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COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

2012 COMPASS Regional Household Travel Survey – Final Report

Report No. 05-2013

2012 COMPASS Regional Household Travel Survey

Final Report

By



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COMPASS Regional Household Travel Survey Final Report

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Overview of the Study

Introduction and Background

The Community Planning Association of Southwest Idaho (COMPASS) is an association of local governments that is responsible for transportation planning in the Ada and Canyon Counties. One of the primary building blocks of travel demand model development is the survey of household travel characteristics, or the Household Travel Survey. The objective is to provide a statistically valid observation of the unique travel demand in the COMPASS Region for all modes of travel. This information along with data collected from other surveys such as on-board transit and external station surveys is the basis for the design, estimation, and calibration of a set of region-wide travel demand models used to project future demand for travel in the region. The Household Travel Survey gathers household- and person-level travel data, such as the number, length, and purpose of trips, as well as other trip details including mode of transportation and the time of day for each trip.

The universe for the survey consisted of all households contained two counties in the State of Idaho- Canyon and Ada County. This meant that all households inside the COMPASS planning boundary were potential candidates to participate in the survey.

Household Travel Survey

The Household Travel Survey was administered to a randomly selected sample of households in the COMPASS planning area in the fall of 2011 and 2012. Eligible travel days included Monday through Thursday. The days encompassing the major holidays and public school systems' breaks were excluded.

Stratified Random Sample. ETC Institute worked with the COMPASS staff to develop a sampling plan that would support the region's travel demand model. Based on input, ETC Institute developed a sampling plan for a stratified random sample of 3,500 completed sets of household travel surveys. The sampling plan was stratified by type of household and location. The type of household was based on two variables: (1) household size and (2) vehicles available. Location was based on the county where the participant lived.

The household travel survey was designed as a 24-hour travel diary that was kept by all members of the household. The household travel survey gathered the following types of information:

Household Level.

- Household size
- Number of autos available in household
- Number of workers in household
- Location/physical address (e.g., street address and zip code)
- Annual household income
- Type of home

Personal Level.

- | | |
|-------------------------------------|-----------------------|
| • Sex | • Employment Status |
| • Age | • Usual work location |
| • Dependent on others for transport | • Student Status |

Trip Level.

- Start time
- Arrival time
- Purpose
- Start and destination addresses
- Type of place
- Mode of travel
- Vehicle Occupancy

A total of 8,773 persons completed a 24-hour travel diary on a Monday, Tuesday, Wednesday, or Thursday.

How Many Trips Do Households Make Per Day in the Region?

Trip rates by household size, number of vehicles, county, and trip purpose were calculated and compared to COMPASS' existing model trip rates. Due to the low number of observed trips in some of the cross classification segments, some of the rates were calculated by grouping (or aggregating) trips across segments, including county. Rates were prepared for Ada and Canyon County separately as is currently done in the model. A comparison of the travel diary reported trips against the GPS recorded trips showed that the average household under-reported 10% of their trips, with the majority of those being non-mandatory trips (i.e. not for work or school). Therefore, the calculated non-mandatory trip rates were scaled up by 10%. For the model implementation, it is recommended to keep the GPS trip under-reporting factor separate from the trip generation rates in order to better document the trip generation calculations. The mean number of trips per day for all households in the region was 10.55 trips per household.

Where Residents are Going?

Over 30,000 trips were recorded by the 8,773 persons who traveled in the COMPASS region. Most trips involved a return trip to a participant's home or a trip that originated at a participant's home. Excluding return trips home, the top five types of places visited by residents were: schools, shopping areas, a resident's workplace, another person's home (e.g., a friend or relative), and restaurants.

How Residents Travel to Their Destinations

Sixty-four percent (64%) of all trips by residents of the COMPASS region were completed in private vehicles, such as a car or pickup. Only 0.2% of all trips were completed on public transportation. Twenty-four percent (24%) of all trips were completed by people who were passengers in a private vehicle.

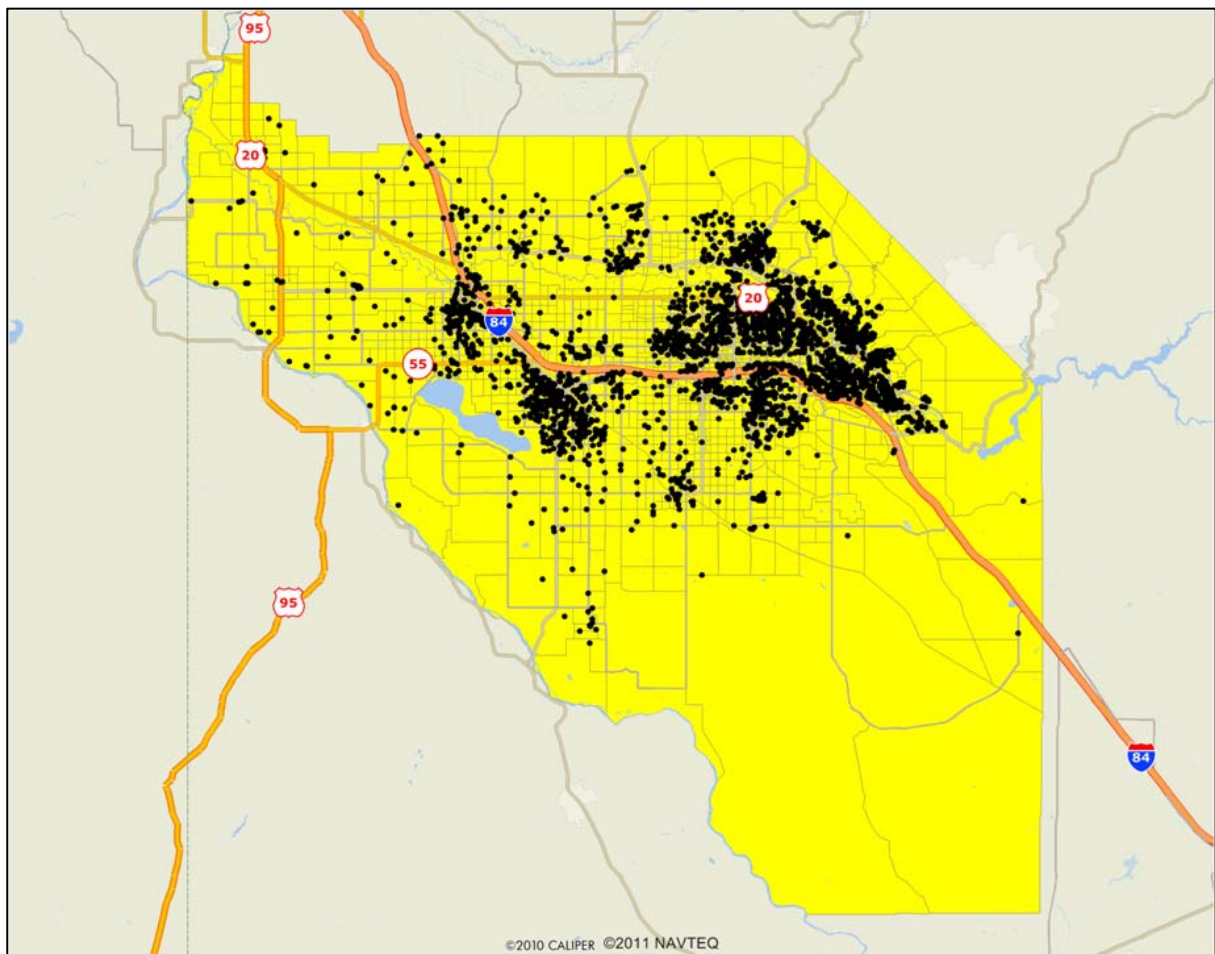
CHAPTER 1: Survey Purpose and Sampling Methodology

Introduction

A Regional Household Travel Survey involves collecting basic travel data from a large number of residents in a region in order to provide public officials and planners with a better understanding of travel choices and behavior. The Community Planning Association of Southwest Idaho (COMPASS) is an association of local governments that is responsible for transportation planning in Ada and Canyon Counties. The primary purpose of the Regional Household Travel Survey was to gather travel data from residents of the two-county area in order to update regional travel demand model.

The universe for the survey consisted of all households in the Canyon and Ada Counties, located in southwest Idaho. This meant that all households inside the COMPASS planning boundary (**Figure 1-1**) were potential candidates to participate in the survey.

Figure 1-1: COMPASS Planning Boundary (Location of Household Survey Respondents)



Review of Previous Studies and Travel Model Requirements

During the summer of 2011, ETC Institute worked with COMPASS staff to identify the impact that different sampling plans would have on the reliability of principal travel model statistics. The assessment included a review of previous survey research conducted by COMPASS.

Reports and data that were reviewed included (but were not limited to):

- Year 2000 and 2010 Census information
- COMPASS's Regional Travel Demand Model Data Requirements

Review of Demographic Characteristics of the Study Area. A key element of the review involved an analysis of the demographic characteristics of the study area such as household size, household income, race, employment, and vehicle availability. The 2000 Census and the 2010 Census estimates were used for this review. These data were used to assess the region's population distribution and make recommendations on categories for the survey data.

Travel Model Data Requirements. Based on the review of previous studies and of the region's travel demand model requirements, the survey team recommended that the following types of data be gathered via the household surveys:

Household Level.

- Household size
- Number of autos available in household
- Number of workers in household
- Location/physical address (e.g., street address and zip code)
- Annual household income
- Type of home

Personal Level.

- Sex
- Age
- Dependent on others for transportation
- Employment Status
- Usual work location
- Student Status

Trip Level.

- | | |
|-----------------------------------|---------------------|
| • Start time | • Type of place |
| • Arrival time | • Mode of travel |
| • Purpose | • Vehicle Occupancy |
| • Start and destination addresses | |

Design of the Sampling Plan

The survey team worked with COMPASS staff to develop a sampling plan that would support the region's travel demand model and was representative of where the region's population lives. Based on this input, the survey team developed a sampling plan for a random sample of 3,500 completed sets of household travel surveys. The sampling plan was stratified (categorized) by type of household and location. The study team used two key variables to categorize the households: (1) household size and (2) vehicle availability for the household. The location of the household was categorized based on the respondent's home address.

Note: The number of completed surveys (3,350 households) is slightly less than the original goal of 3,500. This was done so that project resources could be redirected to the administration of surveys in the Downtown Boise area. Rather than completing 3,500 surveys in the two-county region, 3,350 were completed in the two-county region and another 300 surveys were completed with households in Downtown Boise for a total of 3,650 surveys.

As part of the process for developing the sampling plan, ETC Institute reviewed the demographic composition of the region's population and developed a sampling plan which would ensure that the data would be representative from several major planning areas within the region including the cities of Boise, Nampa, Meridian, Caldwell, and areas outside these cities in both Ada and Canyon counties.

What is a Sampling Plan?

A strategy for conducting a survey that sets goals for the number of surveys to be completed by each type of household. For example, the survey team wanted to ensure that enough households with two people, two vehicles available, and who live in on central Ada County completed the survey so that the survey represented the types of households that exist in the COMPASS region.

What does Statistically Valid mean?

That the survey data has been collected from enough people and in a proper manner to ensure that the results of the survey are reasonably representative of the population of the region as a whole and for subdivisions of the populations by where they live or household type.

What do precision and confidence mean?

Unless you survey everyone in the region, there is always going to be a potential level of error in the survey results. Precision and confidence are statistical terms to describe the expected potential error that a survey will have based on the number of surveys and established statistical analysis procedures. For example, if the answer to a survey finds that 78% of people drive a car and the precision is +/-11%, this suggests that the actual percentage of people who drive a car may range from 67% to 89%. The confidence is the reliability of this range. A 95% level of confidence indicates that 95% of the time, the correct value for the whole population of will fall into the range indicated by the precision. In our example, there would be a 95% probability of the 67% to 89% range for the percentage of people who drive being correct. The larger the sample size, typically the higher precision and confidence.

Table 1-1: Recommended Sampling Plan for the COMPASS Regional Household Travel Survey

COMPASS REGIONAL HOUSEHOLD SURVEY					
Goal	0 vehicles	1 vehicle	2 vehicles	3+ vehicles	TOTAL
Total Surveys for Entire Region					3,500
1-person household	112	609	138	23	882
2-person household	24	236	695	223	1,178
3-person household	9	112	248	200	569
4-or more	17	96	420	337	870
TOTAL	161	1,052	1,502	784	3,500

Note: The number of completed surveys (3,350 households) is slightly less than the original goal of 3,500. The reason for the shortage of households was to accommodate oversampling in the downtown Boise area. The overall goal was reduced to 3,200 households so ETC Institute could survey 300 households within downtown Boise.

The recommended sampling plan that is shown in **Table 1-1** ensured that the results for each cell would be statistically valid and that a minimal amount of weighting would be required to expand the overall results to the regional level. The actual distribution of completed surveys is shown in **Table 1-2**.

Table 1-2: Distribution of Completed Surveys by Household Type

COMPASS REGIONAL HOUSEHOLD SURVEY					
Number of Completed Surveys					
N=3,350	0 vehicles	1 vehicle	2 vehicles	3+ vehicles	TOTAL
Total Surveys for Entire Region					3,500
1-person household	76	531	131	27	765
2-person household	15	245	769	306	1,335
3-person household	1	46	190	194	431
4-or more	1	56	410	352	819
TOTAL	93	878	1,500	879	3,350

What does "N=" represent?

The expression "N=" is used throughout this report to identify the total number of households, people, trips or vehicles that are represented by the data shown in the table.

For example, in Table 1-2 (above) the "N=3,350" refers to the total number of households that were randomly selected to participate in the survey.

In later chapters, "N=8,773" is used to indicate that the data in a table represents the information gathered from the 8,773 people who participated in the household travel survey.

When "N=3,350", the data in the table includes the 3,350 households that were selected at random and the 363 that participated in the GPS portion of the study.

Table 1-3 shows the goals for each county zone. Altogether, a total of 3,500 surveys were to be completed. Of the 3,500 households, 10% also participated in a passive GPS survey which is described below.

**Table 1-3: COMPASS Regional Household Travel Survey Sampling Plan
(Major Sampling Area Zones)**

Area	Goal Number of Completes	Total Number of Completes
Other Areas in Ada County	200	201
Boise	1,666	1,523
Caldwell	283	274
Other Areas in Canyon County	200	202
Meridian	691	699
Nampa	460	451
Grand Total	3,500	3,350

Passive GPS Survey

In addition to participating in the household survey, 363 households also agreed to use a GPS (global positioning system) device in their vehicles to track where their vehicles went on the day the survey was conducted. The purpose of the Passive GPS Survey was to capture information about trips that are not reported as part of the self-reported household survey, such as the routes that residents use to travel between destinations in the region, actual travel time, and actual distances that residents travel during a typical weekday. GPS data were also used to help estimate under-reporting of trips. Based on the analysis of the GPS data, it was concluded an approximate under-reporting rate of 10% was observed between the data reported by travel survey participants and the data recorded by GPS loggers. Since the mean trip rate for the region based on the data gathered in the travel diaries was 9.59, the mean household trip rate for the region was increased by 10 percent to 10.55 trips per household to account for the under-reporting of trips by survey participants. See Chapter 7 for more detailed analysis of the GPS data.

CHAPTER 2: Survey Design Process

Introduction

This chapter discusses how the actual survey instrument, the forms used to conduct the survey, were developed and designed. It also discusses use of a pilot test to determine the need for any changes to the survey before households were surveyed.

Background

The project team used the following guidelines to shape the design of the survey instrument:

- Travel data was to be gathered for one travel day only.
- The travel day was to be a weekday.
- Unique travel and activity data were to be collected for all household members. Travel data for young children were collected by parents.
- The travel and activity data collected were to be gathered in a manner that would minimize the burden on the household.
- Respondents were not required to provide detailed tracking of in-home (non-travel related) activities.
- Survey procedures and materials were designed to fit the local context.

Pre-Survey Design Assessment. Members of the consulting team and the project management team conducted an assessment of the potential survey design for the household survey. The assessment included a review of the guidelines listed above and the identification of all data requirements for the project. Samples of survey instruments administered by ETC Institute for travel surveys in other communities were used as the basis for the development of this household travel survey.

Design of the Survey

Overview. ETC Institute worked with COMPASS staff to develop and design the regional household travel survey. The survey instrument was designed to collect the data identified in **Chapter 1** of this report. The household travel survey was designed to be a 24-hour household travel diary that was kept by all household members. The household survey recruitment script and travel diary were structured and worded to allow the participants to answer the questions easily. Copies of all survey forms are located in **Appendix C**.

What is a Travel Diary?

A series of forms that each person in the household used to record where they went, how long the trip took, what mode of transportation they used and other details for each trip they made during the day that they took the travel survey.

Conducting a Pilot Test

The survey team conducted a pilot survey with 31 households to assess and evaluate the methods, materials, and processes that were to be used to conduct a regional household travel survey for COMPASS. The pilot survey included a complete test and evaluation of the full survey, including each of these steps:

1. Randomly selecting households to participate
2. Recruiting the households by phone
3. Survey mail-out
4. Reminder call
5. Retrieval call to obtain and review completed surveys
6. Data entry of the results

Key items that were assessed during the pilot survey included the following:

- **Response rate of households agreeing to participate in the survey via telephone recruitment:** Forty-four percent or 44 of the 100 households that were initial contacted agreed to participate in the pilot test. The goal was 30%.
- **Proportion of recruited households providing complete travel survey data:** Of the households that initially agreed to participate, 70% or 31 of the 44 households actually provided complete travel survey data. The goal was 65%.
- **Adequacy of survey forms and scripts for recruitment and obtaining data:** No problems were identified with the design of survey forms. Most participants indicated that the surveys were easy to understand.
- **Quality of Data Entry Operations.** No problems were experience with the data entry and processing of collected survey data.

What is a Pilot Test?

A trial survey of a small number of households to ensure that the questions are understandable and that residents can accurately fill-out the survey. It allows the survey team to make improvements to the survey before talking with 3,000 or more households.

CHAPTER 3: Survey Administration Process

Introduction

This chapter discusses the procedures used in administering the surveys. Successfully completing the survey required the survey team to take several administrative steps to ensure residents were aware of the survey, willing to participate, able to accurately fill-out the survey, and return the needed information.

Administration of the Household Travel Survey

Importance of a High Response Rate. One factor that can greatly influence the quality of data collected is the percentage of households recruited that actually participate in the survey. A low response rate can inherently bias the survey results. Consequently, a great deal of emphasis was placed on measures that would maximize the response rate to the survey. Based on the results of the pilot test, ETC Institute recruited 4,544 households at random to participate in the survey. The goal was obtain 3,500 completed surveys.

Note: The number of completed surveys (3,350 households) is slightly less than the original goal of 3,500. The reason for the shortage of households was to accommodate oversampling in the downtown Boise area. The overall goal was reduced to 3,200 households so ETC Institute could survey 300 households from the downtown Boise area.

As a result of the thorough recruitment and aggressive follow-up procedures used by ETC Institute, the actual participation rate was 73.7%. A total of 3,350 of the 4,544 households that were recruited completed the survey.

Building Awareness of the Household Survey. Given the private nature of the data to be collected, public awareness was an important factor to the success of the survey. People who participated in the pilot-test said they would be much more likely to participate and provide complete answers if they thought the survey was legitimate.

For this reason, ETC Institute worked with COMPASS staff, stakeholders, and public officials to develop and administer an awareness campaign to inform the community about the study. The campaign involved a two-tiered strategy.

- **Tier 1: General Awareness:** This tier involved building general awareness about the study in the region through newspaper, radio, website, and other sources. Press releases were sent to newspapers, radio stations, and television stations in the region. In addition, a wide range of information about the study was posted on the COMAPSS' website so that residents and the media could verify the legitimacy of the survey and get more information about the survey as needed. Prior to the survey, several newspaper articles were published in area newspapers to promote the survey.
- **Tier 2: Detailed Awareness.** The second tier involved direct communication with each of the households that were recruited to participate in the study. This group of people needed to understand the details of the survey administration process in order to properly complete their travel diaries. Those who were recruited also had to know that their responses would be kept confidential. In order to accomplish these tasks, ETC Institute worked with COMPASS staff to design a series of direct mailings that included reminder letters, post cards, and refrigerator magnet reminders. In addition,

ETC Institute established a toll free number (1-888-801-5368) so that recruited households could contact ETC Institute to get answers to their questions about the study. A local phone number to the COMPASS office was also provided so that residents could contact COMPASS staff with questions about the project.

ETC Institute received 112 calls from potential participants in the study. Most calls were requests for removal off call lists. Others pertained to questions and clarification regarding forms and procedures. The single most frequently asked question observed dealt with residents seeking additional information about who was funding the study.

Household Survey Administration Procedures. ETC Institute administered the Regional Household Travel Survey to a randomly selected sample of households in the region in 2011 through 2012. The process for recruiting households to participate is described below:

- ETC Institute sent an advance postcard to all households that were randomly selected to participate in the survey to provide information about the survey and encourage participation. The advance material listed the toll-free number so that households without listed phone numbers could request to participate in the study.
- ETC Institute conducted recruitment calls to households with listed phone numbers to request participation in the survey.
- ETC Institute personnel assigned participating households a travel day (the day they would complete the survey) and asked them to confirm their home address. In addition, household level data (number of occupants, ages of occupants, number of vehicles, etc.) was collected from all households that agreed to participate in the study.
- ETC Institute then mailed a travel diary packet that contained a cover letter, refrigerator magnet travel day reminder, travel diaries for all household members, instructions, and a sample diary to all households who agreed to participate in the study. The packet included a postage-paid return envelope.
- ETC Institute then mailed a reminder postcard to each of the households that agreed to participate to remind them of their travel day. The reminder postcard was mailed 7-10 days prior to the travel day. In addition, ETC Institute placed reminder calls to each household to confirm participation one or two days before they were scheduled to begin the travel survey.
- ETC Institute then placed follow-up calls to verify participation the day after travel diary activity was scheduled to begin. If the household indicated that they did not complete the diaries, ETC Institute personnel rescheduled the travel day for the household.

Administration of the Passive GPS Survey

GPS Equipment. ETC Institute used G-Log 760 Trip Recorders to collect the majority of the GPS survey data. The G-Log 760 unit is battery operated unit with a motion detector and a self-contained antenna. The G-Log 760 unit pauses when the car is not in motion and the units were programmed to stop recording if the vehicle speed fell below five miles per hour for a continuous period of 30 minutes or more. No effort was required by travel survey participants to turn the unit on or off. The devices were placed in the windshield, or other area where signal would not be disrupted. If the vehicle had a working cigarette lighter, ETC Institute connected the GPS device to the lighter to provide backup power in the event the batteries failed.



Recruitment. A total of 430 households agreed to participate in the passive GPS Survey during the initial recruitment call. Of the 430 that originally agreed to participate, 363 actually participated in the passive GPS survey.

ETC Institute installed the GPS devices at central locations in the Boise and surrounding areas. Households that agreed to participate in the GPS Survey met ETC Institute representatives at a central facility to have the GPS device installed. ETC staff set up in conference rooms at local hotels for the installation and retrieval locations.

GPS Administration Process. Households that participated in the passive GPS data collection were involved in the project for three days:

- **Day 1:** The recruited households drove their vehicle(s) to a designated location in the Boise metropolitan area. ETC Institute's bilingual staff installed the G-Log 760 and explained how the GPS device works. Final instructions and a hands-on demonstration were also given to each participant so that they understood how to properly record information on the written portion of the activity travel diary and to ensure that they understood how the GPS devices worked.
- **Day 2:** All household members recorded their travel information on the written household travel diaries. The G-Log 760 recorded all vehicle travel data. The GPS data was only collected while the vehicle was in operation. Participants were given a local phone number to call if they had any questions.

- **Day 3:** All households returned to the same location where the G-Log 760 was originally installed. Prior to returning, they called ETC Institute's call center and the travel data was retrieved by phone. Once the household had successfully communicated their travel data to ETC Institute's call center, they were instructed to return to the location where the GPS device was installed so that ETC Institute staff could retrieve the device..

GPS Data Elements. The following types of GPS survey data were collected by ETC Institute:

- The position of the vehicle by longitude and latitude in one second increments and the time and date at each position.
- Distance and direction traveled since the last position.
- Vehicle's distance, speed, elevation, date, and heading.
- Times (by hour and minute) when survey vehicle engines were turned on and turned off.

The GPS data was prepared in an ASCII comma delimited format.

Information that was included as part of the GPS Administrative File included the following:

1. GPS Unit ID Number
2. Household ID Number
3. GPS File Name
4. Vehicle Number
5. Household Travel Date
6. Vehicle Year
7. Vehicle Make
8. Vehicle Model
9. Beginning Odometer Reading
10. Ending Odometer Reading
11. Installation Date
12. Installation Time
13. Removal Date
14. Removal Time
15. GPS Power Source
16. Type of Vehicle

Data Entry and Quality Control Procedures

Quality control was a consistent component embedded in all activities performed for both surveys. ETC Institute's most senior professionals directly supervised all phases of the project to ensure that the overall survey effort was as accurate and complete as possible. Some of the specific procedures followed by ETC Institute to protect the quality of the data are described below:

- Upon receipt of the travel diaries, ETC Institute conducted a thorough review of 100% of the entries.
- A review of completed travel diaries consisted of the following: an examination of the diary information collected from each household; a review of the compatibility of the data among household members; a review of travel times for short travel distances; a review of the spelling of addresses and the existence of street addresses.
- If an entry on a survey form did not conform to the specifications established for the field, was incomplete, or illegible, ETC Institute employees took one of two actions: (1) they corrected the entry; the corrections were sometimes easy to make given the data provided; or (2) they called participating households to gather the correct data via telephone. When an employee took either of these actions, the employee noted the action taken and reported the action to the project supervisor. This review process prior to data entry ensured that origin and destination addresses were as complete as possible before the information was entered into the computer.
- ETC Institute personnel conducted dual data entry for 100% of the records. All completed surveys were entered into two independent databases by different people. After the data entry was completed for each database, the files were compared and screened for records that did not match. Records that did not match were corrected in each of the databases by different people. The files were then merged again, and records that still did not match were corrected again. This process was repeated until all records in each of the two databases matched. This process ensured that the database was nearly 100% accurate before the geocoding process began.

CHAPTER 4: Geocoding Process

Introduction

An important step in the survey data analysis process was the geocoding of survey data and records to precise locations in the two-county region. Essentially this allows the data to be mapped and allows for the examination of logical errors in survey results such as trips that do not make sense.

Geocoding Process

The survey team initially compiled survey results in Excel data files. Each of the worksheets in the final Excel datafile were imported into a GIS application for geocoding. The resulting geocoded survey table was saved back out as an Excel file. The table maintained the unique record identifier assigned by ETC Institute when the household was originally recruited (GIS_ID). Some of the key fields of the geocoded survey table are listed in **Table 4-1**.

What is geocoding?

The process of taking a data feature such as an address, road, or zip code and linking it to coordinates so that it can be shown on a map and be part of a mapping database.

What is a GIS?

A Geographic Information System, which is a set of computer programs that allow for geocoding of features and storage and analysis of data that has coordinates and can be mapped.

Table 4-1: Selected Geocoded Data Fields

Data Field Name	Type	Remarks
GIS_ID	Integer	Unique record identifier
START_LON	Integer	Longitude of the trip start address
START_LAT	Integer	Latitude of the trip start address
END_LON	Integer	Longitude of the trip end address
END_LAT	Integer	Latitude of the trip end address
HOME_LON	Integer	Longitude of the household address
HOME_LAT	Integer	Latitude of the household address
EMP_LON	Integer	Longitude of the employer address
EMP_LAT	Integer	Latitude of the employer address

Pre-Processing of Survey Records. As discussed in **Chapter 3**, a number of standard data integrity checks and corrections were performed before actual geocoding was conducted. This included the identification of duplicate records and corrections to the spelling of street names and zip codes. The quality of the original survey database was very good.

Geocoding Process and Results. Geocoding was performed in TransCAD using the latest edition of Caliper's street layer. In addition, government location databases and other commercial sources and software were used to enhance the geocoding accuracy and match rates through extended reference datasets and by utilizing several different locations (address) and reading/translation algorithms. TransCAD provides some of the most sophisticated address matching functionality available. The results of the geocoding address matching analysis are shown in **Table 4-2**.

Table 4-2: Geocoding Address Matching Results Compared to Household Survey Data (Main Sample – the below calculations exclude the Downtown Boise records)

Address Type to Match	Addresses to Match	Matched Records	Match Rate
Trip Ends	32,202	32,115	99.7 %
Trip Starts	32,189	32,115	99.7 %
Employer Address (if employed)	3,074	3,073	99.9%
Household (Resident) Addresses	3,354	3,350	99.8 %
Average			99.775 %

Figure 4-1 shows where trips that were completed by household travel survey participants began. The map is shaded by TAZ (or Traffic Analysis Zone), which is an area used for transportation planning in the COMPASS region. TAZs with dark shading had more trips originating in the TAZ than TAZs with lighter shading.

Figure 4-1: Density of Locations Where Trips Began

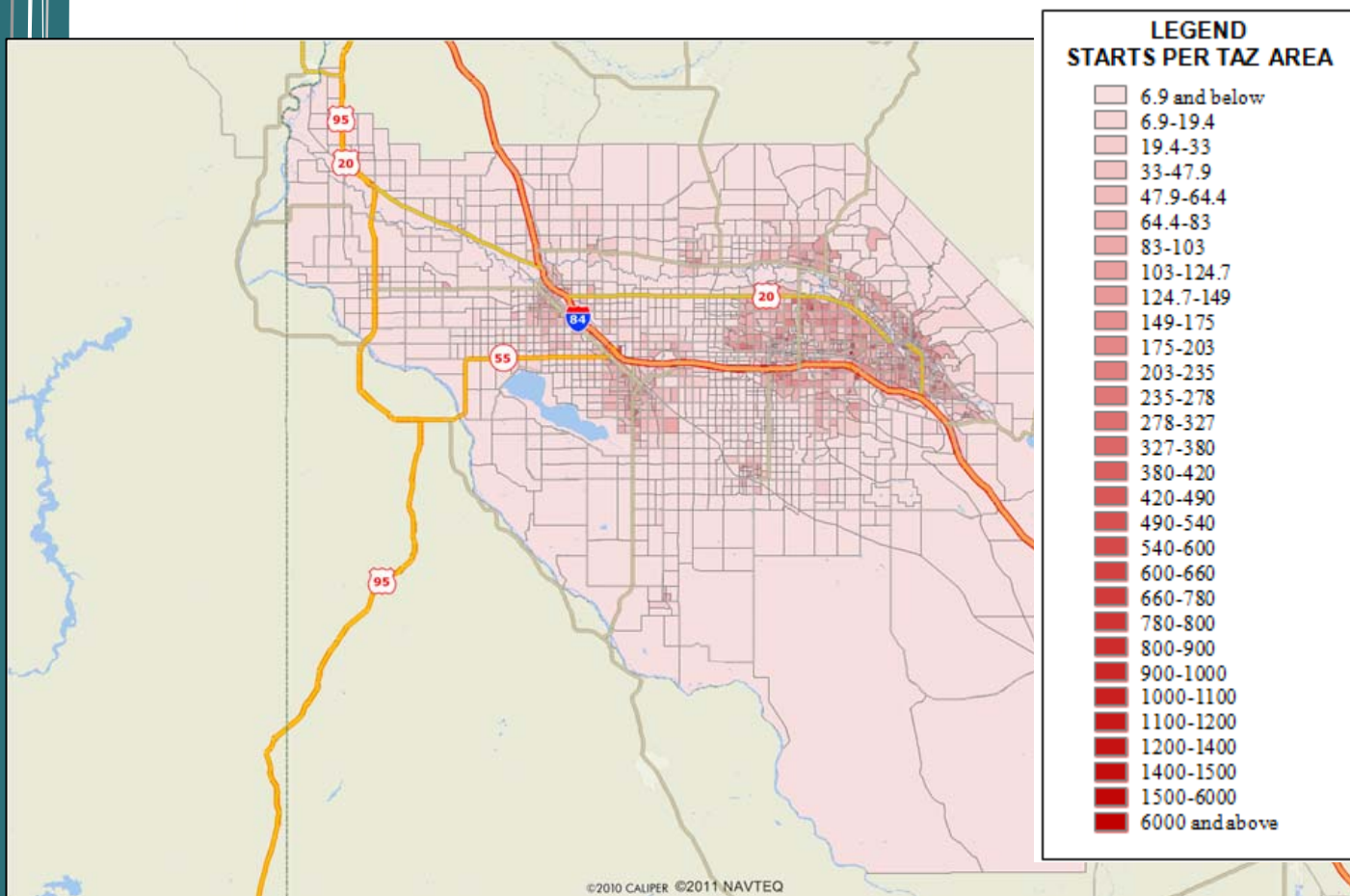
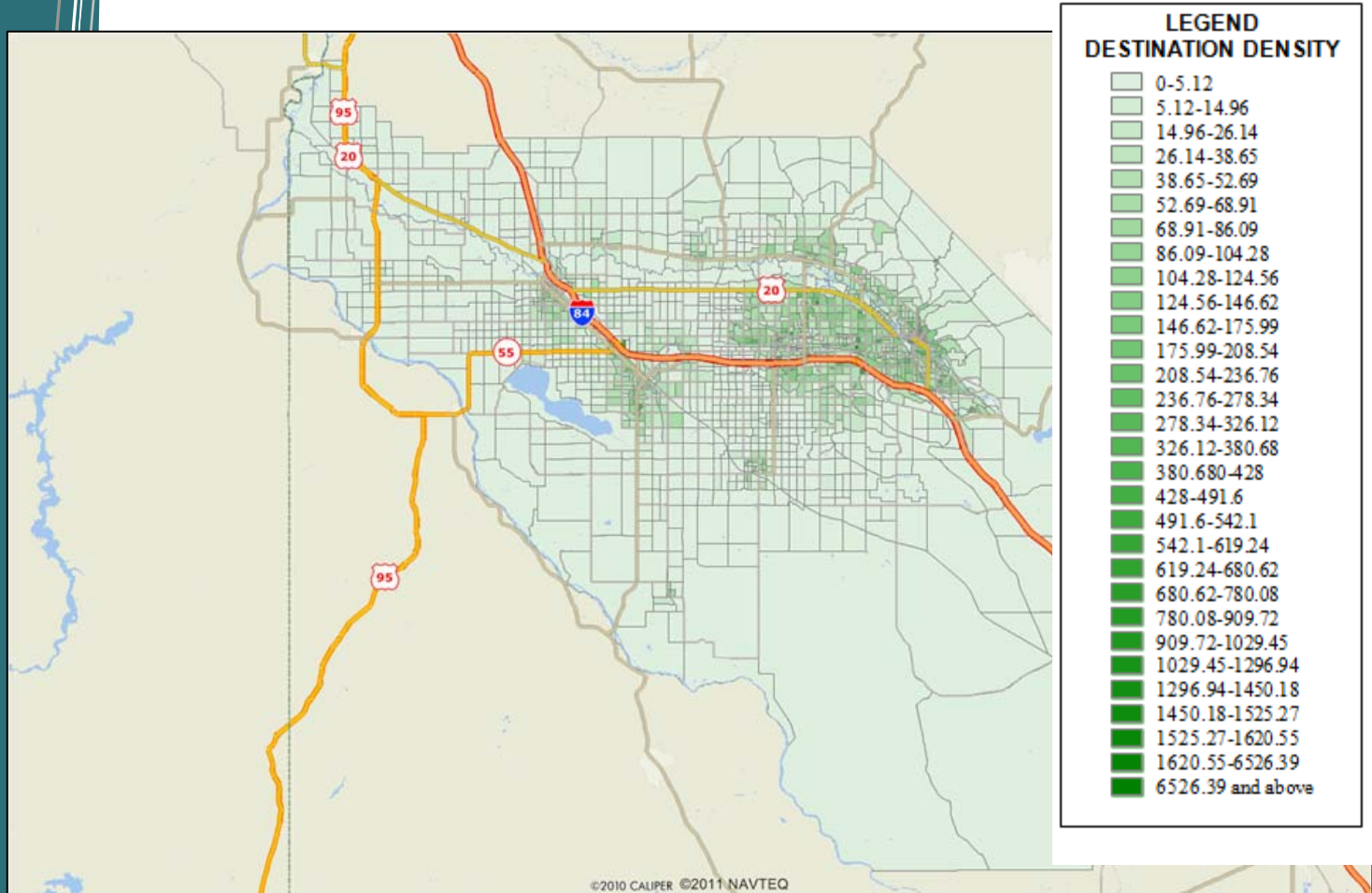


Figure 4-2 shows where trips that were completed by household travel survey participants ended. The map is shaded by TAZ (or Traffic Analysis Zone), which is an area used for transportation planning in the COMPASS region. TAZs with dark shading had more trips ending in the TAZ than TAZs with lighter shading.

Figure 4-2: Density of Locations Where Trips Ended



As expected, based on a review of the density maps and cross-tabulation analysis by home county, the highest density of trip start and endpoints were locations in the central portion of the region and in central locations in the suburban communities. These would be locations with the greatest density of residences, work places, services, and stores.

CHAPTER 5: Demographic Characteristics of Survey Participants

Introduction

This chapter contains information about the demographic characteristics of all households that participated in the study. The data can be used to better understand key characteristics of those who participated in the survey and analyze their transportation needs.

This chapter contains figures and tables that show the following demographic data:

- Vehicles per household
- Persons per household
- Annual household income
- Age of travel survey participants
- Gender of travel survey participants
- Percentage of travel survey participants who were dependent on rides from others for transportation
- Percentage of survey participants who were students
- Employment status of survey participants

Household Level Demographic Data. Tables 5-1 thru 5-3 contain household demographic data. These tables show household level demographic data for the 3,350 households that participated in the household travel.

Individual Demographic Data. Tables 5-4 thru 5-14 contain individual demographic data for persons who participated in the travel surveys. The tables show household level demographic data for the 8,773 persons who completed a household travel diary.

Major Findings

A total of 3,350 households were randomly selected to participate in the household survey. This group is referred to as "by percentage of households surveyed" in the report.

A total of 8,773 persons were randomly selected to participate in the household survey. This group is referred to as "by percentage of persons surveyed" in the report.

Vehicles per Household. Figure 5-1 and Tables 5-1 and 5-2 shows the differences in the availability of vehicles in households.

- Ninety-seven percent (97%) of the household travel survey participants had at least one vehicle available.
- Three percent (3%) of the household travel survey participants did not have any vehicles in their household.

Figure 5-1: Analysis of Vehicle Availability for the Household Travel Survey Population

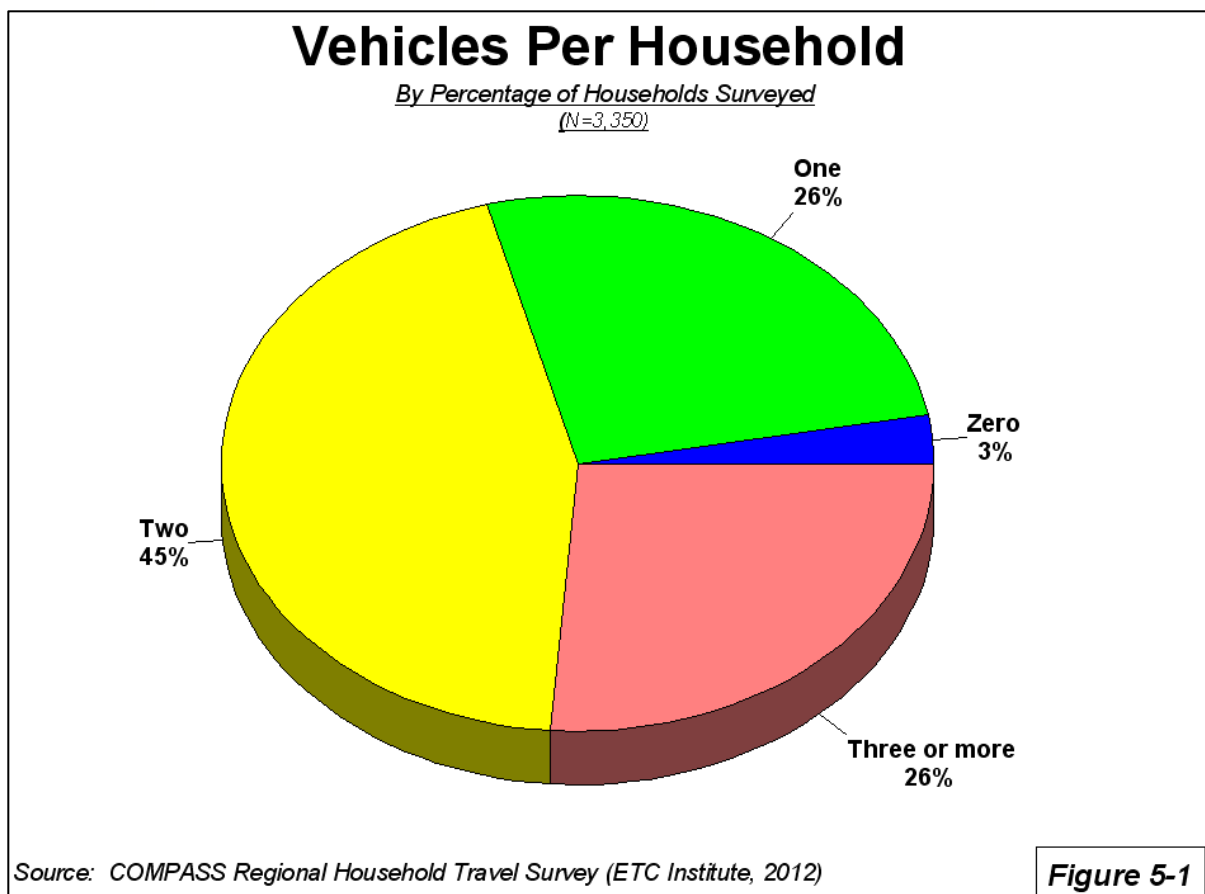


Table 5-1 Distribution of Vehicle Availability for the Household Travel Survey Population

	County		Total
	Ada County	Canyon County	
<u>Number of Household Vehicles Available</u>			
Zero vehicles	54 2.2%	39 4.2%	93 2.8%
1 vehicle	616 25.4%	262 28.3%	878 26.2%
2 vehicles	1,118 46.1%	382 41.2%	1,500 44.8%
3 or more vehicles	635 26.2%	244 26.3%	879 26.2%
Total	2,423 72.3%	927 27.7%	3,350 100.0%

Table 5-2 Distribution of Vehicle Availability for the Household Travel Survey Population by Household Income

	Annual Household Income					Total
	under \$30k	\$30,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 or more	
<u>Number of Household Vehicles Available</u>						
Zero vehicles	78 10.7%	13 1.5%	1 0.1%	1 0.2%	0 0.0%	93 2.8%
1 vehicle	393 53.8%	271 30.6%	122 16.3%	62 11.5%	30 6.8%	878 26.2%
2 vehicles	188 25.7%	413 46.6%	392 52.3%	284 52.6%	223 50.3%	1500 44.8%
3 or more vehicles	72 9.8%	190 21.4%	234 31.2%	193 35.7%	190 42.9%	879 26.2%
Total	731 21.8%	887 26.5%	749 22.4%	540 16.1%	443 13.2%	3,350 100.0%

Tables 5-1 and 5-2 shows the number of household vehicles participating households reported were available to them on a daily basis.

Household Occupants and Size. Figure 5-2 and Tables 5-3, 5-4, 5-5, 5-6, and 5-7 show the breakdown of household size of each of the two groups of respondents to the survey.

- Twenty-four percent (24%) of the households surveyed had four or more occupants in their household; 23% were single-person households.

Figure 5-2: Comparison of Household Size for the Household Travel Survey Population

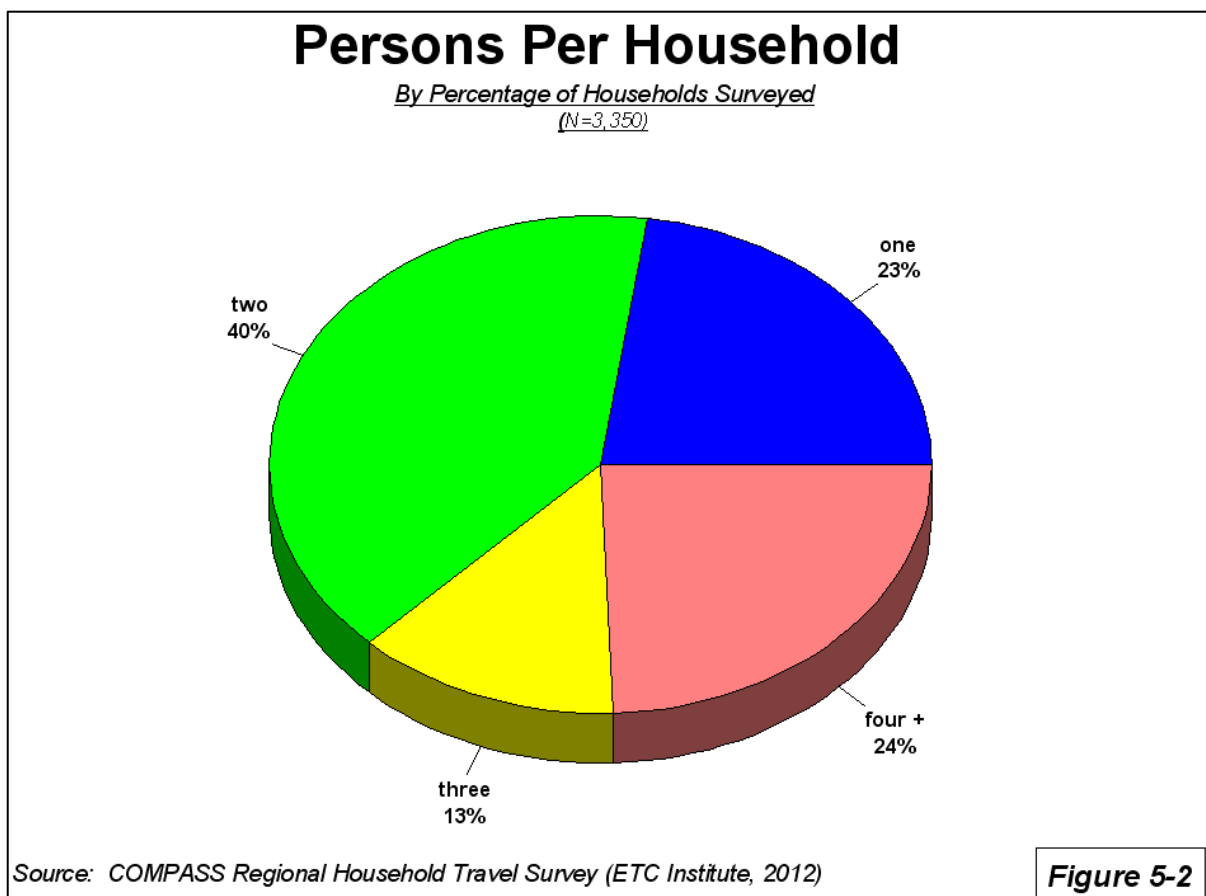


Table 5-3: Distribution of Household Size for the Household Travel Survey Population

	County		Total
	Ada County	Canyon County	
<u>Number of Persons in Household</u>			
1 person	556 22.9%	209 22.5%	765 22.8%
2 people	1,018 42.0%	317 34.2%	1,335 39.9%
3 people	298 12.3%	133 14.3%	431 12.9%
4 or more people	551 22.7%	268 28.9%	819 24.4%
Total	2,423 72.3%	927 27.7%	3,350 100.0%

Table 5-4: Distribution of Household Size for the Household Travel Survey Population by Household Income

	Annual Household Income					Total
	under \$30k	\$30,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 or more	
<u>Number of Persons in Household</u>						
1 person	386 52.8%	234 26.4%	85 11.3%	39 7.2%	21 4.7%	765 22.8%
2 people	213 29.1%	375 42.3%	359 47.9%	229 42.4%	159 35.9%	1,335 39.9%
3 people	50 6.8%	112 12.6%	112 15.0%	77 14.3%	80 18.1%	431 12.9%
4 or more people	82 11.2%	166 18.7%	193 25.8%	195 36.1%	183 41.3%	819 24.4%
Total	731 21.8%	887 26.5%	749 22.4%	540 16.1%	443 13.2%	3,350 100.0%

Table 5-5: Distribution of Household Size for the Household Travel Survey Population by Vehicle Availability

	Number of Household Vehicles Available				Total
	Zero vehicles	1 vehicle	2 vehicles	3 or more vehicles	
<u>Number of Persons in Household</u>					
1 person	76 81.7%	531 60.5%	131 8.7%	27 3.1%	765 22.8%
2 people	15 16.1%	245 27.9%	769 51.3%	306 34.8%	1,335 39.9%
3 people	1 1.1%	46 5.2%	190 12.7%	194 22.1%	431 12.9%
4 or more people	1 1.1%	56 6.4%	410 27.3%	352 40.0%	819 24.4%
Total	93 2.8%	878 26.2%	1,500 44.8%	879 26.2%	3,350 100.0%

Table 5-6: Distribution of Household Size for the Household Travel Survey Population by Vehicle Availability (ADA COUNTY ONLY)

	Number of Household Vehicles Available				Total
	Zero vehicles	1 vehicle	2 vehicles	3 or more vehicles	
<u>Number of Persons in Household</u>					
1 person	47 87.0%	397 64.4%	94 8.4%	18 2.8%	556 22.9%
2 people	6 11.1%	171 27.8%	606 54.2%	235 37.0%	1,018 42.0%
3 people	0 0.0%	23 3.7%	133 11.9%	142 22.4%	298 12.3%
4 or more people	1 1.9%	25 4.1%	285 25.5%	240 37.8%	551 22.7%
Total	54 2.2%	616 25.4%	1,118 46.1%	635 26.2%	2,423 100.0%

Table 5-7: Distribution of Household Size for the Household Travel Survey Population by Vehicle Availability (CANYON COUNTY ONLY)

	Number of Household Vehicles Available				Total
	Zero vehicles	1 vehicle	2 vehicles	3 or more vehicles	
<u>Number of Persons in Household</u>					
1 person	29 74.4%	134 51.1%	37 9.7%	9 3.7%	209 22.5%
2 people	9 23.1%	74 28.2%	163 42.7%	71 29.1%	317 34.2%
3 people	1 2.6%	23 8.8%	57 14.9%	52 21.3%	133 14.3%
4 or more people	0 0.0%	31 11.8%	125 32.7%	112 45.9%	268 28.9%
Total	39 4.2%	262 28.3%	382 41.2%	244 26.3%	927 100.0%

Income. Figure 5-3 and Table 5-8 show the distribution of participating households by their annual household income as reported by someone living in the household.

- Twenty-two percent (22%) of the household travel survey participants had an annual household income below \$30,000; 29% earned more than \$75,000 per year.

Figure 5-3: Comparison of Annual Household Income for the Household Travel Survey Population

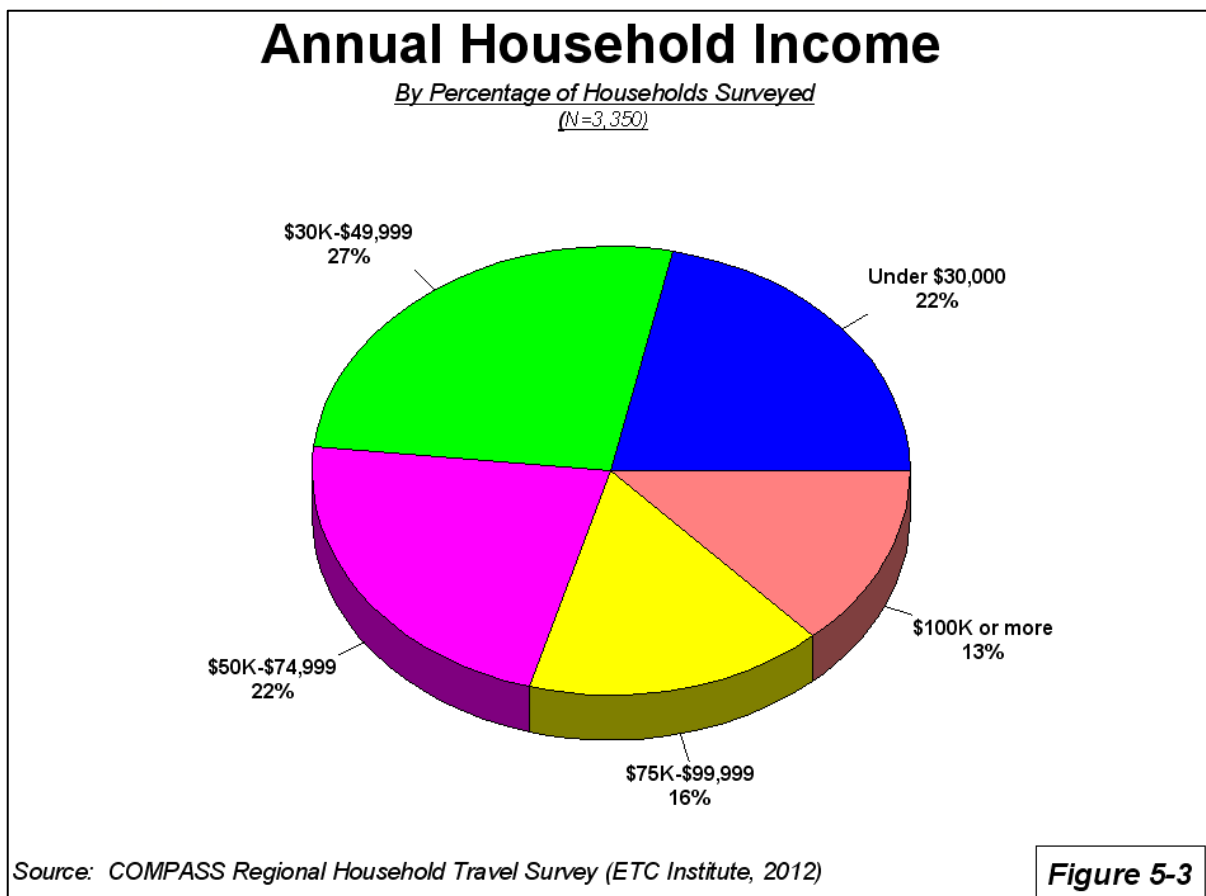


Table 5-8: Distribution of Household Income for the Household Travel Survey Population

	County		Total
	Ada County	Canyon County	
<u>Annual Household Income</u>			
under \$30,000	427 17.6%	304 32.8%	731 21.8%
\$30,000 - \$49,999	618 25.5%	269 29.0%	887 26.5%
\$50,000 - \$74,999	559 23.1%	190 20.5%	749 22.4%
\$75,000 - \$99,999	440 18.2%	100 10.8%	540 16.1%
\$100,000 or more	379 15.6%	64 6.9%	443 13.2%
Total	2,423 72.3%	927 27.7%	3,350 100.0%

Age Profile. Figure 5-4 and Table 5-9 show the distribution of the ages of the participants of the survey.

- Twenty-seven percent (27%) of the household travel survey participants were under the age of 20; 20% were age 60 or older; the remaining 53% were age 20-59.

Figure 5-4: Breakdown of Age of Travel Survey Participants

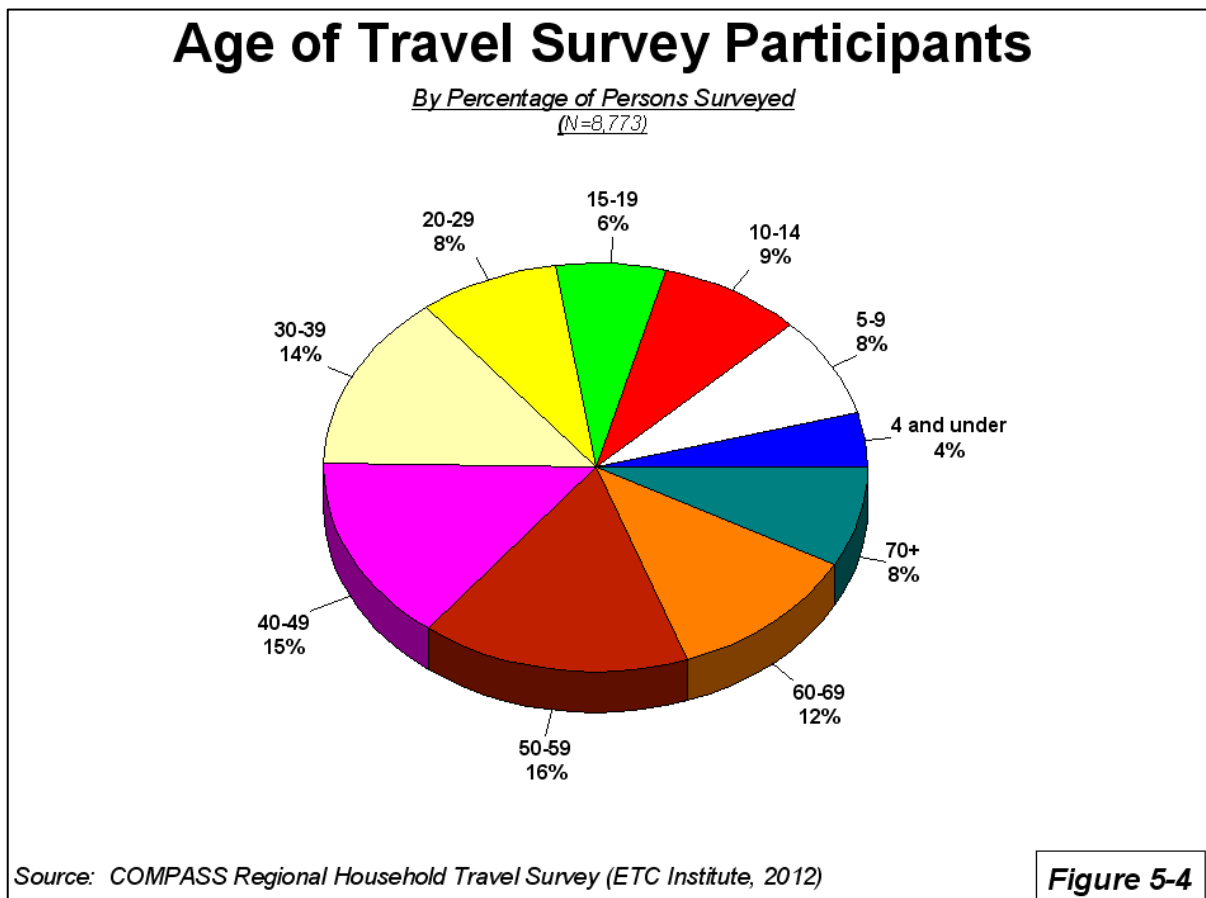


Table 5-9: Distribution of Age of Travel Survey Participants

	County		Total
	Ada County	Canyon County	
<u>Age of Household Persons</u>			
4 and Under	213 3.4%	153 6.0%	366 4.2%
5 thru 9	484 7.8%	226 8.8%	710 8.1%
10 thru 14	552 8.9%	209 8.1%	761 8.7%
15 thru 19	385 6.2%	164 6.4%	549 6.3%
20 thru 29	458 7.4%	278 10.8%	736 8.4%
30 thru 39	856 13.8%	382 14.9%	1,238 14.1%
40 thru 49	948 15.3%	348 13.5%	1,296 14.8%
50 thru 59	1,043 16.8%	352 13.7%	1,395 15.9%
60 thru 69	742 12.0%	300 11.7%	1,042 11.9%
70 and Over	521 8.4%	159 6.2%	680 7.8%
Total	6,202 70.7%	2,571 29.3%	8,773 100.0%

Gender. Figure 5-5 and Table 5-10 show the gender breakdown for survey participants.

- Gender was evenly split among participants in the household travel survey. 49% of the participants were male and 51% were female.

Figure 5-5: Breakdown of Gender of Travel Survey Participants

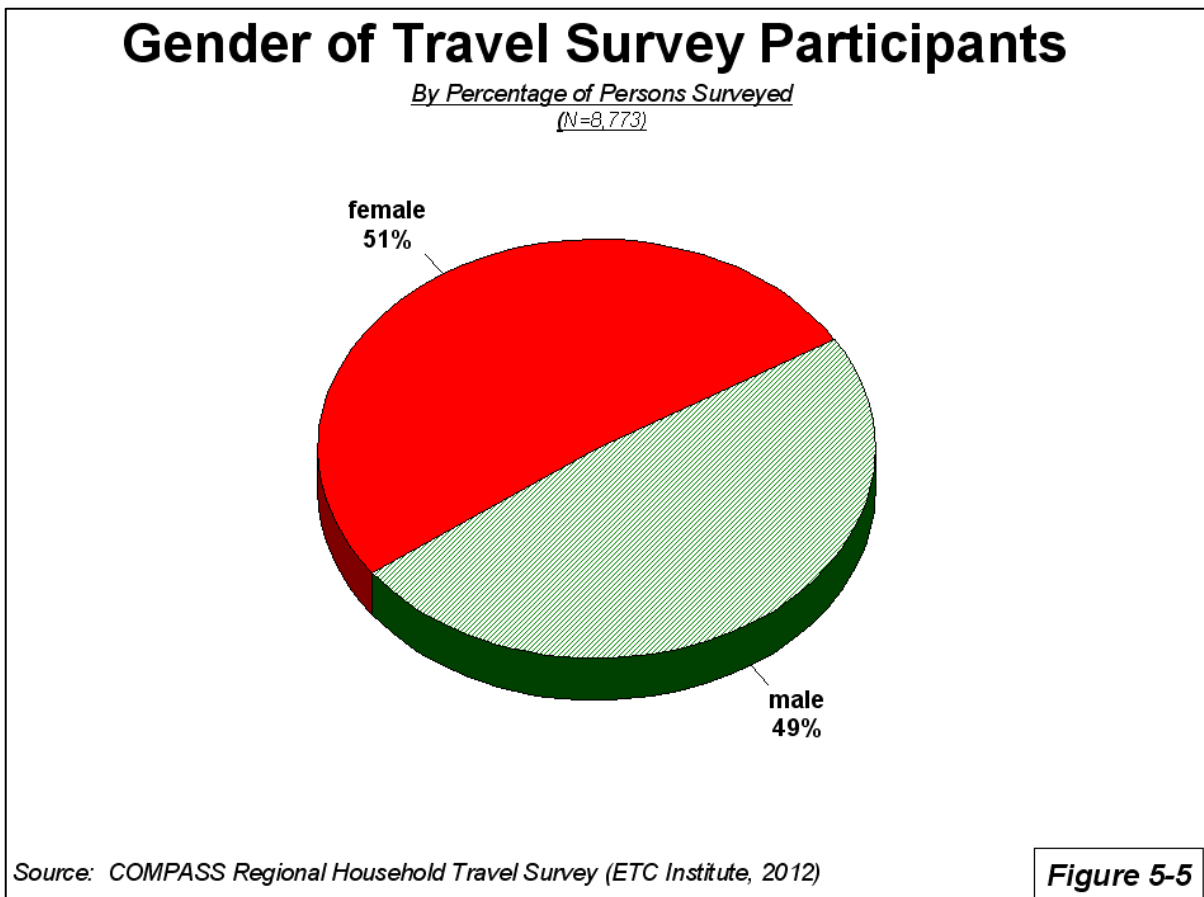


Table 5-10: Distribution of Gender for Travel Survey Participants

	County		Total
	Ada County	Canyon County	
<u>GENDER</u>			
Male	3,041 49.0%	1,234 48.0%	4,275 48.7%
Female	3,161 51.0%	1,337 52.0%	4,498 51.3%
Total	6,202 70.7%	2,571 29.3%	8,773 100.0%

Students. Figure 5-6 and Tables 5-11 and 5-12 show the breakdown of travel survey participants who identified themselves as being dependent on others for transportation.

Note: This percentage includes those are too young to drive.

- Twenty-five percent (25%) of the household travel survey participants identified themselves as dependent on others for transportation.

Figure 5-6: Percentage of Travel Survey Participants Who Were Dependent on Others for Transportation

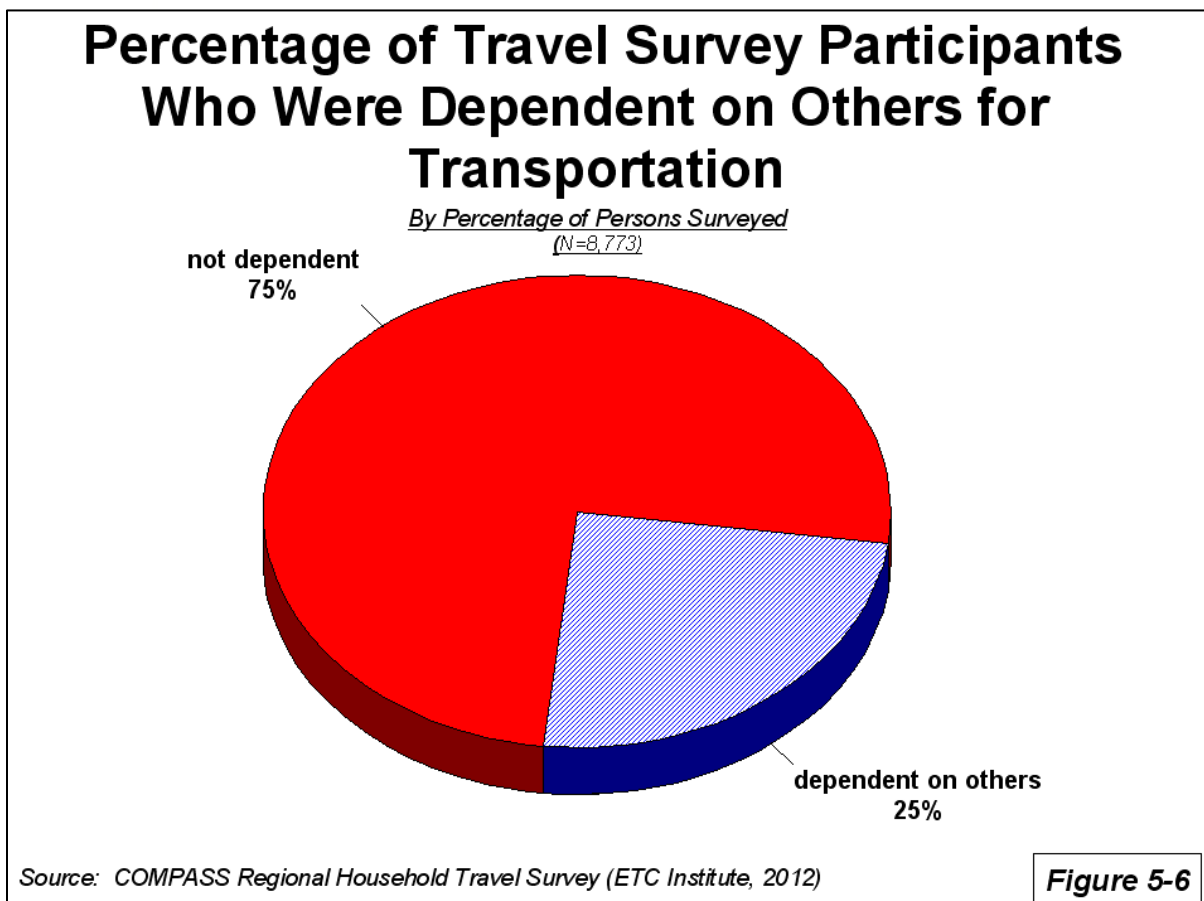


Table 5-11: Breakdown of Travel Survey Participants Who Were Dependent on Others for Transportation

	County		Total
	Ada County	Canyon County	
<u>Dependent on Others for Transportation</u>			
Yes	1,519 24.5%	638 24.8%	2,157 24.6%
No	4,683 75.5%	1,933 75.2%	6,616 75.4%
Total	6,202 70.7%	2,571 29.3%	8,773 100.0%

Table 5-12: Breakdown of Travel Survey Participants Who Were Dependent on Others for Transportation by Household Income

	Annual Household Income					Total
	under \$30k	\$30,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 or more	
<u>Dependent on Others for Transportation</u>						
Yes	344 25.5%	461 21.4%	480 22.9%	449 26.7%	423 28.3%	2,157 24.6%
No	1,005 74.5%	1,690 78.6%	1,615 77.1%	1,235 73.3%	1,071 71.7%	6,616 75.4%
Total	1,349 15.4%	2,151 24.5%	2,095 23.9%	1,684 19.2%	1,494 17.0%	8,773 100.0%

Students. Figure 5-7 and Tables 5-13 and 5-14 show the breakdown of travel survey participants who identified themselves as being of students. The involvement of students in the survey is important because of the unique transportation needs of students including reduced access to personal vehicles and dependence on other modes of transportation.

- Twenty-six percent (26%) of the household travel survey participants identified themselves as students.

Figure 5-7: Percentage of Travel Survey Participants Who Were Students

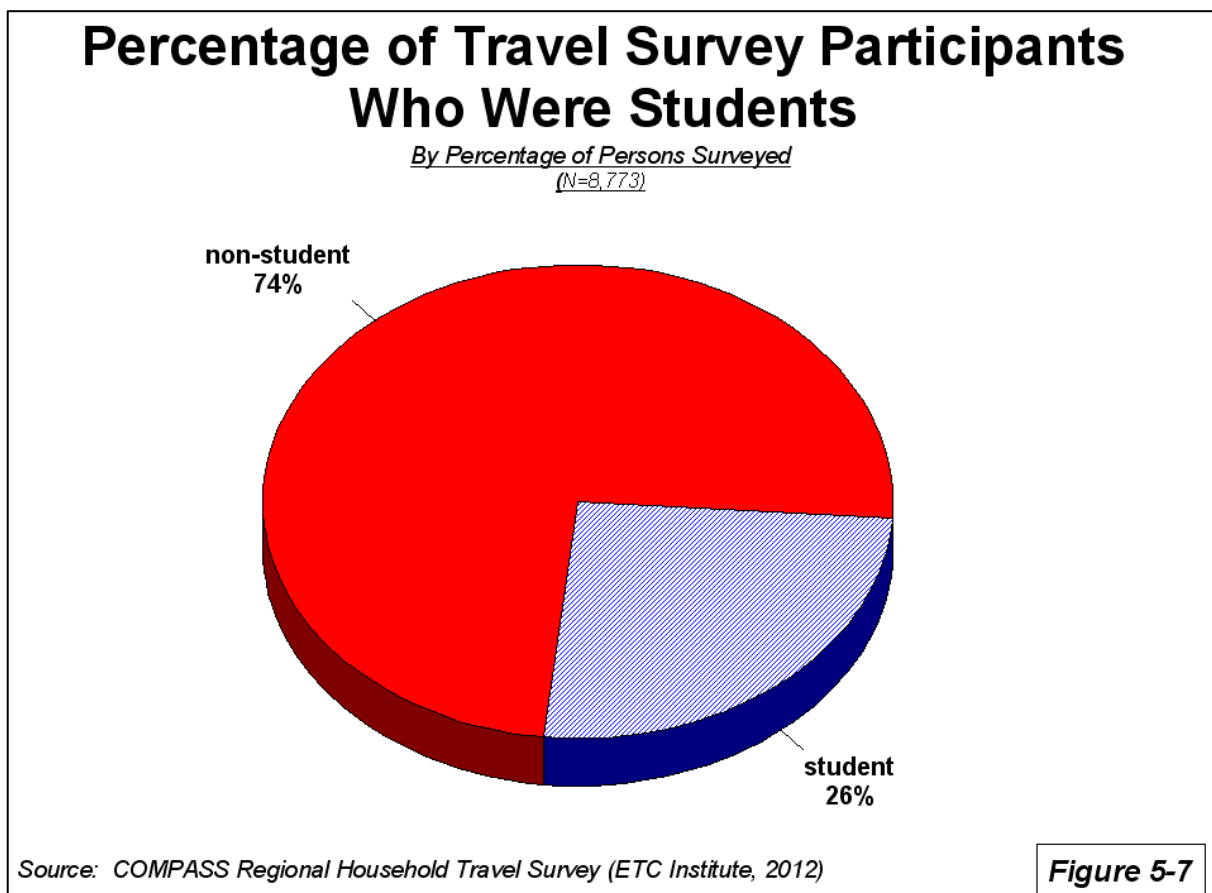


Table 5-13: Breakdown of Travel Survey Participants Who Were Students

	County		Total
	Ada County	Canyon County	
<u>Student Status</u>			
Yes	1,586 25.6%	661 25.7%	2,247 25.6%
No	4,616 74.4%	1,910 74.3%	6,526 74.4%
Total	6,202 70.7%	2,571 29.3%	8,773 100.0%

Table 5-14: Breakdown of Travel Survey Participants Who Were Students by Vehicle Availability

	Number of Household Vehicles Available				Total
	Zero vehicles	1 vehicle	2 vehicles	3 or more vehicles	
<u>Student Status</u>					
Yes	6 5.3%	199 14.1%	1,118 26.0%	924 31.3%	2,247 25.6%
No	107 94.7%	1,215 85.9%	3,177 74.0%	2,027 68.7%	6,526 74.4%
Total	113 1.3%	1,414 16.1%	4,295 49.0%	2,951 33.6%	8,773 100.0%

Employment. Figures 5-8 to 5-14 and Tables 5-15 to 5-27 include the total number (3,073) of participants who were employed.

Figure 5-8: Employment Status for Travel Survey Participants

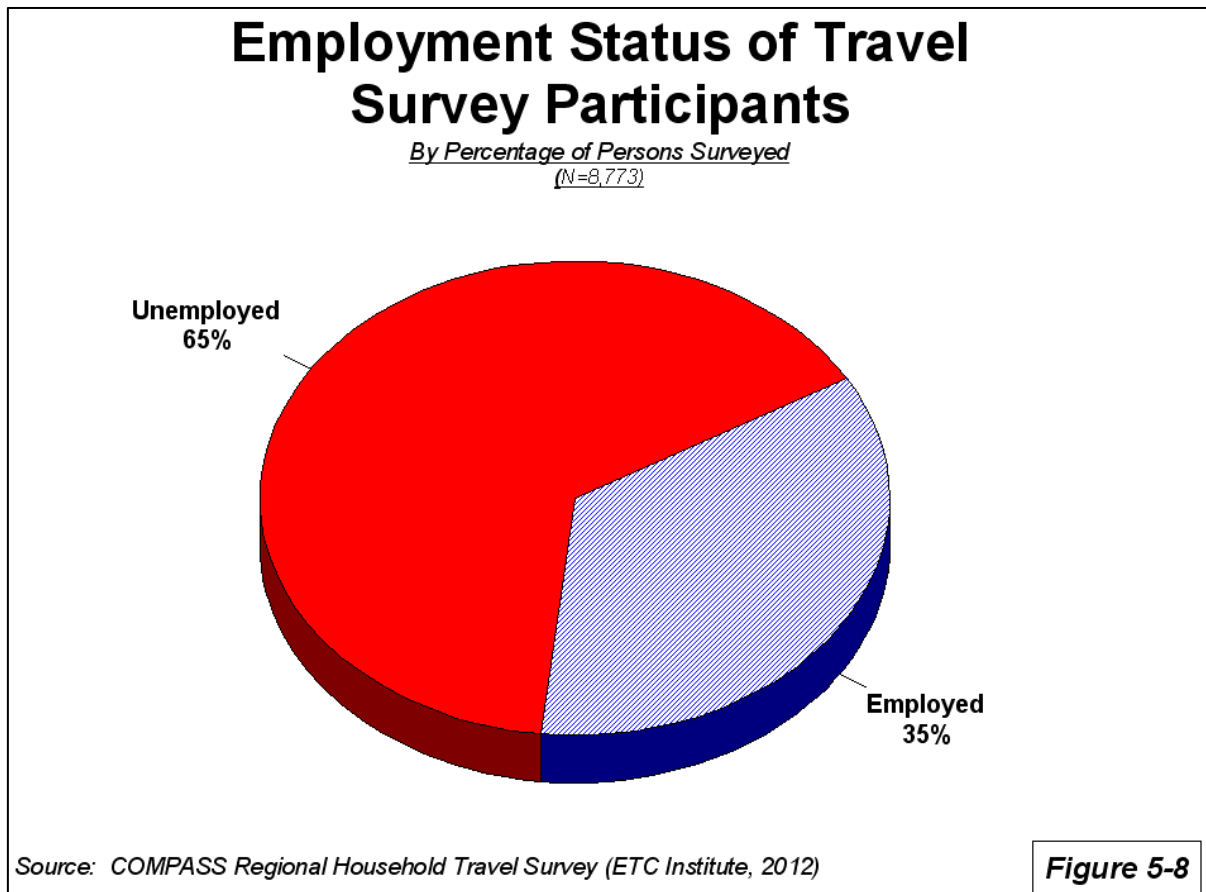


Figure 5-8

Table 5-15: Employment Status of Travel Survey Participants

	County		Total
	Ada County	Canyon County	
<u>Employed</u>			
Yes	2,266 36.5%	807 31.4%	3,073 35.0%
No	3,936 63.5%	1,764 68.6%	5,700 65.0%
Total	6,202 70.7%	2,571 29.3%	8,773 100.0%

Table 5-16: Employment Status of Travel Survey Participants by Vehicle Availability

	Number of Household Vehicles Available				Total
	Zero vehicles	1 vehicle	2 vehicles	3 or more vehicles	
<u>Employed</u>					
Yes	11 9.7%	337 23.8%	1,424 33.2%	1,301 44.1%	3,073 35.0%
No	102 90.3%	1,077 76.2%	2,871 66.8%	1,650 55.9%	5,700 65.0%
Total	113 1.3%	1,414 16.1%	4,295 49.0%	2,951 33.6%	8,773 100.0%

Figure 5-9: Top Industries of Employment for Travel Survey Participants

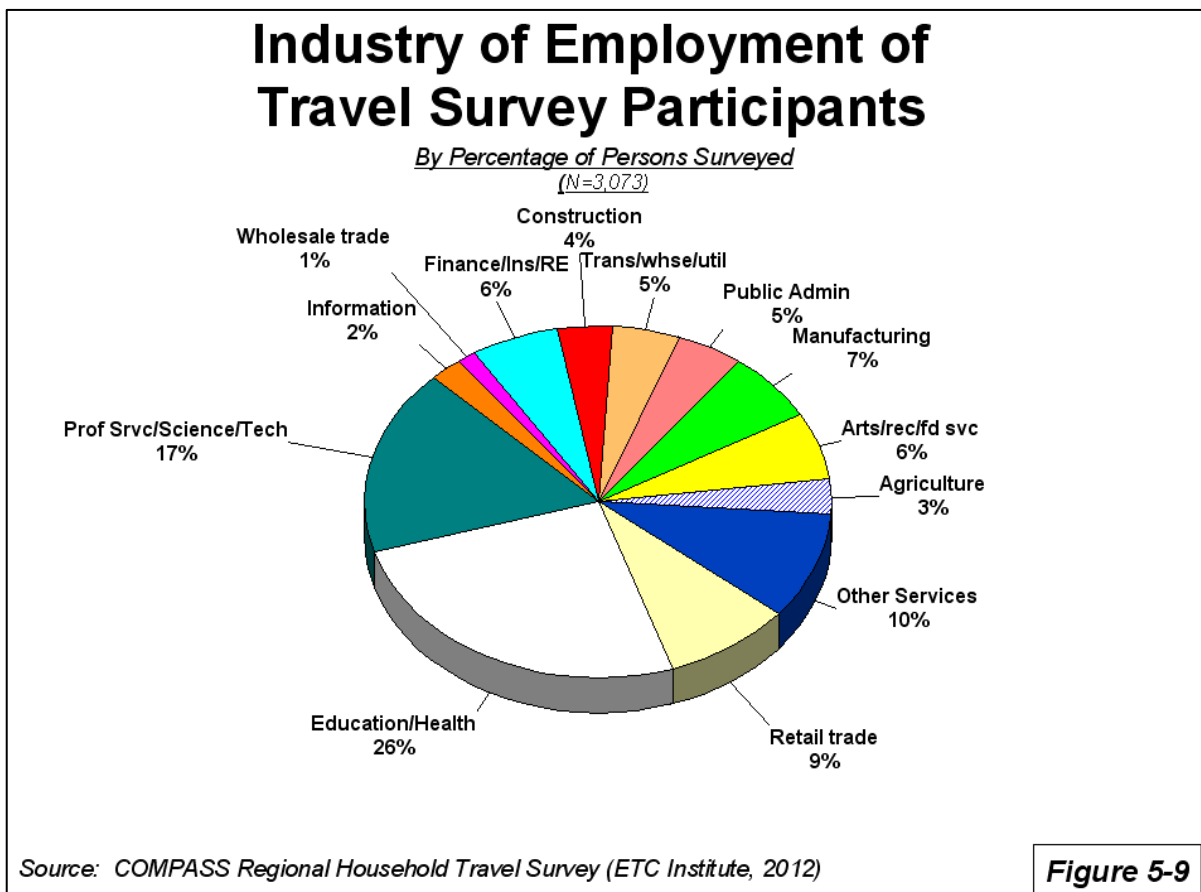


Table 5-17: Breakdown of Industries of Employment for Travel Survey Participants

Type of Industry	County		Total
	Ada County	Canyon County	
Agriculture, forestry, hunting, or mining	48 2.1%	52 6.4%	100 3.3%
Arts, entertainment, recreation, accommodation, food services	142 6.3%	47 5.8%	189 6.2%
Manufacturing	134 5.9%	67 8.3%	201 6.5%
Public administration	109 4.8%	34 4.2%	143 4.7%
Transportation, warehousing, utilities	98 4.3%	43 5.3%	141 4.6%
Construction	71 3.1%	42 5.2%	113 3.7%
Finance, insurance, real estate	154 6.8%	41 5.1%	195 6.3%
Wholesale trade	28 1.2%	11 1.4%	39 1.3%
Information	58 2.6%	12 1.5%	70 2.3%
Profess. Svcs, Scientific Srvcs, Tech Svcs	428 18.9%	94 11.6%	522 17.0%
Education, health, social svcs	580 25.6%	202 25.0%	782 25.5%
Retail trade	196 8.7%	79 9.8%	275 9.0%
Other	219 9.7%	83 10.3%	302 9.8%
Total	2,266 73.7%	807 26.3%	3,073 100.0%

Figure 5-10: Percent of Employed Survey Participants Who Work in Downtown Boise

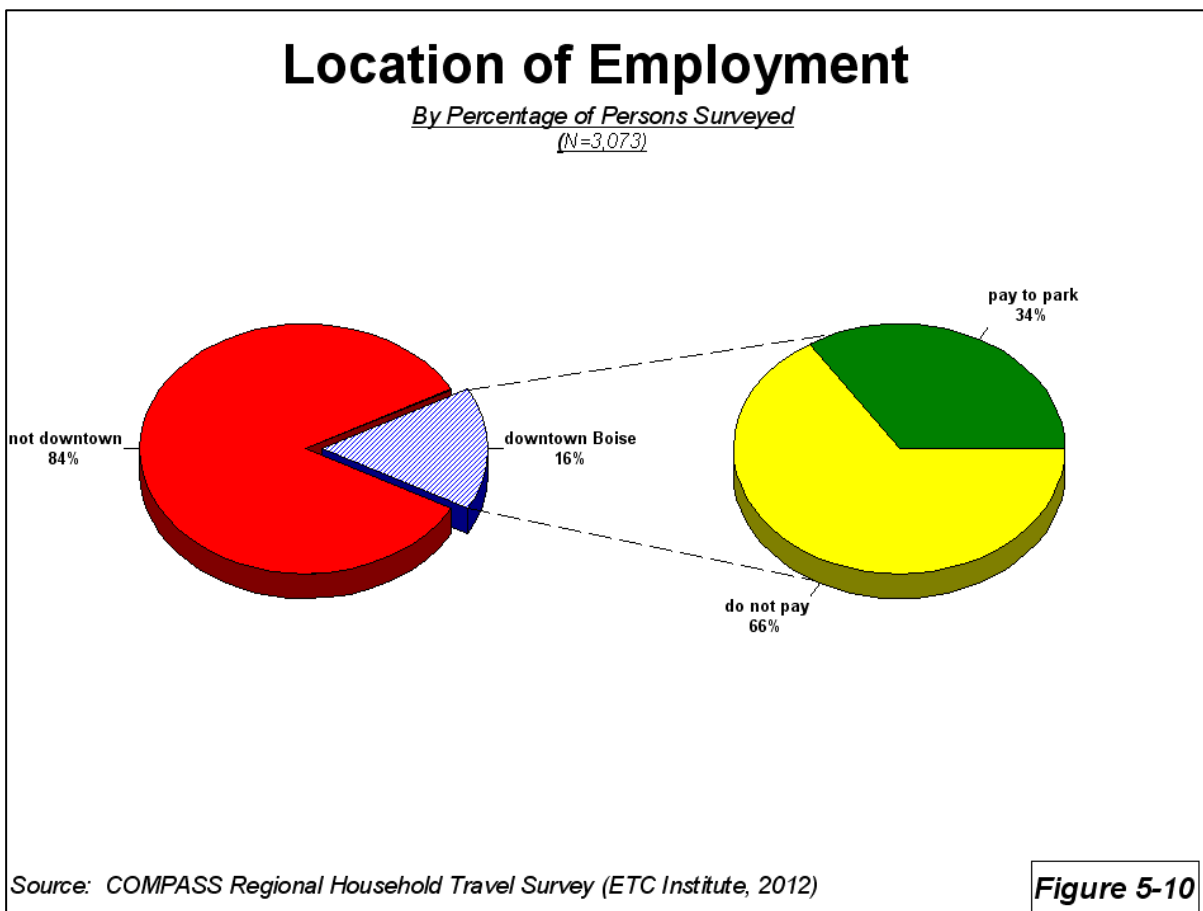


Table 5-18: Location of Employment Place

	County		Total
	Ada County	Canyon County	
<u>Employed Downtown</u>			
Downtown Boise	431 19.0%	51 6.3%	482 15.7%
Not Downtown	1,832 80.8%	756 93.7%	2,588 84.2%
Declined	3 0.1%	0 0.0%	3 0.1%
Total	2,266 73.7%	807 26.3%	3,073 100.0%

Table 5-19: Location of Employment Place by Vehicle Availability

	Number of Household Vehicles Available				Total
	Zero vehicles	1 vehicle	2 vehicles	3 or more vehicles	
<u>Employed Downtown</u>					
Downtown Boise	2 18.2%	61 18.1%	227 15.9%	192 14.8%	482 15.7%
Not Downtown	9 81.8%	276 81.9%	1,196 84.0%	1,107 85.1%	2,588 84.2%
Declined	0 0.0%	0 0.0%	1 0.1%	2 0.2%	3 0.1%
Total	11 0.4%	337 11.0%	1,424 46.3%	1,301 42.3%	3,073 100.0%

Table 5-20: Location of Employment Place by Annual Household Income

	Annual Household Income					Total
	under \$30k	\$30,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 or more	
<u>Employed Downtown</u>						
Downtown Boise	44 14.7%	69 10.5%	113 14.3%	119 18.0%	137 20.6%	482 15.7%
Not Downtown	256 85.3%	590 89.5%	674 85.5%	542 82.0%	526 79.1%	2,588 84.2%
Declined	0 0.0%	0 0.0%	1 0.1%	0 0.0%	2 0.3%	3 0.1%
Total	300 9.8%	659 21.4%	788 25.6%	661 21.5%	665 21.6%	3,073 100.0%

Table 5-21: Percentage of Employed Participants who Work Downtown and Pay to Park

	County		Total
	Ada County	Canyon County	
<u>Pay to Park</u>			
Yes	148 34.4%	14 27.5%	162 33.7%
No	278 64.7%	37 72.5%	315 65.5%
Declined	4 0.9%	0 0.0%	4 0.8%
Total	431 89.4%	51 10.6%	482 100.0%

Table 5-22: Percentage of Employed Participants who Work Downtown and Pay to Park by Household Income

	Annual Household Income					Total
	under \$30k	\$30,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 or more	
<u>Pay to Park</u>						
Yes	8 18.2%	17 24.6%	41 36.3%	42 35.3%	54 39.7%	162 33.7%
No	36 81.8%	51 73.9%	70 61.9%	77 64.7%	81 59.6%	315 65.5%
Declined	0 0.0%	1 1.4%	2 1.8%	0 0.0%	1 0.7%	4 0.8%
Total	44 9.1%	69 14.3%	113 23.4%	119 24.7%	137 28.4%	482 100.0%

Figure 5-11: Percent of Employed Survey Participants Who Work Full Time

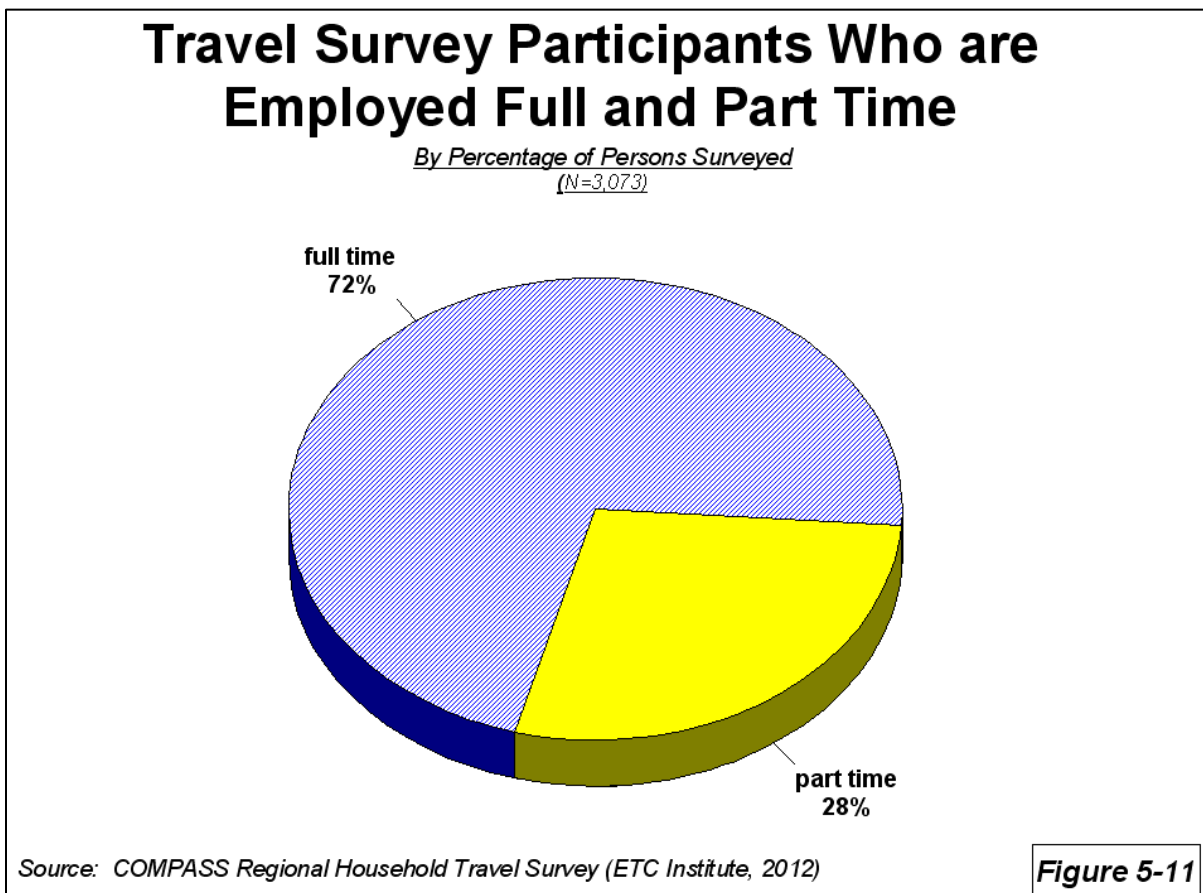


Table 5-23: Percentage of Travel Participants Who are Employed Full and Part Time

	County		Total
	Ada County	Canyon County	
<u>Type of Employment</u>			
Full time	1615 71.3%	582 72.1%	2,197 71.5%
Part time	651 28.7%	225 27.9%	876 28.5%
Total	2,266 73.7%	807 26.3%	3,073 100.0%

Figure 5-12: Percent of Employed Survey Participants Who are Self Employed

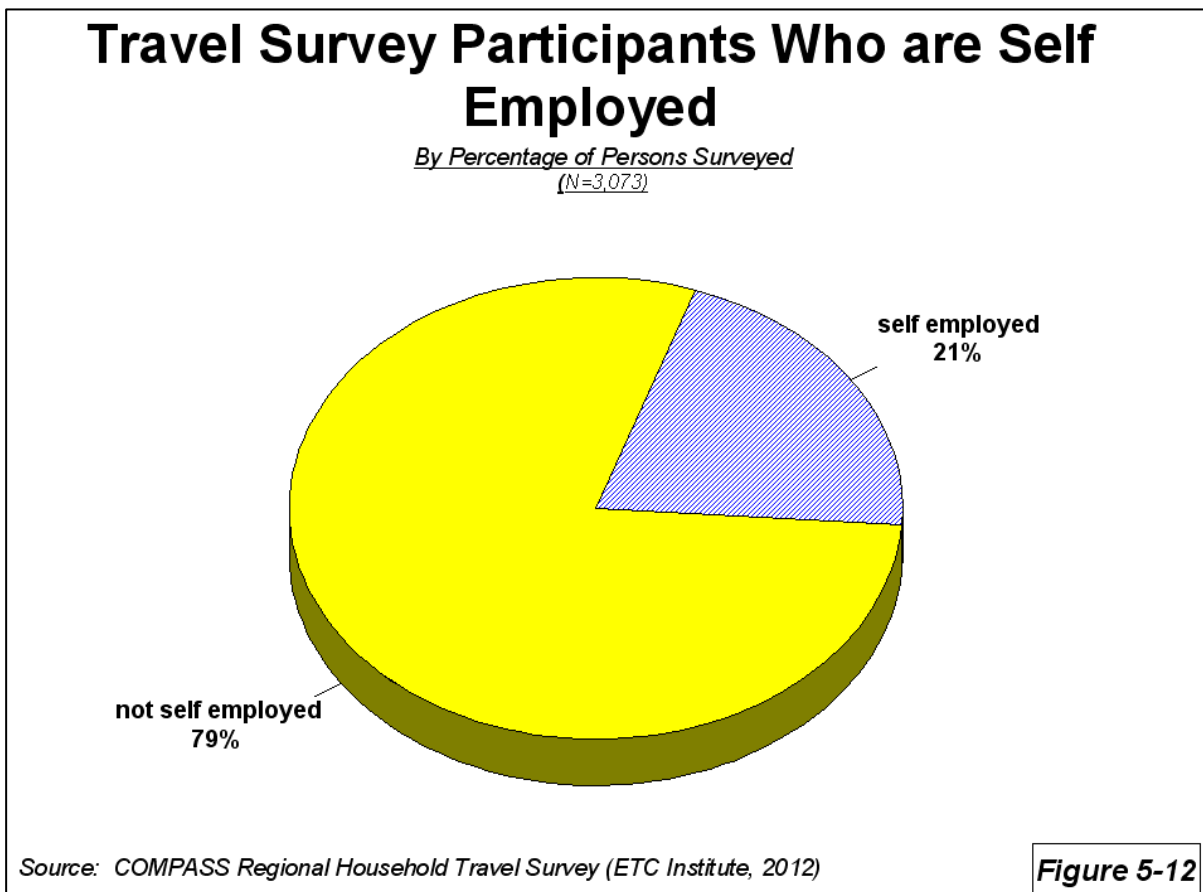


Table 5-24: Percentage of Travel Participants Who are Self Employed

	County		Total
	Ada County	Canyon County	
<u>Self Employed</u>			
Self employed	499 22.0%	163 20.2%	662 21.5%
Not self employed	1,767 78.0%	644 79.8%	2,411 78.5%
Total	2,266 73.7%	807 26.3%	3,073 100.0%

Figure 5-13: Percent of Employed Survey Participants with More than One Job

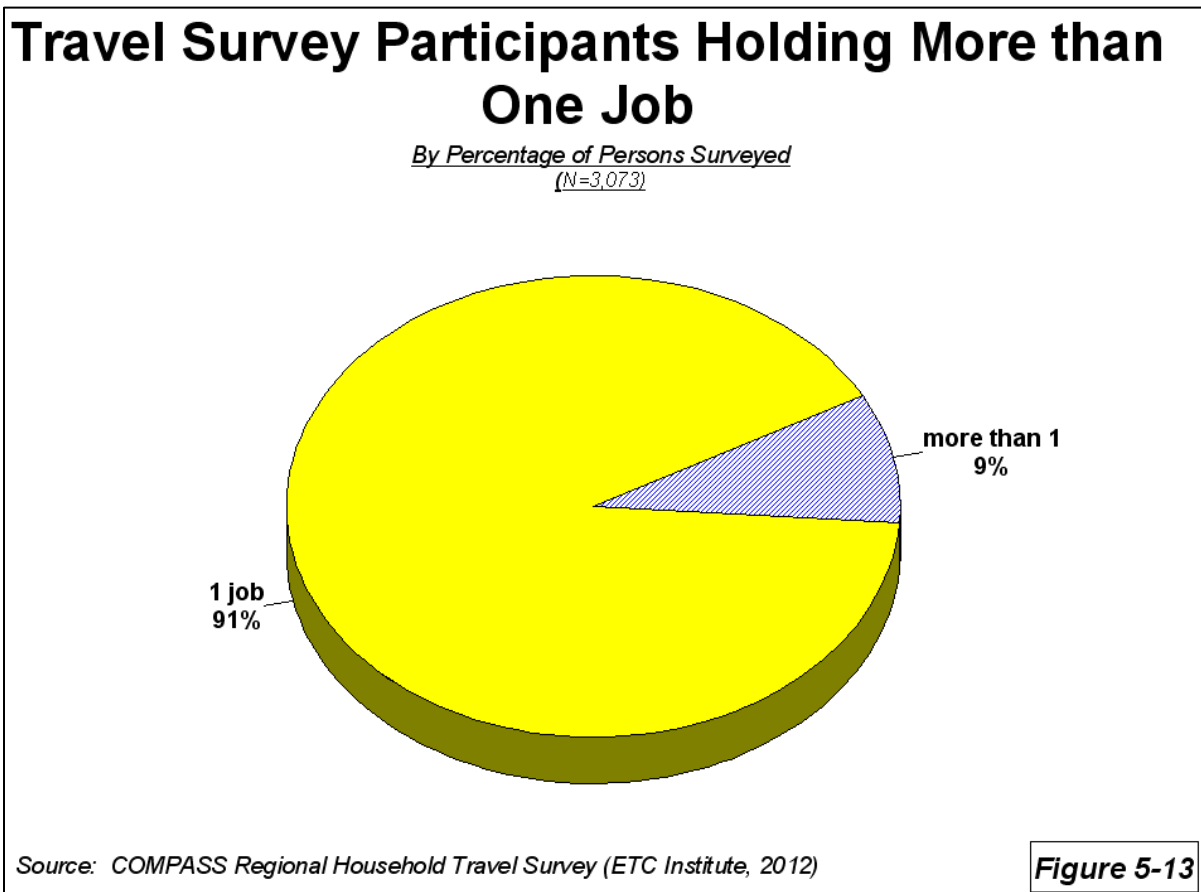


Table 5-25 Distribution of Employed Survey Participants with More Than One Job

	County		Total
	Ada County	Canyon County	
<u>Number of Jobs</u>			
Held more than 1 job	199 8.8%	77 9.5%	276 9.0%
Had 1 job only	2,067 91.2%	730 90.5%	2,797 91.0%
Total	2,266 73.7%	807 26.3%	3,073 100.0%

Telecommute From Home. Figure 5-14 and Tables 5-26 and 5-27 show the breakdown of survey participants that telecommute from home. This is important as working from home reduces the demand for travel and an increase in working from home over time is one way to reduce the need for transportation capacity increases.

- Sixteen percent (16%) of employed travel survey participants telecommute from home.

Figure 5-14: Percent of Employed Survey Participants who Telecommute from Home

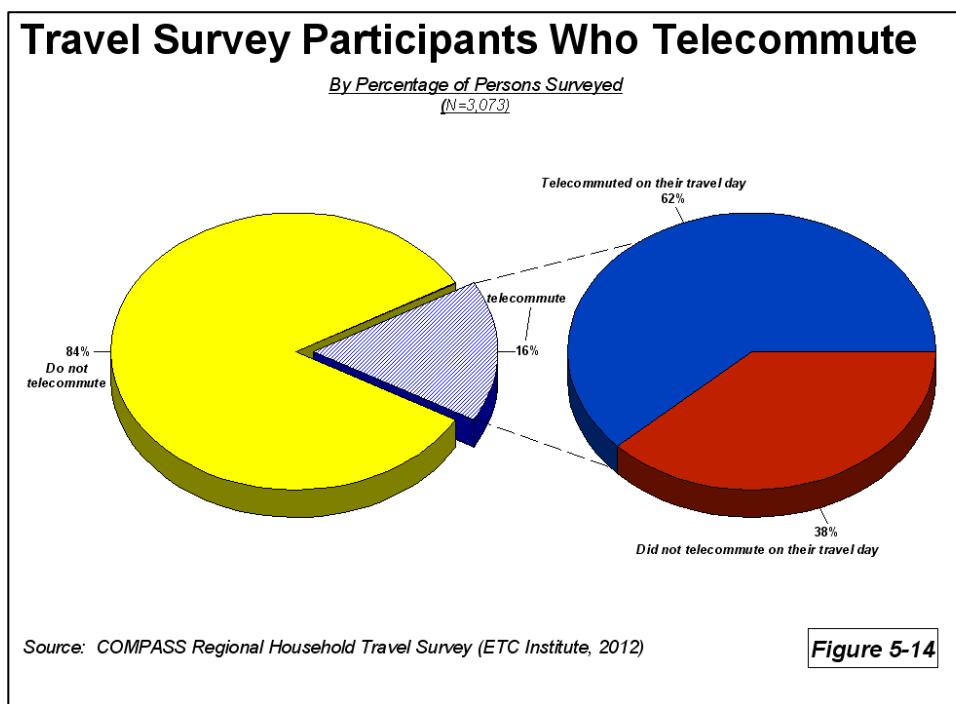


Table 5-26: Percentage of Employed Participants that Telecommute (or work at home for your employer regularly instead of going to an office or other location to work)

	County		Total
	Ada County	Canyon County	
<u>Telecommute Status</u>			
Telecommute	399 17.6%	103 12.8%	502 16.3%
Do not Telecommute	1,867 82.4%	704 87.2%	2,571 83.7%
Total	2,266 73.7%	807 26.3%	3,073 100.0%

Table 5-27: Percentage of Employed Participants that Telecommute who actually Telecommuted on their Travel Day

	County		Total
	Ada County	Canyon County	
<u>Telecommuted on Travel Day</u>			
Yes	246 61.8%	64 62.1%	310 61.9%
No	152 38.2%	39 37.9%	191 38.1%
Total	399 79.5%	103 20.5%	502 100.0%

CHAPTER 6:

Analysis of Household Travel Survey Data (Including Trip Generation)

Introduction

This memorandum summarizes the COMPASS household travel survey data, using the January 31, 2012 delivered data sets. This analysis was performed by processing the three Excel files: Households, Persons, and Trips using the R statistical programming package. The 3,350 household records in the household data file, the 8,773 person records in person data file and the 40,891 trip records in the trip data file were joined together. The data were tabulated across one or more dimensions to check item response, potential bias in the data, internal consistency across the data items and against select Census data, and the logic and reasonableness of travel information reported.

Overall, the quality of the data was very good and the data were mostly consistent across the household, person, and trip data files. The following sections describe the findings of this analysis.

Household Data Expansion

The households were expanded to match targets by geography, household size, and number of vehicles. The target data used for expansion came from the 2006-2008 American Community Survey Census Transportation Planning Products (ACS CTPP). The target data were summarized by the household size and vehicles dimensions, for Boise, Caldwell, Meridian, Nampa, remainder of Ada County, and remainder of Canyon County. The count of households surveyed by those dimensions were also prepared, and then a factor to expand the household observations to the ACS observed number of households was developed by dividing the ACS number of households by the surveyed number of households. There were a handful of cases where there were no household survey observations to compare to the targets, which resulted in the total for the survey area being 0.08% less than the target total.

The calculated expansion factors were then applied to each record in the household file, as well as the corresponding persons and trips. All summaries in this document use the expanded values, unless noted.

Household Data File

Table 1 shows the number of records (observations) and households in each of the data files. As shown below, there are 3,350 households in all files. There are 40,891 records in the trips file, which represent 32,118 trips.

Table 1 Number of Records and Households in Each File

File	Record Count	Households	Expanded	ACS 06-08 (used for expansion)	ACS 5-year 2010 (used for comparisons)
Household	3,350	3,350	202,235	204,510	207,592
Person	8,773	3,350	540,652		563,441
Trip	40,891	3,350	2,478,886		

It is important that the main survey data set be geographically representative of the region, especially for estimating trip distribution models. The data expansion used the 'Major Sampling Area' field in the household survey data to calculate the expansion factors to match ACS targets. Table 2 shows that the expanded survey is better representative of the geographic distribution of households than the observed data.

Table 2 Households by Sampling Area

	Observed	% of Total	Expanded	% of Total	ACS Target	% of Total
Ada County	201	6%	35,260	17%	36,365	18%
Boise	1523	45%	84,080	42%	84,525	41%
Caldwell	274	8%	12,330	6%	12,390	6%
Canyon County	202	6%	20,715	10%	20,980	10%
Meridian	699	21%	21,905	11%	22,020	11%
Nampa	451	13%	27,945	14%	28,230	14%
Total	3,350	100%	202,235	100%	204,510	100%

Table 3 shows the distribution of households by size as compared to the Census ACS 5 year summaries for Ada and Canyon counties. The distributions are quite similar.

Table 3 Households by Size

HH Size	Expanded Households	Percent	ACS 5-year Percent
1 Person Household	47,485	23%	24%
2 Person Household	69,025	34%	35%
3 Person Household	33,230	16%	16%
4 or more Person Household	52,495	26%	26% (4+)
Total	202,235	100%	100%

Table 4 shows the households by household size by city. This table was created to see if there is any bias in housing size by city. The table should reveal that the household size percentages by city closely match the city's percent of total in Table 2. The ranges seem reasonable. Boise is the largest of the cities, and has the largest proportion of all the observations, but a larger share of the smaller household sizes. That compares to Nampa, which has much more representation of the larger households. This shows that the survey is fairly geographically representative of the region. There are some unusual patterns for some of the cities, which are likely due to the low sample rates in those areas.

Table 4 Households by Size and City

Household Size / City	1 Person Household	2 Person Household	3 Person Household	4 or more Person Household
BOISE	55%	46%	41%	36%
CALDWELL	9%	9%	9%	9%
EAGLE	6%	5%	9%	8%
GARDEN CITY	2%	2%	2%	1%
GREENLEAF	0%	1%	0%	1%
KUNA	3%	3%	6%	2%
MELBA	1%	0%	2%	1%
MERIDIAN	5%	8%	7%	8%
MIDDLETON	1%	1%	1%	2%
NAMPA	13%	16%	16%	21%
PARMA	1%	1%	1%	1%
STAR	5%	7%	6%	9%
WILDER	1%	1%	1%	1%
Total	100%	100%	100%	100%

Table 5 shows households by auto ownership. A plurality of the households (43%) own 2 autos, and 2-person households make up a plurality of the population, so this is a reasonable result.

Table 5 Households by Auto Ownership

Auto Ownership	Expanded Households	%	ACS 5-year Percent
Zero Auto Household	7,360	4%	4%
1 Auto Household	56,985	28%	28%
2 Auto Household	87,240	43%	42%
3 or more Auto Household	50,650	25%	25%
Total	202,235	100%	100%

Table 6 shows the household size by auto ownership and Table 7 shows the Census data. The majority of 0 and 1-auto households have only 1 person. It is most likely that 2-auto households have 2 persons, and 3+-auto households have 4 or more persons. About 15% of households have more vehicles than persons.

Table 6 Households by Size and Auto Ownership

Household Size / Auto Ownership	Zero Auto Households	1 Auto Households	2 Auto Households	3 or more Auto Households
1 Person Household	77%	57%	9%	2%
2 Person Household	16%	22%	46%	29%
3 Person Household	1%	11%	16%	26%
4 or more Person Household	6%	10%	28%	43%

Table 7 Households by Size and Auto Ownership, ACS 5-year Percent

Household Size / Auto Ownership	Zero Auto Households	1 Auto Households	2 Auto Households	3 or more Auto Households
1 Person Household	65%	57%	9%	3%
2 Person Household	18%	23%	46%	31%
3 Person Household	6%	10%	15%	25%
4 or more Person Household	11%	10%	29%	41%

Table 8 shows total household trips made by all members of the household. The average trip rate before adjusting for unreported trips using the GPS survey data is 9.59, which is within the expected range. Each additional person in a household adds between 3 and 4 trips, which is close to the single person trip rate of 3.64.

Table 8 Trip Rate by Household Size

Household Size	Trip Rate
1 Person Household	3.64
2 Person Household	6.85
3 Person Household	9.74
4 or more Person Household	18.47
Average	9.59

Person Data File

The age of the sampled persons appears acceptable as all age classes were very well represented in the data set as shown in Table 9. The data compares well to the ACS groups, overall, although there are differences, mostly in the groups that have low observation numbers.

Table 9 Persons by Age

Age, ACS Groups	Expanded Persons	Percent	ACS 5 year Target	Percent
Under 5 years	23,281	4%	45,603	8%
5 to 9 years	45,434	8%	45,061	8%
10 to 14 years	48,255	9%	43,537	8%
15 to 19 years	37,029	7%	40,247	7%
20 to 24 years	14,190	3%	37,421	7%
25 to 34 years	85,747	16%	82,819	15%
35 to 44 years	74,521	14%	79,535	14%
45 to 54 years	78,642	15%	75,557	13%
55 to 59 years	38,665	7%	31,189	6%
60 to 64 years	32,887	6%	25,573	5%
65 to 74 years	42,355	8%	30,825	5%
75 to 84 years	17,063	3%	17,929	3%
85 years and over	2,584	0%	8,145	1%
Total	540,652	100%	563,441	100%

Table 10 shows the gender for the sampled persons, which was also unbiased.

Table 10 Persons by Gender

Gender	Observations	Percent	ACS 5-year Percent
Male	262,388	49%	50%
Female	278,264	51%	50%
Total	540,652	100%	100%

Table 11 shows there were 25% of persons who depend on others for transportation. Of the persons reported as 'Dependent,' 79% are under the age of 18 and 97% are unemployed. This is a reasonable result.

Table 11 Persons Dependent for Transportation

Dependent	Observations	Percent
Yes	136,724	25%
No	403,853	75%
Total	540,577	100%

A small number of persons reported being both students and employed as shown in

Table 12. Further investigation revealed that most of these persons are employed part-time. They could also be part-time students, although that cannot be determined from the survey.

Table 12 Persons by Employment and Student Status

Employed/ Students	Yes - Student	No - Student	Total
Yes	12,474	177,195	189,669
No	130,996	219,939	350,934
Total	143,470	397,134	540,604

Table 13 shows employed persons by industry type. The most observations come from Retail Trade and Public Administration industries.

Table 13 Employed Persons by Employment Industry

Industry	Observations	Percent
Agriculture	9,051	5%
Arts	11,479	6%
Construction	12,629	7%
Education	12,807	7%
Finance	8,301	4%
Information	8,893	5%
Manufacturing	7,019	4%
Other	11,706	6%
Other Services	2,834	1%
Professional Services	4,476	2%
Public Administration	30,269	16%
Retail Trade	48,163	25%
Transportation	16,354	9%
Wholesale Trade	5,609	3%
Total	189,591	100%

Trip Data File

Table 14 shows the number of trips reported in the trip data file. The distribution of number of trips on the day is reasonable. The first record (trip_ID = 0) for each person shows the location of the first trip start location on the survey day. Those records were not included in these summaries.

Table 14 below shows that approximately 3% of the individuals made ten or more trips on their survey day. While 10 trips or more per day by a single individual is high, the low percentage of individuals completing this number of trips is still acceptable.

Table 14 Number of Trips

Number of Trips	Observations	Percent
1	461,155	24%
2	457,749	24%
3	301,375	16%
4	248,496	13%
5	159,052	8%
6	108,645	6%
7	71,072	4%
8	47,235	2%
9	27,818	1%
10	17,388	1%
11	11,378	1%
12	7,645	0%
13	5,574	0%
14	3,807	0%
15+	9,845	1%
Total	1,938,234	100%

Table 15 shows trips by start and end place types. The distribution of start and end places appears reasonable. There are a number of trips between “Home” and “Private Residence.” A few of these records were checked below to ensure that the respondent was not reporting travel to their personal home as travel to a private residence.

Table 15 Number of Trips

Start/ End	Home	Work	School/ college	Store/ retail	Restaurant	Medical/ Dental	Recreation	Bank/ other	Private Residence	Place of worship	Airport	Bus Stop	Other	Total
	1,979	101,762	186,708	111,538	29,600	40,811	42,261	31,886	64,069	26,130	15,289	4,486	27,264	683,782
Home	85,605	2,387	7,414	16,634	8,179	4,233	2,697	6,209	5,819	507	375	366	4,479	144,905
Work	163,077	9,809	21,923	10,346	5,949	4,752	5,500	3,784	16,204	1,594	6,524	91	2,341	251,894
School/college	151,865	7,811	7,177	82,909	14,095	7,338	3,580	14,875	12,836	1,793	120	415	4,481	309,296
Store/retail	39,181	8,310	3,363	12,432	1,819	1,358	1,867	2,753	6,246	1,955	92	616	1,939	81,931
Restaurant	28,561	1,783	1,682	18,704	5,809	5,943	1,030	2,951	3,107	475		35	782	70,862
Medical/Dental	40,775	2,017	2,011	8,202	2,520	1,334	2,557	858	3,660	269	35		233	64,472
Recreation	25,970	3,459	1,078	21,133	6,202	1,607	1,182	6,827	4,480	651	347	48	1,237	74,221
Bank/other	79,926	2,915	7,350	16,299	4,658	2,172	2,732	2,540	18,733	1,891		184	1,471	140,873
Private Residence	24,705	381	2,312	2,834	823	584	424	487	2,416	665			626	36,257
Place of worship	12,009	599	8,560	969	52		99	144	296		1,739		85	24,552
Bus Stop	3,798	36	256	519	664	240	51	215	150			500	483	6,912
Airport	25,573	3,308	2,368	6,869	1,689	842	720	956	2,481	326	85	463	2,523	48,202
Other	683,024	144,577	252,202	309,387	82,060	71,215	64,700	74,486	140,497	36,257	24,606	7,204	47,945	1,938,159
Total														

Table 16 shows the start and end place of trips, along with the trip beginning location (first trip start location) and final destination location (last trip end destination). Most of the trips begin and end at home as expected. About 3% start the day somewhere other than home. Fewer than 2% end the day somewhere else. The records that do not begin and end at home could be evaluated individually to determine if they are trips out of the area, or if the first or last trip of the day was not reported correctly. However, they are a very small percentage of the total.

Table 16 Start and End Places of Trips

Start Place	Beginning of the Day	Trip Start	Trip End	Final Destination
Your Home	522,251	1,206,033	683,024	452,750
Your Workplace	3,414	148,320	144,577	2,468
School/college	234	252,128	252,202	342
Store/retail	197	309,493	309,387	288
Restaurant	0	81,931	82,060	129
Medical/Dental	220	71,082	71,215	404
Recreation	45	64,517	64,700	228
Bank/other	81	74,302	74,486	346
Private Residence	2,912	143,784	140,497	2,341
Place of Worship	0	36,257	36,257	53
Bus Stop	0	24,552	24,606	54
Airport	192	7,179	7,204	409
Other	10,147	58,349	47,945	1,322
Total	539,693	2,477,927	1,938,160	461,134

Table 17 shows trips by mode. As expected, almost all of the trips were by auto, either drove alone or shared ride. Since the area has a small public transportation system, it is expected that the bus share would be low.

Table 17 Trips by Travel Mode

Mode	Observations	Percent
Drove		
Private	1,216,367	63%
Passenger	486,095	25%
Bicycle	28,973	1%
School Bus	93,688	5%
Public Bus	4,518	0%
Walked	89,542	5%
Taxi	1,670	0%
Motorcycle	2,927	0%
Other	14,366	1%
Total	1,938,146	100%

Table 18 shows the auto occupancy (number of people traveling together) by travel mode.

Table 18 Trips by Travel Mode and Number of Persons Traveling Together

Mode/Occupancy	1 person	2 persons	3 persons	4 persons
Drove Private	834,248	267,042	72,836	42,131
Passenger	629	235,655	129,655	119,825
Motorcycle	2,381	0	0	0

For the auto modes (drove private and passenger), the average auto occupancy is 1.89.

In order to analyze trips by trip purpose, trips were coded with some basic trip purposes.

Table 19 shows the logic to code trip purpose based on the “Start Place Type”, “Destination Place Type” and “Purpose” fields.

Table 19 Recoded Trip Purpose

Start Place Type	Destination Place Type	Purpose	Trip Purpose	Description
Your Home	<AnyPlaceNotHOME>	Work/Related	HBW	Home-based-work
<AnyPlaceNotHOME>	Your Home	Return Home	HBW (if previous Purpose = HBW)	Home-based-work
Your Workplace	Your Home	Return Home	HBW	Home-based-work
Your Home	School	Attend School	HBS	Home-based-school
School/college	Your Home	Return Home	HBS (if previous Purpose == Attend School)	Home-based-school
School/college	Your Home	Return Home	HBO (if previous Purpose != Attend School)	Home-based-other
Your Home	Store/retail	Grocery Store	HBS	Home-based-shop
Your Home	Store/retail	Quick Stop	HBS	Home-based-shop
Your Home	Store/retail	Shopping Non-Gro	HBS	Home-based-shop
Store/retail	Your Home	Return Home	HBS	Home-based-shop
Store/retail	Your Home	Return Home	HBS	Home-based-shop
Store/retail	Your Home	Return Home	HBS	Home-based-shop
Your Home	<AllDestinationTypes>	<AnyOtherPurpose ThanAbove>	HBO	Home-based-other
<AllDestinationTypes>	Your Home	Return Home	HBO (if previous Purpose != <AnyOtherPurpose ThanAbove>)	Home-based-other
<AnyPlaceNotHOME>	<AnyPlaceNotHOME>	<AnyOtherPurpose ThanAbove>	NHB	Non-home-based

Table 20 shows the total number of trips by purpose. The distribution is reasonable. Purposes used for this analysis are slightly different from the purposes used for previous work by COMPASS. Previous work contained a 'Home Based Social' purpose, which was combined with 'Home-Based Other' for this work. This work also separates Non-Home-Based Work from Non-Home-Based Other, whereas those two purposes were combined previously.

Table 20 Trips by Trip Purpose

Trip Purpose	Observations	Percent
Home-Based Other	565,353	29%
Home-Based Shop	263,574	14%
Home-Based School	287,827	15%
Home-Based Work	187,841	10%
Non-home-based Work	99,776	5%
Non-home-based Other	473,942	24%
Drop Off	59,772	3%
Total	1,938,085	100%

Table 21 shows trips by purpose, time, trip duration and distance. Duration is measured as the time from the departure until the next departure. Therefore, it captures the travel time as well as the amount of time spent at the stop location. Distance is measured as Euclidean, or 'straight-line', distance between points. As expected, work trips have the longest distance and duration. The other purposes display reasonable results as well.

Table 21 Average Travel Time, Duration, and Distance by Purpose

Purpose	Trip Time (Minutes)	Trip Duration (Minutes)	Travel Distance (Miles)
Home-Based Other	17.14	68.53	4.66
Home-Based Shop	14.77	53.45	4.56
Home-Based School	16.62	196.68	2.97
Home-Based Work	23.09	250.65	7.28
Non-home-based Work	18.14	155.55	5.06
None-home-based Other	15.43	67.82	4.47
Drop Off	11.29	20.64	2.41
Average	16.79	105.99	4.56

The summary of county to county flows in Table 22 reveals that most of the trips are within Ada County or within Canyon County. In terms of inter-county travel, about 115,000 trips (or six percent of trips) go between Ada and Canyon counties.

Table 22 County to County Flows

	Ada	Canyon
Ada	1,327,861	57,054
Canyon	56,694	449,094

Trip Generation Rate Cross Classification

Trip rates by household size, number of vehicles, county, and trip purpose were calculated and compared to COMPASS' existing model trip rates. Due to the low number of observed trips in some of the cross classification segments, some of the rates were calculated by grouping (or aggregating) trips across segments, including county. TABLE 24 shows the calculated trip rates by the dimensions of county of residence, household size, number of vehicles, and trip purpose. Rates were prepared for Ada and Canyon County separately as is currently done in the model. A comparison of the travel diary reported trips against the GPS recorded trips showed that the average household under-reported 10% of their trips, with the majority of those being non-mandatory trips (i.e. not for work or school). Therefore, the calculated non-mandatory trip rates were scaled up by 10%. For the model implementation, it is recommended to keep the GPS trip under-reporting factor separate from the trip generation rates in order to better document the trip generation calculations.

The table is formatted to show the processing work behind the rates. Shaded cells represent dimensions where there were fewer than 30 observed trips. The cells with a darker border were combined across household vehicle categories to achieve a larger sample size, and a more reasonable rate pattern. Values that are in bold text came from the combined county rate, or were hand-adjusted to a reasonable value, based on other rates in the table. There are some cells with no rate, because there were no surveyed trips in that dimension. Additionally, the raw 0-vehicle rates were suspicious in many cases due to low observations, so most of the 0-vehicle rates were set to 0 due to a lack of data.

Table 23: Trip Rates by Household Size, Vehicles, and Purpose for Ada County

Households	Vehicles	HBO	HBS	HBS _c	HBS _o	HBW	NHB
1	0	0.92	0.57	0.02	0.12	0.00	0.77
	1	1.25	0.70	0.05	0.36	0.32	1.51
	2	1.37	0.83	0.12	0.36	0.42	1.54
	3	1.37	0.87	0.12	0.48	0.98	2.27
	4	1.91	1.91	0.12	1.91	0.98	2.27
2	0	2.01	0.59	0.00	0.00	0.00	0.00
	1	2.07	1.23	0.06	0.47	0.54	2.06
	2	2.13	1.29	0.06	0.52	0.85	2.46
	3	2.13	1.29	0.06	0.52	1.26	2.65
	4	2.13	1.29	0.00	0.52	1.49	4.71
3	0	0.00	0.00	0.00	0.00	0.00	0.00
	1	3.06	0.73	0.95	0.47	0.55	2.18
	2	3.06	1.16	0.95	0.47	1.55	3.29
	3	2.65	1.26	0.82	0.59	1.96	3.68
	4	2.65	1.67	0.82	0.59	2.16	5.14
4	0	0.00	0.00	0.00	0.00	0.00	0.00
	1	7.42	1.09	3.12	1.06	1.35	3.54
	2	7.42	1.52	3.51	1.06	1.64	5.38
	3	6.10	1.67	3.51	1.47	2.32	7.11
	4	6.10	2.61	3.51	1.86	2.68	7.11

Table 24: Trip Rates by Household Size, Vehicles, and Purpose for Canyon County

Households	Vehicles	HBO	HBS	HBS _c	HBS _o	HBW	NHB
1	0	0.46	0.58	0.00	0.18	0.04	0.59
	1	0.83	0.68	0.00	0.42	0.19	1.30
	2	1.06	0.71	0.00	0.48	0.24	1.83
	3	1.06	0.87	0.00	0.82	0.67	1.83
	4	1.06	1.91	0.00	0.82	0.67	1.83
2	0	0.73	0.00	0.00	0.00	0.22	0.73
	1	1.78	1.08	0.10	0.32	0.31	1.70
	2	1.82	1.32	0.08	0.49	0.90	2.61
	3	1.82	1.38	0.00	0.76	1.18	2.69
	4	1.82	1.38	0.00	0.76	1.18	2.95
3	0	0.00	0.00	0.00	0.00	0.00	0.00
	1	2.57	0.44	0.78	0.54	0.63	2.38
	2	2.57	0.84	0.78	0.54	1.52	3.05
	3	2.49	1.29	0.84	0.88	1.66	3.55
	4	2.68	2.07	0.84	1.29	1.66	4.80
4	0	0.00	0.00	0.00	0.00	0.00	0.00
	1	4.97	1.37	3.05	0.67	0.89	2.92
	2	4.97	1.56	3.28	1.16	1.72	4.84
	3	5.57	1.84	3.28	1.16	2.32	5.05
	4	5.57	1.85	3.28	1.30	2.83	5.05

The following series of plots compare the new calculated rates to COMPASS' existing trip rates. The labels for each data point are formatted to contain household size, number of vehicles, and a count of trips in that dimension. Although there are differences between them, the general pattern is similar, although the new rates show a greater range across household sizes. The Home-Based Other and Home-Based Shop trip rates are similar, except for the size 3 and 4+ and 0 vehicle and 1 vehicle classes. As mentioned above, the 0 vehicle classes have so few observations that the estimated trip rates are unreliable. The new Home-Based School trips are also quite low in some categories. This may be due to a bias in the surveyed households toward larger households and/or older households. Small households (less than three persons) likely have few students, so these households would have a school trip rate closer to zero. The Home-Based Social trip rates are generally lower than the previous rates, but show a good range within household size categories. The Home-Based Work trips are also a bit lower than the previous Home-Based Work rates, but they too show a good range of rates within household size categories. The Non-Home-Based rates show a similar range within household size categories, with lower rates for less vehicle households as compared to the previous rates.

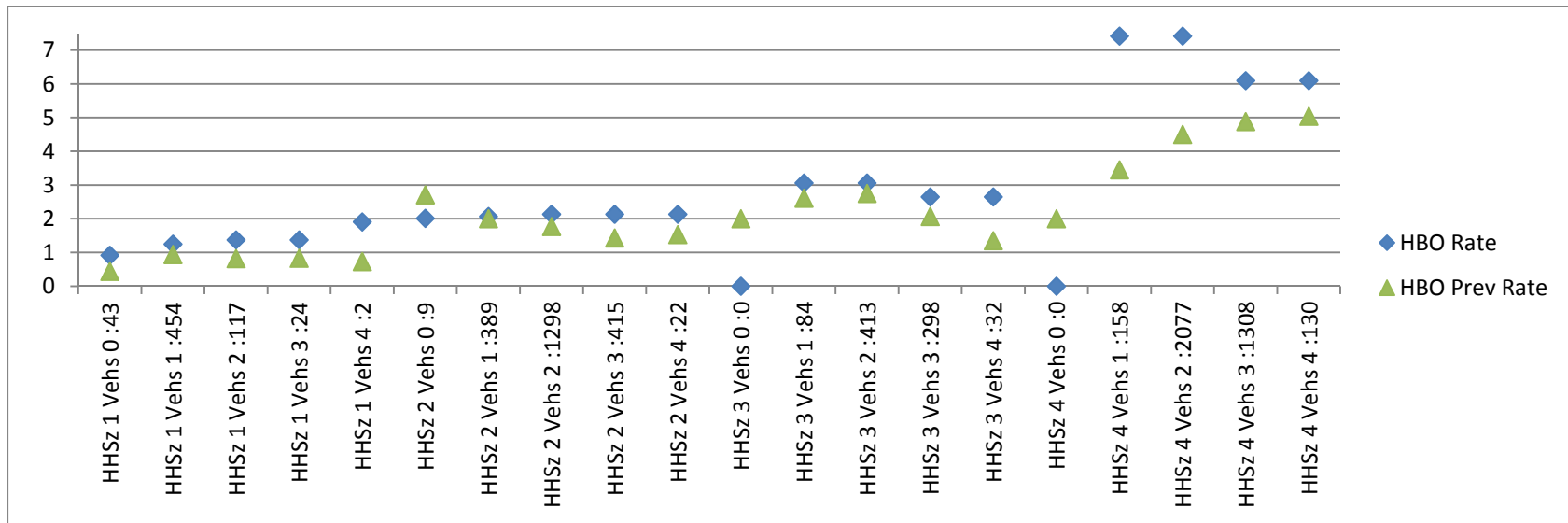


Figure 1: Ada County, Home Based Other Rates

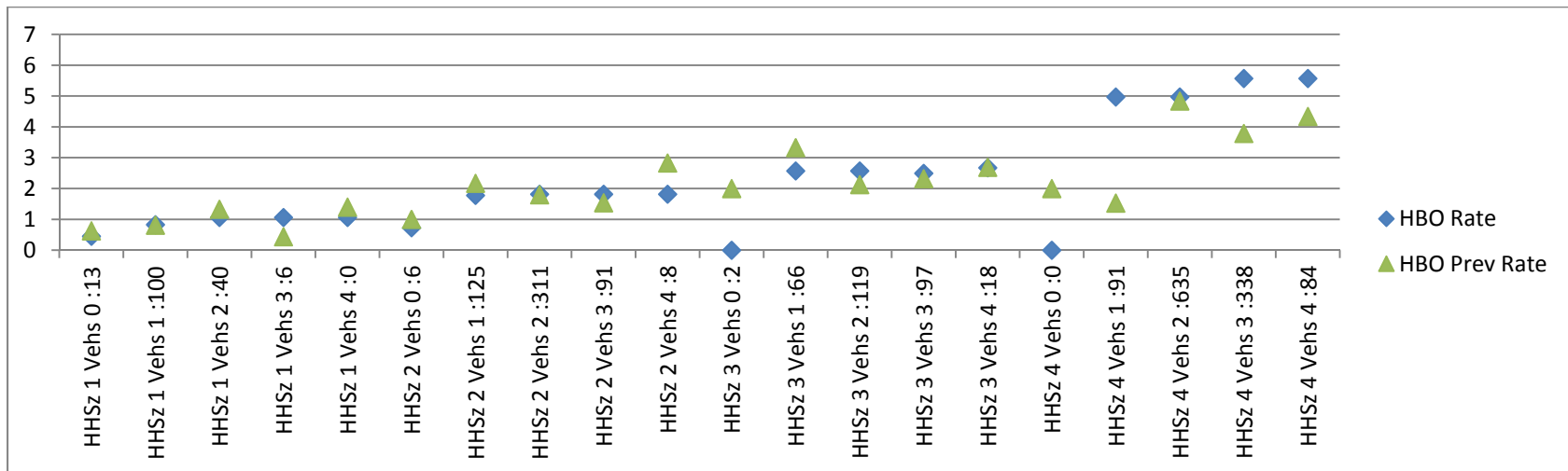


Figure 2: Canyon County, Home Based Other Rates

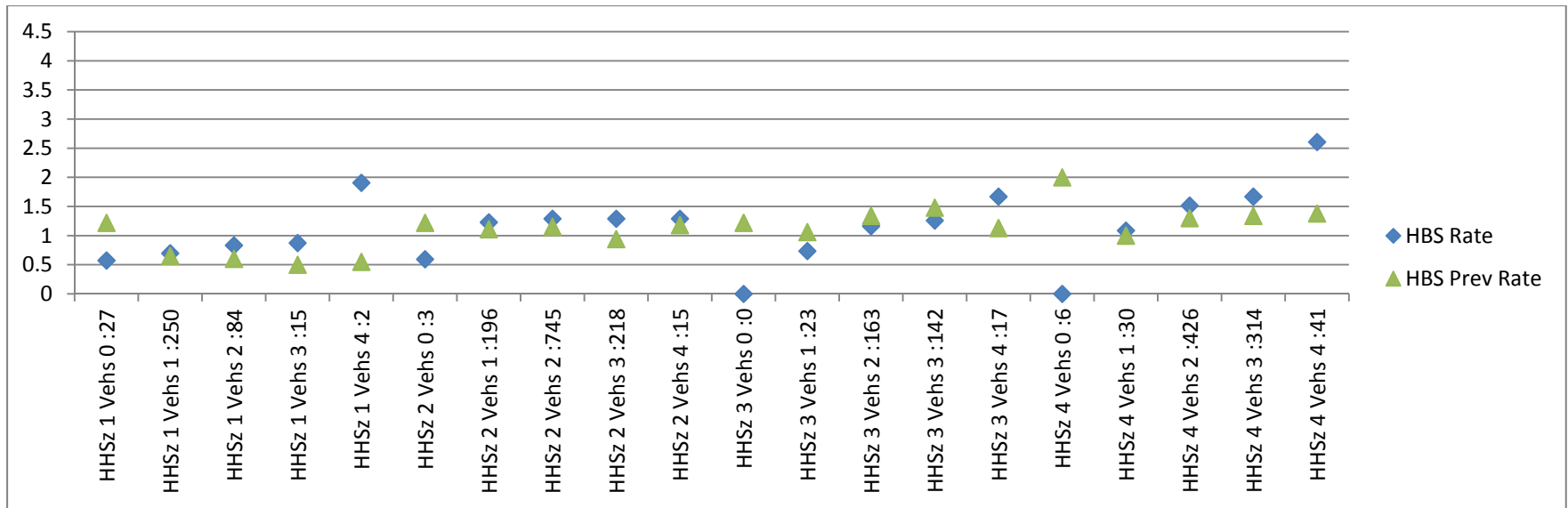


Figure 3: Ada County Home Based Shop Rates

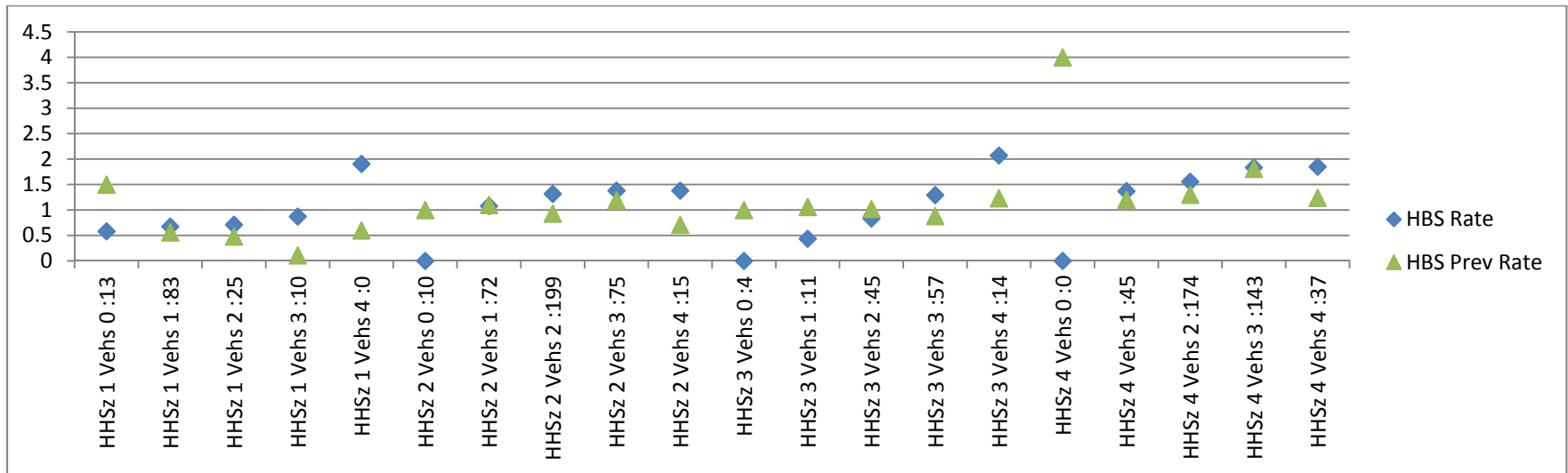


Figure 4: Canyon County Home Based Shop Rates

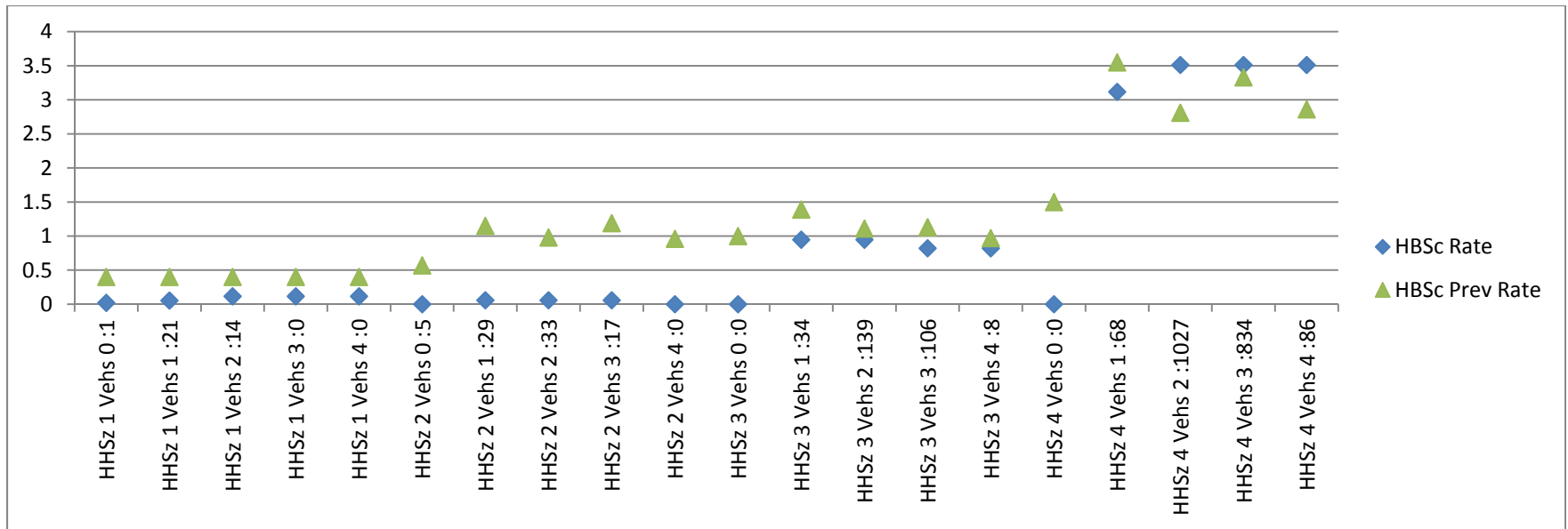


Figure 5: Ada County Home Based School Rates

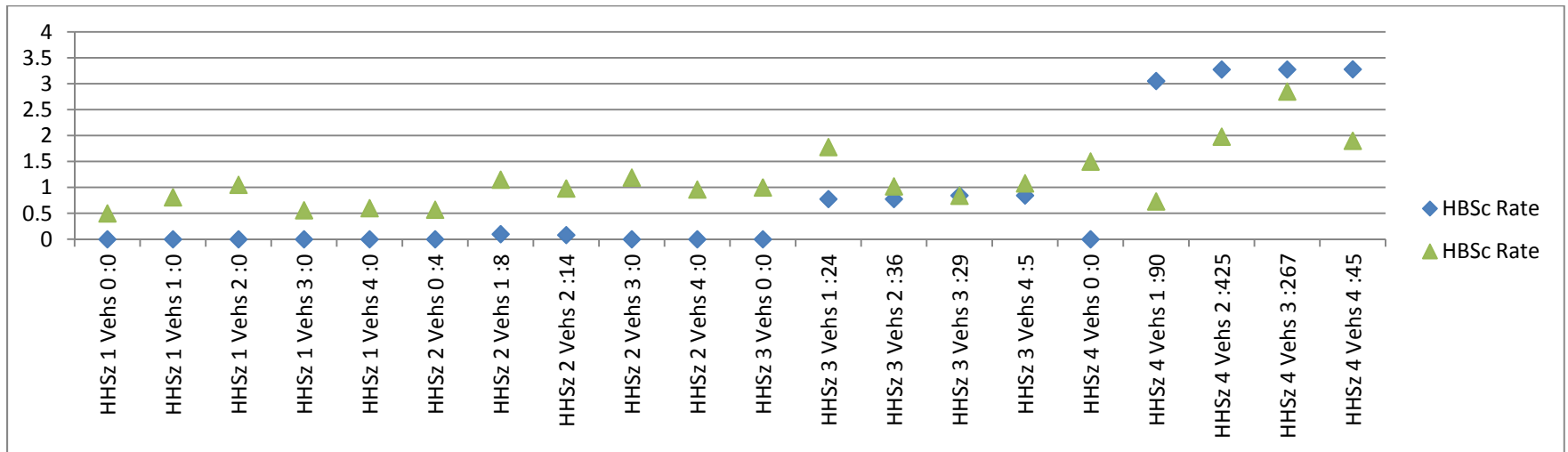


Figure 6: Canyon County Home Based School Rates

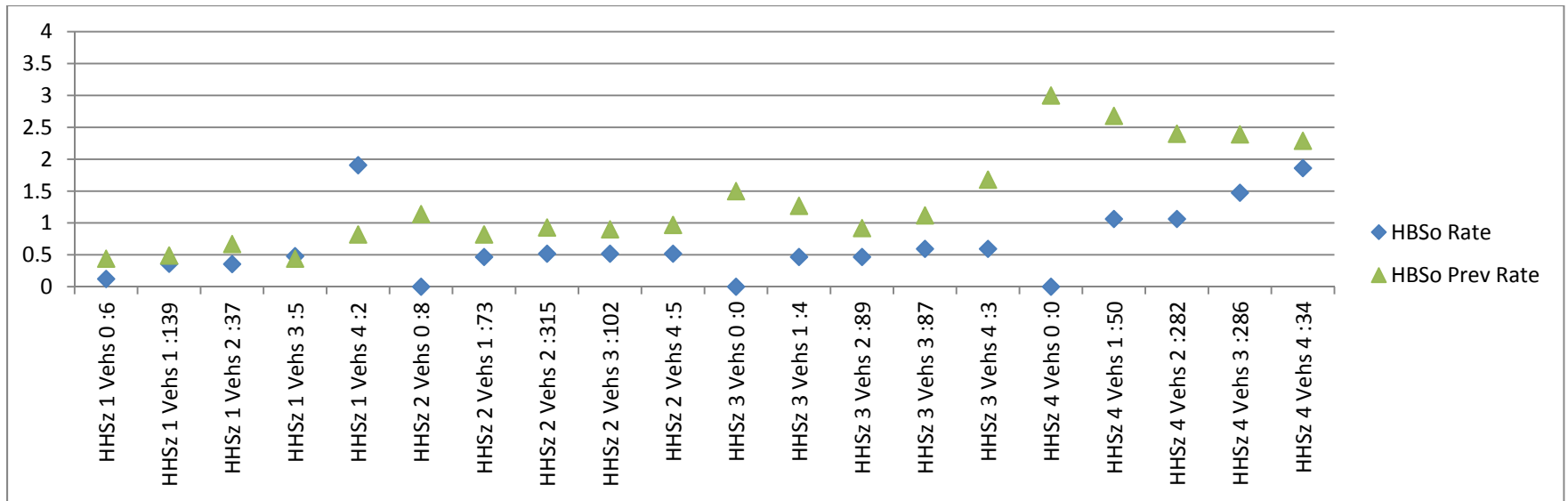


Figure 7: Ada County Home Based Social Rates

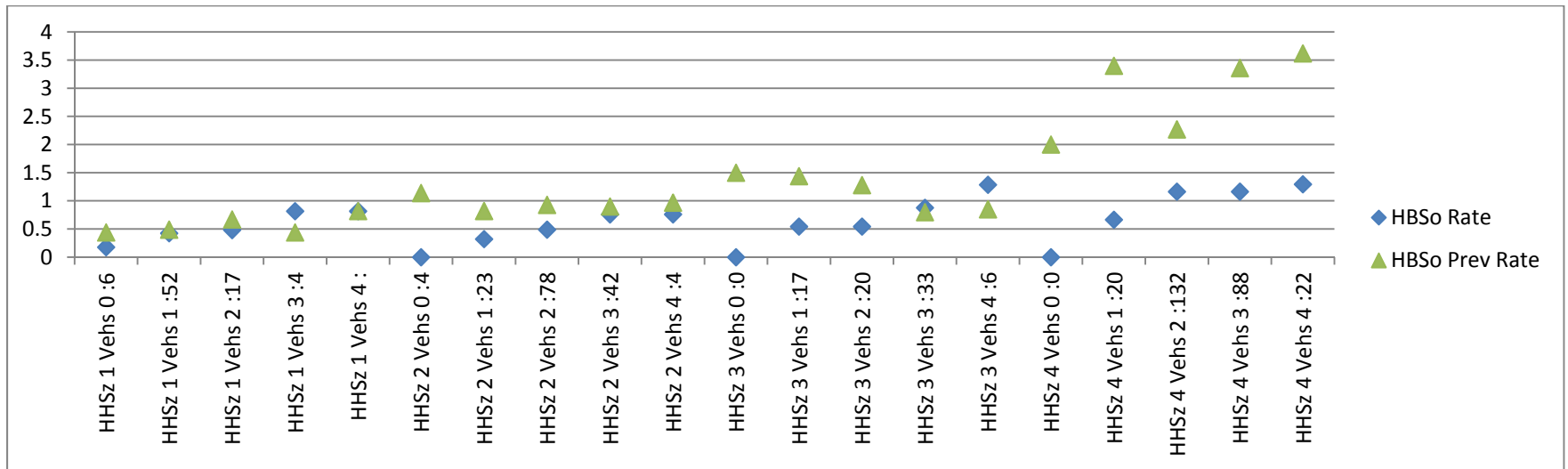


Figure 8: Canyon County Home Based Social Rates

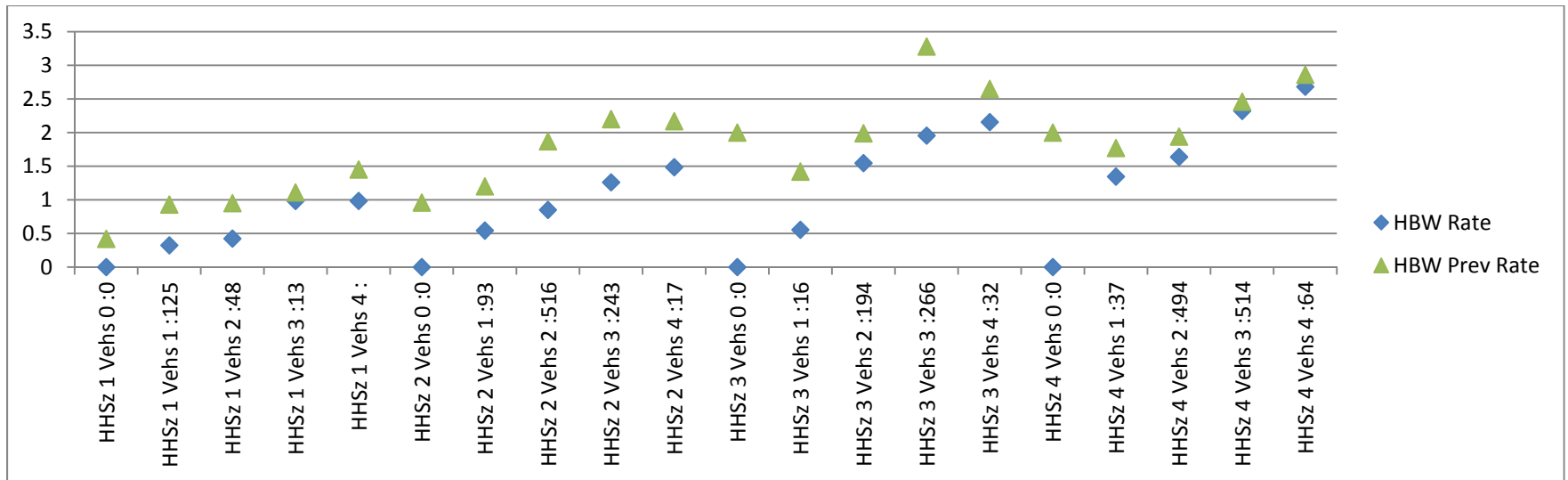


Figure 9: Ada County Home Based Work Rates

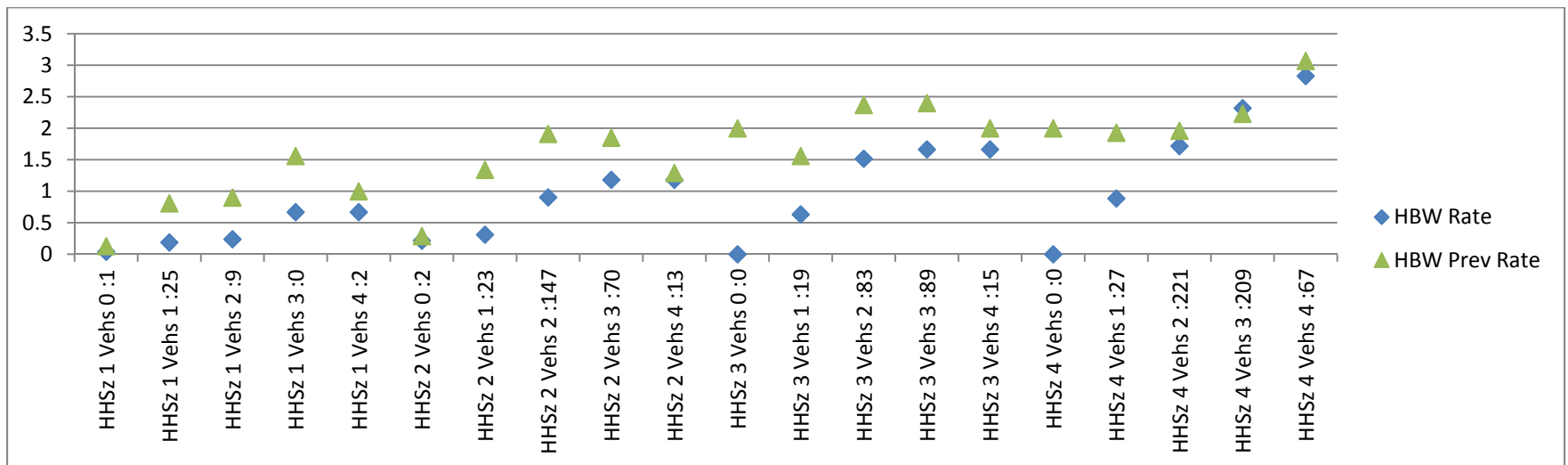


Figure 10: Canyon County Home Based Work Rates

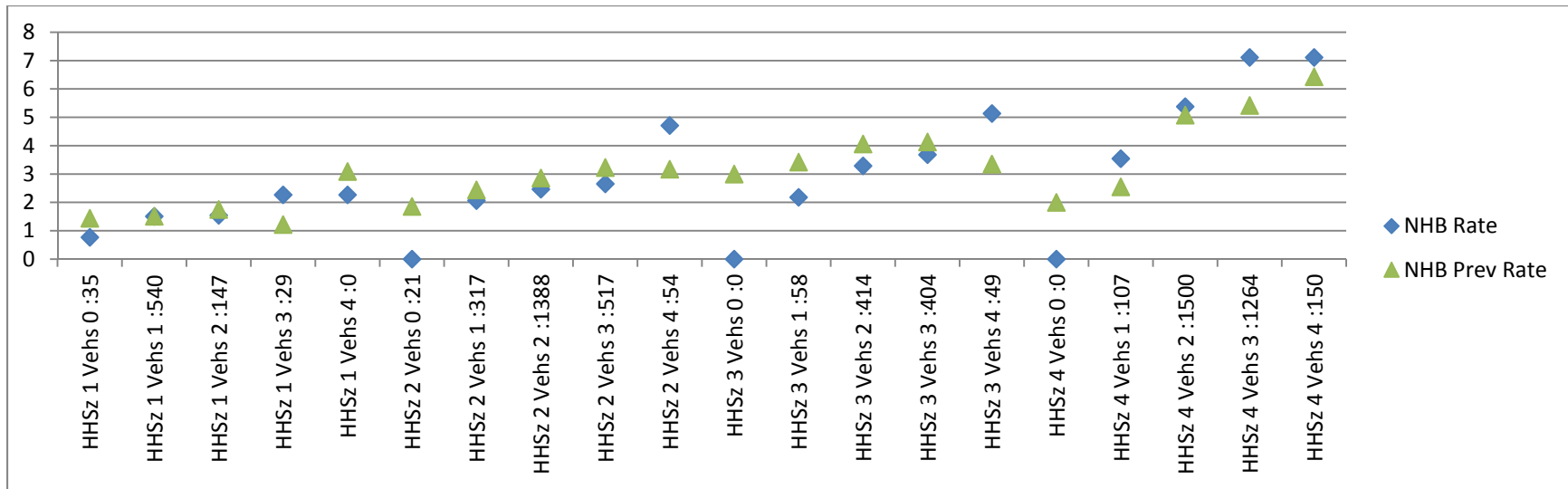


Figure 11: Ada County Non Home Based Rates

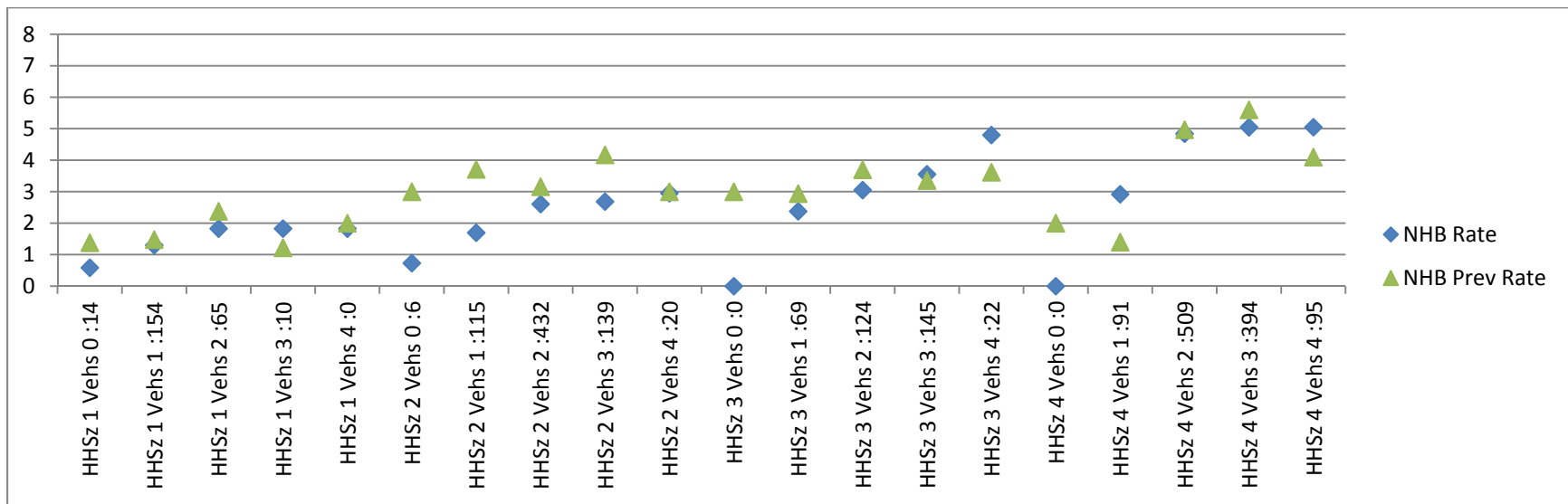


Figure 12: Canyon County Non Home Based Rates

The rates by household size and vehicles, across purposes and geographies, were compared to NCHRP Report 365 trip generate rates. This comparison shows that the COMPASS calculated rates compare well to the NCHRP rates, with the exception of the large household sizes, where the calculated rate is higher. This difference may be reflecting a higher average household size in this region than the national average, which would result in more trips in the large household category. There is also an outlier for two person households with 0 vehicles, but that classification has few representative data points in the COMPASS survey, which may explain that difference.

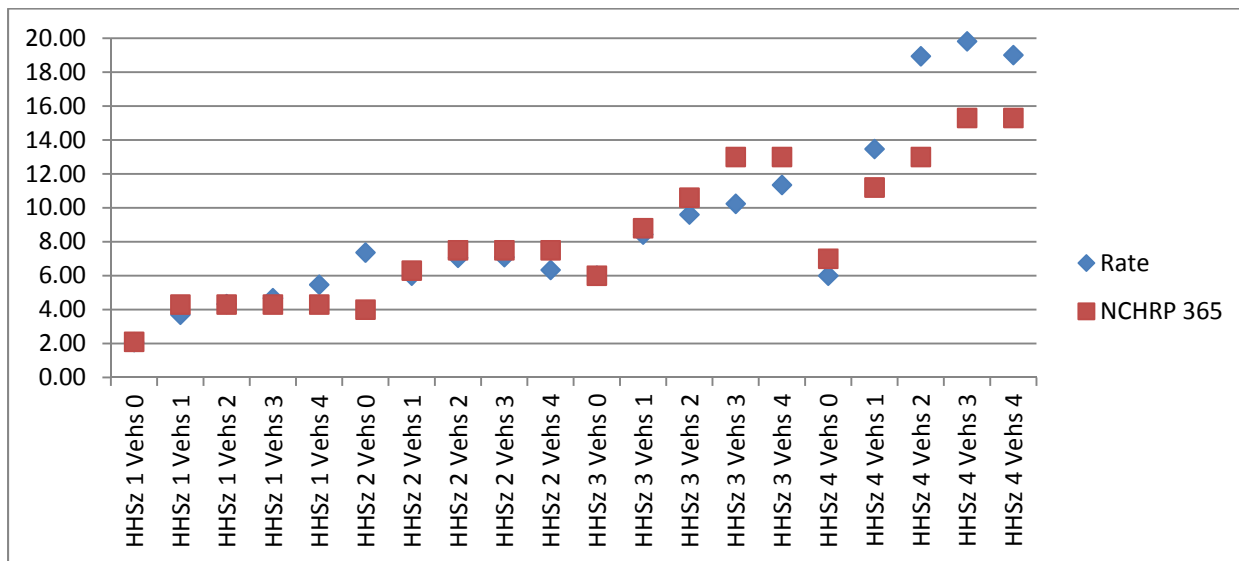
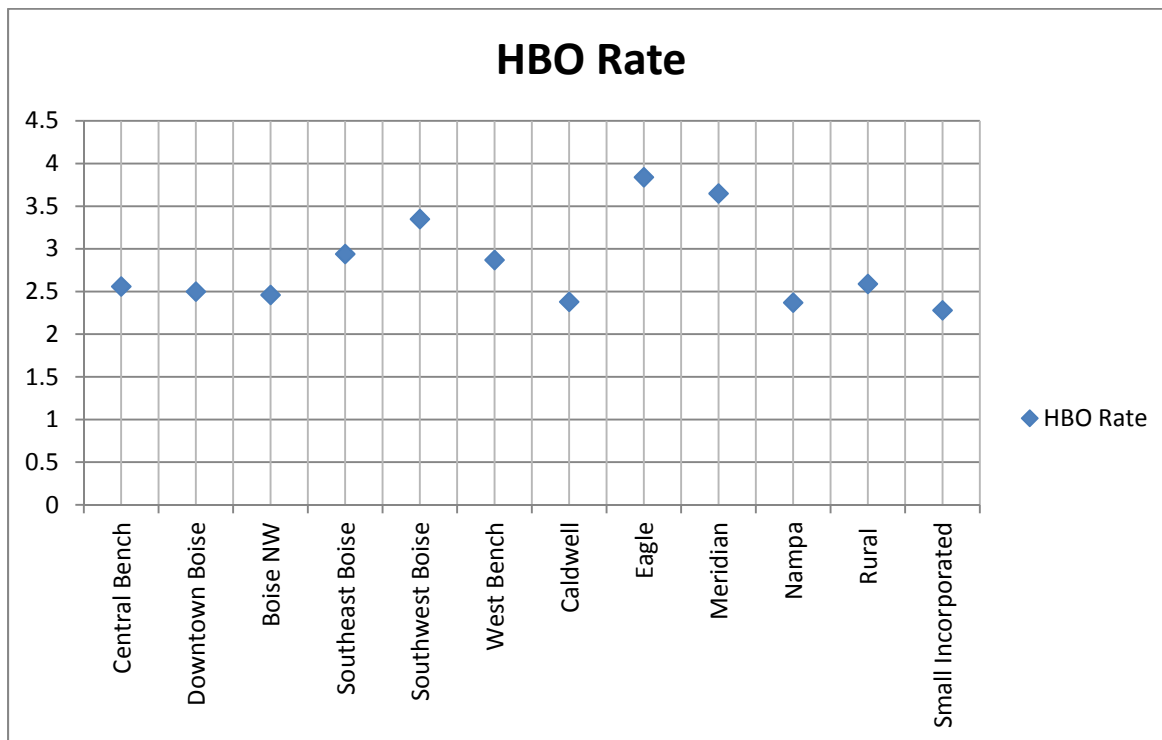
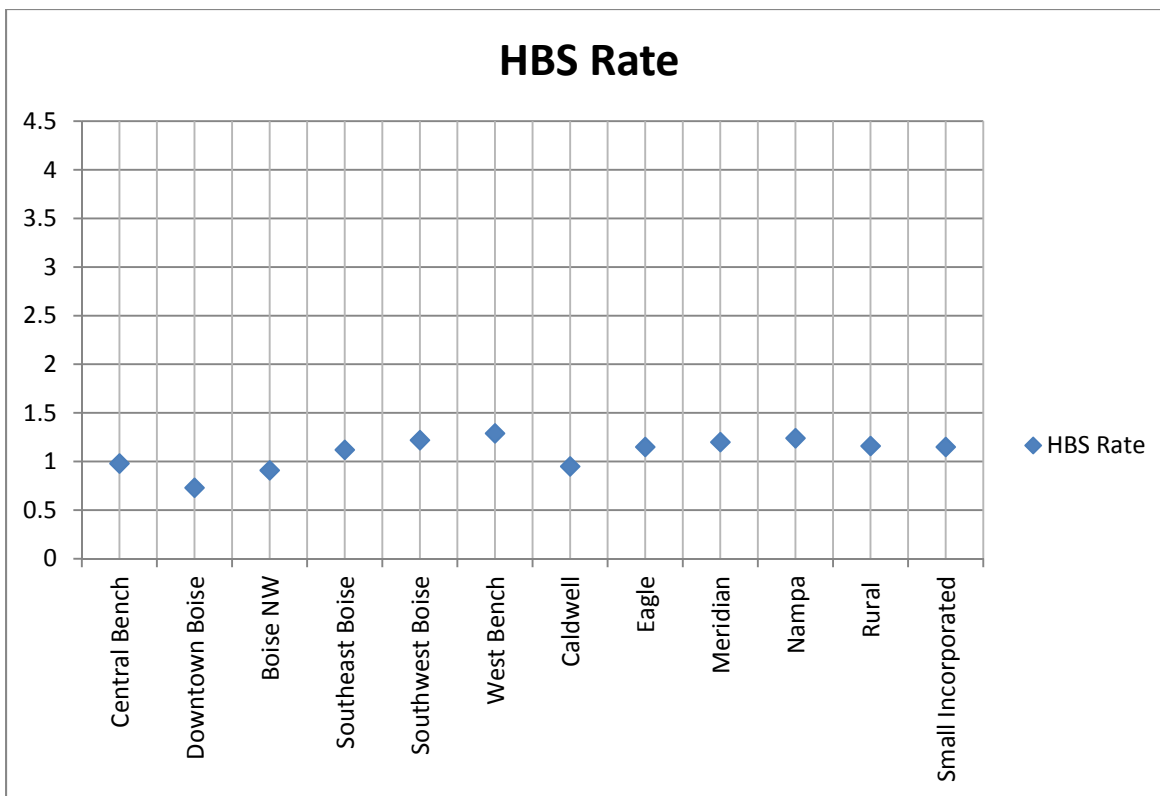
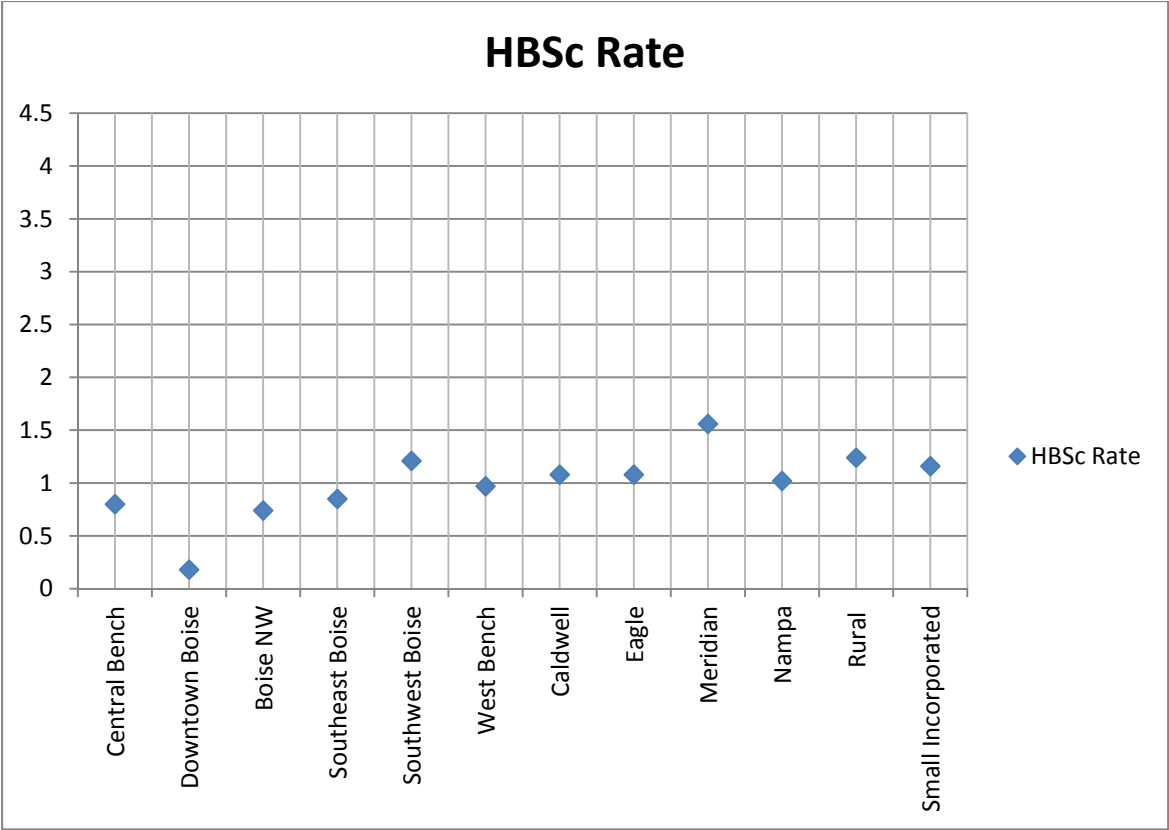


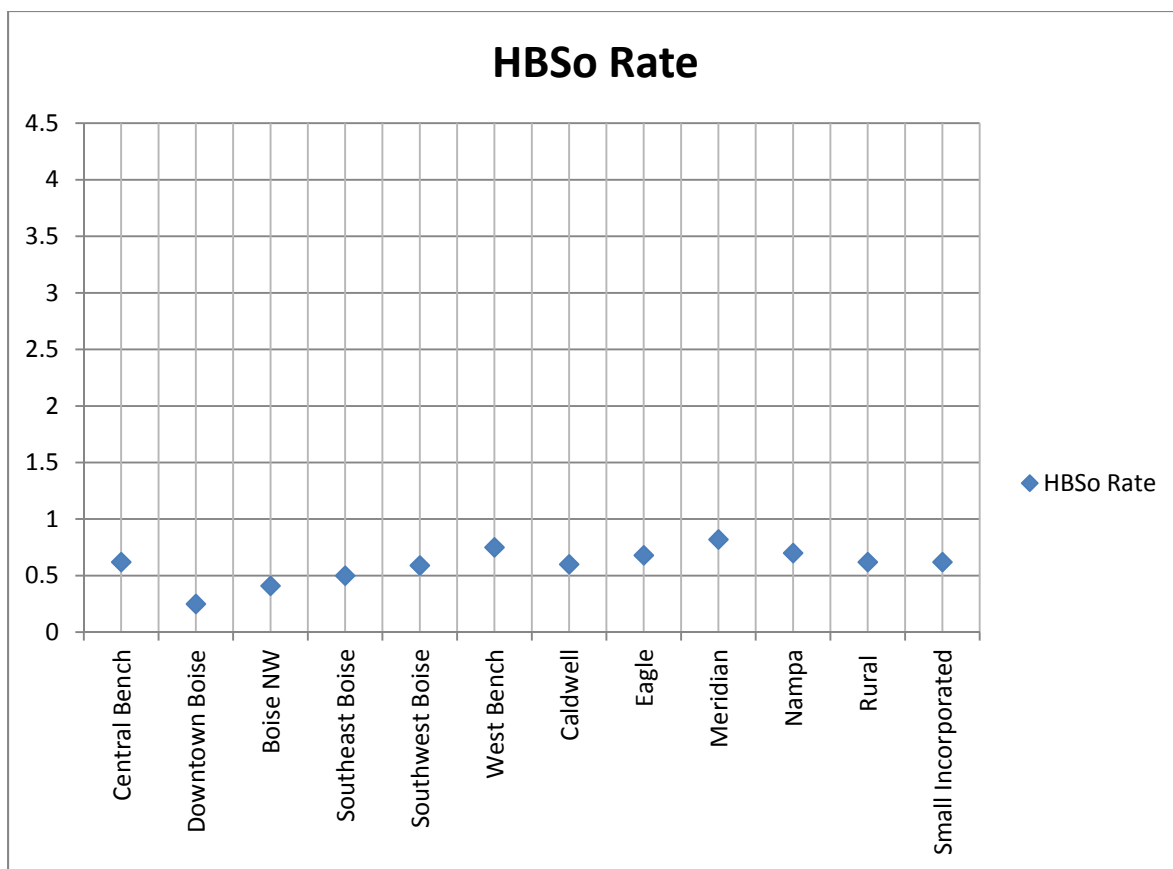
Figure 13: COMPASS Rates compared to NCHRP Rates

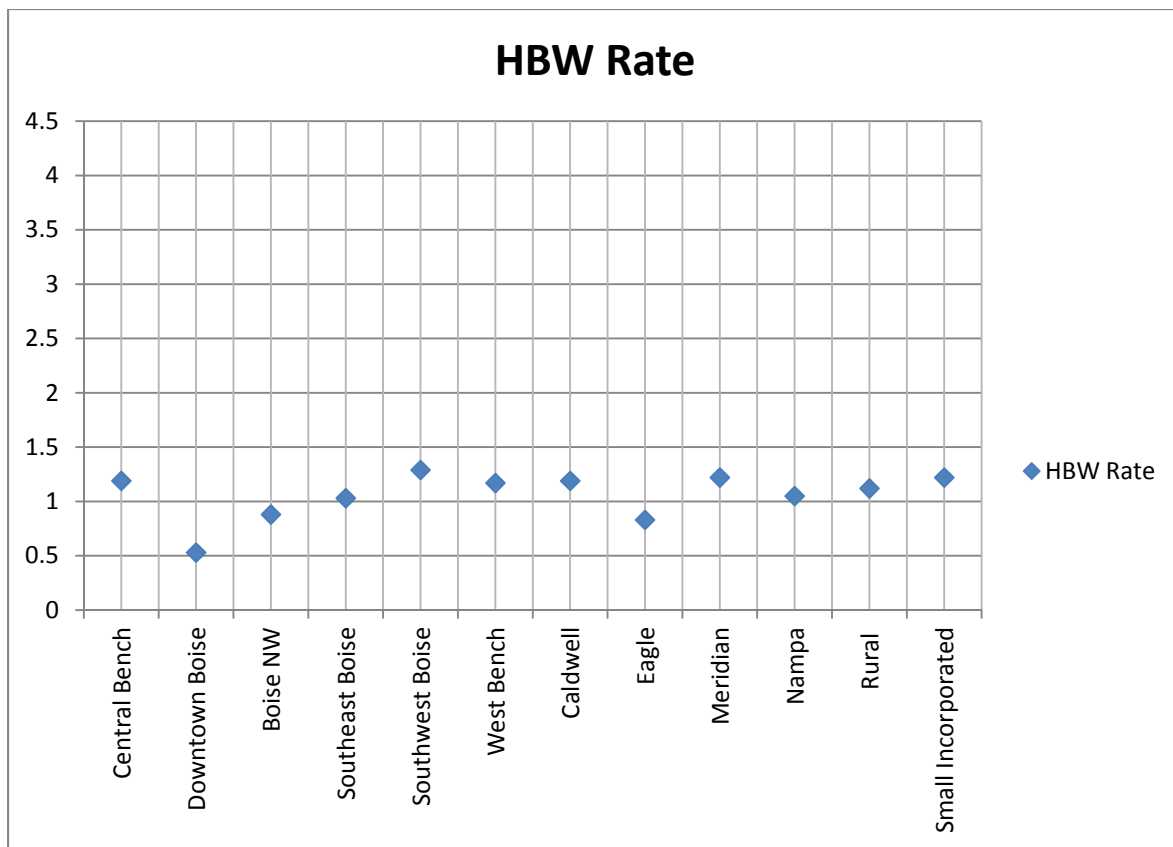
Overall trip generation rates by purpose for each of the twelve demographic areas were also calculated to see if there are any geographic differences in trip generation. There were not enough survey respondents to estimate reliable rates by household size, number of vehicle, and demographic area. In general, the rates are fairly similar within each purpose, but there are some distinct differences especially in the Home-Based Other and Non-Home Based purposes. The Downtown Boise area had only 37 households surveyed, as compared with at least 200 in each of the other areas, which likely helps explain why its rates are frequently different. Since the demographic areas are correlated with household income, the differences are to be expected. The differences may also be due to the land use patterns in the demographic areas and the likelihood of generating non-mandatory trips as a result.

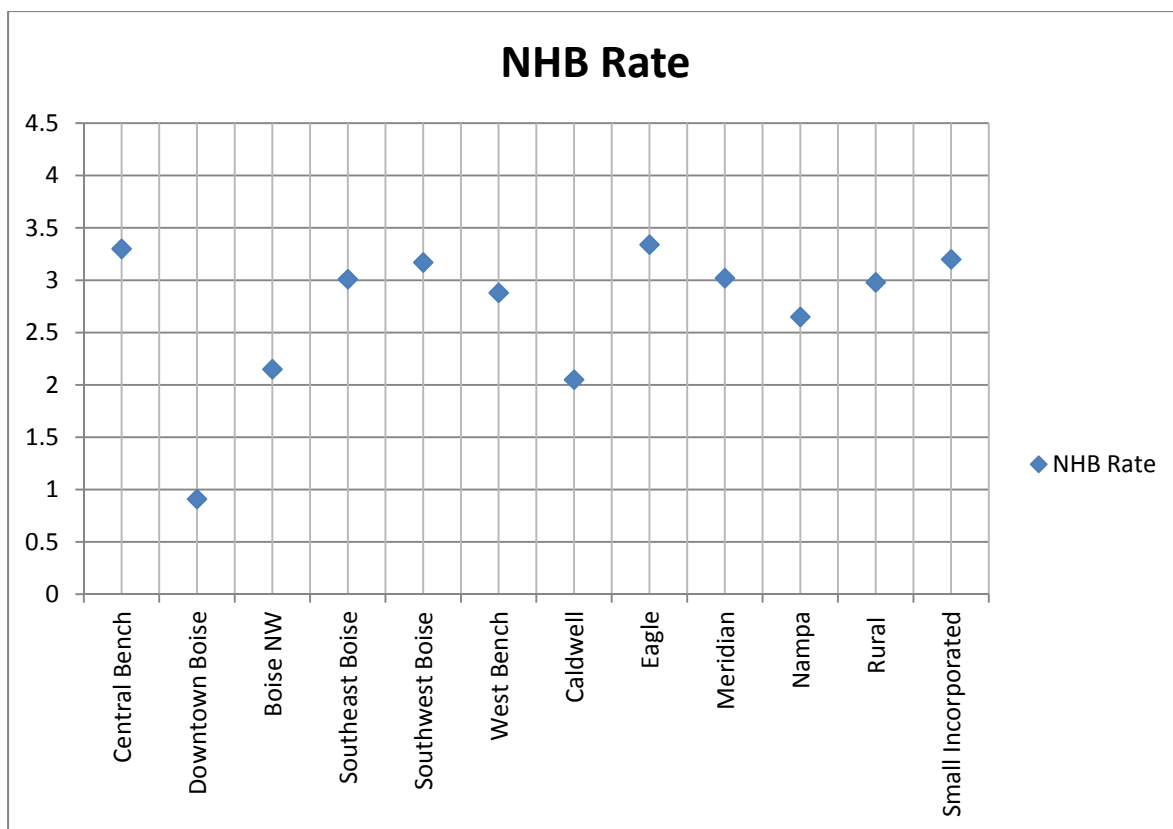












Conclusions

Overall, the quality of the survey data is very good. There were no problems processing the data as all the data was well structured and organized. The resulting data summaries were reasonable and the data appears to be representative of the population when compared to select Census summaries. The trip generation rates were compared against COMPASS' existing trip generation rates, and the results were similar except for some differences in large households and low vehicle households. In addition, an analysis of the trip generation rates by purpose by demographic area reveal that there are some differences by demographic area as well, but that there is not enough data to segment rates by household size, vehicles, and demographic area. While there are a few minor issues in the survey data, all of the identified issues represent only a small percentage of the total data and therefore do not heavily influence the overall results.

CHAPTER 7: **Analysis of the GPS Data**

COMPASS Household Travel Survey GPS Data Analysis

Purpose

The purpose of this task was to investigate differences in the number of trips reported between the self-reported household travel survey and the GPS-recorded survey. Previous research, conducted by others, has analyzed the under-reporting of household trips in surveys, and how well GPS data can fill the gaps. While the capability to do GPS data collection has greatly increased the amount of information that can be collected about a person's travel, processing the GPS data into trips that can be compared to household survey data presents some challenges. This effort evaluates the differences in self-reported versus GPS-recorded trips and evaluates the process used to identify trips from the GPS collected data.

Data Processing

The COMPASS survey data includes household, trip and person level data files. The household survey data were summarized in unexpanded form since expansion factors were not yet available. Comparing the GPS observed trip rate per household and vehicle to the reported trip rate per household and vehicle presented some challenges. While each GPS device records the movements of one vehicle, the household survey data will contain one trip for each household member who traveled in that vehicle. For example, if two household members traveled together in the household vehicle, there would be two household trips - one for the driver and one for the passenger. The driver record will have a reported mode of 'Drove Private' and the passenger record will have a mode of 'Passenger.' In order to accurately compare this single vehicle movement to the GPS data, only the trips with the reported mode of 'Drove Private' (the driver of the trip) were summarized. This prevents double counting vehicle movements from the household survey.

A total of 513 GPS device files were used for analysis. Of the 513 device files, 35 were not in the correct format and could not be used for this analysis. The self reported household trips were compared to the GPS-recorded data for all of the GPS devices used in the survey. The unique ID assigned to each vehicle and GPS device within the household was used to join the household reported data to the GPS data. Processing the GPS data was extensive. Only GPS records from the household's selected survey date were maintained. The GPS data was transmitted every second. In order to make the files more manageable and more clearly show patterns of movement, the data was only maintained for each 30 second interval. Therefore each minute of movement is represented by the record at 30 seconds and the record at 60 seconds into the movement. This successfully eliminated some of the data 'noise' that occurs when using such a large data set. The data field for speed was converted into miles per hour. The device output of speed and position was analyzed and used to split

the data into discrete trips. A variety of thresholds for minimum speed to identify the start of a trip, and maximum speeds for a stop that occurs mid-trip (i.e. traffic light) versus a trip end stop were tested. Each GPS device was assigned a household ID and vehicle ID in order to join it to the self-reported survey trip records. The start and end of each trip in the GPS-recorded data were determined using several established rules based on speed and time. A trip was identified if:

- If the vehicle went from a speed of less than 0.75 miles an hour to a speed of greater than 0.75 miles an hour, it was coded as a trip start. The 0.75 threshold was determined after testing other possible values and comparing the results to household survey data. Figure 1 below shows an example plot of the vehicle speed during the day and identifies the trip starts from the GPS-recorded data and the self-reported trip departure times. While there are some 'blips' near the x-axis, true trip starts/ends are clearly identified by speeds that rapidly increase and decrease.
- If the vehicle was stopped (speed decreases below the 0.75 threshold) for more than 2 minutes, it was coded as a trip end. Figure 1 shows that trips can have many brief stops, but then speed rapidly increases again. These brief stops (i.e. traffic signals) are not trip ends.
- If there was another trip start or end within two minutes, then the trip was coded as continuing (not starting or stopping) until the previous two conditions could be met. This meant that the data was not coded as a trip end and start every time the driver stopped at a traffic light for 30 seconds. These short stops were included as part of the same trip.
- If the GPS data were not continuous for a period of time longer than two minutes (meaning there was a gap in data received), then an existing trip should be ended where the data stops, and a new trip started when the data continues, if it fits all conditions above. This condition was necessary because the GPS devices did not always transmit continuous data. For example, in some cases there were gaps of several hours, but the GPS device showed a travel speed in the last observation before the gap, and in the first observation after the gap. The process therefore considered this to be one trip. The assumption was made that if the device stopped transmitting data for two minutes (which is the threshold used to identify trip ends), then the trip should be considered ended at that point.

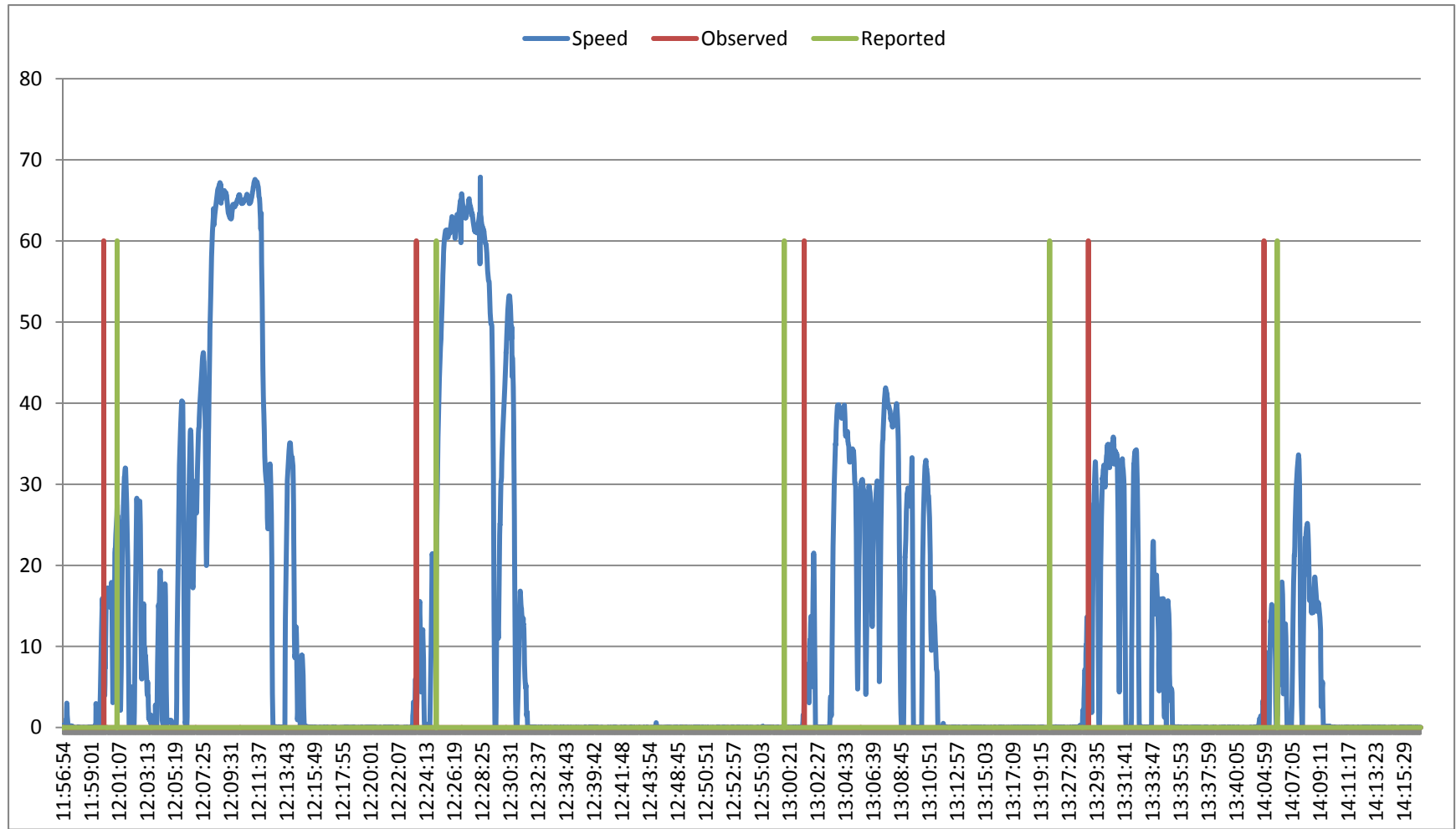


Figure 1: GPS Data, with Identified Starts and Survey Reported Times for Household 61357

These rules successfully identified most trips however; a few some shortcomings exist in the process. For example, the rule that if a trip stops for more than 2 minutes then it becomes a trip end. This may miss an event where the trip end was legitimately shorter than 2 minutes. Or conversely, it may inaccurately code a trip end when a vehicle is stuck in a very long traffic queue or traffic incident. Vehicles moving in very heavy traffic may have many starts and stops of low speeds that this process may have trouble identifying. While the 0.75 miles per hour threshold seems very low, it was quite successful in maintaining the trip when the vehicles were in what appears to be a heavy traffic situation. Five households were selected for case studies that highlight the strengths and, unavoidable, weaknesses of the data processing effort.

Trip Comparisons

Data comparisons were made between the self-reported trips and the GPS –recorded trips by household size, vehicle ownership, and income. GPS devices were given to 363 households. The households trip rates with and without GPS units are compared in Table 1. The intent of this comparison was to verify if any inherent bias in the trip rates of the households with GPS devices existed. The results show that the GPS households have a higher trip rate than the self-reported households. However, the higher trip rate is partly due to the higher proportion of two-person two-vehicle households participating in the GPS-recorded survey.

Table 1: Trip Characteristics of Households with and without GPS units

	GPS-Recorded Households Trips			Self-Reported Households Trips		
	Count	Rate	Percent	Count	Rate	Percent
Household Size						
1	56	5.63	15%	765	3.73	23%
2	171	9.16	47%	1,335	6.91	40%
3	49	12.27	13%	431	9.98	13%
4+	87	17.98	24%	819	19.23	24%
Household Vehicles						
0	0	0	0%	93	5.34	3%
1	75	12.03	21%	878	10.68	26%
2+	288	15.05	79%	2,379	12.70	71%
Household Income						
Under \$30,000	62	8.26	17%	731	5.78	22%
\$30,000 to 49,999	110	11.24	30%	887	8.41	26%
\$50,000 to 74,999	101	13.60	28%	749	10.26	22%
\$75,000 to 99,999	50	12.20	14%	540	12.15	16%
Greater than \$100,000	40	17.20	11%	443	13.96	13%
Reported Trips						
	4,420 trips	12.17		27,705 trips	9.59	

GPS devices by Major Sampling area are displayed in the table below. This shows that the GPS households make up a higher percentage of the households in the urban areas. The table also shows that the trip rates by GPS households are higher in all geographies except for Meridian, which is only 0.26 trips different. In the other locations, the GPS household trip rate is between one and eleven trips higher, although the number of observations is low in some cases which will result in unstable estimates. Only Boise and Meridian have enough households in their sample to likely be significant.

Table 2: GPS Devices by Household Location

	Ada	Boise	Caldwell	Canyon	Meridian	Nampa
No GPS	199	1322	251	185	625	405
GPS	2	201	23	17	74	46
% GPS	1%	13%	8%	8%	11%	10%
Trip Rate (No GPS)	8.91	9.15	7.50	8.74	11.04	8.48
Trip Rate (GPS)	10.00	11.50	18.13	13.29	10.78	14.09

Of the 363 households given GPS devices, 134 households were given more than one device because they had more than one vehicle. There were 513 GPS devices total. Of the distributed devices, only devices that were in the newer 19-field format and that reported vehicle movement data on the same day as the household trip diary were maintained. That left 288 GPS vehicle files that could be used for comparison to the self-reported household survey. The number of observed GPS trips per household was compared to the number of drive-alone household trips self-reported, by household vehicle. Trips were matched based on Household ID and vehicle ID within the household. Figure 2 shows the comparison. The GPS devices are reporting more trips than the Household Survey, on average. This plot also shows that the differences are in both directions, which may suggest some issues with the GPS data processing. The correlation coefficient between the GPS trips and the survey reported trips is 0.57. This correlation is likely skewed by two large outliers. Once those outliers are dropped, the correlation coefficient is 0.68.

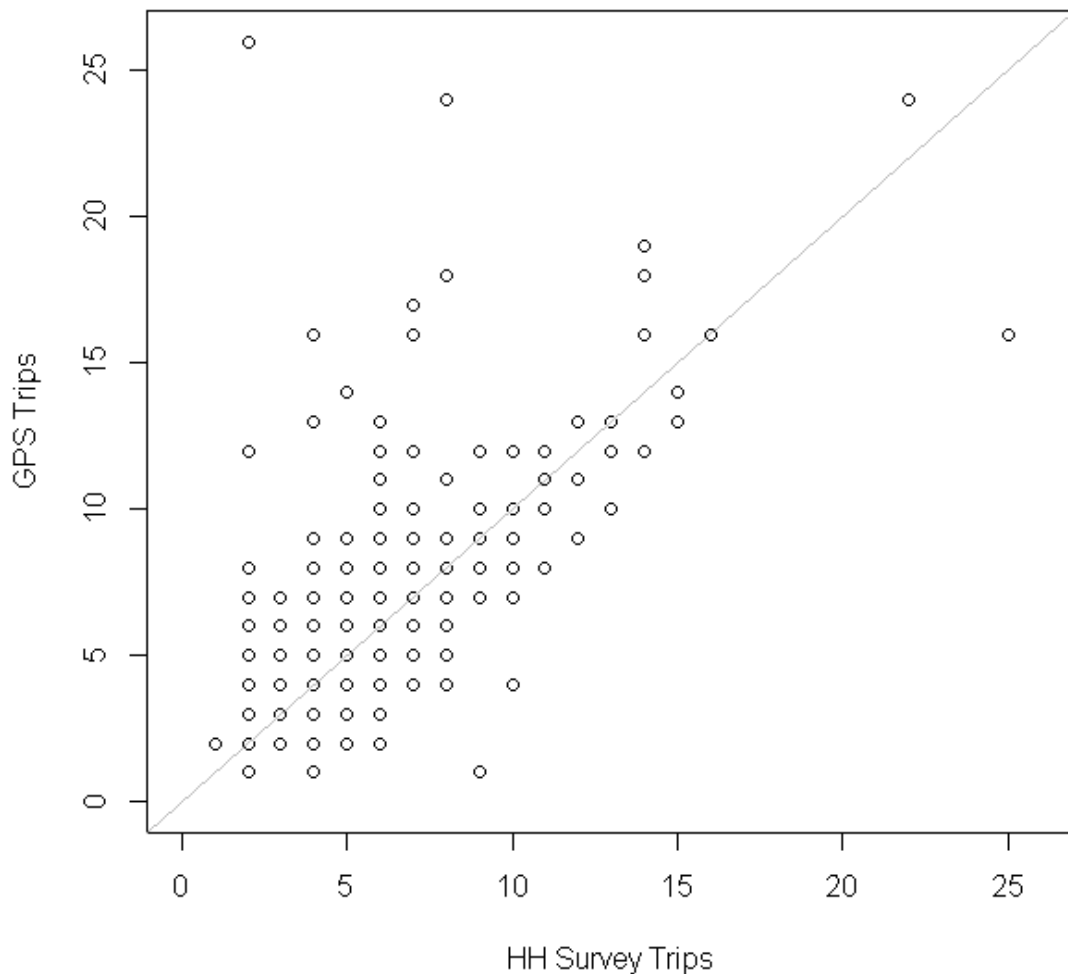


Figure 2: Number of Household Survey Trips Reported Compared to GPS Trips

Table 3 shows the number of households for same number of trips self-reported and GPS-recorded, GPS-recorded fewer trips than self-reported or GPS-recorded more trips than self-reported. In approximately 75% of the cases, the GPS devices are reporting at least as many trips as were reported in the self-reported household survey.

Table 3: Household Survey Trips Compared to GPS Trips

	GPS-Recorded < Self Reported	Equal	GPS-Recorded > Self Reported
Number of households	71	103	114
% of Total	25%	36%	40%

Based on manually reviewing the GPS-record trip data, it appears that many of the cases where the number of trips self-reported is higher than the GPS-recorded trips is a result of the GPS device not transmitting at the time the trip was taken. Additionally, when a householder has a legitimately short stop (as shown in two of the case studies below), it was not possible for this process to distinguish that from a stop at a traffic light. It is also possible that the householder was not using a household vehicle when traveling, which is

problematic for this analysis since the vehicle of travel is unknown. The absolute difference between the self-reported and GPS-recorded trips is shown in Figure 3. The number of self-reported trips was subtracted from the number of GPS-recorded. The results show that the distribution of GPS-recorded trips is higher than the distribution of self-reported trips.

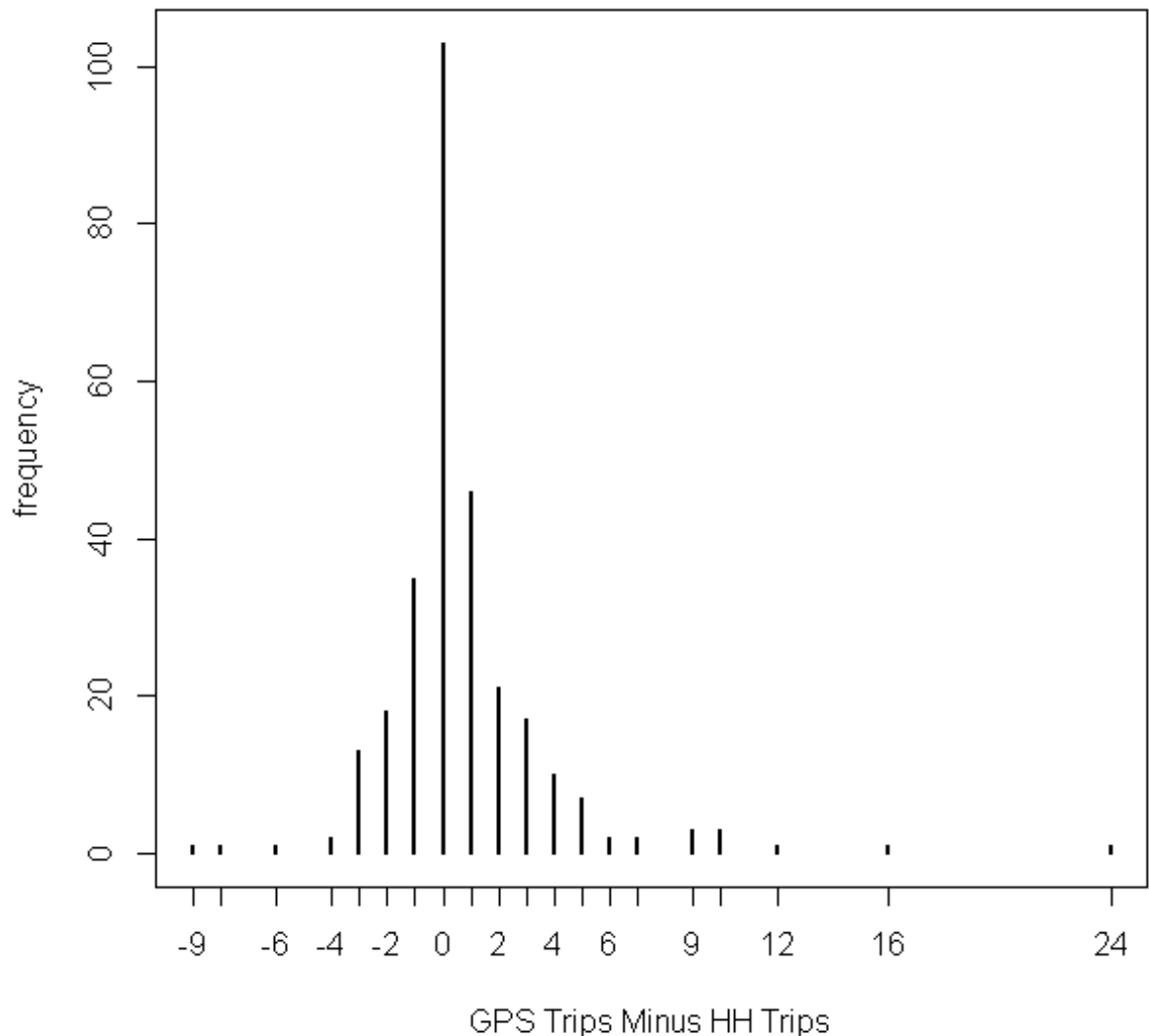


Figure 3: Difference between GPS trips and Household Trips

Table 4 compares the GPS-recorded trips to the self-reported trips, by the categories of household size, vehicles, and income. The two extreme outliers were removed prior to the creation of this table. In most respects, the trip rates by each household market are similar, although the GPS-recorded trip rates are greater than the self-reported trip rates. The difference between the GPS-recorded trip rate and the self-reported trip rate is 0.72 trips, or about a 12% underreporting rate. After the two extreme outliers are removed (the GPS-recorded trips were 24 and 16 more trips than self-reported trips for that vehicle), the

average difference is 0.59, or about a 9.5% underreporting rate. One of the extreme outliers (household 61477) was used as a case study below.

Table 4: GPS-Recorded Trips Compared to Self-Reported Trips

	GPS-Recorded Trips			Self-Reported Trips		
	Count	Rate	Percent of Category	Count	Rate	Percent of Category
Household Size						
1	143	5.30	8%	133	4.93	8%
2	852	5.96	48%	753	5.27	47%
3	230	5.61	13%	218	5.32	14%
4+	551	7.35	31%	504	6.72	31%
Household Vehicles						
1	259	6.32	15%	234	5.71	15%
2+	1,517	6.19	85%	1,374	5.61	85%
Household Income						
1	236	6.05	13%	194	4.97	12%
2	517	6.01	29%	470	5.47	29%
3	467	6.22	26%	414	5.52	26%
4	256	5.82	14%	250	5.68	16%
5	300	7.14	17%	280	6.67	17%
Reported Trips						
	1776	6.21		1,608	5.62	

The under-reporting rate was also analyzed for the two counties within the model area. The Ada county households have a higher under-reporting rate than average, and the Canyon county households have a lower under-reporting rate.

Table 5: GPS-Recorded Trips Compared to Self-Reported Trips by County

County	GPS-Recorded Trips	Self-Reported Trips	Households
Ada	1,382	1,236	229
Canyon	394	372	59
	GPS-Recorded Trip Rate	Self-Reported Trip Rate	Under-Reporting Rate
Ada	6.03	5.40	0.64 (10.4%)
Canyon	6.68	6.31	0.37 (5.5%)

The average stop duration from the household survey was compared to the average for the households that had less GPS-recorded trips than self-reported trips. The purpose of this comparison is to see if there is bias towards shorter stops (i.e. very quick stops at a coffee shop) in the households with underreported GPS trips. The average duration for all stops in the survey was 105 minutes. The average stop duration for households with less GPS-recorded trips than self-reported trips was 90 minutes. This suggests that the GPS processing is missing some short duration stops.

Table 6 shows the count of stops by the category of comparison between GPS-recorded and self-reported summaries. The households that have under-reported GPS trips have 15% of their stops less than 2 minutes in duration. Since these stops are currently not identified as trips by the GPS processing script, it makes sense that these households end up with an overall underreported GPS trip rate.

Table 6: Duration of Stops

Stop Duration	Household Category		
	GPS-Recorded < Self Reported	Equal	GPS-Recorded > Self Reported
More than 2 minutes	695	541	795
Less than 2 minutes	102	25	48
Percent less than 2 minutes	15%	5%	6%

Figure 4 shows a frequency plot of the number of stops by minutes by the household comparison category. The duration of stops from the households where GPS-recorded trips are underreported are over-represented in the short stop durations where they represent the largest share, which confirms the findings in Table 6.

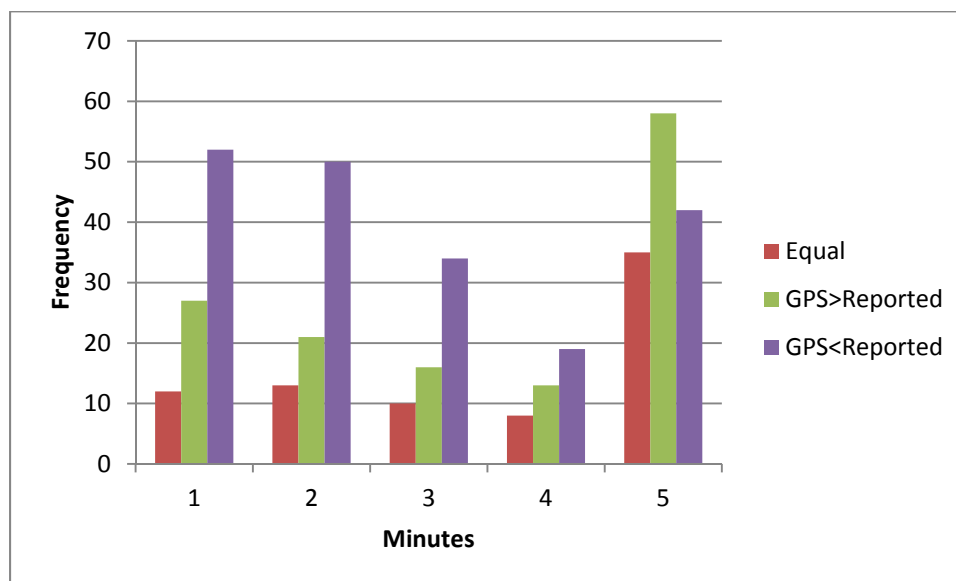


Figure 4: Frequency of Stop Duration (less than 5 minutes) by Household Comparison category

This analysis shows that the households with underreported GPS-recorded trips do have a bias towards very short stop durations, which cannot be identified as separate stops by the GPS data processing. Ten households with 30 self-reported but not GPS-recorded trips were evaluated to determine why those trips were not counted. In almost all cases, they were short NHB trips. There were no work or school trips in the set.

Case Studies

Below are four case studies that are intended to illustrate the data comparison process between the GPS-recorded and self-reported survey data. These case studies were selected for review to reflect the three conditions: self-reported trips are the same as the GPS-recorded trips, the number of self-reported trips is less than the GPS-recorded trips, and the number of self-reported trips is greater than the GPS-recorded trips.

Case Study 1: Household 61357

Household 61357 is a one person, one vehicle household. This household is a good example of the GPS-recorded trip identification process. Each self-reported trip is easily matched to a trip identified through the GPS-recorded data processing. This householder only had one vehicle, they used it as a driver throughout the day, and the vehicle did not go anywhere without the householder. The GPS device was functioning appropriately throughout the day. The householder also did not make any short-trip-stops, was not traveling in heavy traffic or some other unusual driving condition that would have made trip identification more difficult.

Figure 1 in the Data Processing section of this document shows the GPS speed throughout the day, and the observed and reported trip times. Table 7 compares the self-reported trip departure and arrival times to the GPS-recorded start time, which was identified through data processing. This table shows that the self-reported departures compare very well to the recorded departures.

Table 7: Household 61357

Self-Reported Departure Time	Self-Reported Arrival Time	GPS-Recorded Start Time
12:00	12:15	12:00
12:25	12:40	12:23
1:00	1:15	1:01
1:25	1:40	1:29
2:05	2:10	2:05

Case Study 2: Household 61348

Household 61348 is a one person, one vehicle household that reported six trips, but the GPS –recorded 13. The plot below shows that the self-reported trips and GPS –recorded trips are taking place at approximately the same time. However, there are additional trips that the household did not report.

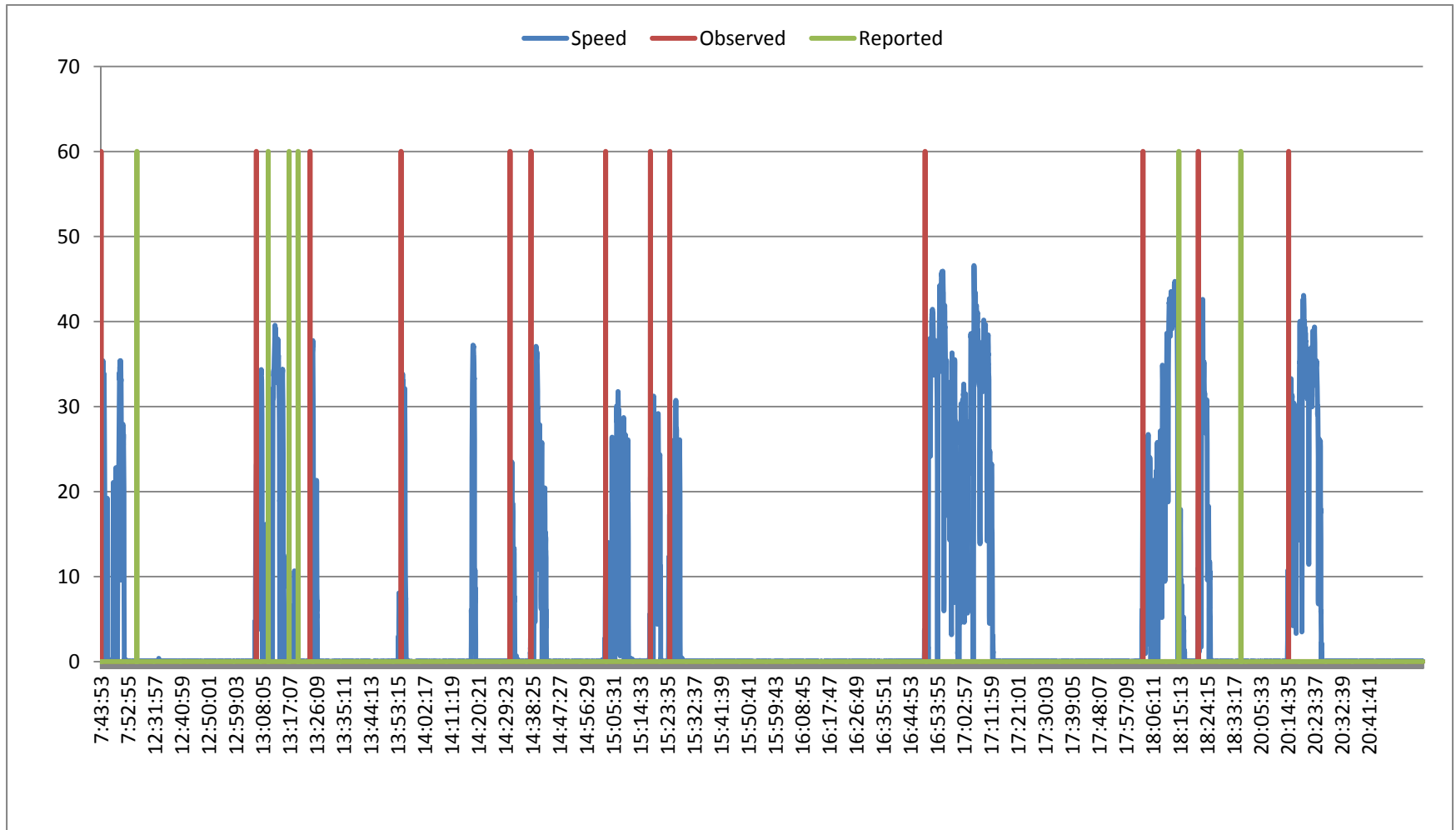


Figure 5: Household 61348 Speed and Trip Starts

The table below shows the self-reported trip times matched to the closest GPS-recorded trip time. The householder did not report any trips between 1:30pm and 6:15 pm, but the GPS shows movement around 3:00, 3:25, and 4:45. The plot above shows that these trips have significant speed and duration, so they are unlikely to be data inconsistencies. It is unknown why the householder did not report these trips. It is possible that the householder forgot to record all trips for the day, or perhaps the vehicle was used by a non-household member during the middle of the day.

The GPS process did fail to identify one household trip, and that is the one that started at 1:17 and ended at 1:18. The GPS process did not recognize this trip because the stop at the trip origin was so brief that it was not distinguished from the previous trip. The trip record for that particular trip shows that the person traveled 0.7 miles from a Les Schwab to a Broadway Tires Store, so it is a legitimate trip. However, modifying the GPS data processing to identify this trip would lead to identifying too many trip ends that were actually just brief stops.

Table 8: Household 61348

Self-Reported Departure Time	Self-Reported Arrival Time	GPS-Recorded Start Time
7:56	7:58	7:44
1:10	1:15	1:06
1:17	1:18	--
1:20	1:30	1:24
6:15	6:30	6:21
7:53	7:55	8:15

Case Study 3: Household 61925

Household 61925 is a one person, one vehicle household that reported seven drive-alone trips, while the GPS process identified 12.

Figure 6 shows the speed data and trip starts. Table 9 shows the reported departure and arrival times with the closest observed time. The last trip reported in the survey does not show up as a separate trip in the GPS-recorded data. This is because the trip start was within two minutes of the previous trip's end. As with the previous case study, this makes it indistinguishable from a stop at a traffic light or a short-trip-stop. According to the survey response, this was a trip to Starbucks, where a person could potentially receive very fast service. The GPS process also identified a trip at 12:45 pm, which would have occurred in the middle of the person's first reported trip. This is due to a pause in the trip longer than two minutes. This could have been a particularly long traffic light, a short-trip-stop that the householder did not report, or a GPS malfunction.

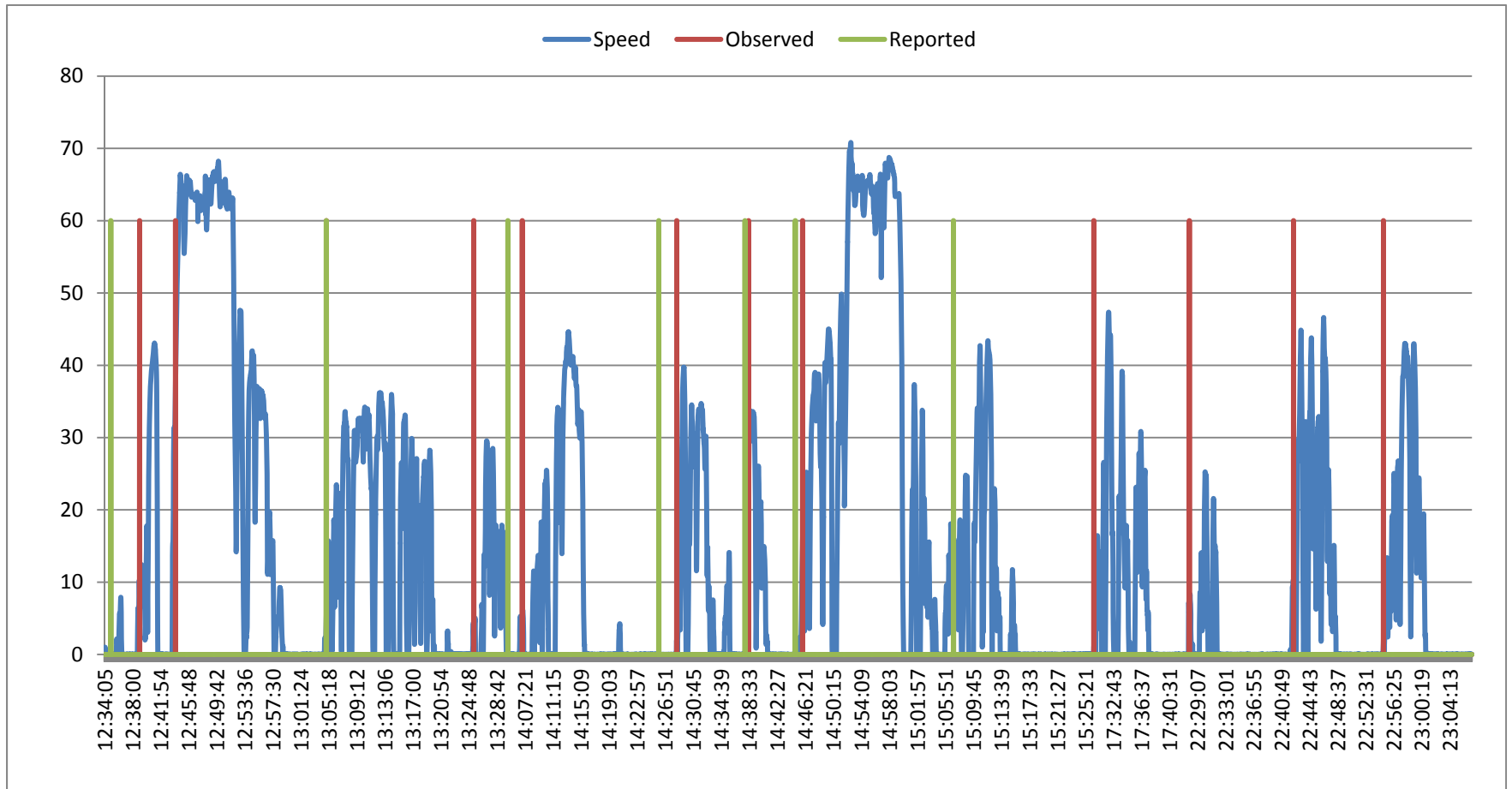


Figure 6: Household 61925 Speed and Trip Starts

Table 9: Household 61925

Self-Reported Departure Time	Self-Reported Arrival Time	GPS-Recorded Start Time
12:35	1:00	12:39
1:05	1:10	1:05
2:05	2:16	2:07
2:26	2:30	2:28
2:38	2:42	2:38
2:45	3:05	2:46
3:07	3:18	na

The GPS device showed that the vehicle took four trips after 5 pm. The self-reported data shows that the person took two trips after 5 pm, however, the mode for those trips was reported as 'Passenger.' Since the GPS data processing attempts to match driver trips to the GPS devices, these records were not included for comparison. In a single person, single vehicle household, it is likely that any trip reported as the passenger mode was a 'pick up' rather than being driven in their own vehicle. However, in this case, it appears the person was driven in their own vehicle by a non-household member. The person reported that they took a trip to the hospital at 5:45 pm and then took a trip from the hospital back to home at 11:45 pm. The GPS device shows that the vehicle did in fact take trips at 5:30, 10:28, 10:42 and 10:55. It appears that a non-household member drove the householder to the hospital and then drove them home, with a trip in between, using the householder's vehicle. The survey reported times do not match the GPS times very closely, but considering the purpose of this trip, perhaps the householder did not note the times very carefully. Even with the vehicle ID available for matching the trips, it is difficult to identify trips like this in an automated fashion. This case is a unique anomaly in the dataset.

Case Study 4: Household 61477

Household 61477 Vehicle 1 reported eight trips in the self-reported survey, and the GPS – recorded 24. This household was selected for case study because it is one of the extreme outliers noted above. This was a two person and two vehicle household, and only vehicle 1 had the extreme difference. Vehicle 2 had four more GPS-recorded trips than self-reported trips. The discrepancy for vehicle 1 is so large for this household, that it appears that the GPS device may have been malfunctioning. The results of the device are shown in the first chart below. Between about 11 am and 2 pm, the GPS device moved at a speed of just under 10 miles an hour and the respondent did not report any trips (of any mode) during this time. The speed was greater than the normal small speeds observed in stationary devices, and it is unusual even compared to the full day cycle for that GPS device. Due to the survey processing rules, these speed blips showed up as many discrete trips. Survey reported trips for both person 1 and person 2 are displayed as well, since the GPS-recorded trips did not clearly match either.

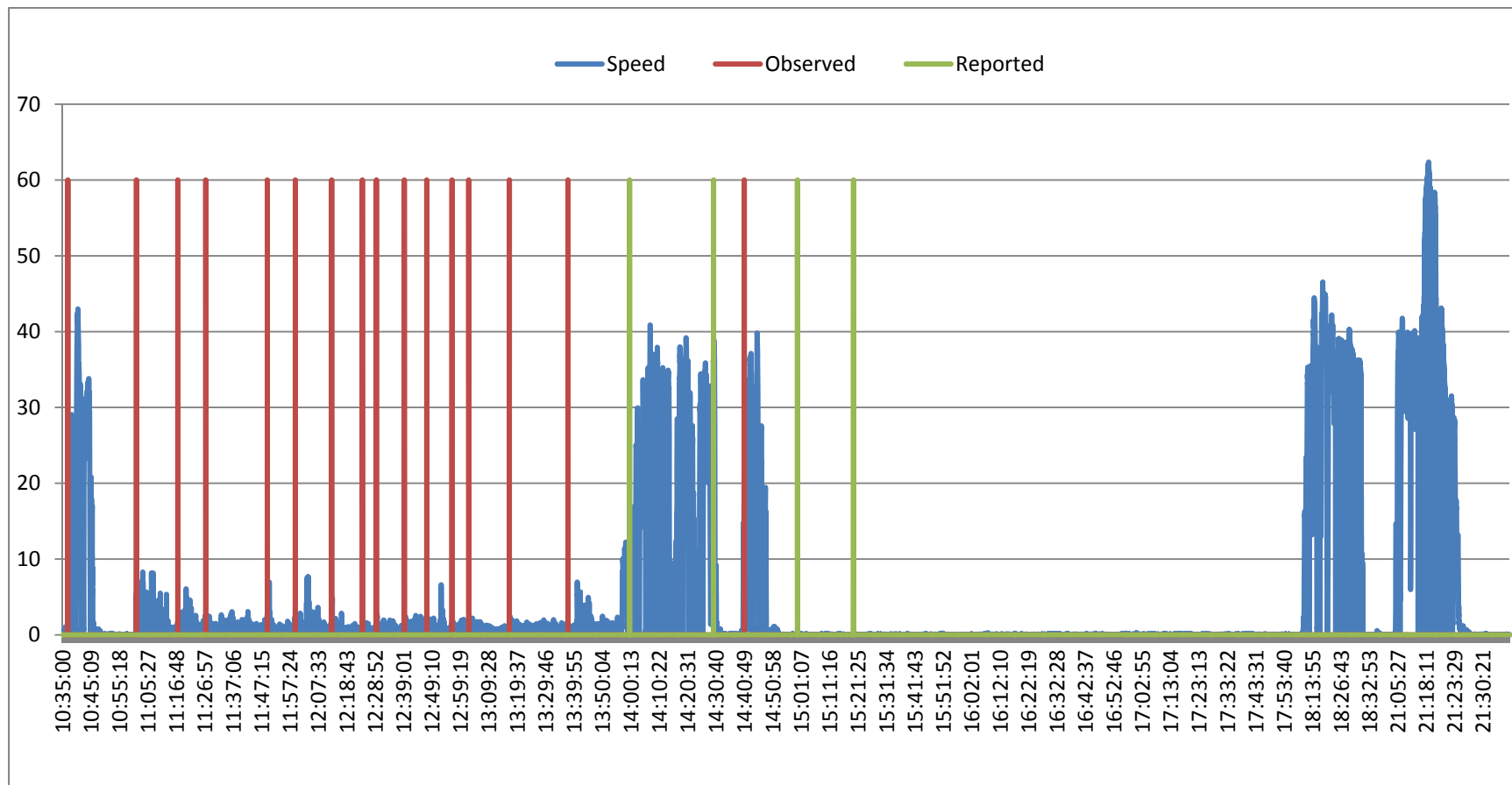


Figure 7: Household 61477 Speed and Trip Starts

For this example, the issues are again unusual, so it appears that the GPS device may have been malfunctioning or the household may have been attached to the wrong GPS data. As a result, this household was removed from the analysis. Fortunately, only two households had this high level of difference, so it is an unusual error.

Conclusions

The GPS-recorded data processing and comparison to the self-reported household travel survey trip rates was a useful exercise to identify trip underreporting bias. An approximate underreporting rate of 10% was observed, with some differences by household markets as well as geographies. There are two limitations to this analysis, and they both are related to the GPS trip identification process:

- GPS devices being turned off or malfunctioning resulted in some trips being missed.
- When legitimate trips were shorter than 2 minutes, they were indistinguishable from stops at traffic lights or other delays that do not usually represent a trip end.

Based on analysis of the survey data, it is most likely that the under-reported trips are of the non-mandatory purposes. Mandatory daily trips to work and school are unlikely to have been left out of a household survey. Therefore, it is recommended that the underreporting rate only be applied to the non-mandatory purposes.

To improve the estimate of trip underreporting, it is recommended to manually review all of the GPS speed and trip starts plots in conjunction with the survey data in order to identify the few remaining problem spots in the GPS trip data. Once the GPS problem spots have been identified, then they can be corrected in the GPSFile.csv intermediate processing file by correcting the flagStarts and flagEnds fields to identify when trips start and end. After correcting this file, the comparison to the self-reported household travel survey data can be re-run.

**Appendix A:
Results for Downtown Boise: Household Data**

Distribution of Vehicle Availability for the Household Travel Survey Population

N=304	<u>County</u> Ada <u>County</u>	<u>Total</u>
<u>Number of Household Vehicles Available</u>		
Zero vehicles	103 33.9%	103 33.9%
1 vehicle	128 42.1%	128 42.1%
2 vehicles	55 18.1%	55 18.1%
3 or more vehicles	18 5.9%	18 5.9%
Total	304 100.0%	304 100.0%

Distribution of Vehicle Availability for the Household Travel Survey Population by Household Income

N=304	<u>Annual Household Income</u>					<u>Total</u>
	<u>under</u> \$30k	<u>\$30,000 -</u> \$49,999	<u>\$50,000 -</u> \$74,999	<u>\$75,000 -</u> \$99,999	<u>\$100,000</u> or more	
<u>Number of Household Vehicles Available</u>						
Zero vehicles	100 46.9%	2 6.3%	1 5.6%	0 0.0%	0 0.0%	103 33.9%
1 vehicle	96 45.1%	18 56.3%	6 33.3%	2 14.3%	6 22.2%	128 42.1%
2 vehicles	16 7.5%	10 31.3%	11 61.1%	7 50.0%	11 40.7%	55 18.1%
3 or more vehicles	1 0.5%	2 6.3%	0 0.0%	5 35.7%	10 37.0%	18 5.9%
Total	213 70.1%	32 10.5%	18 5.9%	14 4.6%	27 8.9%	304 100.0%

Distribution of Household Size for the Household Travel Survey Population

N=304	County	Total
	Ada County	
<u>Number of Person in Household</u>		
1 person	202 66.4%	202 66.4%
2 people	80 26.3%	80 26.3%
3 people	15 4.9%	15 4.9%
4 or more people	7 2.3%	7 2.3%
Total	304 100.0%	304 100.0%

Distribution of Household Size for the Household Travel Survey Population by Household Income

N=304	Annual Household Income					Total
	under \$30k	\$30,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 or more	
	<u>Number of Person in Household</u>					
1 person	169 79.3%	20 62.5%	7 38.9%	1 7.1%	5 18.5%	202 66.4%
2 people	33 15.5%	11 34.4%	10 55.6%	10 71.4%	16 59.3%	80 26.3%
3 people	8 3.8%	1 3.1%	1 5.6%	2 14.3%	3 11.1%	15 4.9%
4 or more people	3 1.4%	0 0.0%	0 0.0%	1 7.1%	3 11.1%	7 2.3%
Total	213 70.1%	32 10.5%	18 5.9%	14 4.6%	27 8.9%	304 100.0%

Distribution of Household Size for the Household Travel Survey Population by Vehicle Availability

N=304	<u>Number of Household Vehicles Available</u>				<u>Total</u>
	<u>Zero vehicles</u>	<u>1 vehicle</u>	<u>2 vehicles</u>	<u>3 or more vehicles</u>	
<u>Number of Person in Household</u>					
1 person	95 92.2%	98 76.6%	9 16.4%	0 0.0%	202 66.4%
2 people	6 5.8%	22 17.2%	39 70.9%	13 72.2%	80 26.3%
3 people	1 1.0%	6 4.7%	5 9.1%	3 16.7%	15 4.9%
4 or more people	1 1.0%	2 1.6%	2 3.6%	2 11.1%	7 2.3%
Total	103 33.9%	128 42.1%	55 18.1%	18 5.9%	304 100.0%

Distribution of Household Income for the Household Travel Survey Population

N=304	<u>County</u>	<u>Total</u>
	<u>Ada County</u>	
<u>Annual Household Income</u>		
under \$30,000	213 70.1%	213 70.1%
\$30,000 - \$49,999	32 10.5%	32 10.5%
\$50,000 - \$74,999	18 5.9%	18 5.9%
\$75,000 - \$99,999	14 4.6%	14 4.6%
\$100,000 or more	27 8.9%	27 8.9%
Total	304 100.0%	304 100.0%

Results for Downtown Boise: Person Data

Distribution of Age of Travel Survey Participants

N=436	<u>County</u>	<u>Total</u>
	Ada	
	<u>County</u>	<u>County</u>
<u>Age of Persons in Household</u>		
4 and Under	11 2.5%	11 2.5%
5 thru 9	11 2.5%	11 2.5%
10 thru 14	9 2.1%	9 2.1%
15 thru 19	8 1.8%	8 1.8%
20 thru 29	48 11.0%	48 11.0%
30 thru 39	40 9.2%	40 9.2%
40 thru 49	62 14.2%	62 14.2%
50 thru 59	102 23.4%	102 23.4%
60 thru 69	80 18.3%	80 18.3%
70 and Over	65 14.9%	65 14.9%
Total	436 100.0%	436 100.0%

Distribution of Gender for Travel Survey Participants

N=436	<u>County</u>	<u>Total</u>
	Ada	
	<u>County</u>	<u>County</u>
<u>Gender</u>		
Male	208 47.7%	208 47.7%
Female	228 52.3%	228 52.3%
Total	436 100.0%	436 100.0%

Breakdown of Travel Survey Participants Who Were Dependent on Others for Transportation

N=436	<u>County</u>	<u>Total</u>
	Ada	
	<u>County</u>	<u>County</u>
<u>Dependent on Others for Transportation</u>		
Yes	137 31.4%	137 31.4%
No	299 68.6%	299 68.6%
Total	436 100.0%	436 100.0%

Breakdown of Travel Survey Participants Who Were Dependent on Others for Transportation by Household Income

N=436	Annual Household Income					Total
	under \$30k	\$30,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 or more	
<u>Dependent on Others for Transportation</u>						
Yes	129 47.3%	3 6.7%	0 0.0%	1 3.2%	4 7.0%	137 31.4%
No	144 52.7%	42 93.3%	30 100.0%	30 96.8%	53 93.0%	299 68.6%
Total	273 62.6%	45 10.3%	30 6.9%	31 7.1%	57 13.1%	436 100.0%

Breakdown of Travel Survey Participants Who Were Students

N=436	County	Total
	Ada County	
<u>Student Status</u>		
Yes	60 13.8%	60 13.8%
No	376 86.2%	376 86.2%
Total	436 100.0%	436 100.0%

Breakdown of Travel Survey Participants Who Were Students by Vehicle Availability

N=436	<u>Number of Household Vehicles Available</u>				<u>Total</u>
	<u>Zero vehicles</u>	<u>1 vehicle</u>	<u>2 vehicles</u>	<u>3 or more vehicles</u>	
<u>Student Status</u>					
Yes	9 7.8%	33 19.6%	15 13.8%	3 7.0%	60 13.8%
No	107 92.2%	135 80.4%	94 86.2%	40 93.0%	376 86.2%
Total	116 26.6%	168 38.5%	109 25.0%	43 9.9%	436 100.0%

Employment Status of Travel Survey Participants

N=436	<u>County</u>	<u>Total</u>
	<u>Ada County</u>	
<u>Employment Status</u>		
Yes	170 39.0%	170 39.0%
No	266 61.0%	266 61.0%
Total	436 100.0%	436 100.0%

Employment Status of Travel Survey Participants by Vehicle Availability

N=436	<u>Number of Household Vehicles Available</u>				<u>Total</u>
	<u>Zero vehicles</u>	<u>1 vehicle</u>	<u>2 vehicles</u>	<u>3 or more vehicles</u>	
<u>Employment Status</u>					
Yes	9 7.8%	60 35.7%	71 65.1%	30 69.8%	170 39.0%
No	107 92.2%	108 64.3%	38 34.9%	13 30.2%	266 61.0%
Total	116 26.6%	168 38.5%	109 25.0%	43 9.9%	436 100.0%

Breakdown of Industries of Employment for Travel Survey Participants

N=170	<u>County</u>	<u>Total</u>
	Ada County	
<u>Type of Industry</u>		
Agriculture, forestry, hunting, or mining	3 1.8%	3 1.8%
Arts, entertainment, recreation, accommodation, food services	17 10.0%	17 10.0%
Manufacturing	4 2.4%	4 2.4%
Public administration	2 1.2%	2 1.2%
Construction	5 2.9%	5 2.9%
Finance, insurance, real estate	15 8.8%	15 8.8%
Wholesale trade	1 0.6%	1 0.6%
Information	4 2.4%	4 2.4%
Profess. Svcs, Scientific Svcs, Tech Svcs	47 27.6%	47 27.6%
Education, health, social svcs	41 24.1%	41 24.1%
Retail trade	11 6.5%	11 6.5%
Other	20 11.8%	20 11.8%
Total	170 100.0%	170 100.0%

Location of Employment Place

N=170	<u>County</u>	<u>Total</u>
	Ada County	
<u>Employed Downtown</u>		
Downtown Boise	100 58.8%	100 58.8%
Not Downtown	70 41.2%	70 41.2%
Total	170 100.0%	170 100.0%

Location of Employment Place by Vehicle Availability

N=170	<u>Number of Household Vehicles Available</u>				<u>Total</u>
	<u>Zero vehicles</u>	<u>1 vehicle</u>	<u>2 vehicles</u>	<u>3 or more vehicles</u>	
<u>Employed Downtown</u>					
Downtown Boise	5 55.6%	33 55.0%	42 59.2%	20 66.7%	100 58.8%
Not Downtown	4 44.4%	27 45.0%	29 40.8%	10 33.3%	70 41.2%
Total	9 5.3%	60 35.3%	71 41.8%	30 17.6%	170 100.0%

Location of Employment Place by Annual Household Income

N=170	Annual Household Income					Total
	Under \$30k	\$30,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 or more	
<u>Employed Downtown</u>						
Downtown Boise	33 55.0%	17 54.8%	16 80.0%	11 50.0%	23 62.2%	100 58.8%
Not Downtown	27 45.0%	14 45.2%	4 20.0%	11 50.0%	14 37.8%	70 41.2%
Total	60 35.3%	31 18.2%	20 11.8%	22 12.9%	37 21.8%	170 100.0%

Percentage of Employed Participants who Work Downtown and Pay to Park

N=100	County	Total
	Ada County	
<u>Pay to Park Downtown</u>		
Yes	13 13.0%	13 13.0%
No	87 87.0%	87 87.0%
Total	100 100.0%	100 100.0%

Percentage of Employed Participants who Work Downtown and Pay to Park by Household Income

N=100	Annual Household Income					Total
	under \$30k	\$30,000 - \$49,999	\$50,000 - \$74,999	\$75,000 - \$99,999	\$100,000 or more	
<u>Pay to Park Downtown</u>						
Yes	3 9.1%	4 23.5%	1 6.3%	1 9.1%	4 17.4%	13 13.0%
No	30 90.9%	13 76.5%	15 93.8%	10 90.9%	19 82.6%	87 87.0%
Total	33 33.0%	17 17.0%	16 16.0%	11 11.0%	23 23.0%	100 100.0%

Percentage of Travel Participants Who are Employed Full and Part Time

N=170	<u>County</u>	<u>Total</u>
	Ada	
	<u>County</u>	<u>County</u>
<u>Employed Full or Part Time</u>		
Full time	114 67.1%	114 67.1%
Part time	56 32.9%	56 32.9%
Total	170 100.0%	170 100.0%

Percentage of Travel Participants Who are Self Employed

N=170	<u>County</u>	<u>Total</u>
	Ada	
	<u>County</u>	<u>County</u>
<u>Self Employed</u>		
Self employed	44 25.9%	44 25.9%
Not self employed	126 74.1%	126 74.1%
Total	170 100.0%	170 100.0%

Distribution of Employed Survey Participants with More Than One Job

N=170	<u>County</u>	<u>Total</u>
	Ada	
	<u>County</u>	<u>County</u>
<u>Number of Jobs</u>		
Held more than 1 job	19 11.2%	19 11.2%
Had 1 job only	151 88.8%	151 88.8%
Total	170 100.0%	170 100.0%

Percentage of Employed Participants that Telecommute (or work at home for your employer regularly instead of going to an office or other location to work)

N=170	<u>County</u>	<u>Total</u>
	Ada	
	<u>County</u>	<u>County</u>
<u>Telecommute</u>		
Telecommute	54 31.8%	54 31.8%
Do not Telecommute	116 68.2%	116 68.2%
Total	170 100.0%	170 100.0%

Percentage of Employed Participants that Telecommute who actually Telecommuted on their Travel Day

N=54	<u>County</u>	<u>Total</u>
	Ada	
	<u>County</u>	<u>County</u>
<u>Telecommuted on Travel Day</u>		
Yes	28 51.9%	28 51.9%
No	26 48.1%	26 48.1%
Total	54 100.0%	54 100.0%

Appendix B: Data Dictionaries

Codebook Name: HOUSEHOLD FILE CODEBOOK

Var. 1	Fmt: N4	Col: 1-4	Name: ID (A)
Var. 2	Fmt: N5	Col: 5-9	Name: HH_ID (B)
Var. 3	Fmt: N2	Col: 10-11	Name: HH_TRIPS (C)
Var. 4	Fmt: A3	Col: 12-14	Name: COMPLETED (D)
Var. 5	Fmt: A1	Col: 15	Name: GPS_Y or N_ (E)
Var. 6	Fmt: N1 1=Ada County	Col: 16 2=Canyon County	Name: County (F)
Var. 7	Fmt: A3	Col: 17-19	Name: Major Sampling Area (G)
Var. 8	Fmt: A3	Col: 20-22	Name: Demographic Sampling area (H)
Var. 9	Fmt: A29	Col: 23-51	Name: HOME_Address (I)
Var. 10	Fmt: A29	Col: 52-80	Name: HOME_Address2 (J)
Var. 11	Fmt: A11	Col: 81-91	Name: HOME_CITY (K)
Var. 12	Fmt: A2	Col: 92-93	Name: HOME_STATE (L)
Var. 13	Fmt: N5	Col: 94-98	Name: HOME_ZIP (M)
Var. 14	Fmt: N5	Col: 99-103	Name: HOME_ZIP_TXT (N)
Var. 15	Fmt: N10	Col: 104-113	Name: HOME_LON (O)
Var. 16	Fmt: N8	Col: 114-121	Name: HOME_LAT (P)
Var. 17	Fmt: N4	Col: 122-125	Name: HOME_TAZ_NUM (Q)
Var. 18	Fmt: N2 1=1 person	Col: 126-127 2=2 people	Name: Number of Persons in Household (R) 3=3 people 4=4 or more people
Var. 19	Fmt: N1 0=Zero vehicles 1=1 vehicle	Col: 128	Name: Number of Household Vehicles Available (S) 2=2 vehicles 3=3 or more vehicles

Var. 20	Fmt: N1	Col: 129	Name: Annual Household Income (T)	
	1=under \$30,000		3=\$50,000 - \$74,999	5=\$100,000 or more
	2=\$30,000 - \$49,999		4=\$75,000 - \$99,999	9=Declined

Var. 21	Fmt: A9	Col: 130-138	Name: Submission Date (U)
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Codebook Name: PERSON FILE CODEBOOK

Var. 1	Fmt: N4	Col: 1-4	Name: ID (A)
Var. 2	Fmt: N5	Col: 5-9	Name: HH_ID (B)
Var. 3	Fmt: N2	Col: 10-11	Name: PERSON_ID (C)
Var. 4	Fmt: N2	Col: 12-13	Name: Age of Household Persons (D)
Var. 5	Fmt: N1 1=Male	Col: 14 2=Female	Name: GENDER (E) 9=Declined
Var. 6	Fmt: N1 1=Yes	Col: 15 2=No	Name: Dependent on Others for Transportation (F) 9=Declined
Var. 7	Fmt: N1 1=Yes	Col: 16 2=No	Name: Student Status (G) 9=Declined
Var. 8	Fmt: N1 1=Yes	Col: 17 2=No	Name: Employed (H) 9=Declined
Var. 9	Fmt: N2	Col: 18-19	Name: Type of Industry (I) 01=Agriculture, forestry, hunting, or mining 02=Arts, entertainment, recreation, accommodation, food services 03=Manufacturing 04=Other services 05=Public administration 06=Transportation, warehousing, utilities 07=Construction 08=Finance, insurance, real estate 09=Wholesale trade 10=Information 11=Profess. Svcs, Scientific Svcs, Tech Svcs 12=Education, health, social svcs 13=Retail trade 14=Other
Var. 10	Fmt: A20	Col: 20-39	Name: INDUSTRY_Other (J)
Var. 11	Fmt: A40	Col: 40-79	Name: EMPLOYER_Name (K)
Var. 12	Fmt: A30	Col: 80-109	Name: EMPLOYER_Address (L)
Var. 13	Fmt: A17	Col: 110-126	Name: EMPLOYER_City (M)
Var. 14	Fmt: A2	Col: 127-128	Name: EMPLOYER_State (N)
Var. 15	Fmt: N5	Col: 129-133	Name: Employer_Zip (O)
Var. 16	Fmt: N10	Col: 134-143	Name: EMP_LON (P)

Var. 17	Fmt: N8	Col: 144-151	Name: EMP_LAT (Q)
Var. 18	Fmt: N4	Col: 152-155	Name: EMPL_TAZ_NUM (R)
Var. 19	Fmt: N1 1=Downtown Boise	Col: 156 2=Not Downtown	Name: Employed Downtown (S) 9=Declined
Var. 20	Fmt: N1 1=Yes	Col: 157 2=No	Name: Pay to Park (T) 9=Declined
Var. 21	Fmt: N1 1=Full time	Col: 158 2=Part time	Name: Type of Employment (U) 9=Declined
Var. 22	Fmt: N1 1=Self employed	Col: 159 2=Not self employed	Name: Self Employed (V) 9=Declined
Var. 23	Fmt: N1 1=Held more than 1 job	Col: 160 2=Had 1 job only	Name: Number of Jobs (W) 9=Declined
Var. 24	Fmt: N1 1=Telecommute	Col: 161 2=Do not Telecommute	Name: Telecommute Status (X) 9=Declined
Var. 25	Fmt: N1 1=Yes	Col: 162 2=No	Name: Telecommuted on Travel Day (Y) 3=Declined
Var. 26	Fmt: A10	Col: 163-172	Name: Submission Date (Z)
Var. 27	Fmt: N2	Col: 173-174	Name: HH_Size (AA)
Var. 28	Fmt: N1 0=Zero vehicles 1=1 vehicle	Col: 175 2=2 vehicles 3=3 or more vehicles	Name: Number of Household Vehicles Available (AB)
Var. 29	Fmt: N1 1=under \$30,000 2=\$30,000 - \$49,999	Col: 176 3=\$50,000 - \$74,999 4=\$75,000 - \$99,999	Name: Annual Household Income (AC) 5=\$100,000 or more 9=Declined
Var. 30	Fmt: A3	Col: 177-179	Name: Major Sampling Area (AD)
Var. 31	Fmt: N1 1=Ada County	Col: 180 2=Canyon County	Name: County (AE)

Codebook Name: TRIP FILE CODEBOOK

Var. 1	Fmt: N7.1	Col: 1-7	Name: ID (A)
Var. 2	Fmt: N5	Col: 8-12	Name: HH_ID (B)
Var. 3	Fmt: N2	Col: 13-14	Name: Person_ID (C)
Var. 4	Fmt: N2	Col: 15-16	Name: Trip_ID (D)
Var. 5	Fmt: N2	Col: 17-18	Name: MONTH (E)
Var. 6	Fmt: N2	Col: 19-20	Name: DATE (F)
Var. 7	Fmt: N4	Col: 21-24	Name: YEAR (G)
Var. 8	Fmt: A1	Col: 25	Name: DAY (H)
Var. 9	Fmt: A30	Col: 26-55	Name: START_NAME (I)
Var. 10	Fmt: A40	Col: 56-95	Name: START_Address (J)
Var. 11	Fmt: A15	Col: 96-110	Name: START_City (K)
Var. 12	Fmt: A2	Col: 111-112	Name: START_State (L)
Var. 13	Fmt: N5	Col: 113-117	Name: START_Zip (M)
Var. 14	Fmt: N5	Col: 118-122	Name: START_Zip_TXT (N)
Var. 15	Fmt: N10	Col: 123-132	Name: START_LON (O)
Var. 16	Fmt: N10.1	Col: 133-142	Name: START_LAT (P)
Var. 17	Fmt: N4	Col: 143-146	Name: START_TAZ_NUM (Q)
Var. 18	Fmt: N2	Col: 147-148	Name: START_TypeofPlace (R)
Var. 19	Fmt: A20	Col: 149-168	Name: START_TypeofPlaceOTHER (S)
Var. 20	Fmt: A30	Col: 169-198	Name: DESTINATION_NAME (T)
Var. 21	Fmt: A40	Col: 199-238	Name: DESTINATION_Address (U)

Var. 22	Fmt: A15	Col: 239-253	Name: DESTINATION_City (V)
Var. 23	Fmt: A2	Col: 254-255	Name: DESTINATION_State (W)
Var. 24	Fmt: N5	Col: 256-260	Name: DESTINATION_Zip (X)
Var. 25	Fmt: N5	Col: 261-265	Name: DESTINATION_Zip_TXT (Y)
Var. 26	Fmt: N10	Col: 266-275	Name: DEST_LON (Z)
Var. 27	Fmt: N10.1	Col: 276-285	Name: DEST_LAT (AA)
Var. 28	Fmt: N4	Col: 286-289	Name: DESTIN_TAZ_NUM (AB)
Var. 29	Fmt: N2	Col: 290-291	Name: Type of Destination Place (AC)
	01=Your Home		08=Bank/other office
	02=Your Workplace		09=Private Residence
	03=School/College/University		10=Place of Worship
	04=Store/Retail		11=Bus stop
	05=Restaurant		12=Airport
	06=Medical/Dental		13=Other
	07=Recreation Place		
Var. 30	Fmt: A20	Col: 292-311	Name: DESTINATION_TypeofPlaceOTHER (AD)
Var. 31	Fmt: N2	Col: 312-313	Name: Purpose of Trip (AE)
	01=Return Home		
	02=Work/Work Related		
	03=Shopping (non-grocery)		
	04=Grocery Shopping		
	05=Personal Business (medical/dental)		
	06=Attend School/School Related Function		
	07=Eat Meal (dine-in)		
	08=Pick up/Drop off passenger (child)		
	09=Quick Stop (ATM, coffee, drive-thru, gas)		
	10=Social/Civic/Religious		
	11=Recreation/Entertainment		
	12=Change Vehicle Type (car to bus)		
	13=Accompanied another person to their activity		
	99=Other		
Var. 32	Fmt: A24	Col: 314-337	Name: PURPOSE_Other (AF)
Var. 33	Fmt: N4	Col: 338-341	Name: TIME_Depart (AG)
Var. 34	Fmt: A1	Col: 342	Name: TIME_Depart_AMorPM (AH)

Var. 35	Fmt: A8	Col: 343-350	Name: DEPART TIME_formatted (AI)
Var. 36	Fmt: N4	Col: 351-354	Name: TIME_Arrive (AJ)
Var. 37	Fmt: A1	Col: 355	Name: TIME_Arrive_AMorPM (AK)
Var. 38	Fmt: A10	Col: 356-365	Name: ARRIVE TIME_formatted (AL)
Var. 39	Fmt: N4	Col: 366-369	Name: TRAVEL TIME in minutes (AM)
Var. 40	Fmt: A5	Col: 370-374	Name: TRIP LENGTH in miles (AN)
Var. 41	Fmt: A5	Col: 375-379	Name: SPEED in miles per hour (AO)
Var. 42	Fmt: N1	Col: 380	Name: Mode of Travel (AP) 01=Drove privately-owned car/pickup/SUV 06=Walked 02=Was a passenger in a car/truck/SUV 07=Taxi 03=Bicycle 08=Motorcycle 04=School bus 09=Other 05=Public bus
Var. 43	Fmt: A2	Col: 381-382	Name: ROUTE (AQ)
Var. 44	Fmt: A20	Col: 383-402	Name: MODE_other (AR)
Var. 45	Fmt: N2	Col: 403-404	Name: Number of Vehicle Occupants (AS) 1=1 person 3=3 people 5=5 or more people 2=2 people 4=4 people
Var. 46	Fmt: N1	Col: 405	Name: REMOTE_LOT (AT)
Var. 47	Fmt: N2	Col: 406-407	Name: WALK_TIME (AU)
Var. 48	Fmt: A3	Col: 408-410	Name: TRIP_INSIDE_COMPASS (AV)
Var. 49	Fmt: N2	Col: 411-412	Name: Number of Persons in Household (AW) 1=1 person 2=2 people 3=3 people 4=4 or more people
Var. 50	Fmt: N1	Col: 413	Name: Number of Household Vehicles Available (AX) 0=Zero vehicles 2=2 vehicles 1=1 vehicle 3=3 or more vehicles
Var. 51	Fmt: N1	Col: 414	Name: Annual Household Income (AY) 1=under \$30,000 3=\$50,000 - \$74,999 5=\$100,000 or more 2=\$30,000 - \$49,999 4=\$75,000 - \$99,999 9=Declined
Var. 52	Fmt: A3	Col: 415-417	Name: Major Sampling Area (AZ)
Var. 53	Fmt: N1	Col: 418	Name: County (BA) 01=Ada County 02=Canyon County

Appendix C: Survey Forms and Materials



Regional Household Travel Survey
(Phone Recruitment Script) – DRAFT #3

Date: _____ Interviewer: _____ Phone: (____) _____

This is _____. I'm calling for the Community Planning Association of Southwest Idaho, also known as COMPASS. **We are not selling anything.** The reason I am calling is that we need input from local residents to plan transportation improvements for the Ada and Canyon Counties. Would you have a few minutes to help us with this study?

If Yes: Continue

If No: Would there be a better time to call? Note date/time:

Thank you. Your household was selected at random to participate in a household travel survey that will be used to plan new and improved transportation services for residents of the Ada and Canyon Counties. You may remember receiving a letter about the survey during the past few days.

Since travel patterns in our region are often related to household size, income, vehicle availability, and other factors, I am going to begin the survey by asking you a few questions about your household. All of the information you provide will be kept completely confidential.

1. How many persons, including unrelated persons, currently live in your household?

_____ persons living in household [WRITE IN NUMBER]

2. Which of the following best describes your home?

- ___(1) Single family dwelling (a free standing house, mobile home)
- ___(2) Multifamily dwelling (duplex, triplex, condominium, or apartment)
- ___(3) Other: _____

3. How many working motorized vehicles, including cars and trucks are available for use by members of your household? (This excludes motorcycles, R.V.s or farm equipment that are normally parked at your home).

- ___(0) zero
- ___(1) one
- ___(2) two
- ___(3) three or more

4. Can you please tell me the ages and gender of each member of your household, and whether or not each person is a licensed driver?

Age (yrs) Gender Is this person a licensed driver? (if under the age of 15, don't ask this)

#1 _____ 1=M 2=F 1=Yes 2=No

#2 _____ 1=M 2=F 1=Yes 2=No

#3 _____ 1=M 2=F 1=Yes 2=No

#4 _____ 1=M 2=F 1=Yes 2=No

#5 _____ 1=M 2=F 1=Yes 2=No

#6 _____ 1=M 2=F 1=Yes 2=No

#7 _____ 1=M 2=F 1=Yes 2=No

5. Since travel patterns are often related to household income, we would appreciate it if you would indicate which of the following income ranges best describes your total annual household income. Household income is a very important component of the region's transportation planning process and all information you provide will be kept confidential.

- ___(1) under \$30,000
- ___(2) \$30,000 - \$49,999
- ___(3) \$50,000 - \$74,999
- ___(4) \$75,000 - \$99,999
- ___(5) \$100,000 or more

A key element of our study involves gathering information about travel patterns of residents in the region. By studying the origins and destinations of people's trips, we can do a better job of planning transportation improvements for the region.

Your participation would involve having each member of your household keep a one-day travel diary. This travel diary only takes a few minutes to complete and will show where you travel, what time you travel, and how you travel to each of the destinations you visit on your travel day.

May I get your complete mailing address so that we can mail the diaries to you?

6. NAME of person: _____

What is your household address?

Street or Rural Route (w/Box #)

Apartment # (if applicable)

City

State

Zip

We will mail travel diaries to you in a few days for each person in your household. When you receive them, just follow the directions and have each member of your household complete the diaries on the day indicated. An adult member of your household should help children complete the diaries.

I will call you a day or two before your scheduled travel day to see if you have any questions.

It is very important that everyone in your household complete the diaries on the same day.

After you complete your travel day, you will be contacted to review the information you collected on your travel diary. We will then ask you to return your completed diaries to us in a postage-paid envelope that will be provided.

Before I end this call, do you have any questions?

We appreciate your help. If you have questions, please call toll-free 888-801-5368 and ask for Bonnie. Or you may get information on the web at www.compass2011survey.org.

Thanks again for your participation in this important project.



COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

Fall 2011

Dear Resident:

The Community Planning Association of Southwest Idaho (COMPASS) is an association of local governments that is responsible for transportation planning in the Ada and Canyon Counties. Starting in September 2011, COMPASS will be conducting a survey of 3,500 households in the area. The results of the survey will be used to help plan future transportation improvements throughout the region.

Your household was selected at random to participate in this survey. Although your participation is voluntary, we hope you will consider making it a priority to ensure that residents of your area are properly represented.

In a few days, a trained interviewer from the ETC Institute, will call and ask you some questions about your household. The ETC Institute has been contracted by COMPASS to administer the survey. The information you provide will be confidential and will be used for statistical purposes only.

If you have any questions about the COMPASS Regional Household Travel Survey, please contact ETC Institute's project manager, Chris Tatham, toll free at 1-888-801-5368, or the local representative, MaryAnn Waldinger, COMPASS principal planner, 208-855-2558 ext. 234. You may also get more information about COMPASS and this survey on the COMPASS website at www.compass2011survey.org.

Thank you in advance for your participation.

Sincerely,

MaryAnn Waldinger
Principal Planner

800 S. Industry Way, Ste 100

Meridian, ID 83642

P. 208.855.2558

F. 208.855.2559

www.compassidaho.org



Fall 2011

Dear Resident:

Thank you for agreeing to participate in the Regional Household Travel Survey being sponsored by Community Planning Association of Southwest Idaho (COMPASS). COMPASS is an association of local governments that is responsible for transportation planning in Ada and Canyon Counties.

ETC Institute, a survey research firm, is administering this important survey on behalf of COMPASS. By sharing your household's travel information, you are doing your part to help improve the quality of transportation in Ada and Canyon Counties.

Your household was selected at random to participate in this survey. All information collected will be kept strictly confidential. The data your household provides will be combined with responses from other households to help COMPASS forecast transportation needs in our region.

Instructions are included in the packet accompanying this letter. It is important that you provide all information requested for your assigned travel day and that everyone in your household complete the travel survey on the same day. Please have an adult in your household complete a travel diary for young children or others who are not be able to do so.

Please call the ETC Institute toll-free travel survey "hotline" at 1-888-801-5368, or visit the COMPASS website at www.compass2011survey.org if you need help filling out the diary.

Thanks for your contribution!

Sincerely,

MaryAnn Waldinger
Principal Planner

Contents of This Packet Include:

- **Travel Survey Instructions**
- **Sample Travel Diary**
- **Travel Diaries**
- **Additional Diary Sheets (if needed)**
- **Reminder Card with Magnet**

To say thank you for participating, your household will be entered into a drawing for one of ten \$200 gift certificates to a local merchant. The drawing will take place at the conclusion of the survey.

THE FOLLOWING ITEMS ARE ENCLOSED:

- **Individual Travel Diaries (yellow cards)** are enclosed for **each member** of your household. This travel diary will help members of your household keep track of their trips on their travel day. Extra cards (ivory sheets) have been enclosed in the event one or more members of your household travel to more than 8 destinations on your travel day. If additional travel diary cards are used, please attach them to the appropriate person's travel diary.
- **Sample diary on blue paper.** A sample trip diary (blue sheet) for the trips listed below has been included in this packet. The sample diary shows three trips:
 - #1 YOU DRIVE TO WORK
 - #2 THEN YOU RETURN HOME FROM WORK
- **Orange card giving your travel day—has a magnet, so it can be put on your refrigerator.**

DIRECTIONS:

- 1) Please ensure that an **INDIVIDUAL TRAVEL DIARY (yellow cards)** is completed for EVERYONE in your household. **For children under age 10** or persons with disabilities, please have another member of your household (i.e., parent) complete the travel diary. If your child goes on a field trip while at school, please ensure that the trip is recorded.
- 2) **Record ALL Trips that you make on your travel day, including walking and biking trips.**
- 3) Please ensure that the INDIVIDUAL TRAVEL DIARY is completed ON THE DAY SHOWN ON THE ORANGE CARD that is enclosed with this packet. **Everyone should complete the travel diary on the same date.** Your travel day begins at 2:00 am on the day shown on the orange card and goes until 2:00 am the next day. (***If you are at work at 2:00 am, begin your travel diary at work.***)
- 4) Please ask all members of your household who are completing the travel diary to carry a travel diary with him/her on the travel day and to record each trip after it is made. **Be sure to record each place that you go, not just your final destination.** For example, if you stop for gas on your way home from work, record the trip from work to the gas station and the trip from the gas station to your home separately. **Travel diaries should not be completed while you are driving a vehicle.**
- 5) **At the top of the Individual Travel Diary** be sure to record the travel day and date, the demographic and employment data requested, and where the first trip of the day begins. **Please provide complete addresses whenever possible** for each destination you visit. ***Include the street prefix (E, N, S, W) and the street suffix (Ave, St, Lane, Terr) when applicable. For example write 123 W. Main St not 123 Main.***
- 6) **If 2 or more persons in the household travel together, the trip should appear on each person's travel diaries** and the total number of people in the vehicle should be the same on each diary. For example, if two people in your household go to the store in a car together, each person should a trip to the store on his/her diary and the number of people in the vehicle should be "2" on both diaries.
- 7) A person should use extra sheets (ivory sheets) if one diary is not enough.
- 8) If **a person does not travel anywhere** on your household's travel day, write: "DID NOT GO ANYWHERE TODAY" for Trip #1. If **a person is Outside the State of Idaho for the entire day (all 24 hours)** write: "OUTSIDE THE STATE ALL DAY" for Trip #1.
- 9) The day after your travel day, you will be contact by a representative from ETC Institute who will review the information you collected on your travel diary by phone. Following this call, we will ask you to mail your completed diaries to ETC Institute using the postage paid envelope provided.



COMPASS

COMMUNITY PLANNING ASSOCIATION

of Southwest Idaho

Household#:

Questions: Call 1-888-801-5368

Regional Household Survey TRAVEL DIARY

1. Your Travel Date (e.g., Sept 22): Aug. 22
2. What Day of the Week Was your Travel Date? (circle one): Monday Tuesday Wednesday Thursday
3. What is your age? 51
4. Your gender? Male Female
5. Are you dependent on others for transportation? YES NO
6. Are you a student? YES NO
7. Are you employed? YES NO

Answer Questions 8-14 only if YOU are currently employed

8. Which of the following BEST describes the type of industry in which you work? (circle one)

- | | | |
|--|--|---|
| (01) Agriculture, forestry, hunting, or mining | (06) Transportation, warehousing, utilities | (11) Professional Services, Scientific Services, Technical Services |
| (02) Arts, entertainment, recreation, accommodation, food services | (07) Construction | <u>(12) Education, health, social services</u> |
| (03) Manufacturing | (08) Finance, insurance, real estate, rental/leasing | (13) Retail trade |
| (04) Other services | (09) Wholesale trade | (14) Other - please describe: _____ |
| (05) Public administration | (10) Information | |

9. What is the name and exact address of your primary place of employment?

Name of Employer: Boise State University

Street Address: 1910 University Dr

City: Boise State: ID Zip: 83725

10. Is your primary place of employment (in #9) located in Downtown Boise? YES NO

10a. [If yes to #10] Do you (or your employer) pay for parking while you work? YES NO

11. Are you employed full or part time? Full-time Part-time

12. Are you self-employed? YES NO

13. Do you hold more than one job? YES NO

14. Do you telecommute (or work at home for your employer regularly instead of going to an office or other location to work)? YES NO

14a. [If yes to #14] Did you telecommute from home today? YES NO

Where were you at 2:00 am today?

START HERE

Street Address: 123 Abbs St.

City: Boise State: ID Zip: 83705

What type of place was this (Home, Work, School, Other)? Home

What time did you leave this place for the first time on your travel day? 7:45 AM PM

# of places visited	Where was this place? (provide the address)	What type of place was this? (circle one)	Why did you go to this place? (circle one)	TIME (to the nearest minute)	How did you get to this place? (circle one)
#1 The First Place I Went	<u>Boise State University</u> Name or Description of Place <u>1910 University Dr</u> Address (or nearest intersection) include suffix (St., Ave., lane, etc.) <u>Boise</u> <u>ID</u> City State <u>83725</u> Zip (if known)	01 Your Home <input checked="" type="radio"/> 02 Your Workplace 03 School/College/University Types of Places 04 Store/Retail 05 Restaurant 06 Medical/Dental 07 Recreation Place 08 Bank/other office 09 Private Residence 10 Place of Worship 11 Bus stop 12 Airport 13 Other:	01 Return Home <input checked="" type="radio"/> 02 Work/Work Related 03 Shopping (non-grocery) 04 Grocery Shopping 05 Personal Business (medical / dental appointment, post office, bank, etc.) 06 Attend School/School Related Function 07 Eat Meal (dine-in) 08 Pick up/Drop off passenger (child) 09 Quick Stop (ATM, coffee, drive-thru, gas) 10 Social/Civic/Religious 11 Recreation/Entertainment 12 Change Vehicle Type (car to bus; car to plane) 13 Accompanied another person to their activity 99 Other:	What time did you arrive at this place? Time: <u>7:55</u> circle one: <u>AM</u> / <u>PM</u> What time did you leave this place? Time: <u>5:00</u> circle one: <u>AM</u> / <u>PM</u> My last place for the day	<input checked="" type="radio"/> 01 Drove privately-owned car/pickup/SUV 02 Was a passenger in a car/truck/SUV 03 Bicycle 04 School bus 05 Public bus: which route? _____ 06 Walked 07 Taxi 08 Motorcycle 09 Other: _____ If drove or passenger: How many people were in the vehicle? <u>01</u> (write "NA" if you walked or biked) Did you park in a remote lot or parking garage? YES <input checked="" type="radio"/> NO <input type="radio"/> If YES, how long did it take you to walk from the place you parked to your destination? _____ minutes (if less than 1 minute write "0")
#2 The Next Place I Went	<u>Home</u> Name or Description of Place <u>123 Abbs St.</u> Address (or nearest intersection) include suffix (St., Ave., lane, etc.) <u>Boise</u> <u>ID</u> City State <u>83705</u> Zip (if known)	<input checked="" type="radio"/> 01 Your Home 02 Your Workplace 03 School/College/University Types of Places 04 Store/Retail 05 Restaurant 06 Medical/Dental 07 Recreation Place 08 Bank/other office 09 Private Residence 10 Place of Worship 11 Bus stop 12 Airport 13 Other:	<input checked="" type="radio"/> 01 Return Home 02 Work/Work Related 03 Shopping (non-grocery) 04 Grocery Shopping 05 Personal Business (medical / dental appointment, post office, bank, etc.) 06 Attend School/School Related Function 07 Eat Meal (dine-in) 08 Pick up/Drop off passenger (child) 09 Quick Stop (ATM, coffee, drive-thru, gas) 10 Social/Civic/Religious 11 Recreation/Entertainment 12 Change Vehicle Type (car to bus; car to plane) 13 Accompanied another person to their activity 99 Other:	What time did you arrive at this place? Time: <u>5:10</u> circle one: <u>AM</u> / <u>PM</u> What time did you leave this place? Time: _____ circle one: <u>AM</u> / <u>PM</u> My last place for the day	<input checked="" type="radio"/> 01 Drove privately-owned car/pickup/SUV 02 Was a passenger in a car/truck/SUV 03 Bicycle 04 School bus 05 Public bus: which route? _____ 06 Walked 07 Taxi 08 Motorcycle 09 Other: _____ If drove or passenger: How many people were in the vehicle? <u>01</u> (write "NA" if you walked or biked) Did you park in a remote lot or parking garage? YES <input checked="" type="radio"/> NO <input type="radio"/> If YES, how long did it take you to walk from the place you parked to your destination? _____ minutes (if less than 1 minute write "0")

Household#: _____
Questions: Call 1-888-801-5368



Regional Household Survey TRAVEL DIARY

1. Your Travel Date (e.g., Sept 22): _____
2. What Day of the Week Was your Travel Date? (circle one): Monday Tuesday Wednesday Thursday
3. What is your age? _____
4. Your gender? Male Female
5. Are you dependent on others for transportation? YES NO
6. Are you a student? YES NO
7. Are you employed? YES NO

Answer Questions 8-14 only if YOU are currently employed

8. Which of the following BEST describes the type of industry in which you work? (circle one)

- | | | |
|--|--|---|
| (01) Agriculture, forestry, hunting, or mining | (06) Transportation, warehousing, utilities | (11) Professional Services, Scientific Services, Technical Services |
| (02) Arts, entertainment, recreation, accommodation, food services | (07) Construction | (12) Education, health, social services |
| (03) Manufacturing | (08) Finance, insurance, real estate, rental/leasing | (13) Retail trade |
| (04) Other services | (09) Wholesale trade | (14) Other - please describe: _____ |
| (05) Public administration | (10) Information | |

9. What is the name and exact address of your primary place of employment?

Name of Employer: _____

Street Address: _____

City: _____ State: ____ Zip: _____

10. Is your primary place of employment (in #9) located in Downtown Boise? YES NO
- 10a. [If yes to #10] Do you (or your employer) pay for parking while you work? YES NO
11. Are you employed full or part time? Full-time Part-time
12. Are you self-employed? YES NO
13. Do you hold more than one job? YES NO
14. Do you telecommute (or work at home for your employer regularly instead of going to an office or other location to work)? YES NO
- 14a. [If yes to #14] Did you telecommute from home today? YES NO

Where were you at 2:00 am today?

START HERE

Street Address: _____

City: _____ State: _____ Zip: _____

What type of place was this (Home, Work, School, Other)? _____

What time did you leave this place for the first time on your travel day? _____ AM / PM

# of places visited	Where was this place? (provide the address)	What type of place was this? (circle one)	Why did you go to this place? (circle one)	TIME (to the nearest minute)	How did you get to this place? (circle one)
#1 The First Place I Went	Name or Description of Place Address (or nearest intersection) include suffix (St., Ave., lane, etc.) City _____ State _____ Zip (if known) _____	01 Your Home 02 Your Workplace 03 School/College/ University <u>Types of Places</u> 04 Store/Retail 05 Restaurant 06 Medical/Dental 07 Recreation Place 08 Bank/other office 09 Private Residence 10 Place of Worship 11 Bus stop 12 Airport 13 Other: _____	01 Return Home 02 Work/Work Related 03 Shopping (non-grocery) 04 Grocery Shopping 05 Personal Business (medical / dental appointment, post office, bank, etc.) 06 Attend School/School Related Function 07 Eat Meal (dine-in) 08 Pick up/Drop off passenger (child) 09 Quick Stop (ATM, coffee, drive-thru, gas) 10 Social/Civic/Religious 11 Recreation/Entertainment 12 Change Vehicle Type (car to bus; car to plane) 13 Accompanied another person to their activity 99 Other: _____	What time did you arrive at this place? Time: _____ circle one: AM / PM What time did you leave this place? Time: _____ circle one: AM / PM My last place for the day	01 Drove privately-owned car/pickup/SUV 02 Was a passenger in a car/truck/SUV 03 Bicycle 04 School bus 05 Public bus: which route? _____ 06 Walked 07 Taxi 08 Motorcycle 09 Other: _____ If drove or passenger: How many people were in the vehicle? _____ (write "NA" if you walked or biked) Did you park in a remote lot or parking garage? YES NO If YES, how long did it take you to walk from the place you parked to your destination? _____ minutes (if less than 1 minute write "0")
#2 The Next Place I Went	Name or Description of Place Address (or nearest intersection) include suffix (St., Ave., lane, etc.) City _____ State _____ Zip (if known) _____	01 Your Home 02 Your Workplace 03 School/College/ University <u>Types of Places</u> 04 Store/Retail 05 Restaurant 06 Medical/Dental 07 Recreation Place 08 Bank/other office 09 Private Residence 10 Place of Worship 11 Bus stop 12 Airport 13 Other: _____	01 Return Home 02 Work/Work Related 03 Shopping (non-grocery) 04 Grocery Shopping 05 Personal Business (medical / dental appointment, post office, bank, etc.) 06 Attend School/School Related Function 07 Eat Meal (dine-in) 08 Pick up/Drop off passenger (child) 09 Quick Stop (ATM, coffee, drive-thru, gas) 10 Social/Civic/Religious 11 Recreation/Entertainment 12 Change Vehicle Type (car to bus; car to plane) 13 Accompanied another person to their activity 99 Other: _____	What time did you arrive at this place? Time: _____ circle one: AM / PM What time did you leave this place? Time: _____ circle one: AM / PM My last place for the day	01 Drove privately-owned car/pickup/SUV 02 Was a passenger in a car/truck/SUV 03 Bicycle 04 School bus 05 Public bus: which route? _____ 06 Walked 07 Taxi 08 Motorcycle 09 Other: _____ If drove or passenger: How many people were in the vehicle? _____ (write "NA" if you walked or biked) Did you park in a remote lot or parking garage? YES NO If YES, how long did it take you to walk from the place you parked to your destination? _____ minutes (if less than 1 minute write "0")

# of places visited	Where was this place? (provide the address)	What type of place was this? (circle one)	Why did you go to this place? (circle one)	TIME (to the nearest minute)	How did you get to this place? (circle one)
#3 The Next Place I Went	<hr/> Name or Description of Place <hr/> Address (or nearest intersection) include suffix (St., Ave., lane, etc.) City _____ State _____ <hr/> Zip (if known)	01 Your Home 02 Your Workplace 03 School/College/University <u>Types of Places</u> 04 Store/Retail 05 Restaurant 06 Medical/Dental 07 Recreation Place 08 Bank/other office 09 Private Residence 10 Place of Worship 11 Bus stop 12 Airport 13 Other: _____	01 Return Home 02 Work/Work Related 03 Shopping (non-grocery) 04 Grocery Shopping 05 Personal Business (medical / dental appointment, post office, bank, etc.) 06 Attend School/School Related Function 07 Eat Meal (dine-in) 08 Pick up/Drop off passenger (child) 09 Quick Stop (ATM, coffee, drive-thru, gas) 10 Social/Civic/Religious 11 Recreation/Entertainment 12 Change Vehicle Type (car to bus; car to plane) 13 Accompanied another person to their activity 99 Other: _____	What time did you arrive at this place? Time: _____ circle one: _____ AM / PM What time did you leave this place? Time: _____ circle one: _____ AM / PM My last place for the day	01 Drove privately-owned car/pickup/SUV 02 Was a passenger in a car/truck/SUV 03 Bicycle 04 School bus 05 Public bus: which route? _____ 06 Walked 07 Taxi 08 Motorcycle 09 Other: _____ If drove or passenger: How many people were in the vehicle? _____ (write "NA" if you walked or biked) Did you park in a remote lot or parking garage? YES NO If YES, how long did it take you to walk from the place you parked to your destination? _____ minutes (if less than 1 minute write "0")
#4 The Next Place I Went	<hr/> Name or Description of Place <hr/> Address (or nearest intersection) include suffix (St., Ave., lane, etc.) City _____ State _____ <hr/> Zip (if known)	01 Your Home 02 Your Workplace 03 School/College/University <u>Types of Places</u> 04 Store/Retail 05 Restaurant 06 Medical/Dental 07 Recreation Place 08 Bank/other office 09 Private Residence 10 Place of Worship 11 Bus stop 12 Airport 13 Other: _____	01 Return Home 02 Work/Work Related 03 Shopping (non-grocery) 04 Grocery Shopping 05 Personal Business (medical / dental appointment, post office, bank, etc.) 06 Attend School/School Related Function 07 Eat Meal (dine-in) 08 Pick up/Drop off passenger (child) 09 Quick Stop (ATM, coffee, drive-thru, gas) 10 Social/Civic/Religious 11 Recreation/Entertainment 12 Change Vehicle Type (car to bus; car to plane) 13 Accompanied another person to their activity 99 Other: _____	What time did you arrive at this place? Time: _____ circle one: _____ AM / PM What time did you leave this place? Time: _____ circle one: _____ AM / PM My last place for the day	01 Drove privately-owned car/pickup/SUV 02 Was a passenger in a car/truck/SUV 03 Bicycle 04 School bus 05 Public bus: which route? _____ 06 Walked 07 Taxi 08 Motorcycle 09 Other: _____ If drove or passenger: How many people were in the vehicle? _____ (write "NA" if you walked or biked) Did you park in a remote lot or parking garage? YES NO If YES, how long did it take you to walk from the place you parked to your destination? _____ minutes (if less than 1 minute write "0")
#5 The Next Place I Went	<hr/> Name or Description of Place <hr/> Address (or nearest intersection) include suffix (St., Ave., lane, etc.) City _____ State _____ <hr/> Zip (if known)	01 Your Home 02 Your Workplace 03 School/College/University <u>Types of Places</u> 04 Store/Retail 05 Restaurant 06 Medical/Dental 07 Recreation Place 08 Bank/other office 09 Private Residence 10 Place of Worship 11 Bus stop 12 Airport 13 Other: _____	01 Return Home 02 Work/Work Related 03 Shopping (non-grocery) 04 Grocery Shopping 05 Personal Business (medical / dental appointment, post office, bank, etc.) 06 Attend School/School Related Function 07 Eat Meal (dine-in) 08 Pick up/Drop off passenger (child) 09 Quick Stop (ATM, coffee, drive-thru, gas) 10 Social/Civic/Religious 11 Recreation/Entertainment 12 Change Vehicle Type (car to bus; car to plane) 13 Accompanied another person to their activity 99 Other: _____	What time did you arrive at this place? Time: _____ circle one: _____ AM / PM What time did you leave this place? Time: _____ circle one: _____ AM / PM My last place for the day	01 Drove privately-owned car/pickup/SUV 02 Was a passenger in a car/truck/SUV 03 Bicycle 04 School bus 05 Public bus: which route? _____ 06 Walked 07 Taxi 08 Motorcycle 09 Other: _____ If drove or passenger: How many people were in the vehicle? _____ (write "NA" if you walked or biked) Did you park in a remote lot or parking garage? YES NO If YES, how long did it take you to walk from the place you parked to your destination? _____ minutes (if less than 1 minute write "0")

# of places visited	Where was this place? (provide the address)	What type of place was this? (circle one)	Why did you go to this place? (circle one)	TIME (to the nearest minute)	How did you get to this place? (circle one)
#6 The Next Place I Went	<hr/> Name or Description of Place <hr/> Address (or nearest intersection) include suffix (St., Ave., lane, etc.) City _____ State _____ <hr/> Zip (if known)	01 Your Home 02 Your Workplace 03 School/College/ University <u>Types of Places</u> 04 Store/Retail 05 Restaurant 06 Medical/Dental 07 Recreation Place 08 Bank/other office 09 Private Residence 10 Place of Worship 11 Bus stop 12 Airport 13 Other: _____	01 Return Home 02 Work/Work Related 03 Shopping (non-grocery) 04 Grocery Shopping 05 Personal Business (medical / dental appointment, post office, bank, etc.) 06 Attend School/School Related Function 07 Eat Meal (dine-in) 08 Pick up/Drop off passenger (child) 09 Quick Stop (ATM, coffee, drive-thru, gas) 10 Social/Civic/Religious 11 Recreation/Entertainment 12 Change Vehicle Type (car to bus; car to plane) 13 Accompanied another person to their activity 99 Other: _____	What time did you arrive at this place? Time: _____ circle one: _____ AM / PM What time did you leave this place? Time: _____ circle one: _____ AM / PM My last place for the day	01 Drove privately-owned car/pickup/SUV 02 Was a passenger in a car/truck/SUV 03 Bicycle 04 School bus 05 Public bus: which route? _____ 06 Walked 07 Taxi 08 Motorcycle 09 Other: _____ If drove or passenger: How many people were in the vehicle? _____ (write "NA" if you walked or biked) Did you park in a remote lot or parking garage? YES NO If YES, how long did it take you to walk from the place you parked to your destination? _____ minutes (if less than 1 minute write "0")
#7 The Next Place I Went	<hr/> Name or Description of Place <hr/> Address (or nearest intersection) include suffix (St., Ave., lane, etc.) City _____ State _____ <hr/> Zip (if known)	01 Your Home 02 Your Workplace 03 School/College/ University <u>Types of Places</u> 04 Store/Retail 05 Restaurant 06 Medical/Dental 07 Recreation Place 08 Bank/other office 09 Private Residence 10 Place of Worship 11 Bus stop 12 Airport 13 Other: _____	01 Return Home 02 Work/Work Related 03 Shopping (non-grocery) 04 Grocery Shopping 05 Personal Business (medical / dental appointment, post office, bank, etc.) 06 Attend School/School Related Function 07 Eat Meal (dine-in) 08 Pick up/Drop off passenger (child) 09 Quick Stop (ATM, coffee, drive-thru, gas) 10 Social/Civic/Religious 11 Recreation/Entertainment 12 Change Vehicle Type (car to bus; car to plane) 13 Accompanied another person to their activity 99 Other: _____	What time did you arrive at this place? Time: _____ circle one: _____ AM / PM What time did you leave this place? Time: _____ circle one: _____ AM / PM My last place for the day	01 Drove privately-owned car/pickup/SUV 02 Was a passenger in a car/truck/SUV 03 Bicycle 04 School bus 05 Public bus: which route? _____ 06 Walked 07 Taxi 08 Motorcycle 09 Other: _____ If drove or passenger: How many people were in the vehicle? _____ (write "NA" if you walked or biked) Did you park in a remote lot or parking garage? YES NO If YES, how long did it take you to walk from the place you parked to your destination? _____ minutes (if less than 1 minute write "0")
#8 The Next Place I Went	<hr/> Name or Description of Place <hr/> Address (or nearest intersection) include suffix (St., Ave., lane, etc.) City _____ State _____ <hr/> Zip (if known)	01 Your Home 02 Your Workplace 03 School/College/ University <u>Types of Places</u> 04 Store/Retail 05 Restaurant 06 Medical/Dental 07 Recreation Place 08 Bank/other office 09 Private Residence 10 Place of Worship 11 Bus stop 12 Airport 13 Other: _____	01 Return Home 02 Work/Work Related 03 Shopping (non-grocery) 04 Grocery Shopping 05 Personal Business (medical / dental appointment, post office, bank, etc.) 06 Attend School/School Related Function 07 Eat Meal (dine-in) 08 Pick up/Drop off passenger (child) 09 Quick Stop (ATM, coffee, drive-thru, gas) 10 Social/Civic/Religious 11 Recreation/Entertainment 12 Change Vehicle Type (car to bus; car to plane) 13 Accompanied another person to their activity 99 Other: _____	What time did you arrive at this place? Time: _____ circle one: _____ AM / PM What time did you leave this place? Time: _____ circle one: _____ AM / PM My last place for the day	01 Drove privately-owned car/pickup/SUV 02 Was a passenger in a car/truck/SUV 03 Bicycle 04 School bus 05 Public bus: which route? _____ 06 Walked 07 Taxi 08 Motorcycle 09 Other: _____ If drove or passenger: How many people were in the vehicle? _____ (write "NA" if you walked or biked) Did you park in a remote lot or parking garage? YES NO If YES, how long did it take you to walk from the place you parked to your destination? _____ minutes (if less than 1 minute write "0")



COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

For Immediate Release

Contact: MaryAnn Waldinger, at (208) 855-2558 ext. 234.

Household Travel Survey Helps Determine Transportation Needs

September 10, 2011—(Meridian, Idaho)—Are you seeing more cars on the road? Do you spend more time at stoplights? A regional household travel survey, conducted by the Community Planning Association of Southwest Idaho (COMPASS) will begin on September 13, 2011 to help plan improved transportation services in the Treasure Valley.

Over the next three months, residents of the Ada and Canyon Counties will be contacted by phone to participate in the regional household travel survey. ETC Institute, a firm contracted by COMPASS to conduct the survey, will recruit a total of 3,500 households to participate in the survey. All participants will be selected at random.

Households participating in the survey will have each household member keep a travel diary for one day. They will record the destination address, travel time, mode of travel, and vehicle occupancy for their travels throughout the day. Parents will be asked to keep the travel diary for younger children. The results of the household travel diaries will be used to map the travel patterns of our region, providing a better understanding of how, when and where people travel. All information collected is confidential and individual responses will not be released.

The Community Planning Association of Southwest Idaho (COMPASS) is an association of local governments that is responsible for transportation planning in the Ada and Canyon Counties.

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Reminder

Your Travel Day is

MONDAY

(2:00 A.M. Monday to 2:00 A.M. Tuesday)

Have Every Household Member
(including ALL children)
complete a Travel Diary
for 24 hours on your travel day

If someone stays home all day,
Mark diary Trip # 1 "stayed home all day" and return

If someone is out of town or away from residence
for entire day and night,
Mark diary Trip # 1 "out of region all day" and return

Thank you!

Preguntas: 1-888-801-5368

Questions: 1-888-801-5368

COMPASS Household Travel Survey



Reminder

Your Travel Day is

TUESDAY

(2:00 A.M. Tuesday to 2:00 A.M. Wednesday)

Have Every Household Member
(including ALL children)
complete a Travel Diary
for 24 hours on your travel day

If someone stays home all day,
Mark diary Trip 1 "stayed home all day" and return

If someone is out of town or away from residence
for entire day and night,
Mark diary Trip 1 "out of region all day" and return

Thank you!

Preguntas: 1-888-801-5368

Questions: 1-888-801-5368

COMPASS Household Travel Survey



Reminder

Your Travel Day is

WEDNESDAY

(2:00 A.M. Wednesday to 2:00 A.M. Thursday)

Have Every Household Member
(including ALL children)
complete a Travel Diary
for 24 hours on your travel day

If someone stays home all day,
Mark diary Trip 1 "stayed home all day" and return

If someone is out of town or away from residence
for entire day and night,
Mark diary Trip 1 "out of region all day" and return

Thank you!

Preguntas: 1-888-801-5368

Questions: 1-888-801-5368

COMPASS Household Travel Survey



Reminder

Your Travel Day is

THURSDAY

(2:00 A.M. Thursday to 2:00 A.M. Friday)

Have Every Household Member
(including ALL children)
complete a Travel Diary
for 24 hours on your travel day

If someone stays home all day,
Mark diary Trip 1 "stayed home all day" and return

If someone is out of town or away from residence
for entire day and night,
Mark diary Trip 1 "out of region all day" and return

Thank you!

Preguntas: 1-888-801-5368

Questions: 1-888-801-5368

COMPASS Household Travel Survey