER

P13 – PARTY
How many people, including yourself, were on this activity??

[If PARTY > 0]- ELSE SKIP TO PAYPARK

P14 - HH_MEM
How many other household members were on this activity with you?

[If HH_MEM > 0]- ELSE SKIP TO PAYPARK

P15 – PER_TRP
Which household members where these?
[ENTER PERSON NUMBERS]

[If MODE = 1 or 2]- ELSE SKIP TO FAREAMNT

P16 – PAYPARK
How much did you pay for parking?
$[##.##]

[If MODE = (4 – 10)]- ELSE SKIP TO VEHAVAIL

P17 – FAREAMNT
How much did they pay for ride?
$[##.##]

P18 - VEHAVAIL
Was a personal automobile available for this activity?
1 Yes
2 No
8 Don't Know
9 REFUSED

P19 – ACTIV1
What was your MAIN activity you did at this location?
    1   At home - activities (sleeping, watching tv, eating, personal care, etc.)
    2   At home - work related
    3   Work
    4   Work related
    5   Eating/dirking at restaurant/bar
    6   Minor Shopping (Grocery Shopping, frequent, weekly basis, maintenance)
    7   Major shopping (Costco, appliance, car, on occasional)
    8   Quick stop (coffee, gas, ATM, newspaper)
    9   Medical
    10   Personal business (bank, pay bill, etc.)
    11   Outdoor recreation participation (skiing, snowmobiling, fishing, hiking, etc.)
    12   Indoor recreation participation (bowling, ice-skating, etc)
    13   Entertainment (movie, sports event, show)
    14   Casino Gaming
    15   Visiting friend/relative
    16   Religious
    17   Community/political meeting
    18   School
    19   Picking up someone
    20   Dropping off someone
    21   Loop trip (walking dog around the block)
    97   OTHER SPECIFY
    99   DON'T KNOW/ REFUSED

P20 – ACTIV2-4
Where there any other activities you did at this location? [ALLOW 3 MORE]
    [SAME CODESET AS ACTIV1]

P21 – DEP_TIME
    IF LAST PLACE: ENTER 0259. What time did you leave this location?
        [ENTER IN MILITARY TIME]

P22 – SCHOOL
    IF NO TRAVEL: Why did you not travel on this day?
        [ENTER REASON]

LOOP BACK TO OBTAIN NEXT PLACE OR ADDITIONAL PEOPLE

Great, those are all the questions I have for you today. We appreciate you for taking the time to help us with this important study. Thank you and good day/evening.

APPENDIX F – SEASONAL RESIDENT DATA TABLES

This Appendix contains the data tables (unweighted) for Seasonal Residents.

TABLE F-1: HOUSEHOLDS AND TRIPS BY HOUSEHOLD SIZE

HOUSEHOLD (HH) SIZE	#HHs	% HHs	# TRIPS	% TRIPS	TRIPS/HH
1	48	38%	144	20%	3.0
2	60	48%	377	52%	6.3
3	9	7%	77	11%	8.6
4+	8	6%	128	18%	16.0
Total	**125**	**100%**	**726**	**100%**	**5.8**

TABLE F-2: HOUSEHOLDS AND TRIPS BY VEHICLE OWNERSHIP

VEHICLES	#HHs	% HHs	# TRIPS	% TRIPS	TRIPS/HH
0	4	3%	14	2%	3.5
1	76	61%	353	49%	4.6
2	35	28%	295	41%	8.4
3	4	3%	25	3%	6.3
4+	6	5%	39	5%	6.5
Total	**125**	**100%**	**726**	**100%**	**5.8**

TABLE F-3: HOUSEHOLDS AND TRIPS BY INCOME

HH INCOME	#HHs	% HHs	# TRIPS	% TRIPS	TRIPS/HH
Less than $10,000	5	5%	41	7%	8.2
$10,000 to less than $14,999	1	1%	4	1%	4.0
$15,000 to less than $24,999	4	4%	10	2%	2.5
$25,000 to less than $34,999	8	8%	31	5%	3.9
$35,000 to less than $49,999	8	8%	35	6%	4.4
$50,000 to less than $74,999	16	16%	78	13%	4.9
$75,000 to less than $99,999	21	21%	126	21%	6.0
$100,000 to less than $149,999	20	20%	135	23%	6.8
$150,000 to less than $199,999	7	7%	58	10%	8.3
Greater than or equal to $200,000	12	12%	82	14%	6.8
Total	**102**	**100%**	**600**	**100%**	**5.9**

Base: Households providing income data.

TABLE F-4: HOUSEHOLDS AND TRIPS BY NUMBER OF WORKERS

WORKERS IN HOUSEHOLD (HH)	#HHS	% HHS	# TRIPS	% TRIPS	TRIPS/HH
0	73	58.4%	376	51.8%	5.2
1	38	30.4%	182	25.1%	4.8
2	10	8.0%	112	15.4%	11.2
3+	4	3.2%	56	7.7%	14.0
Total	**125**	**100%**	**726**	**100%**	**5.8**

TABLE F-5: HOUSEHOLDS AND TRIPS BY NUMBER OF STUDENTS

STUDENTS	#HHS	% HHS	# TRIPS	% TRIPS	TRIPS/HH
0	114	91.2%	625	86.1%	5.5
1	8	6.4%	76	10.5%	9.5
2	3	2.4%	25	3.4%	8.3
3+	0	0.0%	0	0.0%	0
Total	**125**	**100%**	**726**	**100%**	**5.8**

TABLE F-6: PERSONS AND TRIPS BY STUDENT STATUS

STUDENT STATUS	# PERSONS	% PERSONS	# TRIPS	% TRIPS	TRIPS/ PERSON
Yes	14	6%	33	5%	2.4
No	214	94%	693	95%	3.2
Total	**228**	**100%**	**726**	**100%**	**3.2**

Base: Persons reporting student status.

TABLE F-7: PERSONS AND TRIPS BY AGE

AGE	# PERSONS	% PERSONS	# TRIPS	% TRIPS	TRIPS/ PERSON
Under 5 years	4	2%	19	3%	4.8
5 years to 14 years old	7	3%	21	3%	3.0
15 years to 24 years old	21	9%	62	9%	3.0
25 years to 34 years old	13	6%	47	7%	3.6
35 years to 44 years old	20	9%	66	9%	3.3
45 years to 54 years old	19	8%	51	7%	2.7
55 years to 64 years old	64	28%	205	28%	3.2
65 years and older	77	34%	251	35%	3.3
Total	**225**	**100%**	**722**	**100%**	**3.2**

Base: Persons reporting age.

TABLE F-8: PERSONS AND TRIPS BY GENDER

GENDER	# PERSONS	% PERSONS	# TRIPS	% TRIPS	TRIPS/ PERSON
Male	111	49%	345	48%	3.1
Female	116	51%	379	52%	3.3
Total	**227**	**100%**	**724**	**100%**	**3.2**

TABLE F-9: PERSONS AND TRIPS BY EMPLOYMENT STATUS

EMPLOYMENT STATUS	# PERSONS	% PERSONS	# TRIPS	% TRIPS	TRIPS/ PERSON
Employed full-time	40	19%	131	19%	3.3
Employed part-time	17	8%	60	9%	3.5
Regular Volunteer	1	0%	0	0%	0
Full-time homemaker	6	3%	10	1%	1.7
Full-time student, not working	2	1%	2	0%	1.0
Full-time student, working	3	1%	2	0%	0.7
Disabled	1	0%	0	0%	0
Unemployed, looking for work	0	0%	0	0%	0
Unemployed, not looking for work	30	14%	93	14%	3.1
Retired, not looking for work	105	49%	343	50%	3.3
Retired, working	11	5%	39	6%	3.6
Total	**216**	**100%**	**680**	**81%**	**3.1**

Base: Persons aged 15 and older.

TABLE F10: COUNTY OF RESIDENCE VERSUS COUNTY OF EMPLOYMENT

COUNTY OF WORK:	HH IN DOUGLAS COUNTY		HH IN EL DORADO COUNTY		HH IN PLACER COUNTY		HH IN WASHOE COUNTY		TOTAL	
	COUNT	PERCENT	COUNT	PERCENT	COUNT	PERCENT	COUNT	PERCENT	COUNT	PERCENT
Douglas	33	83%	17	13%	0	0%	0	0%	50	19%
El Dorado	2	5%	97	76%	6	8%	0	0%	105	39%
Placer	0	0%	11	9%	60	81%	3	10%	74	27%
Washoe	1	3%	0	0%	8	11%	26	90%	35	13%
Carson City	4	10%	2	2%	0	0%	0	0%	6	2%
Total	**40**	**100%**	**127**	**100%**	**74**	**100%**	**29**	**100%**	**270**	**100%**

TABLE F-11: MODE DISTRIBUTION

MODE	COUNT	PERCENT
Car/Truck/Van	609	84%
Walk	92	13%
Bicycle	6	1%
School Bus	0	0%
Public Transit	2	0%
Motorcycle/Moped	1	0%
Other	14	2%
Taxi/Shuttle/Limousine	0	0%
Paratransit	2	0%
Casino Shuttle	0	0%
Private Shuttle	0	0%
Gondola	0	0%
Total	**726**	**100%**

TABLE F-12: PRIMARY ACTIVITY

TRIP PURPOSE	COUNT	PERCENT
At-home activities (sleeping, watching TV, eating, personal care, housework, etc.)	263	36%
Personal business (bank, pay bill, dry cleaning, errands, etc.)	80	11%
Minor shopping (frequent, grocery, clothes)	117	16%
Work (including regular volunteer work)	26	4%
Work-related (meeting, errand, etc.)	14	2%
Eating or drinking at restaurant/bar	37	5%
Outdoor recreation participation (skiing, snowmobiling, fishing, hiking, etc.)	71	10%
Visiting friends or relatives	31	4%
Dropping off someone	6	1%
Picking up someone	4	.5%
Quick stop (gas, ATM, coffee, newspaper)	25	3%
Indoor recreation participation (bowling, ice skating, etc.)	22	3%
Medical	9	1%
Working at home (job related-for pay)	3	.5%
Major shopping (occasional, COSTCO, appliance, car, etc.)	1	0%
Casino gaming	11	2%
Entertainment (movie, sports event, show, etc.)	4	.5%
Religious	1	0%
Other	1	0%
Total	**726**	**100%**

Base: 27,239 trip records, base excludes missing data.

FIGURE F-1: TRIP DURATION

Trip Duration distribution:
- 0 - 5 Minutes: 23%
- 6 - 10 Minutes: 23%
- 11 - 15 Minutes: 20%
- 16 - 30 Minutes: 25%
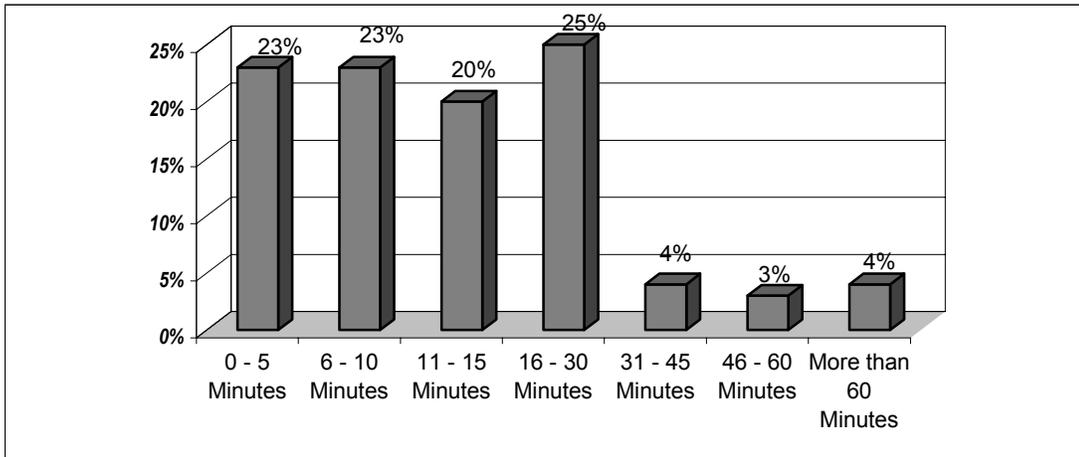- 31 - 45 Minutes: 4%
- 46 - 60 Minutes: 3%
- More than 60 Minutes: 4%

FIGURE F-2 DEPARTURE TIME DISTRIBUTION

Departure Time Distribution:
- Early Morning (12am-5am): 1%
- AM Peak (6am-9am): 15%
- Mid Day (10am-4pm): 58%
- Evening Peak (5pm-7pm): 19%
- Late Evening (7pm-11pm): 7%