

2012-2013



for the **DELAWARE VALLEY REGION**



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We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region — leading the way to a better future.



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Member Counties

Burlington County

Camden County

Gloucester County

Mercer County

Bucks County

Chester County

Delaware County

Montgomery County

Philadelphia County

Philadelphia Streets Department

Mayor's Office of Transportation and Utilities

Philadelphia City Planning Commission

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Transportation Agencies

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New Jersey Department of Transportation

Southeastern Pennsylvania Transportation Authority

Pennsylvania Department of Transportation

Delaware Department of Transportation

Federal Highway Administration

Outside Experts

South Jersey Transportation Planning Organization

North Jersey Transportation Planning Authority

New York Metropolitan Transportation Council

Modeling Consultant

RSG

Executive Summary

This report documents the methods and results of the 2012–2013 Delaware Valley Regional Planning Commission’s (DVRPC) Household Travel Survey (HTS). The HTS was a year-long effort to collect travel data from households across the nine counties of the Delaware Valley region. Household, person, vehicle, and trip data were collected to serve a variety of planning purposes, including the calibration of a new activity-based travel demand model. AbtSRBI administered the survey and made contributions to the report.

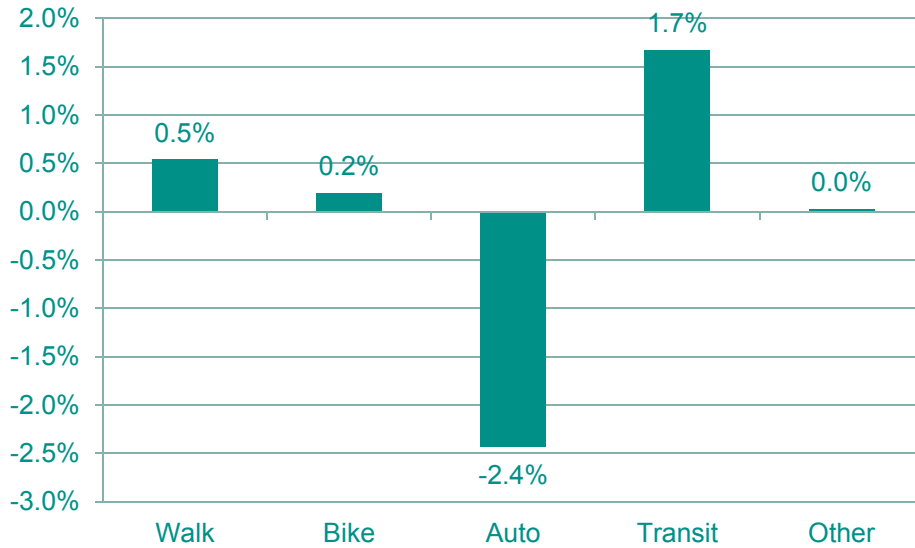
Prior to this HTS, the most recent survey was conducted in 2000. DVRPC, in collaboration with the South Jersey Transportation Planning Organization (SJTPO), conducted a travel survey of 4,217 households in the Delaware Valley and southern New Jersey. The goals for the 2012–2013 HTS were to improve upon this most recent dataset by focusing on just the nine-county region, increasing the sample size, and introducing Global Positioning System (GPS) trip tracking to a subset of households. This HTS achieved these goals by collecting travel information from 9,235 households comprised of 20,216 people who made 61,724 trips on their respective travel days. A total of 308 households participated in the GPS subsample to provide more detailed travel information.

The success of the HTS relied on the participation of households, the representativeness of the sample of the rest of the region, and the accuracy of the data provided. A public outreach plan was developed to generate public interest and emphasize the importance of good transportation planning to those who travel throughout the region. A sampling strategy was designed to recruit households for survey participation that would best represent the overall regional travel trends. Households were selected randomly but with special consideration given to under-represented geographies and transit propensity. Households were recruited during a recruitment interview, where respondents were asked to provide household and household member characteristics and vehicle details, and were assigned a travel day. On their assigned travel day, households were asked to record all trips made within a 24-hour period. Then, they were asked to return travel information via the survey website, a toll-free telephone number, or by mailing back their travel diaries.

Household and person characteristics were used to determine how many people in the region were represented by each respondent. The 9,235 households were weighted by county to represent the American Community Survey (ACS) 2008–2012 estimate of 2,097,203 households in the Delaware Valley region. Weighted survey results were analyzed to identify trends in the region. Notable findings are summarized below:

- Although the percentage of personal vehicle usage is high compared to other modes, it has decreased approximately two percent since 2000. On the other hand, transit usage increased around 2 percent. Walking and biking increased moderately as compared to the 2000 HTS, as seen in Figure 1.

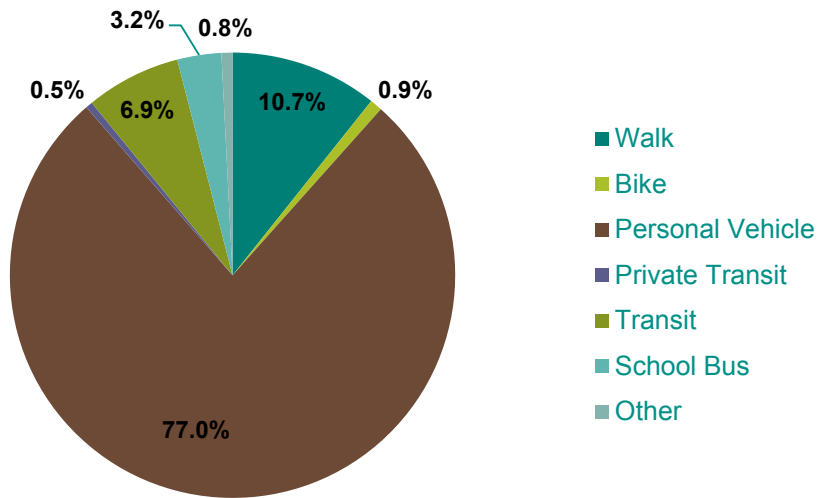
Figure 1: Change in Mode Share from 2000 to 2012–2013



Source: DVRPC HTS 2000 and 2012-2013

- As shown in Figure 2, over three-quarters of all trips in the region were made using a personal vehicle. Nearly 11 percent were made by walking, and 6.9 percent used transit. School buses were used for 3.2 percent of trips, while all other modes were used for less than 1 percent of trips.

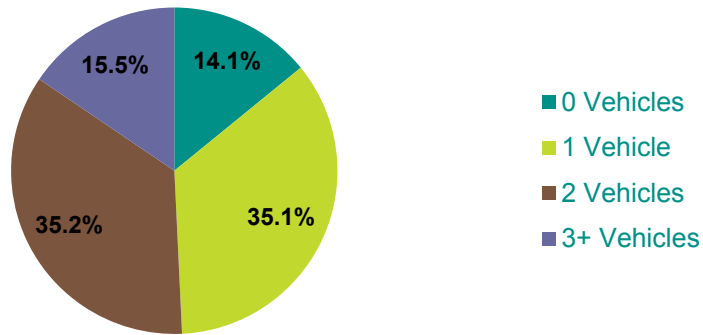
Figure 2: Mode Share



Source: DVRPC HTS 2012-2013

- Households had an average of 1.72 vehicles available for use. Figure 3 shows that approximately one-third of households in the region had one vehicle, another third had two vehicles, and the remaining third was split between households with zero vehicles and households with three or more vehicles.

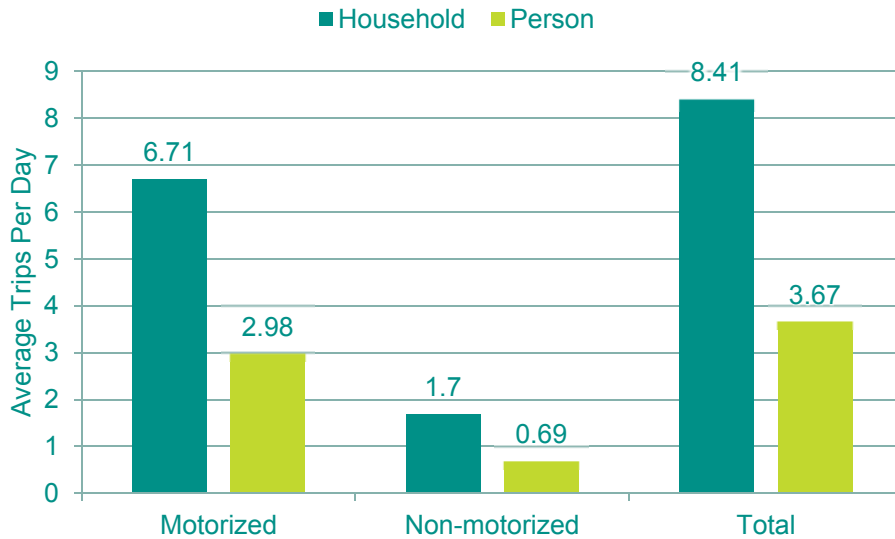
Figure 3: Vehicle Availability



Source: DVRPC HTS 2012-2013

- Households took an average of 8.41 trips per day, while the average person took 3.67 trips per day. Households and people in Mercer County took the most trips per day: 9.14 and 4.33, respectively.

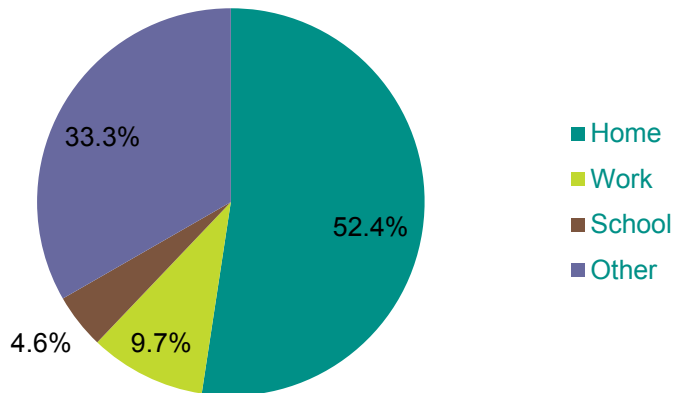
Figure 4: Trip Rates



Source: DVRPC HTS 2000 and 2012-2013

- As shown in Figure 4, households took significantly more motorized trips per day (6.71) than non-motorized (1.70).
- Figure 5 shows that over 52 percent of trips originated at home, while only 9.7 percent originated at work and 4.6 percent at school. One-third of all trips in the region originated at a place other than home, work, or school.

Figure 5: Trip Origins



Source: DVRPC HTS 2000 and 2012-2013

- More than half (41.6 percent) of trip activities were home activities not related to work, school, or online. The next most common activity was work for pay (10.7 percent), followed by everyday shopping (5.9 percent).

The robust dataset compiled as a result of the 2012–2013 HTS contains a wide variety of useful regional travel information. Transportation modeling and planning in the Delaware Valley will benefit from the volume of data collected, and transportation planning in the region will improve as a result.

A public version of the survey database is available on the DVRPC website (link below). The database has been cleaned to remove all personal information and reduce the precision of location data.

www.dvrpc.org/Transportation/Modeling/zip/PublicDB_RELEASE.zip (92.4 MB)

CHAPTER 1:

Introduction

This report documents the 2012–2013 DVRPC HTS. As the federally designated Metropolitan Planning Organization (MPO) for the nine-county Delaware Valley region, DVRPC relies on travel demand models for regional transportation analysis. Surveys like this one are a major input to travel demand models to determine if the model is replicating current travel behavior in the region. MPOs typically conduct a regional HTS about once a decade, as travel behavior may shift due to changes in demographics, economics, or technology. This survey was structured to gather information necessary for the development of a new activity-based transportation model. The abundance and variety of data collected from the survey are also useful for a wide variety of planning purposes, from pedestrian and bicycle planning and Transit Oriented Development projects to parking policy development, toll usage, and electric vehicle planning.

The Delaware Valley region consists of Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer counties in New Jersey (see Figure 6). These nine counties together comprise over 3,800 square miles and are made up of 352 municipalities. The region is home to 5.6 million residents and over 2.9 million jobs.

In 2001, DVRPC, in cooperation with SJTPO, released “Transportation for the 21st Century Household Travel Survey.” This report presented the findings from a sample of 4,217 households in a 14-county study area, including the nine DVRPC counties and five additional counties in southern New Jersey. That survey was conducted from March to December 2000, and the total number of participating households in the DVRPC region was only 4,217. The 2012–2013 HTS, administered by AbtSRBI, was designed to expand upon and update the travel data used in transportation planning. This HTS was overseen by DVRPC and a steering committee of transportation professionals and regional agencies. Data was collected from July 22, 2012, through September 13, 2013. This HTS collected information from 9,235 households, all within the nine-county Delaware Valley region. It also utilized GPS technology to gather detailed trip information from a subsample of households with which to assess traditional survey data.

1.1 Key Objectives

While the travel data serves many purposes, one of the primary objectives was to support the development of DVRPC’s activity-based travel demand model, Transportation Improvement Model (TIM) 3.0. The following objectives for data collection were developed to ensure the results of the HTS would be suitable for all expected applications.

- Capture the diversity and variability of household travel behavior in the region by accounting for different land use context and densities within the Delaware Valley, referenced here as area types (urban, suburban, and rural).
- Use an address-based sampling (ABS) frame to improve geographic specificity and overcome the challenges of cell phone-only households.
- Set data completeness standards high to minimize item non-response biases: 100 percent for key variables (e.g., household size) and 95 percent for other variables.
- Conduct follow-up survey with households that did not respond to HTS participation requests, to ensure results were representative of the population and identify non-response biases.

Figure 6: Study Geography



- Develop an integrated public outreach plan to engage the public and elicit responses from subgroup communities.
- Utilize fully integrated Computer Assisted Telephone Interviewing (CATI) and web-based data collection platforms to support multi-method data collection.
- Request information about the location and duration of activities, as well as information about accompanying household members.
- Develop an online mapping tool to assist respondents in providing accurate address information.
- Set high standards for geocoding trip locations: 95 percent of regional locations geocode-able to the parcel level.
- Spread data collection evenly across the survey period, by month and by day of the week, to account for any seasonal effects or day-to-day variations in travel.

The following chapters were designed to step readers through the HTS data collection process. Beginning with sample plan development and questionnaire design through survey implementation, each major component is addressed. In addition, a section on responsive design techniques demonstrates the extensive efforts required to overcome bias challenges in household travel survey data collection. The report concludes with survey results, often by county, and a comparative analysis with the 2000 survey results.

- Chapter 2: Sample Construction discusses the process used to select households for participation in the survey.
- Chapter 3: Questionnaire Development describes the four instruments used to gather information from survey participants.
- Chapter 4: Survey Administration outlines the pilot process, the public outreach plan, and the data collection steps.
- Chapter 5: Margins of Error, Weighting, and Trip Factors discusses efforts made to ensure data quality throughout the survey process and data analysis; it also explains how each household and household member was weighted and expanded to represent a larger portion of the overall Delaware Valley region population.
- Chapter 6: Survey Demographics details specific survey outcomes, including descriptive characteristics of households and household members by county, state, and the region as a whole.
- Chapter 7: Travel Results includes a variety of data about regional travel, including trip rates, mode share, activities, and tours.
- Chapter 8: Regional Trends compares some of the notable survey results with those of the 2000 survey to identify changes in regional travel.
- Numerous appendices are included with examples of survey materials, interview scripts, and details of the geocoding process.

A public version of the survey database is available on the DVRPC website (link below). The database has been cleaned to remove all personal information and reduce the precision of location data. Data mentioned throughout this report may reference specific fields which can be found in the public database. Field references will be in parentheses and written in all upper-case letters.

www.dvrpc.org/Transportation/Modeling/zip/PublicDB_RELEASE.zip (92.4 MB)

Sample Construction

The goal of the 2012–2013 DVRPC HTS sample design was to select a diverse sample of households that would accurately represent the wide range of households in the Delaware Valley. Various methods were employed throughout the process to avoid a sampling bias. Instead of a Random-Digit-Dial (RDD) sample based on telephone numbers, the majority of households were selected using an Address Based Sampling (ABS) frame. This method ensured the inclusion of cell phone-only households. Households were stratified first by state and then by area type designation (i.e., urban, suburban, rural). Additional households were selected from areas with high transit propensity using targeted oversampling techniques. This chapter explains the selection of the sampling frame, the stratification method, and the targeted oversampling technique. The percentage of completed surveys is compared to the 2010 ACS 1-Year sample estimates of household characteristics to gauge how well the sample represents households in the region. This was the ACS data available for comparison at the outset of the survey.

2.1 Sample Frame

In recent years, due to the rise in cell phone-only households and resulting concerns about coverage, survey researchers have moved away from traditional landline-based RDD, and more recent dual-frame (RDD and Cell) sampling methodologies, to ABS frames. While selecting an address sample is not a new methodology, ABS is seeing renewed popularity, a change from the overwhelming popularity of telephone samples throughout the past three decades. In addition to the challenges of telephone coverage, ABS popularity has been fueled by the availability of the U.S. Postal Service's (USPS) Computerized Delivery Sequence File (CDSF) enabling licensed vendors to improve the accuracy of their internal address lists.¹

An ABS frame was used for this study to:

- Improve coverage; lists vetted by the CDSF provide coverage to virtually all residential delivery-point addresses.
- Improve geographic distinctions for managing sample to the area type dimension; for example, sampling from Census tracts classified as urban, suburban, and rural.
- Avoid a costly cell phone sample. Cell phone samples can only be drawn for areas with wide coverage, and this significantly complicates geographically based sampling and weighting procedures.

A randomly selected probability sample of addresses in the region was purchased at the Census tract level from a USPS-licensed sample vendor, Marketing Systems Group.² To improve the efficiency of the address sample, vacant or seasonal homes were excluded. Supplemental P.O. Box addresses, where the household's physical street address also received mail, were also excluded.

Over the course of the year-long data collection process, the sampling design was adjusted to make up for lower than expected retrieval rates. In order to collect information from the goal number of households and meet deadlines, RDD sampling was introduced to recruit the final 20 percent of survey participants. This improved dialing efficiency for survey recruiters.

¹ Note that licensed vendors are not given access to the addresses on the CDSF. Rather, upon meeting strict accuracy criteria with their own proprietary address list, vendors are provided periodic updates to maintain the accuracy of their lists. Therefore, samples are not selected directly from the CDSF; rather, they are selected from an address list that has been vetted by the CDSF.

² "Marketing Systems Group," www.m-s-g.com/Web/Index.aspx (accessed September 10, 2014).

2.2 Sample Stratification

As stated, the design for the DVRPC HTS was a stratified random sample with targeted oversampling of transit propensity tracts. The sample was stratified by state, and then by area type. The density-based area type classification developed by DVRPC includes: Central Business District (CBD), CBD Fringe, Urban, Suburban, Rural, and Open Rural. To improve sampling efficiency, area types were collapsed from six classifications to three. The adjusted area type classifications were: (1) CBD/CBD Fringe/Urban; (2) Suburban; and (3) Rural/Open Rural. As a result of the sample stratification methods, the proportion of households sampled, for example in Suburban areas in Pennsylvania, is equal to the actual proportion of households in Suburban designated areas in Pennsylvania.

The target total number of completes was originally 10,000 households, but was later adjusted to 9,500 households. The goal was to collect completed surveys from 2,654 households in New Jersey (27.9 percent) and 6,846 in Pennsylvania (72.1 percent), as seen in Table 2. The targeted oversampling described in the next section did result in modest deviation in the distribution of sampled households across the nine counties in the Delaware Valley region.

2.3 Transit Propensity Oversample

The transit propensity oversample was developed to select additional households from geographic areas previously determined to have a high likelihood of using public transit. Transit scores were derived from a series of linear regressions to determine best fit factors using observed transit journey-to-work mode share. This methodology was developed for DVRPC in 1989, updated and expanded by New Jersey Transit Corporation in 2000, and calibrated in 2005 to areas within the DVRPC region. The three best fit factors were population density, employment density, and carless households. Areas likely to have established and potential transit opportunities were given transit scores of high, medium, or low.

The transit scores calibrated for the Delaware Valley region in 2005 were based on 2000 Census tracts. The HTS was based on 2010 Census tracts. Of the 1,379 2010 Census tracts, 1,088 tracts (79 percent) were determined to have a one-to-one relationship with 2000 Census tracts and thus assigned the original transit score. A cross walk was developed to assign transit scores to the remaining 291 tracts. Transit scores were averaged from the original 2000 data to produce the final score for the 2010 tract. There were 48 cases that could not be determined by averaging. Traffic Analysis Zones (TAZ) and 2000 Census boundaries were compared for these 48 cases. If a 2010 Census tract consisted of multiple TAZs, the TAZ transit scores were averaged to produce the final score. Transit score categories were then revised according to the original score criteria.³

After establishing scores for all 2010 Census tracts, the tracts were sorted by county and then by transit score. Within each county, the tracts were divided into transit score quintiles. The quintile approach classifies each county's tracts into five equally sized classes. Tracts in the highest quintile were flagged for oversampling. The quintile approach also helped to account for original score criteria adjustments. These adjustments, displayed as a range, were made to account for rich transit investment areas and potential transit opportunity areas. Table 1 shows the distribution of high transit score tracts for each county and the range for the highest quintile in each county.

³ Jerome M. Lutin et al., "Transit Score: Screening Model for Evaluating Community Suitability for Transit Investments," *Transportation Research Record: Journal of the Transportation Research Board*, 2063 (2008): 115–24, www.researchgate.net/publication/245563128_Transit_Score_Screening_Model_for_Evaluating_Community_Suitability_for_Transit_Investments (accessed March 30, 2015).

Table 1: Transit Score Quintile Classification by County

| County | Tracts Not in Oversample | Tracts in Oversample | Total Tracts | Highest Quintile Range |
|--------------------|--------------------------|----------------------|--------------|------------------------|
| Burlington | 91 | 23 | 114 | 3.3–7.2 |
| Camden | 101 | 26 | 127 | 5.3–15.2 |
| Gloucester | 50 | 13 | 63 | 2.5–5.4 |
| Mercer | 61 | 16 | 77 | 10.6–75.9 |
| Bucks | 114 | 29 | 143 | 3.2–9.9 |
| Chester | 93 | 23 | 116 | 2.2–24.1 |
| Delaware | 116 | 28 | 144 | 7.5–26.8 |
| Montgomery | 169 | 42 | 211 | 4.3–16.1 |
| Philadelphia | 307 | 77 | 384 | 23.9–105.2 |
| DVRPC Total | 1,102 | 277 | 1,379 | 2.2–105.2 |

Source: DVRPC 2012– 2013

These methods resulted in 20 percent of households in the sample being part of the transit propensity oversample. Oversampling was used strategically to increase the base among the critical travel subgroup of households residing in areas with high transit propensity. High transit propensity tracts are, of course, more likely to be in urban/high density areas. Further complicating the issue is the known difficulty of convincing urban households to participate in survey efforts. Thus, Table 2 demonstrates the percentage of total households estimated with and without the oversample, compared to actual completed households. Urban areas are under-represented in the final sample. However, this would have been more drastic had the transit propensity oversample not been implemented. Statistically, 116 New Jersey urban households are included in the completed sample compared to 1,973 urban households in Pennsylvania—sample sizes sufficient for modeling analysis.

Table 2: Distribution of Total Households and Target Complete Adjustments Compared to Actual Completes

| Area Type | Total Households | Target Completes without Oversample | % Target Completes without Oversample | % Target Completes with Oversample | % Actual Completes |
|----------------------|------------------|-------------------------------------|---------------------------------------|------------------------------------|--------------------|
| CBD/CBD Fringe/Urban | 47,026 | 210 | 7.9% | 9.8% | 5.1% |
| Suburban | 405,017 | 1,808 | 68.1% | 67.8% | 69.7% |
| Rural/Open Rural | 142,681 | 637 | 24.0% | 22.5% | 25.2% |
| NJ Total | 594,724 | 2,654 | 2,654 | 2,638 | 2,294 |
| CBD/CBD Fringe/Urban | 576,993 | 2,575 | 37.6% | 39.5% | 27.8% |
| Suburban | 706,573 | 3,153 | 46.1% | 45.4% | 50.2% |
| Rural/Open Rural | 250,369 | 1,117 | 16.3% | 15.1% | 22.0% |
| PA Total | 1,533,935 | 6,846 | 6,846 | 6,871 | 7,097 |
| DVRPC Total | 2,128,659 | 9,500 | 9,500 | 9,509 | 9,391 |

*Area type counts and percentages are calculated within each state.
Source: 2010 U.S. Census*

The goal of the sampling design was to gather travel information from a sample that is representative of population in the region. Tables 4, 5, and 6 compare the percentage of completed surveys to the ACS estimates for the percentage of households in Pennsylvania and New Jersey that fall into the same categories. The ACS data was compiled using the Public Use Microdata Sample (PUMS) dataset.

Table 3 examines the difference between the number of completed household surveys and the 2010 ACS 1-Year estimated proportion of households by income and household size. The margin of difference is highest for four or more-person households for all cells; however, all differences between targets and completes are below 10 percent. (Note that overall the percentage of households not reporting income was 8 percent). Weights were developed to correct for these small differences. A detailed description of weights is provided in Chapter 5.

Table 3: Household Income by Household Size by State

Complete Households

| Total Household Income (\$) | New Jersey | | | | Pennsylvania | | | |
|-----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 1 person | 2 person | 3 person | 4+ person | 1 person | 2 person | 3 person | 4+ person |
| 35,000 or below | 11.1% | 6.0% | 0.9% | 1.0% | 14.5% | 5.6% | 1.2% | 1.3% |
| 35,000 to 49,999 | 4.5% | 4.3% | 1.0% | 0.7% | 5.2% | 4.9% | 1.1% | 1.0% |
| 50,000 to 74,999 | 6.8% | 9.2% | 2.1% | 1.6% | 5.5% | 7.7% | 2.3% | 2.2% |
| 75,000 to 99,999 | 3.6% | 7.6% | 2.7% | 3.2% | 2.7% | 7.4% | 2.3% | 2.6% |
| 100,000 to 149,999 | 2.4% | 9.0% | 3.3% | 5.2% | 1.9% | 7.7% | 3.1% | 3.8% |
| 150,000 to 199,999 | 0.4% | 3.4% | 2.0% | 2.3% | 0.5% | 3.5% | 1.6% | 2.1% |
| 200,000 or more | 0.6% | 2.3% | 1.0% | 1.7% | 1.1% | 3.7% | 1.5% | 2.1% |
| Total | 29.4% | 41.8% | 13.1% | 15.7% | 31.5% | 40.3% | 13.2% | 15.0% |

Don't Know and Rather Not Say Responses have been excluded.

2010 American Community Survey 1-Year Estimates Public Use Microdata Sample

| Total Household Income (\$) | New Jersey | | | | Pennsylvania | | | |
|-----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 1 person | 2 person | 3 person | 4+ person | 1 person | 2 person | 3 person | 4+ person |
| 35,000 or below | 13.3% | 6.7% | 2.9% | 2.7% | 18.5% | 7.9% | 3.1% | 4.0% |
| 35,000 to 49,999 | 4.3% | 3.6% | 1.6% | 2.2% | 4.2% | 4.5% | 1.5% | 1.9% |
| 50,000 to 74,999 | 4.7% | 7.0% | 2.8% | 3.9% | 4.3% | 6.2% | 2.8% | 3.7% |
| 75,000 to 99,999 | 2.1% | 5.3% | 2.7% | 4.2% | 1.8% | 4.4% | 2.4% | 3.2% |
| 100,000 to 149,999 | 1.2% | 4.6% | 3.8% | 6.3% | 1.1% | 4.4% | 3.1% | 4.6% |
| 150,000 to 199,999 | 0.3% | 1.9% | 1.4% | 3.4% | 0.7% | 1.9% | 1.2% | 2.3% |
| 200,000 or more | 0.4% | 2.0% | 1.6% | 3.1% | 0.3% | 2.2% | 1.2% | 2.4% |
| Total | 26.2% | 31.1% | 16.7% | 25.9% | 31.0% | 31.6% | 15.5% | 22.0% |

+/- Margins of Difference

| Total Household Income (\$) | New Jersey | | | | Pennsylvania | | | |
|-----------------------------|-------------|--------------|--------------|---------------|--------------|-------------|--------------|--------------|
| | 1 person | 2 person | 3 person | 4+ person | 1 person | 2 person | 3 person | 4+ person |
| 35,000 or below | -2.2% | -0.7% | -2.0% | -1.7% | -4.0% | -2.3% | -1.9% | -2.7% |
| 35,000 to 49,999 | 0.2% | 0.7% | -0.6% | -1.5% | 1.0% | 0.4% | -0.4% | -0.9% |
| 50,000 to 74,999 | 2.1% | 2.2% | -0.7% | -2.3% | 1.2% | 1.5% | -0.5% | -1.5% |
| 75,000 to 99,999 | 1.5% | 2.3% | 0.0% | -1.0% | 0.9% | 3.0% | -0.1% | -0.6% |
| 100,000 to 149,999 | 1.2% | 4.4% | -0.5% | -1.1% | 0.8% | 3.3% | 0.0% | -0.8% |
| 150,000 to 199,999 | 0.1% | 1.5% | 0.6% | -1.1% | -0.2% | 1.6% | 0.4% | -0.2% |
| 200,000 or more | 0.2% | 0.3% | -0.6% | -1.4% | 0.8% | 1.5% | 0.3% | -0.3% |
| Total | 3.2% | 10.7% | -3.6% | -10.2% | 0.5% | 8.7% | -2.3% | -7.0% |

Source: DVRPC 2012– 2013; unweighted data

Table 4 compares the proportion of complete households by number of vehicles and household size to the 2010 ACS 3-Year Estimates. Margins of difference were highest in households with four or more persons.

Table 4: Household Vehicles by Household Size

Complete Households

| Total Household Vehicles | Household Size | | | |
|--------------------------|----------------|--------------|--------------|--------------|
| | 1 person | 2 person | 3 person | 4+ person |
| 0 | 8.5% | 3.0% | 1.3% | 1.3% |
| 1 | 19.5% | 9.1% | 3.3% | 3.3% |
| 2 | 1.7% | 15.9% | 6.5% | 11.2% |
| 3 | 0.2% | 2.7% | 3.8% | 4.2% |
| 4+ | 0.0% | 0.9% | 1.1% | 2.7% |
| Total | 29.9% | 31.4% | 16.0% | 22.7% |

2010 American Community Survey 3-Year Estimates

| Total Household Vehicles | Household Size | | | |
|--------------------------|----------------|--------------|--------------|--------------|
| | 1 person | 2 person | 3 person | 4+ person |
| 0 | 8.4% | 3.0% | 1.5% | 1.8% |
| 1 | 18.5% | 9.0% | 3.7% | 3.6% |
| 2 | 2.1% | 16.0% | 6.4% | 10.7% |
| 3 | 0.3% | 2.5% | 3.7% | 4.5% |
| 4+ | 0.1% | 0.6% | 0.8% | 2.8% |
| Total | 29.4% | 31.2% | 16.1% | 23.4% |

+/- Margins of Difference

| Total Household Vehicles | Household Size | | | |
|--------------------------|----------------|-------------|--------------|--------------|
| | 1 person | 2 person | 3 person | 4+ person |
| 0 | 0.1% | 0.0% | -0.2% | -0.5% |
| 1 | 1.0% | 0.1% | -0.4% | -0.3% |
| 2 | -0.4% | -0.1% | 0.1% | 0.5% |
| 3 | -0.1% | 0.2% | 0.1% | -0.3% |
| 4+ | -0.1% | 0.3% | 0.3% | -0.1% |
| Total | 0.5% | 0.2% | -0.1% | -0.7% |

Source: DVRPC 2012– 2013; unweighted data

Table 5 compares the proportion of complete households by number of household workers and household size to the 2010 ACS 3-Year Estimates. Margins of difference were highest in two-person households.

Table 5: Household Workers by Household Size

Complete Households

| Total Household Workers | Household Size | | | |
|-------------------------|----------------|--------------|--------------|--------------|
| | 1 person | 2 person | 3 person | 4+ person |
| 0 | 17.0% | 14.5% | 1.0% | 0.5% |
| 1 | 13.7% | 12.3% | 4.3% | 4.0% |
| 2 | — | 14.3% | 6.0% | 7.6% |
| 3+ | — | — | 2.0% | 2.9% |
| Total | 30.6% | 41.1% | 13.2% | 15.0% |

2010 American Community Survey 3-Year Estimates

| Total Household Workers | Household Size | | | |
|-------------------------|----------------|--------------|--------------|--------------|
| | 1 person | 2 person | 3 person | 4+ person |
| 0 | 14.1% | 8.2% | 1.7% | 1.7% |
| 1 | 15.2% | 11.0% | 5.6% | 7.1% |
| 2 | — | 11.9% | 6.6% | 9.8% |
| 3+ | — | — | 2.1% | 4.8% |
| Total | 29.4% | 31.2% | 16.1% | 23.4% |

+/- Margins of Difference

| Total Household Workers | Household Size | | | |
|-------------------------|----------------|-------------|--------------|--------------|
| | 1 person | 2 person | 3 person | 4+ person |
| 0 | 2.9% | 6.3% | -0.7% | -1.2% |
| 1 | -1.5% | 1.3% | -1.3% | -3.1% |
| 2 | — | 2.4% | -0.6% | -2.2% |
| 3+ | — | — | -0.1% | -1.9% |
| Total | 1.2% | 9.9% | -2.9% | -8.4% |

Source: DVRPC 2012– 2013; unweighted data

CHAPTER 3:

Questionnaire Development

The HTS gathered household and travel information using four different survey instruments: recruitment survey, travel diary packet, retrieval survey, and reminder calling. This chapter details the development and utilization of each instrument.

Before development of the 2012–2013 survey instruments began, survey instruments used in the 2000 survey were reviewed in detail. A preliminary meeting with Steering Committee members solicited suggestions for additional elements to be included in each instrument. Potential questions were entered into a “questions matrix” which included questions used in the 2000 survey, new model-based questions, and suggested questions. The matrix was reviewed extensively by the project team to determine whether each question was critical to model development, not necessary for the model but needed from a policy and planning perspective, or not needed for policy, planning, or model development. Each change or suggestion was documented. Prior to instrument implementation, each instrument was timed to determine interview length. A data dictionary was developed from the finalized instruments to define the data fields and coded answers. All instruments were programmed in both web and Computer Assisted Telephone Interviewing (CATI) software and translated into Spanish. The following sections provide a summary of each instrument. Copies of these instruments can be found in Appendices A–E.

3.1 Recruitment Survey

The recruitment survey was the first step in study participation. Households were contacted for participation in the recruitment survey either through the mail or via telephone. Households contacted via a mailed invitation were given the option to complete the recruitment survey on the website or over the phone by contacting the survey contractor using a toll-free number dedicated for the project. Households contacted by phone were only given the telephone recruitment survey option. Both telephone and web versions of the recruitment survey were identical to ensure data comparability.

The recruitment survey was comprised of four major sections: household elements, vehicle elements, person elements, and study participation details. The survey took approximately 15 minutes to complete, with variation in length due to the number of persons and vehicles in each household. The respondent, also known as the contact person, was asked to provide details about the household (e.g., size, type of residence, income). Vehicle information was also requested for each operational vehicle, including year, make, and model. Each household member was enumerated and the contact person was asked to provide the following information: basic demographic details, name, habitual location addresses, employment information, and student status. When possible, the contact person provided detailed work and school address information for each person in the household. A travel day was then randomly assigned to the household using an automated program. Home mailing address, email address, and phone contact information was obtained. Brief instructions were given in regard to receiving or accessing the travel diaries. Households in hard-to-reach populations were eligible for a \$25 incentive for completing the travel diary to reduce the non-response bias. The eligibility criteria included:

- households requesting to complete the survey in Spanish;
- households meeting approximated poverty level conditions;⁴ and
- households with zero vehicles.

⁴ “Approximated Poverty Level Conditions,” *Federal Register* 76, No. 13 (January 20, 2011): 3637–3638:

Households not meeting these criteria were offered \$2 to participate. Due to a lower than expected response rate, incentives were adjusted during the course of the survey. Starting in April, about half way through the survey period, an additional \$10 was offered to households providing travel information via the website. This \$10 website incentive was extended to unmatched households completing recruitment via the web after receiving a postcard mailing. Additionally, starting with the May 23rd diary mailing, households in the CBD/ CBD Fringe/Urban areas that were not eligible for the \$25 incentive were offered \$5 to participate.

3.2 Travel Diary Packet

Households willing to participate in the travel diary phase of the project were each mailed travel diary packets. The content of these packets were as follows:

- **Outgoing Envelope:** A travel packet envelope was personally addressed to each contact person with project branding and the DVRPC logo.
- **Diary Cover Letter:** The diary cover letter thanked households for their willingness to participate and explained the process for filling out the diaries beginning at 3:00 AM on their specified travel day. Participants had the option of providing travel information by filling out the web form, mailing back completed diaries, or waiting for a phone call from a trained interviewer. Cover letters also reminded qualified households of the \$25 incentive upon completion and receipt of their travel diary.
- **Personalized Diaries for Recording Activity and Travel:** Travel diaries were personalized for each member of the household. Travel diaries included instructions for filling out the diary, a brief section on general journey-to-work characteristics, and a trip-reporting section for up to 11 trips. The back cover of the diary reiterated the multiple channels available to return their travel information.

3.3 Retrieval Survey

The CATI and web-based scripts used to collect travel data were designed to mirror the diary format to make it easy for respondents to report their travel information. Both tools incorporated logic checks, time stamp verification, address verification, and time-of-day checks. The web-based retrieval survey also included address lookup and mapping tools to assist respondents in identifying address information for each location they visited. The retrieval survey, like the travel diary, included several sections.

- **Instructions:** Diary instructions detailed the two major parts of the diary: the journey-to-work section and the travel diary reporting for up to 11 trips. Instructions also included the survey definition of a “place” and each of the travel elements to report. Lastly, an example trip was filled out for reference.
- **Journey to Work:** Employed individuals, full- or part-time, were asked to report on overall travel behavior when going to work. They were asked about their usual mode of travel to work, how often they used this mode, times they regularly arrive at and leave from work, how often they arrive and leave work at those times, telecommuting frequency, and transit and parking subsidies offered by employers.
- **Start of Trip (Place 1):** Individuals were required to begin reporting on their specified travel day at 3:00 AM. Place 1 asks if they were traveling or at a location, what that location was, the activities and activity durations, and the time they left the location. If a person was traveling at 3:00 AM, they were instructed to record Place 1 as their destination. If a person was at a location but did not leave for the day, they were asked in a follow-up call about why they did not leave this place. Often, respondents

were home sleeping at 3:00 AM and therefore used their home address as the origin for their first trip of the day.

- Place 2 through Place 11 Log: Places 2 through 11 are where respondents recorded details about each new place they went during their travel day. Details included arrival time, type of place, place address, travel mode, size of party traveling, whether household members were traveling with them, vehicle driver status, household vehicles in use for the trip, use of toll roads and bridges, activities and activity durations, parking status and cost of parking, and time of departure.

3.4 Reminder Calling

Reminder calls were used during the course of the project to encourage participation. An initial reminder call was made the evening before a household's scheduled travel day. The interviewer confirmed that the household had received materials, answered any questions they had, and reminded them when to start recording travel. If a household was not available during the time of the call, an answering machine message was left.

If diaries had not yet been received seven days after the household's scheduled travel day, a second reminder call was made. The caller confirmed participation, reminded households of the various ways to return travel information, and confirmed estimated time of material arrival. If a household was unresponsive or not at home, an answering machine message was left and up to three additional attempts were made until the household was successfully contacted.

CHAPTER 4:

Survey Administration

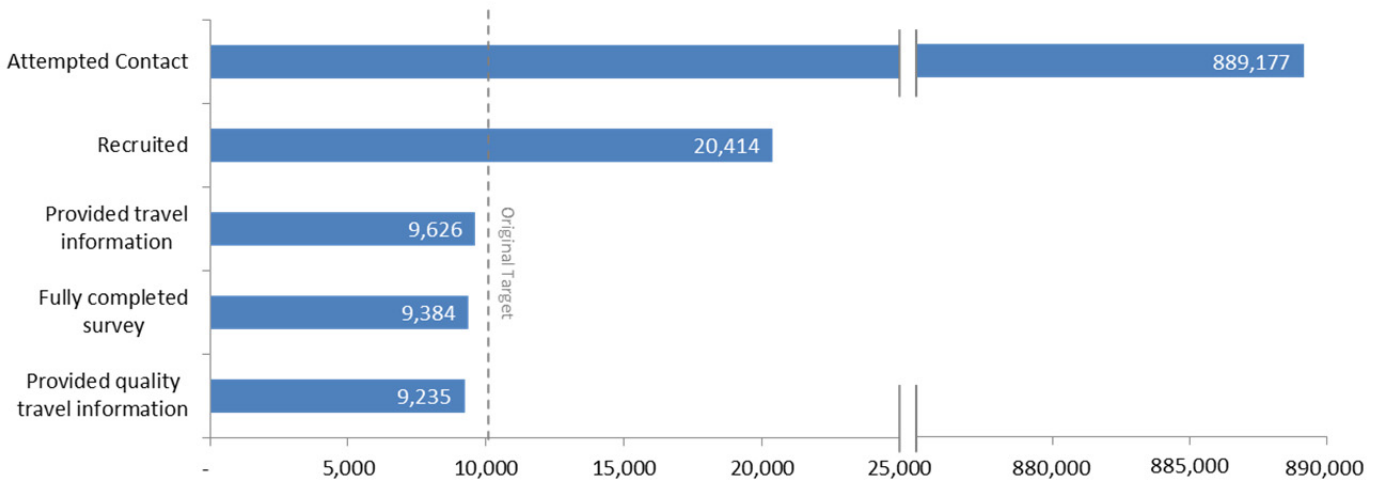
Survey administration began with a pilot study to evaluate the process and ensure sample representativeness. Survey interviewers and data collection staff were trained to ensure data quality. A public outreach plan was implemented to raise awareness of the study and its importance. Actual household recruitment for survey participation began in August 2012. The survey process included advance invitations, recruitment interviews, distribution of survey materials, data retrieval methods and interviews, GPS subsample data collection, and a continuous design improvement feedback system. Chapter 4 provides an overview of each step in the survey preparation and administration process. Figure 7 shows the general sequence and time frame of survey administration.

Figure 7: Survey Implementation Overview

| | 2012 | | | | | 2013 | | | | | 2014 | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------|------|---|---|---|---|------|---|---|---|---|------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Phase | J | A | S | O | N | D | J | F | M | A | M | J | J | J | A | S | O | N | D | J | F | M | A | M | J | J | J | A | S | O | N | D |
| Overall Data Collection Period | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Interviewer Training | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pilot Survey | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Non-Response Follow-up | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Public Outreach | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Household Recruitment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Travel Period | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Data Capture Period | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Quality Control / Geocoding | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

As shown in Figure 8, an attempt was made to contact a total of 889,177 households by mail or phone to participate in the study. Among contacted households, 20,414 were recruited to participate in the travel diary portion of the study (47,730 persons). Of those households recruited, 9,626 households (21,285 persons) provided travel information. 9,384 households fully completed the survey either during the pilot or the main survey. Of the complete surveys, 9,235 households provided enough good quality information to meet quality standards for usefulness.

Figure 8: Households Surveyed



Source: DVRPC 2012– 2013

4.1 Training of Data Collection Personnel

All interviewers and data collection personnel were thoroughly trained and closely supervised. Training sessions focused on interview editing, refusal prevention and conversion, and specific project-related issues such as detailed address capture for geocoding. Both interviewers and supervisors participated in the training to help ensure data consistency and quality.

Training manuals and supplemental job aides were provided to help interviewers accurately and chronologically capture travel data in a manner that was convenient to the respondents. Documentation was also available to help interviewers assess the completeness of a record and check for consistencies within and across household diaries. Interviewers were required to complete mock interviews for evaluation and to demonstrate their proficiency.

Telephone interviewers were routinely evaluated based on the following criteria:

- professional and courteous manner;
- voice clarity;
- reading questionnaire verbatim;
- non-biasing through inflection or voice tone;
- remaining neutral to respondent's comments;
- using approved techniques of recording close-ended questions and probing and recording open-ended responses;
- completion of all key survey questions; and

- all areas of hourly productivity, including down time, refusal rates, etc.

4.2 Pilot Study and Non-Response Follow-Up Survey

A pilot study was conducted to evaluate the following aspects of planned survey methodology:

- sample selection and estimation;
- advance material/recruitment letter;
- telephone household recruitment (collect household information and assign travel date);
- mailing of travel diaries, GPS devices and chargers, and other survey materials;
- reminder phone call;
- retrieval phone call/web survey functionality;
- review of travel diaries retrieved by mail;
- travel diary data entry for mailed diaries;
- GPS deployment and retrieval protocols;
- integration of phone, Internet, and mailed-back travel diary data;
- geocoding of trip and respondent location data;
- data checks and quality control techniques;
- non-response issues and strategies; and
- evaluation of strategies to gather information from hard-to-reach households.

Pilot study recruitment commenced on July 22, 2012, with households scheduled to travel during the two-week period of July 30 through August 10, 2012. The goal for the pilot was to complete 200 non-GPS households and 20 GPS households. A total of 558 households were recruited to participate in the pilot (514 non-GPS and 44 GPS) and 243 households fully completed the pilot, providing complete travel data for all persons in the household (221 non-GPS and 22 GPS). Findings from the pilot included:

- Sample stratification and transit propensity oversample was effective in targeting Census tracts with populations likely to use transit and yielded a representative sample.
- A disproportionate number of households returned completed diaries by mail instead of web or phone.
- Four or more-person households responded at a lower rate than that of the general population.
- Low income threshold (\$35,000 or less) captured a large number of one-person households.
- Six or more-person households recruited for the GPS portion of the study showed lower return rates than did households with five or fewer persons.

The following adjustments were made after the pilot to improve the survey process:

- monitoring retrieval mode distribution to determine if any responsive design changes are needed;
- an incentive of \$25 added for households with four or more persons;
- approximate Federal Poverty Levels calculated to appropriately incentivize households and reduce the bias to one-person households; and
- restriction of households with six or more persons from participating in the GPS subsample.

As part of the pilot study, a non-response follow-up (NRFU) survey was conducted to identify systematic biases in the survey methodology that may otherwise prevent or limit population groups from participating in the study. This effort was in response to the systemic non-response experienced in the 2000 HTS.

Households refusing to participate in the telephone recruitment phase of the HTS were asked demographic questions for comparison to those households recruited in the pilot.⁵ NRFU questions found that:

- Four or more-person households were under-represented.
- Households with no vehicles were under-represented.
- One hundred percent of households in the pilot had an English-speaking member; language barriers were a non-issue.
- The two most cited reasons for not participating were “just not that interested” and “too busy or have no time.”
- Retrieved households were generally similar to recruited households. Notable exceptions included:
 - Households with four or more members were less likely to report travel information than households with fewer members.
 - No-auto households were less likely to report travel information than auto-available households.
 - Households earning less than \$50,000 annually were less likely to report travel information than households reporting higher incomes.

As a result of the NRFU analysis, the following protocol adjustments were made:

- Alter introductory language and refusal conversion/probing language to stress importance of the study to the region and to transportation planning.

Both the pilot study and NRFU were conducted and completed prior to the launch of the main survey. All protocol and process adjustments were reviewed and incorporated to ensure the highest quality and most representative sample.

4.3 Public Outreach

A public outreach plan was developed to raise awareness of the survey effort throughout the Delaware Valley region. The goal of the outreach plan was to communicate the purpose and importance of the HTS and increase public interest in the study. Project management, public outreach experts, stakeholders, and DVRPC’s Office of Communications and Engagement developed a plan that:

- informed the public of the purpose and procedures of the HTS;
- attempted to gain the public’s confidence in the legitimacy of the household survey and the travel demand model; and
- addressed public concerns regarding how the data would be collected, processed, maintained, and employed.

One of the cornerstones of the outreach plan was the survey website where members of the public and regional stakeholders could view information about the study, access the survey (if recruited), provide travel details from the travel diary, and get additional information about survey participation.

⁵ During the planning stages of the NRFU, consideration was given to including corresponding households that could not be matched to a directory-listed landline. This option was ultimately not fielded because, based on prior studies, the response rate to a mail-based NRFU was expected to be extremely low. The quality of data resulting from a mail-based NRFU component was not expected to be high enough to justify the resources required.

The public outreach plan included:

- a comprehensive branding strategy, created by DVRPC design staff; this included guidelines and protocols for logo use, formatting, and style points for all documents and materials;
- a website that hosted all information and materials prepared for the project; in addition, the website served as the entry portal for participation in the recruitment questionnaire and the reporting of travel information from households;
- a brochure explaining the merits and outcomes of the HTS; this brochure was made available on the website for the general public and mailed to public officials to generate interest and inform officials of the project.
- press releases for local newspapers and community papers to share the merits of the project and generate public awareness;
- a video, available on the website, featuring Barry Seymour, DVRPC Executive Director, sharing insights into the survey process and explaining the uses of the data from the study; and
- a toll-free number and email address for general questions about the survey.

All public outreach materials were available in English and Spanish. Public outreach materials can be found in Appendix K.

4.4 Advance Invitations

Advance Invitations were mailed to households whose addresses were not matched with telephone numbers (“unmatched”) to introduce households to the survey project. The personalized invitations, sent in English and Spanish, explained project details, provided a unique personal identification (PIN) number for web survey access, and provided a toll-free number for questions about the survey. Of the 130,462 households that were mailed advance invitations, over 97% were successfully delivered. Households were invited to participate by visiting the study website or by calling a toll-free number and providing contact information for re-contact by a telephone interviewer. One percent of households mailed an invitation opted to participate in the recruitment stage of the project.

4.5 Recruitment Interviews

Household recruitment for the main survey began on August 26, 2012, and continued weekly until September 4, 2013. Breaks in recruitment occurred during the two weeks of Christmas and New Year’s. A total of 889,177 households were contacted either by telephone (758,715) or through the advance invitation (130,462). Unmatched households receiving advance invitations were given three options for completing the initial recruitment survey. Households were able to participate by either:

- visiting the central project website and completing the recruitment survey using a pre-assigned randomly generated alphanumeric password;
- contacting project interviewers using a project-specific, toll-free number and providing a contact name and telephone number; or
- emailing the project interviewers at a survey-specific email address.

Both phone and email requests were centrally stored with voice recordings provided for each telephone contact made.

Matched records (households with a landline-based phone number on file) were contacted by telephone during strategically specified times of day and days of the week. A maximum of three attempts were made to contact each household in the sample. Contact attempts were made during the following time periods: (1) early evening (5:00 PM to 7:00 PM EST), (2) late evening (7:00 PM to 9:00 PM EST), and (3) Saturday and Sunday (10:00 AM to 5:00 PM EST). If at any point during these three attempts contact was made with a household and they were unavailable to answer questions, future attempts were made as scheduled by the household contact.

The recruitment survey provided a brief overview of the project and gathered specific household, person, and vehicle characteristics. Households were assigned a day to record travel. Travel dates were randomly assigned and households were encouraged to agree with the first randomly assigned date to uphold the integrity of the sample. After the travel date was assigned, households were read a brief description of the travel recording and reporting process, told about travel materials they were to receive, and notified of the financial incentive (if eligible). Home and mailing addresses were verified for the delivery of travel packet materials.

Over the course of the recruitment effort, matched households were called. Households were considered ineligible if they self-reported an address outside of the DVRPC region, declined to provide basic household information (e.g., household size, number of vehicles), or refused to participate in the retrieval portion of the survey. Among the matched households:

- 400,489 (50 percent) resulted in contact with eligible households;
- 100,880 (13 percent) were determined to be ineligible (this does not include bad numbers); and
- 295,778 (37 percent) were unable to be classified as eligible or ineligible after three call attempts.

Of the 400,489 eligible households reached by phone, 18,219 (4.5 percent) agreed to participate in the recruitment survey over the phone. The average length of the recruitment call was 14.7 minutes. A total of 20,414 households were recruited throughout the entire project.

4.6 Distribution of Survey Materials

Survey materials were distributed by a local printing firm to expedite household travel packet delivery and, in turn, mail-back of completed travel diaries for editing and entry. A mailing of approximately 400 household travel packets was sent out at the end of each week. After download and review of each week's list, the printing firm employed checks to ensure the correct households were receiving travel packets for their assigned week. A postage-paid business reply envelope was included in the travel packet, to make it easier for participants to mail back completed travel diaries.

All travel packet envelopes were marked with DVRPC branding, indication of First Class mail, and postmarked one day after assembly. Prior to each travel day, households were notified by phone and/or email to remind them of their scheduled travel date. Each household with a telephone number (about 90–95 percent) was contacted the evening before to determine willingness to participate, receipt of mailed travel packets, and to answer any questions.

4.7 Retrieval Interviews

Travel diary information was retrieved using one of three methods: CATI, web, or by mail-back. The overall retrieval rate for the project was 46.5 percent. The retrieval method breakdown was as follows: 3 percent phone; 31 percent web; and 66 percent mail-back. An incentive of \$10 was implemented partially through the

survey period for households reporting travel information by web. Table 6 details the distribution of retrieval method by recruitment mode. Households recruited by phone were more likely to use the mail-back option for returning travel diaries than either phone or web. Conversely, households recruited by web were more likely to provide travel diary information by web than by either phone or mail. It should be noted that the phone retrieval method was changed to a “by request only” mode partially through the data collection period. After this change, no households opted to provide travel information by phone.

Table 6: Observed Retrieval Method of Recruitment Mode of Completed Households

| Retrieval Method | Recruitment Completed via Phone | Recruitment Completed via Web (%) | Total (%) |
|------------------|---------------------------------|-----------------------------------|--------------|
| Phone | 3.4% | 0.0% | 3.0% |
| Web | 25.0% | 72.8% | 30.7% |
| Mail/Multi | 71.5% | 27.2% | 66.2% |
| Total | 8,262 | 1,122 | 9,384 |

Source: DVRPC 2012– 2013: unweighted data

Logic checks were integrated into the phone and web retrieval tools to ensure modes, activities, and location information were consistent with travel behavior. For instance, a respondent could not state or enter a departure time from any location that was prior to the stated arrival time.

Travel dairies returned by mail were systematically logged and screened for reasonableness. Data entry staff combed through each diary for consistency in mode use, time of day, activity, and other travel information. In addition, consistency was checked across households and persons to ensure logic in reports of household members traveling together. The project manager was notified of all inconsistencies and advised on a case-by-case basis. Flagged scenarios were then recorded, along with protocols for correction, to serve as a reference for similar inconsistencies in the future. Once approved, data entry staff entered travel data from the mailed-back surveys using the web-based data collection tool, which included additional logic checks and address lookup tools.

All travel data was stored in a central data repository on servers that adhere to federal government standards of data security.

4.8 GPS Subsample

Eligibility for the GPS subsample was defined proportionally to sampling targets and quotas. Households were randomly picked at the point of selection and screened during the recruitment survey. To be eligible, households had to have had at least one household member between the ages of 13 and 85 identified during recruitment and had to be willing to participate. Households with six or more members were not eligible for the GPS portion of the study. Households meeting these criteria were asked to participate in the GPS subsample, which would include a \$25 incentive per person. If they opted not to participate, households were still included in the study but only for the non-GPS travel diary portion.

Households agreeing to participate in the GPS sample were sent travel diaries for every household member and a GPS unit for each member between the ages of 13 and 85. Persons were asked to carry the device for three days, completing the travel diary on the first day of travel. Households were then instructed to provide travel diary information using one of the three methods of retrieval. After completing the three-day period of

GPS recording, households returned the devices by mail. Households that did not return their units within seven days of the end of their travel were contacted by telephone and emailed with a reminder.

A total of 784 households were recruited to participate in the GPS subsample—3.8 percent of all households recruited. Table 7 provides the breakdown of completion status for the 784 recruited households. 308 households completed both the travel diary and GPS portions of the study.

Table 7: GPS Household Completion Status

| Household Type | Recruited Households | Percentage of Total |
|---------------------------------|----------------------|---------------------|
| Neither Diary nor GPS completed | 285 | 40.1% |
| Diary complete but not GPS | 35 | 4.9% |
| GPS complete but not Diary | 84 | 11.7% |
| Completed entire study | 308 | 43.3% |
| Total | 712 | 100% |

Source: DVRPC 2012– 2013; unweighted data

4.9 Responsive Design Implementation

The original scope of the project called for 10,000 completed households and a GPS subsample of 500. Due to lower than expected retrieval rates, low yield from unmatched households, and oversampling in urban areas, a scope amendment was agreed upon with the contractor in March 2013. The sample size was reduced to 9,500 completed households and a GPS subsample of 380 households. Prior to and during the re-scoping effort, a number of responsive design techniques were implemented to attempt to off-set some of the challenges experienced during household recruitment and travel data collection. Table 8 provides an overview of those techniques.

Table 8: Responsive Design Techniques and Outcomes

| Issue Area | Design Adjustments | Outcome |
|---|--|---|
| Sampling | Included Random-Digit-Dial and address-based sampling frame | Allowed for more robust data and improved operational efficiencies |
| Low response rate from high transit areas | Targeted oversampling | Increased responses from those in high transit areas |
| Low recruitment rate | Moved from advance letter to postcard | 3% net increase in four or more-person households compared to pilot |
| Low retrieval rate | Offered \$25 incentive to households with four or more persons or low income | Allowed for incentivizing low income households without over-representing one-person households |
| | Offered multiple retrieval methods | Improved yield |
| | Offered \$10 incentive to unmatched households | Increased retrieval rate |

Source: AbtSRBI

4.10 Distribution of Recruitment and Retrieval

The sample design strived to achieve a balanced distribution of completed household surveys across weekdays (Monday–Friday) and months. In order to distribute the goal of 9,500 households evenly over a twelve-month period, approximately 790 (8 percent) of households were needed to record travel each survey month. Figure 9 details the distribution of recruited and retrieved households by survey month. It is apparent from the chart that it was most difficult to recruit households and retrieve data during the summer months.

Figure 9: Distribution of Recruited and Retrieved Households by Survey Month



For modeling purposes, it was also important that the assigned travel day be evenly distributed across all weekdays. To achieve this balance, households were randomly assigned a specific day during the workweek. Although backup dates were provided, households were strongly encouraged to record travel data on the randomly assigned date. Figure 10 shows both recruited and retrieved distribution of households across days of the week. Both recruited and retrieved households were evenly distributed across weekdays.

Figure 10: Distribution of Recruited and Retrieved Households by Day of Week



4.11 Quality Control

Beyond survey design and management elements, the project quality control plan specifically addressed and corrected for the most common errors, biases, and failures found in travel surveys. A work program was developed to ensure that data quality issues were addressed and corrected while data was being collected. Quality control standards required that each household in the sample be individually tracked through this process from selection of the household through survey completion.

In addition to data flow tracking, a series of automated and manual data checks were developed to ensure that household, person, and trip data files were consistent, and that all key data elements were screened for missing or inconsistent data. Any discrepancies were flagged for manual investigation. The checks included:

Household

- Verify that Household ID length is consistent (6 or 7 digits).
- Verify that all home addresses are located within the DVRPC region.
- Check that addresses are geocode-able (i.e., not PO Boxes).
- Check for reasonableness if household size is greater than eight.
- Check for reasonableness if number of household vehicles exceeds eight.
- Ensure number of workers is not “null” and is less than or equal to reported household size.

Person

- Verify that values are age appropriate, i.e., school level, driver's license status.
- Ensure that employment information is only populated for employed persons.
- Ensure that school type is only populated for students.
- Ensure only workers who indicated "Other" industry have verbatim response for Other Industry field
- Ensure values are not "null" in the following fields:
 - work status;
 - work coordinates (if work place is provided);
 - work address (if work place is fixed);
 - student status;
 - educational attainment;
 - school coordinates (if school is provided); and
 - current enrollment level (if student).

Trip

- Check that all origins and destinations are geocoded.
- Check that trips taken between 12:00 AM and 5:00 AM are reasonable.
- Check that trips of more than three hours are reasonable.
- Ensure that trip times do not overlap; arrival time is after previous departure time.
- Ensure that sum of activity durations is less than 14 hours; and
 - check for reasonableness if greater than 14 hours.
- Check that trip numbers are sequential.
- Check that first and last place of tour is home location and check for reasonableness if not.
- Ensure that trip purpose is not "null."
- Ensure that mode is not "null."
- Verify that the number of accompanying household members on a trip is not greater than household size.

Across All Files

- Verify that all values are within range for their specific field, including non-response values.
- Compare count of persons with same Household ID in the person file to household size in the household file.
- Compare count of employed persons with same Household ID to household workers in household file.
- Compare count of vehicles with same Household ID in vehicle file to number of household vehicles in household file.
- Check that the number of households in the trip file equals the total number of households.
- Ensure that all persons in the person file are represented in the trip file
- Check that the number of persons by household in the trip file equals the number of persons in the household file

- Ensure that all verbatim “other” responses chose “other” for corresponding field value.
- Check that each person’s household is included in the household file and each household in the household file is represented in the person file.
- Ensure that all persons in the person file are represented in the trip file and that all trips are associated with a person in the person file.

The quality control process revealed missing data in a variety of fields. Missing data was imputed where possible to increase the number of complete records available for transportation modeling and data analysis. Imputation was based on a series of logic checks specific to each field. For example, the question asking how often employed residents used their specified mode to work was often missing a response. When responses were given, 88 percent reported using the same mode every day. Therefore, the imputation strategy was to assign a value that represented using the same mode every day to a random 88 percent of non-response records. Detailed information about imputed fields, including imputation of missing trips, is found in Appendix I.

4.12 Geocoding

For the purposes of transportation modeling, all home, work, school, and other trip locations were geocoded to identify corresponding latitude and longitude. Addresses provided during the survey were screened for quality and run through an automated script that extracted coordinates from both Google Maps and Bing Maps. The results were compared using a model created in ArcGIS. The model identified records where Google and Bing agreed or disagreed on the address location based on a regional boundary file. Records where Google and Bing placed the point in the same Census block were assigned the Google coordinates. Records where Google and Bing disagreed were manually investigated to identify the correct location.

When address information was not provided, a manual search was conducted using the place name and any other relevant information. If a reasonable location was identified, those coordinates were used for that record. If the only information provided was the city, the city centroid was used as the coordinates for that location. If no location information was available, no coordinates were used for that location. A detailed description of the geocoding process is available in Appendix J.

Margins of Error, Weighting, and Trip Factors

5.1 Margins of Error

Since it is impossible for travel surveys to collect information from all the households in the region, information is gathered from a sample and then used to generalize about the population. This inevitably introduces error since an entire population can never be precisely described by a small portion. Margin of Error (ME) statistics describe the reliability of the population estimates and are often included with survey-based data, such as ACS estimates.

For the HTS, ME was calculated using the equation:

$$ME = \frac{1}{\sqrt{n}}$$

ME was calculated using the number of surveys collected from each county as the sample size (n). Tables 9 and 10 show the MEs, as well as the upper and lower bounds for households and household members, respectively. The MEs apply to the entire survey, and by extension, the tables produced analyzing survey data at the county level. Although the sample data includes unavoidable sampling error, the weighting and expansion, along with the subsequent analysis, are based on the survey results as collected.

Table 9: Household Margin of Error

| County | Number of Households | Sample Size | Margin of Error | Lower Bounds | Upper Bounds |
|--------------------|----------------------|--------------|-----------------|------------------|------------------|
| Burlington | 165,620 | 691 | 3.804% | 159,320 | 171,920 |
| Camden | 188,861 | 707 | 3.761% | 181,758 | 195,964 |
| Gloucester | 104,091 | 397 | 5.019% | 98,867 | 109,315 |
| Mercer | 130,292 | 467 | 4.627% | 124,263 | 136,321 |
| NJ Counties | 588,864 | 2,262 | 2.103% | 576,483 | 601,245 |
| Bucks | 229,933 | 1186 | 2.904% | 223,256 | 236,610 |
| Chester | 183,793 | 1152 | 2.946% | 178,378 | 189,208 |
| Delaware | 206,021 | 983 | 3.190% | 199,450 | 212,592 |
| Montgomery | 308,083 | 1675 | 2.443% | 300,555 | 315,611 |
| Philadelphia | 580,509 | 1977 | 2.249% | 567,453 | 593,565 |
| PA Counties | 1,508,339 | 6,973 | 1.198% | 1,490,276 | 1,526,402 |
| DVRPC Total | 2,097,203 | 9,235 | 1.041% | 2,075,380 | 2,119,026 |

Source: 2008–2012 American Community Survey 5-Year Estimates; DVRPC 2012–2013

Table 10: Person Margin of Error

| County | Population | Sample Size | Margin of Error | Lower Bounds | Upper Bounds |
|--------------------|------------------|---------------|-----------------|------------------|------------------|
| Burlington | 449,117 | 1,539 | 2.549% | 437,669 | 460,565 |
| Camden | 513,660 | 1,553 | 2.538% | 500,626 | 526,694 |
| Gloucester | 288,187 | 908 | 3.319% | 278,623 | 297,751 |
| Mercer | 366,442 | 1,006 | 3.153% | 354,889 | 377,995 |
| NJ Counties | 1,617,406 | 5,006 | 1.413% | 1,594,546 | 1,640,266 |
| Bucks | 625,485 | 2,718 | 1.918% | 613,487 | 637,483 |
| Chester | 499,548 | 2,750 | 1.907% | 490,022 | 509,074 |
| Delaware | 558,874 | 2,152 | 2.156% | 546,827 | 570,921 |
| Montgomery | 799,886 | 3,842 | 1.613% | 786,981 | 812,791 |
| Philadelphia | 1,525,811 | 3,748 | 1.633% | 1,500,888 | 1,550,734 |
| PA Counties | 4,009,604 | 15,210 | 0.811% | 3,977,093 | 4,042,115 |
| DVRPC Total | 5,627,010 | 20,216 | 0.703% | 5,587,434 | 5,666,586 |

Source: 2008–2012 American Community Survey 5-Year Estimates; DVRPC 2012– 2013

5.2 Weighting Summary

To meet the goals of the survey’s analytical plan, two weights were produced for travel diary respondents: (1) a household-level weight for generalizing about households, and (2) a person-level weight for analyzing data about individuals. The household weight uses information about the household while the person-level weight uses information that describes the respondent. The final weights allow for expansion and generalization to conduct analysis and draw conclusions about the population of the nine-county Delaware Valley region.

The distribution of sample demographics was compared to weighted demographics to visualize the impact of the weights on the demographic factors used to create them. As shown in the charts in the following sections, the sampling plan was successful in capturing responses from a sample that accurately represents certain factors, such as number of household vehicles. Other factors, such as respondent age, required a slight redistribution across age groups to ensure the weighted demographics accurately represented the age distribution throughout the region.

5.3 Household-Level Weight

A household-level weight was computed for 9,235 of the 9,384 households who fully completed the travel diary. Households flagged for inconsistent data or other questionable responses were not weighted, to ensure their survey responses did not skew the overall results. The household weights were calculated in three stages.

The first stage accounted for the inherent non-response bias due to dual-frame sampling. Although the sample design called for an ABS, in an effort to efficiently meet survey participation goals an RDD sampling frame was introduced to recruit the final 20 percent of the sample. The ABS frame has very high coverage (98 percent nationally), and is effective at reaching households when the address can be matched to a telephone number (“matched” cases). However, the ABS frame is not effective at reaching households at

addresses that cannot be matched to a telephone number (“unmatched”). The inability to reach the unmatched cases by phone results in differential non-response during the recruitment survey.

The landline RDD frame includes households with at least one landline telephone number, both listed and unlisted in telephone directories. Unlisted numbers are less likely to be matched to an address. In the survey, 80 percent of matched telephone numbers were listed while zero percent of unmatched numbers were listed. This strong association between matched and listed numbers allowed cases to be combined: matched/listed and unmatched/unlisted. The combined samples (unmatched/unlisted, matched/listed) were then ratio adjusted to equal the percentage of listed and unlisted telephone numbers. The percentage of listed versus unlisted was chosen over the percentage of matched versus unmatched because the RDD is less biased given the fact that all RDD cases are reachable by phone. Adjusting the matched/unmatched to match the ratio of the RDD sample mitigates non-response bias.

The second stage of the weighting adjusts for the propensity of recruited households to complete the travel diary. First, the probability of response to the travel diary was estimated based on sample type, area type, whether the household was matched to a landline telephone number, household size, number of workers, number of vehicles, type of residence, and household income. Next, the response probabilities were grouped into quintiles, and respondents were proportionally adjusted to represent the non-respondents in each quintile. The final base weights were the product of the aforementioned adjustments and were used as an input into the third stage.

The third stage was conducted using an operation known as raking ratio estimation, or “raking.” Raking is used to reduce biases from non-response and non-coverage in sample surveys. The raking procedure simultaneously aligns the characteristics of responding households to estimated benchmarks on the following dimensions:

- area type by county;
- household income by county;
- number of vehicles in the household by county;
- household size by county;
- type of residence by county;
- number of workers in the household by county; and
- presence of children in the household by county.

The benchmarks for the distribution of households in area types within each county were computed using the 2010 Census. All other household-level benchmarks, above, were obtained from the 2008–2012 ACS by filtering on households in the study area counties. In some counties, it was necessary to do some collapsing of small sample size categories to ensure a sufficient number of respondents to allow the iterative raking algorithm to converge. Prior to conducting the raking procedure, missing data in the survey variables describing household income and type of residence were imputed using “hot deck” imputation in SAS.

Hot deck imputation populates missing or nonresponse fields in a record using a populated donor record. The donor record is chosen by maximizing the amount of similarities to the incomplete record. Determining the donor record is done by conducting a serpentine sort on the dataset. With a normal sorting algorithm using multiple sorting fields, the last and first records of adjacent groups differ significantly. By alternating the sorting order, the similarities between adjacent groups is maximized. Fields within the dataset are arranged in a hierarchy and categorized. The first field is simply sorted normally, while each subsequent child field is sorted in an alternating fashion grouped by the parent field. For example, as shown in Tables 11 and 12,

record index 9 and 10 in the normally sorted table only share a single common field while in the serpentine sort table it differs by a single field.

Table 11: Normal Sort

| Index | Field1 | Field2 | Field3 |
|-------|--------|--------|--------|
| 1 | A | A | A |
| 2 | A | A | B |
| 3 | A | A | C |
| 4 | A | B | A |
| 5 | A | B | B |
| 6 | A | B | C |
| 7 | A | C | A |
| 8 | A | C | B |
| 9 | A | C | C |
| 10 | B | A | A |
| 11 | B | A | B |
| 12 | B | A | C |
| 13 | B | B | A |
| 14 | B | B | B |
| 15 | B | B | C |
| 16 | B | C | A |
| 17 | B | C | B |
| 18 | B | C | C |

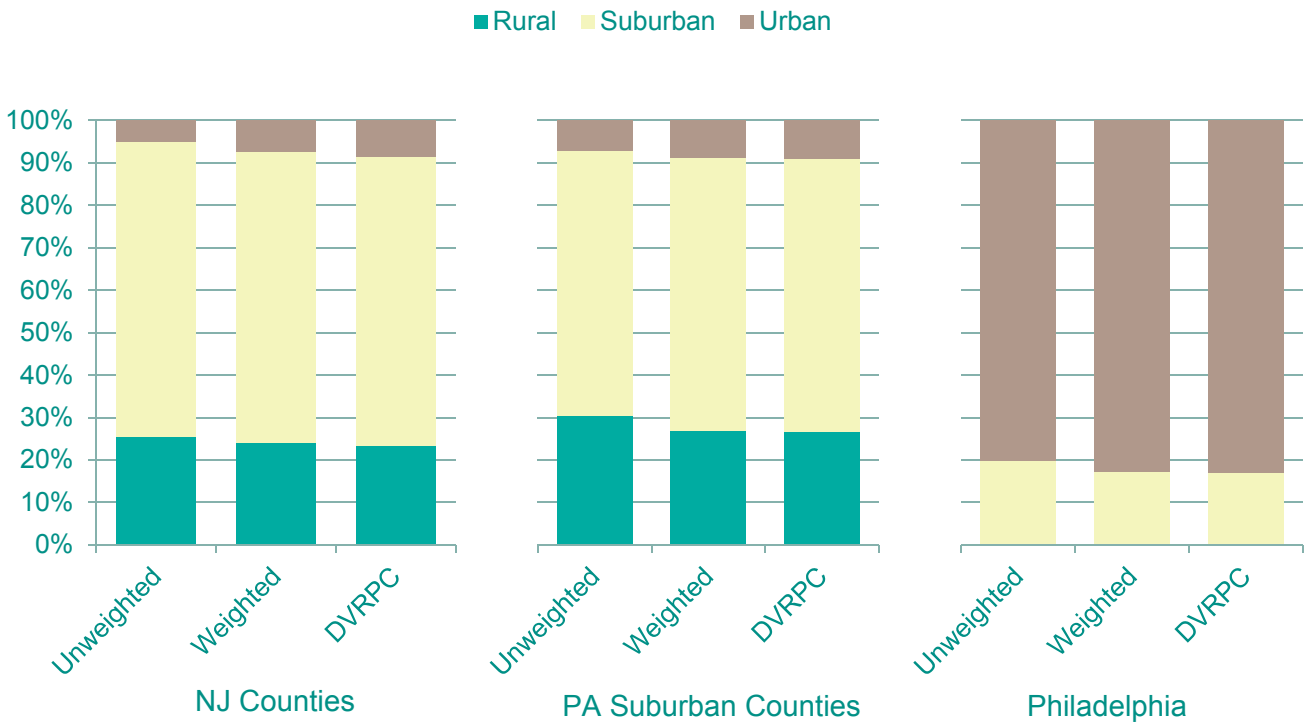
Table 12: Serpentine Sort

| Index | Field1 | Field2 | Field3 |
|-------|--------|--------|--------|
| 1 | A | A | A |
| 2 | A | A | B |
| 3 | A | A | C |
| 4 | A | B | C |
| 5 | A | B | B |
| 6 | A | B | A |
| 7 | A | C | A |
| 8 | A | C | B |
| 9 | A | C | C |
| 10 | B | C | C |
| 11 | B | C | B |
| 12 | B | C | A |
| 13 | B | B | A |
| 14 | B | B | B |
| 15 | B | B | C |
| 16 | B | A | C |
| 17 | B | A | B |
| 18 | B | A | A |

After the raked weights were generated, their distribution was examined. Weights were trimmed at the 1st and 99th percentiles to prevent individual interviews (i.e., those with large weights) from having too much influence on the final estimates. This trimming process also served to reduce the variance of the weight values and in turn reduce the design effect from weighting. The final household-level weights (HH_WEIGHT) were then scaled to sum to the total number of occupied households in each study area county according to the 2008–2012 ACS.

Figures 11 through 16 compare sample (unweighted) and weighted household demographics to benchmarks in NJ Suburban Counties, PA Suburban Counties, and Philadelphia. Figure 11 shows that the sampling methodology succeeded in capturing a sample representative of the proportion of households living in different area types throughout the region. This is to be expected since area type was key to the sampling plan.

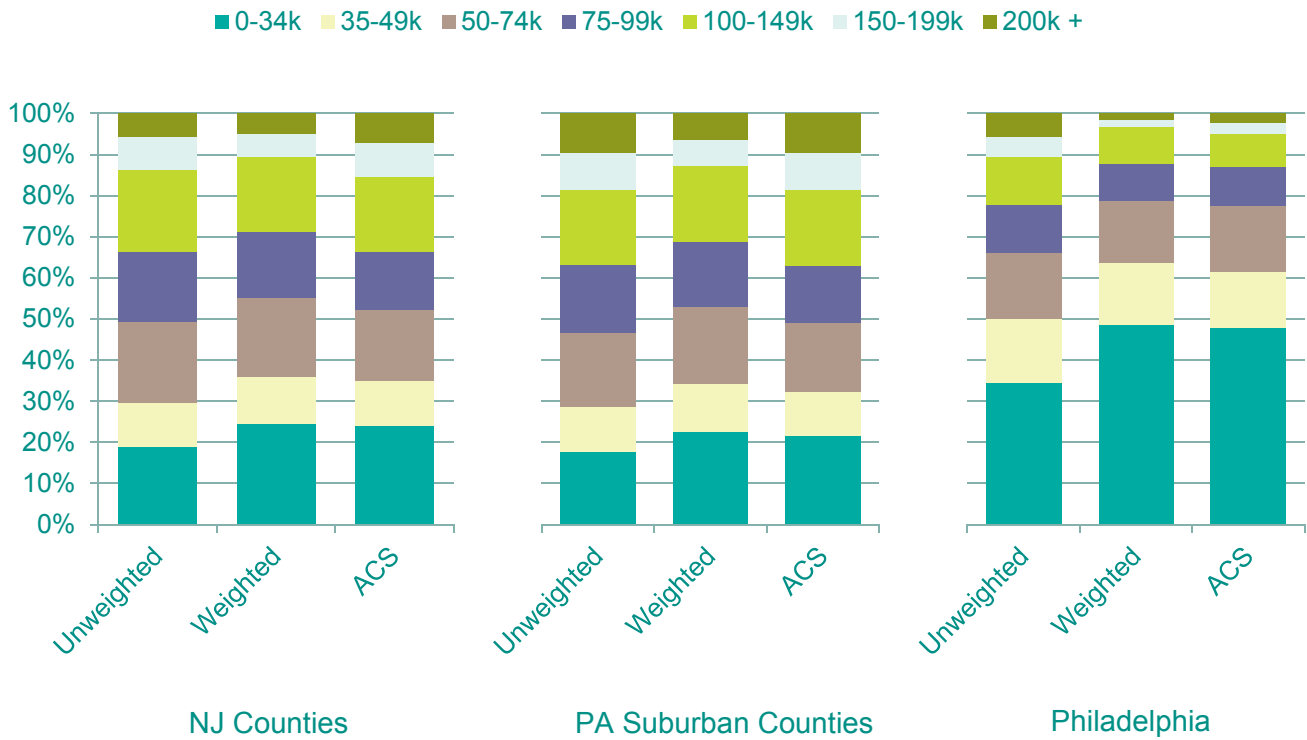
Figure 11: Area Type Weight Comparison



Source: DVRPC HTS 2012– 2013, DVRPC 2010 Households by Area Type

Figure 12 shows that the sample was comprised of more households with high household incomes than exists in the population, especially in Philadelphia. Households in lower income categories were assigned higher weights to adjust the distribution of household income closer to what exists in the region. Around nine percent of respondents declined to provide a household income. Since there was no ACS benchmark for Don't Know/Refused responses, they were excluded from this chart.

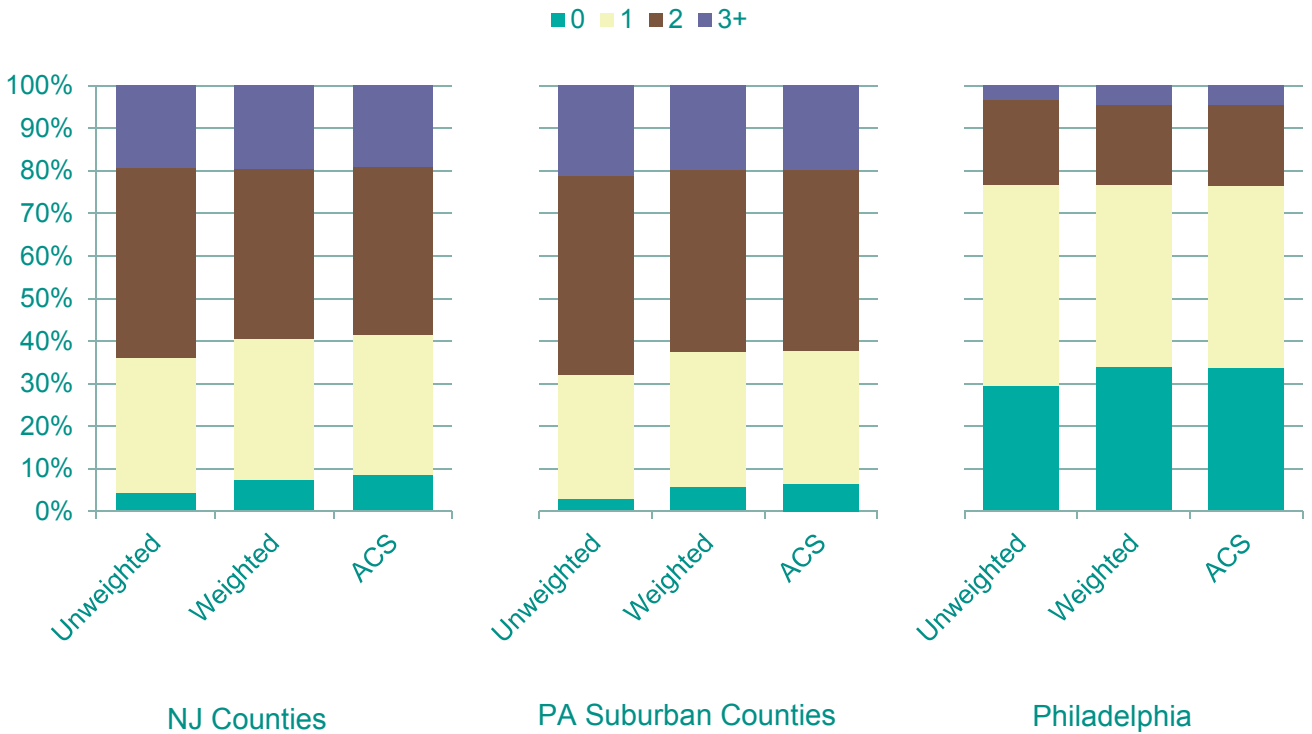
Figure 12: Household Income Weight Comparison



Source: DVRPC 2012– 2013, ACS 2008-2012 5-YR Estimates

As shown in Figure 13, the sampling plan generally captured a representative distribution of the number of vehicles per household throughout the region.

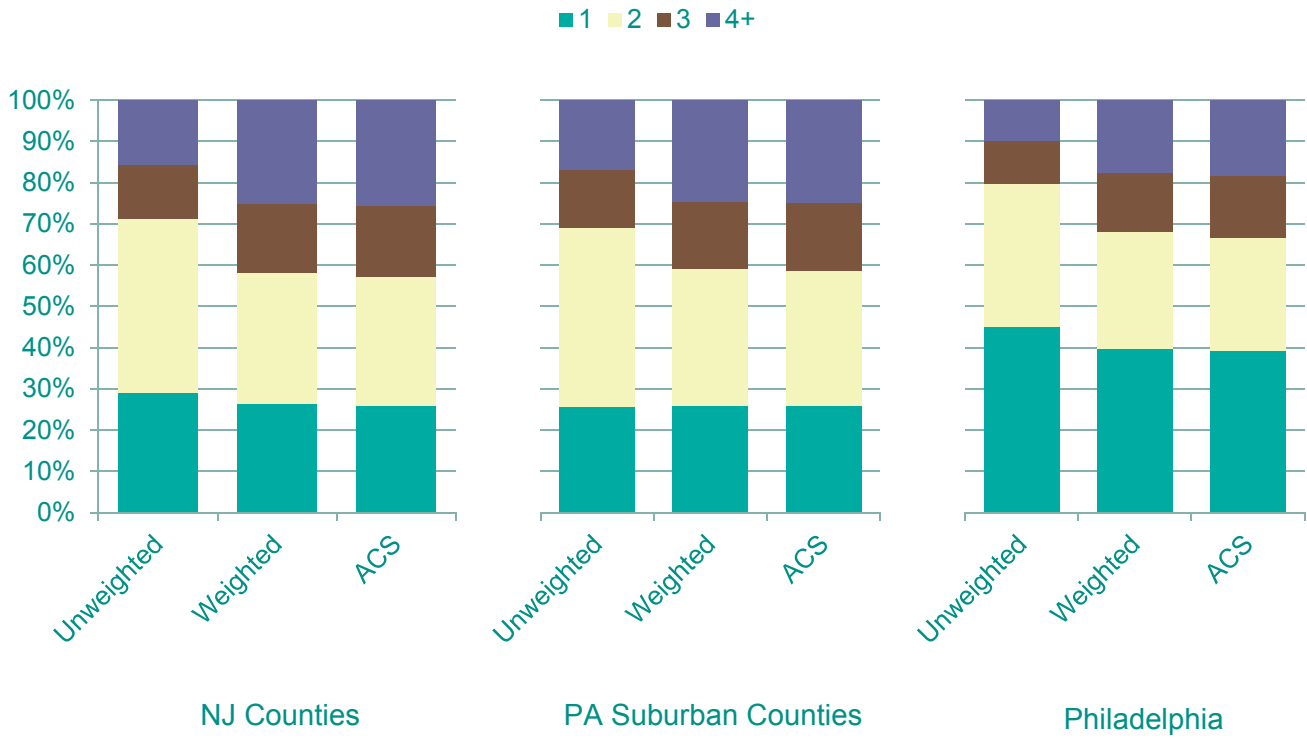
Figure 13: Number of Household Vehicles Weight Comparison



Source: DVRPC 2012– 2013, ACS 2008-2012 5-YR Estimates

Figure 14 shows that larger households were underrepresented in the sample. Therefore, the weights were used to expand the proportion of larger households.

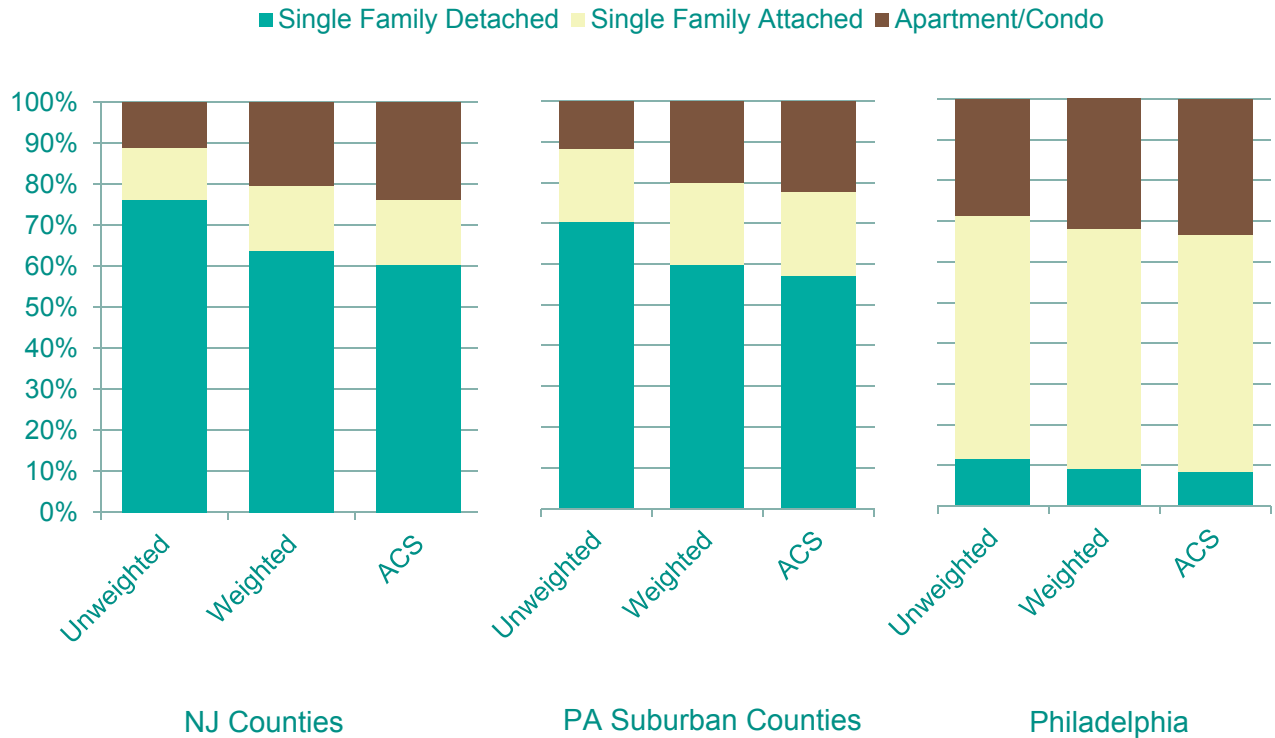
Figure 14: Household Size Weight Comparison



Source: DVRPC 2012– 2013, ACS 2008-2012 5-YR Estimates

Figure 15 shows that the sample captured a larger proportion of households living in single family detached residences than exists in the NJ and PA Suburban Counties. Weights were used to correct this proportion.

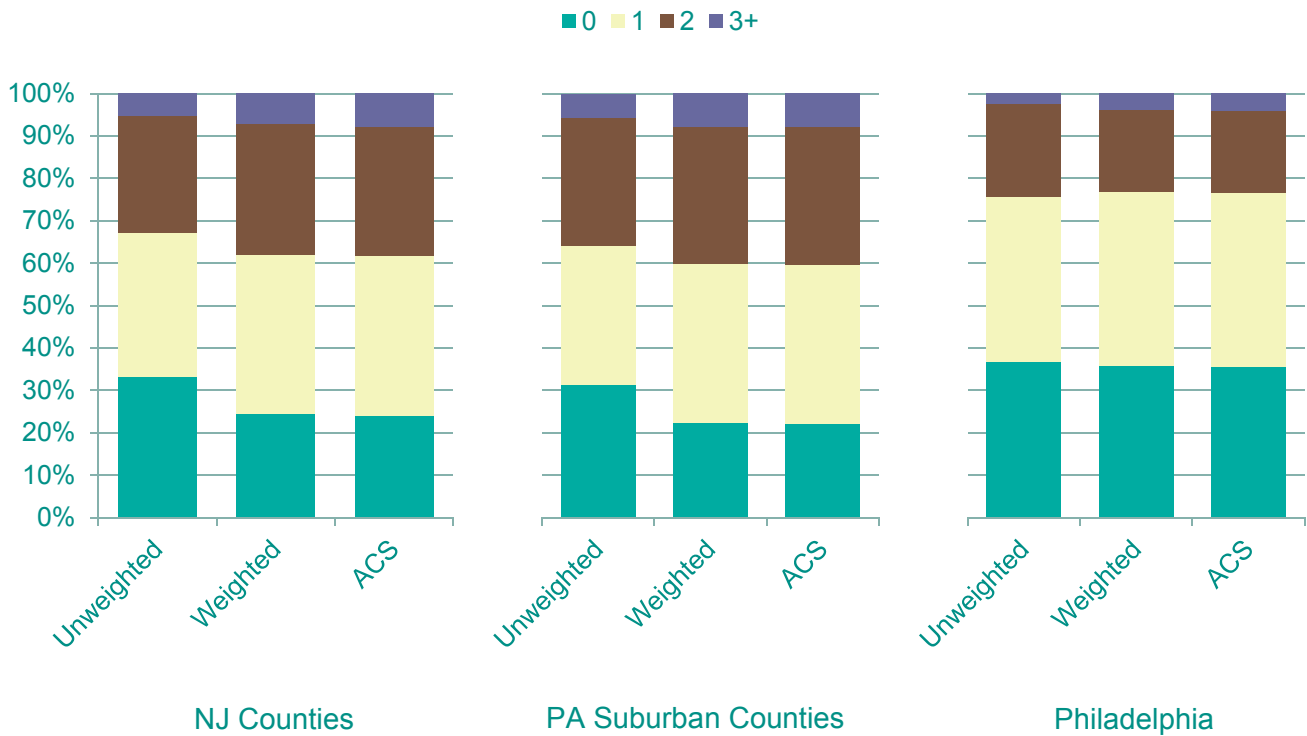
Figure 15: Residence Type Weight Comparison



Source: DVRPC 2012– 2013, ACS 2008-2012 5-YR Estimates

As shown in Figure 16, the sample generally captured a similar distribution of households with varying numbers of workers to what exists throughout the region. The sample tends to err a little on the side of fewer workers in suburban counties.

Figure 16: Number of Household Workers Weight Comparison



Source: DVRPC 2012– 2013, ACS 2008-2012 5-YR Estimates

5.4 Person-Level Weight

A person-level weight was computed for 20,216 individuals as members of the 9,235 households who completed the travel diary. The person-level weights used the same final base weight as described for the household-level weights above. In order to minimize biases from non-response and non-coverage, a raking procedure was then used to demographically weight survey respondents to population benchmarks within each county, based on the following dimensions:

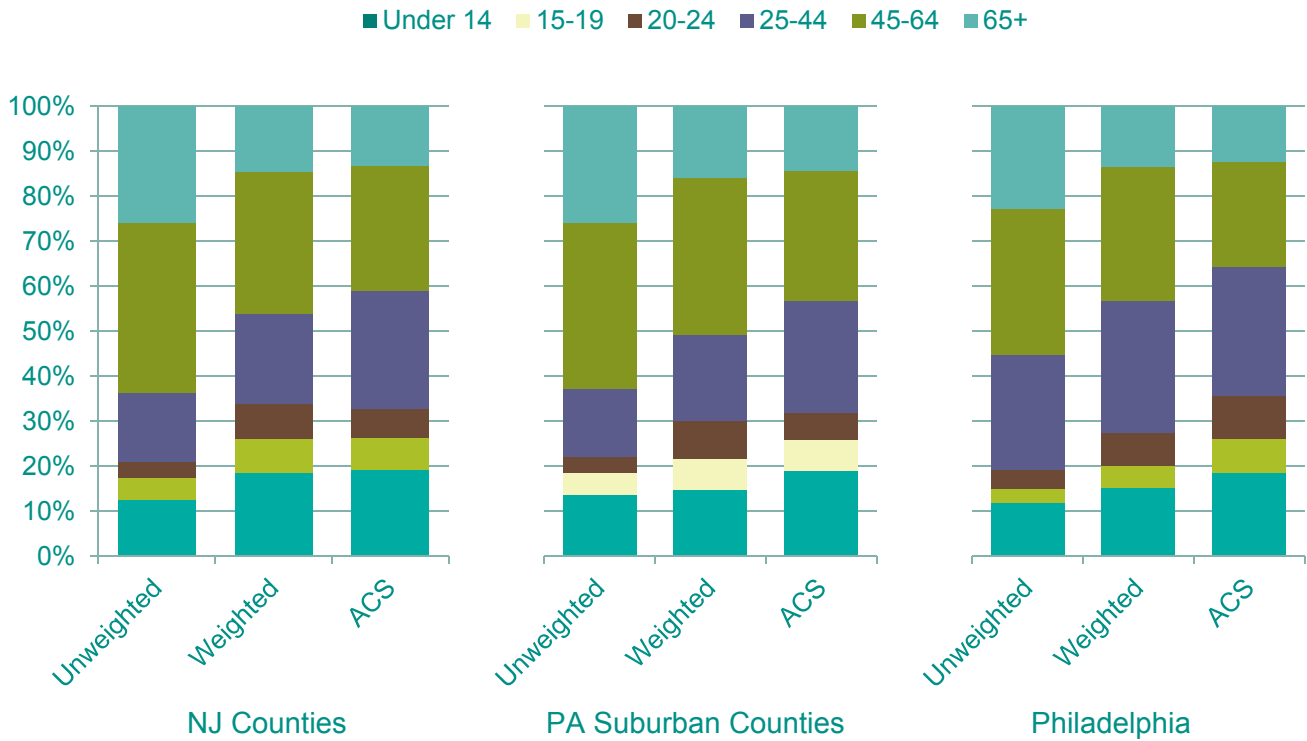
- area type by county;
- age by gender by county;
- race/ethnicity by county;
- education level by county;
- number of vehicles in the household by county; and
- household income by county.

The population benchmarks for area type within each county were estimated using the 2010 Census. All other population benchmarks, above, were obtained from the 2008–2012 ACS by filtering on individuals residing in the study area counties. In some counties, it was necessary to do some collapsing of small sample size categories to ensure a sufficient number of respondents to allow the iterative raking algorithm to converge. Prior to conducting the raking procedure, missing data in the survey variables describing sex, age, education level, race/ethnicity, and household income were imputed using “hot deck” imputation in SAS.

After the raked weights were generated, their distribution was examined. Weights were trimmed at the 2nd and 98th percentiles to prevent individual interviews (i.e., those with large weights) from having too much influence on the final estimates. This trimming process also served to reduce the variance of the weight values and in turn reduce the design effect from weighting. The final person-level weights were then scaled to sum to the total number of people residing in each study area county according to the 2008–2012 ACS.

Figures 17 through 20 compare sample (unweighted) and weighted household demographics to benchmarks in NJ Suburban Counties, PA Suburban Counties, and Philadelphia. Figure 17 shows that persons over 65 comprised a larger proportion of the population than exists in the region. Conversely, Younger persons, particularly those between 16 and 24, made up a smaller portion of the sample than of the region. Approximately three percent of respondents declined to provide their age. Since there was no ACS benchmark for Don't Know/Refused responses, they were excluded from this chart.

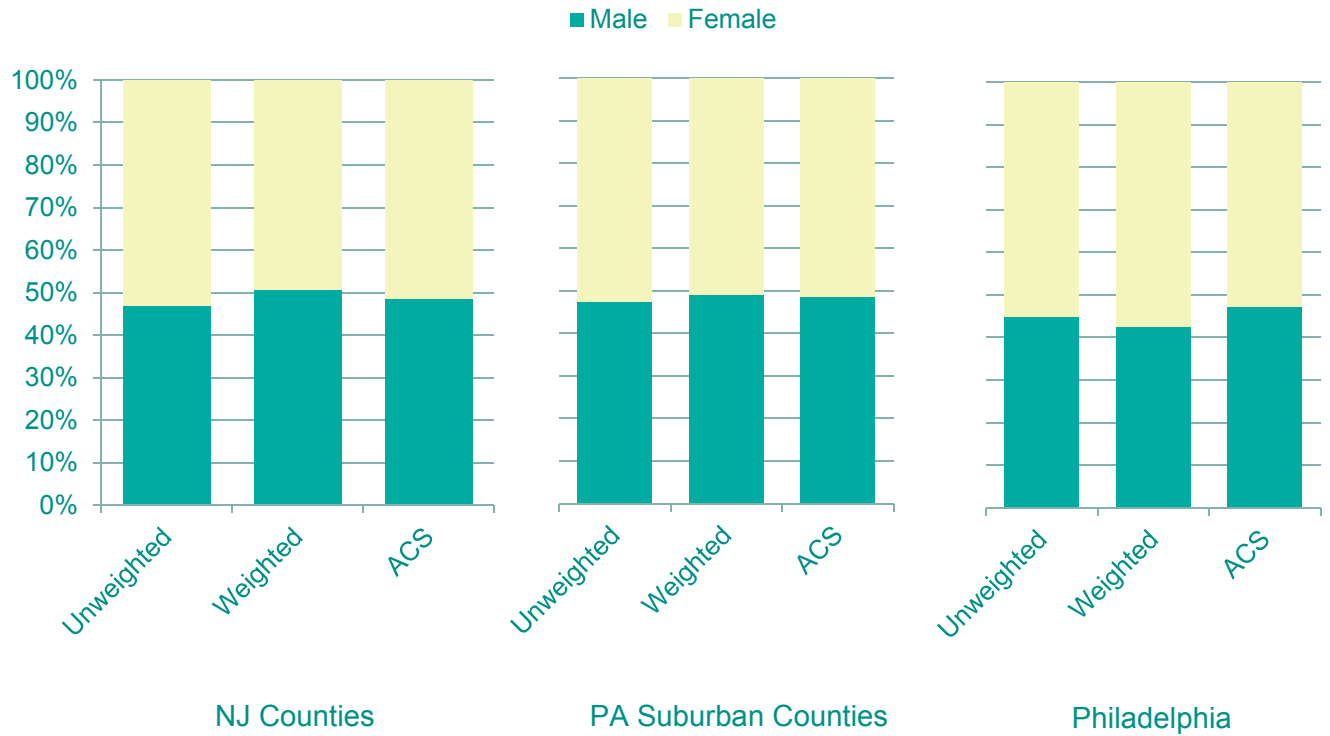
Figure 17: Respondent Age Weight Comparison



Source: DVRPC 2012– 2013, ACS 2008-2012 5-YR Estimates

As seen in Figure 18, the sampling methodology generally captured a representative distribution of males and females.

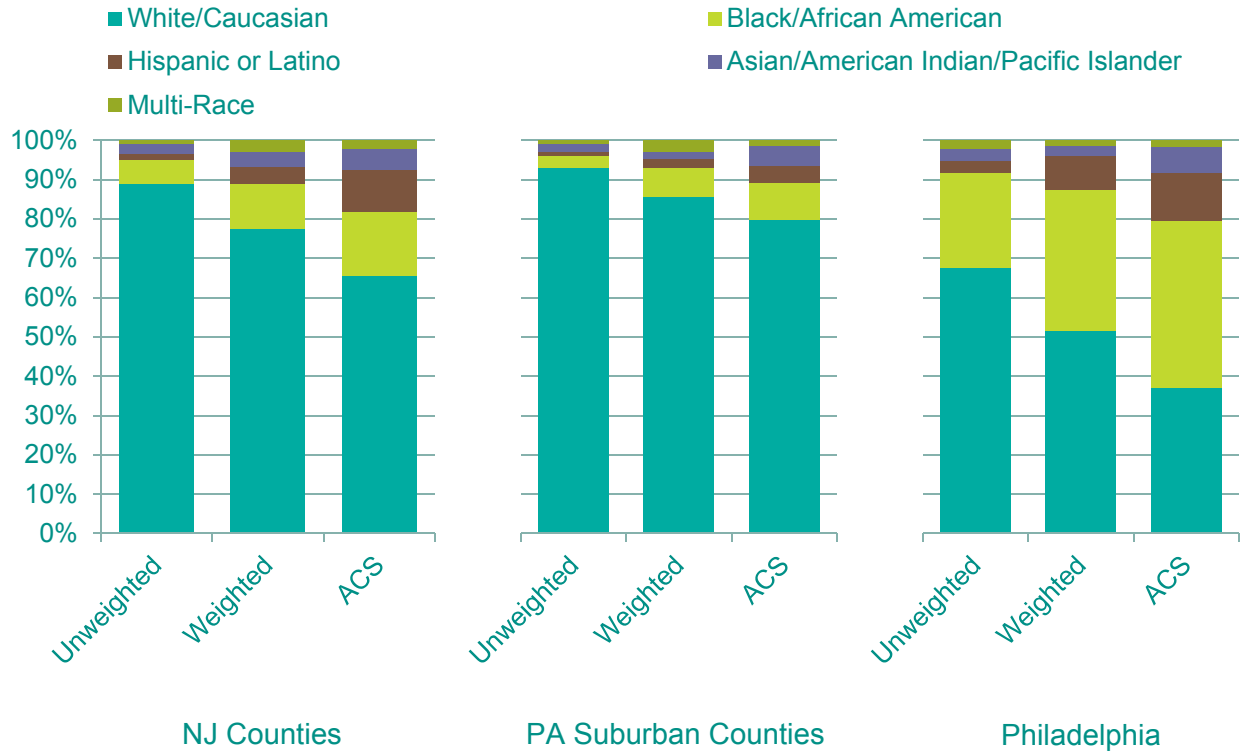
Figure 18: Respondent Sex Weight Comparison



Source: DVRPC 2012– 2013, ACS 2008-2012 5-YR Estimates

Figure 19 shows that Whites/Caucasians were overrepresented in the sample. Weights were used to increase the proportion of minorities, particularly in Philadelphia.

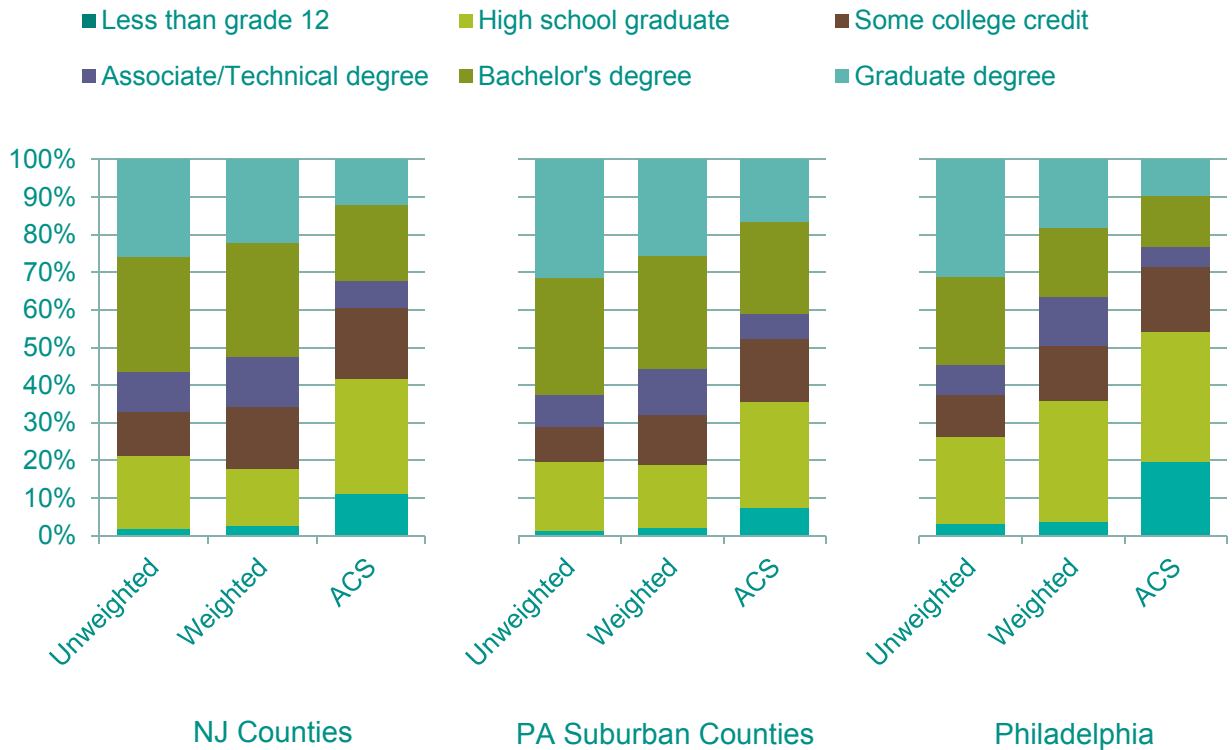
Figure 19: Respondent Race Weight Comparison



Source: DVRPC 2012– 2013, ACS 2008-2012 5-YR Estimates

As shown in Figure 20, the sampling plan captured more survey responses from people over the age of 24 with higher levels of education than those with lower levels. Weights were used to expand the proportion of those with less than a high school degree to be closer to the existing proportion in the region.

Figure 20: Respondent Level of Education (ages 25 and up) Weight Comparison



Source: DVRPC 2012– 2013, ACS 2008-2012 5-YR Estimates

Given that both household- and person-level weights were scaled to the number of households and persons in the county individually, analyzing the data using the household weight will yield slightly different results than analyzing the data using the person weight. The following tables summarizing household-based statistics, such as household size, use the household weights. The household ME applies to these tables. Since vehicles are owned by households, household weights are used in vehicle calculations. Tables summarizing person-based characteristics, such as employment status, use the person weights. The person ME applies to these tables. Since trips are made by individuals, and not entire households, person weights are typically included in trip-based calculations. Since weights were calibrated at the county level, the weighted data is best analyzed at the county level.

5.5 GPS Factors

Under-reporting of trips is a known issue in household travel surveys. Respondents may forget to record trips or not realize that quick stops to grab coffee count as a trip. Under-reporting affects household and person trip rate calculations by making trip rates appear lower than what the region actually experiences. In an effort to correct for this, a subsample of survey respondents were asked to carry GPS transponders that tracked their trips over a three-day period. The GPS data was compared to their survey diary data to determine how many trips were missing.

Trip rates were calculated individually for the GPS data and the diary data. The GPS trip rate was divided by the diary trip rate to develop the GPS factor. The GPS factor is used as a multiplier to correct for trip under-reporting and expand the reported number of household and person trips. Since trip under-reporting varied with household income, GPS factors were assigned based on household income categories.

Household GPS factors are included in the household table along with corrected household trip totals (F_HH_TOT_TRIPS, F_HH_MO_TRIPS, F_HH_NM_TRIPS). Similarly, person GPS factors are included in the person table, along with corrected person trip totals (F_P_TOT_TRIPS, F_P_MO_TRIPS, F_P_NM_TRIPS). The trip table contains TripFactors. The TripFactor is the person's GPS factor and represents the total value of that trip for trip counting purposes. For example, if the TripFactor for a certain record is 1.15, when the number of trips is totaled, that trip is counted as 1.15 trips. The trip table also contains a field called CompositeWeight. This weight is the Person Weight for the person who made the trip multiplied by the Trip Factor. The CompositeWeight should be used when analyzing weighted trip information.

CHAPTER 6:

Survey Demographics

The HTS resulted in an expansive dataset containing a wide variety of details about households, persons, vehicles, and trips made in the Delaware Valley region. This chapter summarizes the demographic data gathered from the HTS.

A total of 9,235 households in the region completed the HTS with sufficient data to be weighted. During the recruitment survey, households were asked to provide information about their home, the persons living in their home, the vehicles they use, and details about their travel. The tables in this chapter use the weighted household and person information to describe general characteristics of households, persons, students, workers, and vehicles in Greater Philadelphia.

6.1 Household Demographics

Tables 13-15 compare survey and Census household size. The average size of households in the region was 2.19, with households in New Jersey averaging slightly more household members (2.21) than those in Pennsylvania (2.18). Chester County had the highest average household size (2.39), while Philadelphia County had the lowest (1.90).

The survey calculations resulted in an average household size lower than the sizes presented in the 2010 Census data. Overall, the Census reported households in the region to have approximately 0.36 more persons than the survey results showed.

Table 13: Household Size (Weighted Data)

| County | Households | 1 | 2 | 3 | 4 | 5+ | Total | Mean |
|---------------------|------------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|
| Burlington | 165,620 | 25.8% | 32.7% | 17.0% | 16.1% | 8.5% | 100% | 2.23 |
| Camden | 188,861 | 27.8% | 31.4% | 16.6% | 14.3% | 10.0% | 100% | 2.20 |
| Gloucester | 104,091 | 22.9% | 31.6% | 17.7% | 18.2% | 9.6% | 100% | 2.29 |
| Mercer | 130,292 | 28.3% | 31.1% | 16.4% | 17.7% | 6.5% | 100% | 2.15 |
| NJ Counties | 588,864 | 26.5% | 31.7% | 16.9% | 16.2% | 8.7% | 100% | 2.21 |
| Bucks | 229,933 | 23.7% | 34.4% | 16.8% | 16.9% | 8.2% | 100% | 2.29 |
| Chester | 183,793 | 23.6% | 33.9% | 16.1% | 15.3% | 11.3% | 100% | 2.39 |
| Delaware | 206,021 | 28.4% | 31.3% | 16.5% | 15.9% | 8.0% | 100% | 2.19 |
| Montgomery | 308,083 | 27.1% | 33.3% | 16.0% | 15.8% | 7.8% | 100% | 2.29 |
| Philadelphia | 580,509 | 39.8% | 28.2% | 14.5% | 11.1% | 6.5% | 100% | 1.90 |
| PA Counties | 1,508,339 | 31.2% | 31.3% | 15.6% | 14.1% | 7.8% | 100% | 2.18 |
| DVRPC Region | 2,097,203 | 29.9% | 31.4% | 16.0% | 14.7% | 8.1% | 100% | 2.19 |

Source: DVRPC 2012– 2013; All households using household weights.

Table 14: Household Size (2010 U.S. Census Data)

| County | Households | 1 | 2 | 3 | 4 | 5+ | Total | Mean |
|---------------------|------------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|
| Burlington | 166,318 | 24.4% | 31.9% | 17.4% | 15.8% | 10.5% | 100% | 2.61 |
| Camden | 190,980 | 26.3% | 29.5% | 17.2% | 15.1% | 11.9% | 100% | 2.63 |
| Gloucester | 104,271 | 22.0% | 30.7% | 18.3% | 17.5% | 11.6% | 100% | 2.71 |
| Mercer | 133,155 | 26.9% | 29.9% | 17.0% | 15.1% | 11.0% | 100% | 2.60 |
| NJ Counties | 594,724 | 25.1% | 30.5% | 17.4% | 15.7% | 11.2% | 100% | 2.63 |
| Bucks | 234,849 | 23.0% | 33.3% | 17.5% | 15.8% | 10.4% | 100% | 2.62 |
| Chester | 182,900 | 23.0% | 33.4% | 16.4% | 16.3% | 10.9% | 100% | 2.64 |
| Delaware | 208,700 | 27.6% | 30.4% | 16.8% | 14.3% | 10.9% | 100% | 2.56 |
| Montgomery | 307,750 | 26.3% | 32.9% | 16.6% | 14.9% | 9.3% | 100% | 2.52 |
| Philadelphia | 599,736 | 34.1% | 28.2% | 15.8% | 11.2% | 10.7% | 100% | 2.43 |
| PA Counties | 1,533,935 | 28.6% | 30.8% | 16.4% | 13.7% | 10.4% | 100% | 2.52 |
| DVRPC Region | 2,128,659 | 27.7% | 30.7% | 16.7% | 14.2% | 10.7% | 100% | 2.55 |

Source: 2010 U.S. Census

Table 15: Household Size (Difference)

| County | Households | 1 | 2 | 3 | 4 | 5+ | Total | Mean |
|---------------------|----------------|-------------|-------------|--------------|-------------|--------------|-------------|--------------|
| Burlington | -698 | 1.4% | 0.8% | -0.4% | 0.3% | -2.0% | 0.0% | -0.38 |
| Camden | -2,119 | 1.5% | 1.9% | -0.6% | -0.8% | -1.9% | 0.0% | -0.43 |
| Gloucester | -180 | 0.9% | 0.9% | -0.6% | 0.7% | -2.0% | 0.0% | -0.42 |
| Mercer | -2,863 | 1.4% | 1.2% | -0.6% | 2.6% | -4.5% | 0.0% | -0.45 |
| NJ Counties | -5,860 | 1.4% | 1.2% | -0.5% | 0.5% | -2.5% | 0.0% | -0.42 |
| Bucks | -4,916 | 0.7% | 1.1% | -0.7% | 1.1% | -2.2% | 0.0% | -0.33 |
| Chester | 893 | 0.6% | 0.5% | -0.3% | -1.0% | 0.4% | 0.0% | -0.25 |
| Delaware | -2,679 | 0.8% | 0.9% | -0.3% | 1.6% | -2.9% | 0.0% | -0.37 |
| Montgomery | 333 | 0.8% | 0.4% | -0.6% | 0.9% | -1.5% | 0.0% | -0.23 |
| Philadelphia | -19,227 | 5.7% | 0.0% | -1.3% | -0.1% | -4.2% | 0.0% | -0.53 |
| PA Counties | -25,596 | 2.6% | 0.5% | -0.8% | 0.4% | -2.6% | 0.0% | -0.34 |
| DVRPC Region | -31,456 | 2.2% | 0.7% | -0.7% | 0.5% | -2.6% | 0.0% | -0.36 |

Source: 2010 U.S. Census, DVRPC 2012-2013

Tables 16-18 compare the number of workers per household from survey and ACS data. The average number of workers per household across the Delaware Valley region was 1.16, matching the 2008–2010 ACS 3-Year Estimates. Montgomery County had the highest number of workers per household (1.17) while Philadelphia had the lowest (0.90). The survey matches ACS data on average household size by state and for the entire region.

Table 16: Household Distribution by Number of Workers (Weighted Data)

| County | Households | 0 | 1 | 2 | 3+ | Total | Mean |
|---------------------|------------------|---------------|---------------|---------------|--------------|-------------|-------------|
| Burlington | 165,620 | 22.8% | 38.0% | 31.2% | 7.9% | 100% | 1.25 |
| Camden | 188,861 | 26.3% | 38.2% | 27.8% | 7.7% | 100% | 1.18 |
| Gloucester | 104,091 | 24.0% | 34.5% | 32.4% | 9.1% | 100% | 1.29 |
| Mercer | 130,292 | 24.2% | 38.4% | 33.7% | 3.8% | 100% | 1.18 |
| NJ Counties | 588,864 | 24.47% | 37.54% | 30.88% | 7.11% | 100% | 1.22 |
| Bucks | 229,933 | 22.5% | 35.4% | 33.3% | 8.9% | 100% | 1.30 |
| Chester | 183,793 | 19.9% | 37.9% | 34.1% | 8.0% | 100% | 1.31 |
| Delaware | 206,021 | 25.2% | 38.3% | 29.4% | 7.1% | 100% | 1.20 |
| Montgomery | 308,083 | 22.0% | 37.9% | 32.7% | 7.4% | 100% | 1.28 |
| Philadelphia | 580,509 | 35.8% | 41.1% | 19.2% | 3.9% | 100% | 0.92 |
| PA Counties | 1,508,339 | 27.56% | 38.82% | 27.33% | 6.29% | 100% | 1.14 |
| DVRPC Region | 2,097,203 | 26.7% | 38.5% | 28.3% | 6.5% | 100% | 1.16 |

Source: DVRPC 2012– 2013; All households using household weights.

Table 17: Household Distribution by Number of Workers (2008–2010 ACS 3-Year Estimates)

| County | Households | 0 | 1 | 2 | 3+ | Total | Mean |
|---------------------|------------------|--------------|--------------|--------------|-------------|-------------|-------------|
| Burlington | 164,920 | 21.9% | 37.8% | 32.6% | 7.7% | 100% | 1.26 |
| Camden | 190,290 | 25.1% | 38.4% | 28.6% | 7.9% | 100% | 1.19 |
| Gloucester | 103,686 | 23.2% | 34.9% | 32.7% | 9.2% | 100% | 1.28 |
| Mercer | 129,371 | 24.0% | 38.4% | 30.2% | 7.4% | 100% | 1.21 |
| NJ Counties | 588,267 | 23.6% | 37.6% | 30.8% | 7.9% | 100% | 1.23 |
| Bucks | 228,447 | 21.4% | 35.9% | 33.6% | 9.1% | 100% | 1.31 |
| Chester | 183,183 | 18.7% | 38.7% | 34.2% | 8.4% | 100% | 1.32 |
| Delaware | 206,126 | 24.6% | 38.5% | 29.4% | 7.4% | 100% | 1.20 |
| Montgomery | 308,218 | 21.1% | 38.5% | 32.8% | 7.6% | 100% | 1.27 |
| Philadelphia | 578,990 | 34.9% | 41.7% | 19.4% | 4.0% | 100% | 0.92 |
| PA Counties | 1,504,964 | 26.6% | 39.4% | 27.5% | 6.5% | 100% | 1.14 |
| DVRPC Region | 2,093,231 | 25.8% | 38.9% | 28.4% | 6.9% | 100% | 1.16 |

Source: 2008–2010 American Community Survey 3-Year Estimates

Table 18: Household Distribution by Number of Workers (Difference)

| County | Households | 0 | 1 | 2 | 3+ | Total | Mean |
|---------------------|--------------|-------------|--------------|--------------|--------------|-------------|--------------|
| Burlington | 700 | 0.9% | 0.2% | -1.4% | 0.2% | 0.0% | -0.01 |
| Camden | -1,429 | 1.2% | -0.2% | -0.8% | -0.2% | 0.0% | -0.01 |
| Gloucester | 405 | 0.8% | -0.4% | -0.3% | -0.1% | 0.0% | 0.01 |
| Mercer | 921 | 0.2% | 0.0% | 3.5% | -3.6% | 0.0% | -0.03 |
| NJ Counties | 597 | 0.9% | -0.1% | 0.1% | -0.8% | 0.0% | -0.01 |
| Bucks | 1,486 | 1.1% | -0.5% | -0.3% | -0.2% | 0.0% | -0.01 |
| Chester | 610 | 1.2% | -0.8% | -0.1% | -0.4% | 0.0% | -0.01 |
| Delaware | -105 | 0.6% | -0.2% | 0.0% | -0.3% | 0.0% | 0.00 |
| Montgomery | -135 | 0.9% | -0.6% | -0.1% | -0.2% | 0.0% | 0.01 |
| Philadelphia | 1,519 | 0.9% | -0.6% | -0.2% | -0.1% | 0.0% | 0.00 |
| PA Counties | 3,375 | 1.0% | -0.6% | -0.2% | -0.2% | 0.0% | 0.00 |
| DVRPC Region | 3,972 | 0.9% | -0.4% | -0.1% | -0.4% | 0.0% | 0.00 |

Source: 2010 U.S. Census, DVRPC 2012-2013

Tables 19-21 show that over 50 percent of the households in the region had a household income greater than \$50,000 per year. Chester County had the largest percentage of households bringing in over \$200,000 per year (8.9 percent), while Philadelphia County had the highest proportion of households making less than \$25,000 per year (34.9 percent). The overall distribution of household income across counties in the Delaware Valley region is similar to that estimated by the 2008–2010 5-Year ACS.

Table 19: Household Distribution by Income Range (Weighted Data)

| County | Households | Less than 25K | 25–50k | 50–75k | 75–100k | 100–150k | 150–200k | 200k+ | Total |
|---------------------|------------------|---------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|
| Burlington | 155,122 | 12.7% | 20.2% | 18.5% | 17.1% | 19.9% | 6.7% | 4.8% | 100% |
| Camden | 179,049 | 22.1% | 18.7% | 20.7% | 15.5% | 16.0% | 3.5% | 3.4% | 100% |
| Gloucester | 99,498 | 13.9% | 19.1% | 21.0% | 19.2% | 16.9% | 5.8% | 4.2% | 100% |
| Mercer | 122,263 | 15.8% | 19.3% | 16.3% | 13.0% | 21.0% | 6.4% | 8.2% | 100% |
| NJ Counties | 555,933 | 16.6% | 19.3% | 19.2% | 16.1% | 18.3% | 5.5% | 5.0% | 100% |
| Bucks | 210,652 | 13.2% | 18.8% | 20.6% | 15.9% | 20.6% | 4.6% | 6.3% | 100% |
| Chester | 167,967 | 10.8% | 19.2% | 17.5% | 15.4% | 19.7% | 8.5% | 8.9% | 100% |
| Delaware | 194,131 | 17.6% | 23.8% | 18.5% | 16.0% | 14.2% | 5.0% | 5.0% | 100% |
| Montgomery | 283,693 | 13.9% | 19.6% | 18.0% | 16.4% | 18.7% | 7.3% | 6.0% | 100% |
| Philadelphia | 569,134 | 34.9% | 28.8% | 15.1% | 8.9% | 8.9% | 1.7% | 1.7% | 100% |
| PA Counties | 1,425,578 | 22.3% | 23.7% | 17.2% | 13.2% | 14.6% | 4.5% | 4.5% | 100% |
| DVRPC Region | 1,981,510 | 20.7% | 22.4% | 17.8% | 14.0% | 15.6% | 4.8% | 4.6% | 100% |

Source: DVRPC 2012–2013; All households reporting household income; using household weights.

Table 20: Household Distribution by Income Range (2008–012 ACS 5-Year Estimates)

| County | Households | Less than 25k | 25–50k | 50–75k | 75–100k | 100–150k | 150–200k | 200k+ | Total |
|---------------------|------------------|---------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|
| Burlington | 164,920 | 12.2% | 18.4% | 17.6% | 15.0% | 19.9% | 9.3% | 7.7% | 100% |
| Camden | 190,290 | 20.1% | 20.7% | 17.5% | 13.6% | 16.6% | 6.4% | 5.1% | 100% |
| Gloucester | 103,686 | 14.5% | 17.4% | 18.2% | 15.3% | 20.4% | 8.6% | 5.6% | 100% |
| Mercer | 129,371 | 16.8% | 17.5% | 16.4% | 12.6% | 17.0% | 9.0% | 10.7% | 100% |
| NJ Counties | 588,267 | 16.2% | 18.8% | 17.4% | 14.1% | 18.3% | 8.2% | 7.2% | 100% |
| Bucks | 228,447 | 12.6% | 18.4% | 17.6% | 14.3% | 19.5% | 8.8% | 8.7% | 100% |
| Chester | 183,183 | 11.6% | 16.5% | 15.5% | 13.6% | 19.4% | 10.7% | 12.6% | 100% |
| Delaware | 206,126 | 17.9% | 21.9% | 17.1% | 13.0% | 16.0% | 7.2% | 6.9% | 100% |
| Montgomery | 308,218 | 13.3% | 17.7% | 16.6% | 14.0% | 19.0% | 9.0% | 10.5% | 100% |
| Philadelphia | 578,990 | 36.6% | 24.9% | 16.2% | 9.3% | 8.0% | 2.7% | 2.3% | 100% |
| PA Counties | 1,504,964 | 22.6% | 21.0% | 16.5% | 12.1% | 14.5% | 6.5% | 6.8% | 100% |
| DVRPC Region | 2,093,231 | 20.8% | 20.4% | 16.8% | 12.6% | 15.6% | 7.0% | 6.9% | 100% |

Source: 2008–2010 American Community Survey 5-Year Estimates

Table 21: Household Distribution by Income Range (Difference)

| County | Households | Less than 25k | 25–50k | 50–75k | 75–100k | 100–150k | 150–200k | 200k+ | Total |
|---------------------|-----------------|---------------|-------------|-------------|-------------|-------------|--------------|--------------|-----------|
| Burlington | –9,798 | 0.5% | 1.8% | 0.9% | 2.1% | 0.0% | –2.6% | –2.9% | 0% |
| Camden | –11,241 | 2.0% | –2.0% | 3.2% | 1.9% | –0.6% | –2.9% | –1.7% | 0% |
| Gloucester | –4,188 | –0.6% | 1.7% | 2.8% | 3.9% | –3.5% | –2.8% | –1.4% | 0% |
| Mercer | –7,108 | –1.0% | 1.8% | –0.1% | 0.4% | 4.0% | –2.6% | –2.5% | 0% |
| NJ Counties | –32,334 | 0.4% | 0.5% | 1.8% | 2.0% | 0.0% | –2.7% | –2.2% | 0% |
| Bucks | –17,795 | 0.6% | 0.4% | 3.0% | 1.6% | 1.1% | –4.2% | –2.4% | 0% |
| Chester | –15,216 | –0.8% | 2.7% | 2.0% | 1.8% | 0.3% | –2.2% | –3.7% | 0% |
| Delaware | –11,995 | –0.3% | 1.9% | 1.4% | 3.0% | –1.8% | –2.2% | –1.9% | 0% |
| Montgomery | –24,525 | 0.6% | 1.9% | 1.4% | 2.4% | –0.3% | –1.7% | –4.5% | 0% |
| Philadelphia | –9,856 | –1.7% | 3.9% | –1.1% | –0.4% | 0.9% | –1.0% | –0.6% | 0% |
| PA Counties | –79,386 | –0.3% | 2.7% | 0.7% | 1.1% | 0.1% | –2.0% | –2.3% | 0% |
| DVRPC Region | –111,721 | –0.1% | 2.0% | 1.0% | 1.4% | 0.0% | –2.2% | –2.3% | 0% |

Source: 2010 U.S. Census, DVRPC 2012–2013

Tables 22-24 show vehicle availability by household. The average number of vehicles per household in the Delaware Valley region was 1.72. Chester (2.09) and Bucks (2.02) counties had the highest number of vehicles per household, while Philadelphia (0.98) had the lowest. The survey results for average household vehicle availability differ slightly from the 2008–2012 ACS 5-Year Estimates. The greatest difference is in Mercer County, where the ACS estimated 2.9 percent more zero-vehicle households than survey results showed.

Table 22: Household Vehicle Availability (Weighted Data)

| County | Households | 0 | 1 | 2 | 3+ | Total | Mean |
|---------------------|------------------|--------------|--------------|--------------|--------------|-------------|-------------|
| Burlington | 165,620 | 3.6% | 32.7% | 42.0% | 21.8% | 100% | 1.95 |
| Camden | 188,861 | 11.0% | 35.0% | 37.3% | 16.6% | 100% | 1.74 |
| Gloucester | 104,091 | 4.9% | 29.1% | 43.2% | 22.8% | 100% | 2.01 |
| Mercer | 130,292 | 8.9% | 34.4% | 38.5% | 18.1% | 100% | 1.86 |
| NJ Counties | 588,864 | 7.4% | 33.2% | 39.9% | 19.5% | 100% | 1.87 |
| Bucks | 229,933 | 4.1% | 29.0% | 44.3% | 22.7% | 100% | 2.02 |
| Chester | 183,793 | 2.5% | 29.3% | 45.4% | 22.8% | 100% | 2.09 |
| Delaware | 206,021 | 10.7% | 36.1% | 37.6% | 15.6% | 100% | 1.70 |
| Montgomery | 308,083 | 5.9% | 32.0% | 43.2% | 18.9% | 100% | 1.94 |
| Philadelphia | 580,509 | 34.1% | 42.8% | 18.6% | 4.5% | 100% | 0.98 |
| PA Counties | 1,508,339 | 16.7% | 35.9% | 33.4% | 14.0% | 100% | 1.67 |
| DVRPC Region | 2,097,203 | 14.1% | 35.1% | 35.2% | 15.5% | 100% | 1.72 |

Source: DVRPC 2012–2013; All households using household weights.

Table 23: Household Vehicle Availability (2008–2012 ACS 5-Year Estimates)

| County | Households | 0 | 1 | 2 | 3+ | Total |
|---------------------|------------------|--------------|--------------|--------------|--------------|-------------|
| Burlington | 165,620 | 5.0% | 31.4% | 41.9% | 21.7% | 100% |
| Camden | 188,861 | 11.4% | 35.5% | 36.8% | 16.3% | 100% |
| Gloucester | 104,091 | 6.0% | 28.8% | 42.7% | 22.5% | 100% |
| Mercer | 130,292 | 11.8% | 33.1% | 38.2% | 16.9% | 100% |
| NJ Counties | 588,864 | 8.7% | 32.6% | 39.6% | 19.0% | 100% |
| Bucks | 229,933 | 4.2% | 29.3% | 44.0% | 22.5% | 100% |
| Chester | 183,793 | 4.9% | 27.0% | 45.5% | 22.6% | 100% |
| Delaware | 206,021 | 11.2% | 35.8% | 37.4% | 15.5% | 100% |
| Montgomery | 308,083 | 6.1% | 32.0% | 43.1% | 18.9% | 100% |
| Philadelphia | 580,509 | 33.7% | 42.7% | 18.9% | 4.7% | 100% |
| PA Counties | 1,508,339 | 17.0% | 35.6% | 33.4% | 14.0% | 100% |
| DVRPC Region | 2,097,203 | 14.7% | 34.8% | 35.1% | 15.4% | 100% |

Source: 2008–2010 American Community Survey 5-Year Estimates

Table 24: Household Vehicle Availability (Difference)

| County | Households | 0 | 1 | 2 | 3+ | Total |
|---------------------|------------|--------------|-------------|-------------|-------------|-----------|
| Burlington | 0 | -1.4% | 1.3% | 0.1% | 0.1% | 0% |
| Camden | 0 | -0.4% | -0.5% | 0.5% | 0.3% | 0% |
| Gloucester | 0 | -1.1% | 0.3% | 0.5% | 0.3% | 0% |
| Mercer | 0 | -2.9% | 1.3% | 0.3% | 1.2% | 0% |
| NJ Counties | 0 | -1.3% | 0.6% | 0.3% | 0.5% | 0% |
| Bucks | 0 | -0.1% | -0.3% | 0.3% | 0.2% | 0% |
| Chester | 0 | -2.4% | 2.3% | -0.1% | 0.2% | 0% |
| Delaware | 0 | -0.5% | 0.3% | 0.2% | 0.1% | 0% |
| Montgomery | 0 | -0.2% | 0.0% | 0.1% | 0.0% | 0% |
| Philadelphia | 0 | 0.4% | 0.1% | -0.3% | -0.2% | 0% |
| PA Counties | 0 | -0.3% | 0.3% | 0.0% | 0.0% | 0% |
| DVRPC Region | 0 | -0.6% | 0.3% | 0.1% | 0.1% | 0% |

Source: 2010 U.S. Census, DVRPC 2012-2013

Based on individual reported student status, there was an average of 0.65 students per household in the region, as shown in Table 25. The average number of students per household is the same in New Jersey and Pennsylvania (0.65). Chester County had the highest number of students per household (0.72), while Philadelphia and Montgomery Counties had the lowest (0.63).

Table 25: Household Distribution by Number of Students

| County | Households | 0 | 1 | 2 | 3+ | Total | Mean |
|---------------------|------------------|--------------|--------------|--------------|-------------|-------------|-------------|
| Burlington | 165,620 | 64.1% | 15.2% | 14.7% | 6.0% | 100% | 0.65 |
| Camden | 188,861 | 61.7% | 19.2% | 12.1% | 7.0% | 100% | 0.65 |
| Gloucester | 104,091 | 60.4% | 18.0% | 16.0% | 5.6% | 100% | 0.68 |
| Mercer | 130,292 | 63.6% | 15.5% | 15.7% | 5.2% | 100% | 0.64 |
| NJ Counties | 588,864 | 62.6% | 17.0% | 14.3% | 6.1% | 100% | 0.65 |
| Bucks | 229,933 | 60.5% | 18.9% | 14.2% | 6.3% | 100% | 0.68 |
| Chester | 183,793 | 62.2% | 14.0% | 15.3% | 8.5% | 100% | 0.72 |
| Delaware | 206,021 | 63.8% | 15.9% | 13.9% | 6.5% | 100% | 0.65 |
| Montgomery | 308,083 | 64.6% | 16.0% | 13.4% | 6.0% | 100% | 0.63 |
| Philadelphia | 580,509 | 62.7% | 19.8% | 11.8% | 5.8% | 100% | 0.63 |
| PA Counties | 1,508,339 | 62.8% | 17.6% | 13.2% | 6.3% | 100% | 0.65 |
| DVRPC Region | 2,097,203 | 62.8% | 17.5% | 13.5% | 6.3% | 100% | 0.65 |

Source: DVRPC 2012– 2013; All households using household weights.

Table 26 shows the dwelling type of households across the region. Almost half of the households in the region (46.6%) live in single family detached dwellings. The outlier in the region is Philadelphia, where only 9.3% lived in single family detached dwellings. Most Philadelphia households live in single family attached homes, such as row homes or townhouses, (58.5%) or apartments/flats/condos (31.8%). For the purposes of this survey, Group Quarters does not include those living in institutional group quarters, such as prisons.

Table 26: Household Distribution by Dwelling Type

| County | Total | Single Family (detached) | Single Family (attached) | Apartment/ Flat/Condo | Group Quarters (hotel, dorm, etc.) | Other | Don't Know/Refused | Total |
|---------------------|------------------|--------------------------|--------------------------|-----------------------|------------------------------------|-------------|--------------------|-------------|
| Burlington | 165,620 | 66.8% | 14.8% | 17.8% | 0.0% | 0.3% | 0.2% | 100% |
| Camden | 188,861 | 59.3% | 16.4% | 23.1% | 1.0% | 0.1% | 0.0% | 100% |
| Gloucester | 104,091 | 75.9% | 9.9% | 13.2% | 0.0% | 0.8% | 0.2% | 100% |
| Mercer | 130,292 | 53.4% | 21.5% | 24.2% | 0.0% | 0.0% | 0.9% | 100% |
| NJ Counties | 588,864 | 63.1% | 16.0% | 20.1% | 0.3% | 0.3% | 0.3% | 100% |
| Bucks | 229,933 | 67.2% | 15.0% | 17.0% | 0.2% | 0.5% | 0.2% | 100% |
| Chester | 183,793 | 65.1% | 16.9% | 16.8% | 0.0% | 0.9% | 0.3% | 100% |
| Delaware | 206,021 | 48.8% | 29.2% | 21.7% | 0.2% | 0.2% | 0.0% | 100% |
| Montgomery | 308,083 | 57.3% | 19.8% | 22.6% | 0.2% | 0.1% | 0.0% | 100% |
| Philadelphia | 580,509 | 9.3% | 58.5% | 31.8% | 0.0% | 0.0% | 0.3% | 100% |
| PA Counties | 1,508,339 | 40.1% | 34.9% | 24.5% | 0.1% | 0.2% | 0.2% | 100% |
| DVRPC Region | 2,097,203 | 46.6% | 29.6% | 23.2% | 0.2% | 0.2% | 0.2% | 100% |

Source: DVRPC 2012– 2013; All households using household weights.

6.2. Person Demographics

A total of 20,216 persons completed the HTS. These people were weighted to represent the estimated 5,627,010 people living in the Delaware Valley region. This section includes person demographics.

Table 27 shows a fairly even distribution of men and women across all counties in the region, with each county housing slightly more women (average 52.2 percent) than men (average 47.8 percent).

Table 27: Sex of Population

| County | Population | Male | Female | Refused | Total |
|---------------------|------------------|--------------|--------------|-------------|-------------|
| Burlington | 449,117 | 51.7% | 48.3% | 0.0% | 100% |
| Camden | 513,660 | 52.8% | 47.1% | 0.0% | 100% |
| Gloucester | 288,187 | 48.9% | 51.0% | 0.1% | 100% |
| Mercer | 366,442 | 48.1% | 51.9% | 0.0% | 100% |
| NJ Counties | 1,617,406 | 50.7% | 49.2% | 0.0% | 100% |
| Bucks | 625,485 | 53.0% | 47.0% | 0.0% | 100% |
| Chester | 499,548 | 46.1% | 53.9% | 0.0% | 100% |
| Delaware | 558,874 | 43.3% | 56.7% | 0.0% | 100% |
| Montgomery | 799,886 | 51.9% | 48.1% | 0.0% | 100% |
| Philadelphia | 1,525,811 | 42.6% | 57.4% | 0.0% | 100% |
| PA Counties | 4,009,604 | 46.6% | 53.4% | 0.0% | 100% |
| DVRPC Region | 5,627,010 | 47.8% | 52.2% | 0.0% | 100% |

Source: DVRPC 2012– 2013; All persons; using person weights.

Table 28 shows that the majority of people in the region are adults, between ages 18 and 64 (64.4 percent). Gloucester County has the highest proportion of children aged 15 and under (24.8 percent), while Burlington County has the highest percentage of seniors, aged 65 and older (19.7 percent).

Table 28: Age of Population

| County | Population | 15 or Under | 16 to 17 | 18 to 64 | 65+ | Unknown | Total |
|---------------------|------------------|--------------|-------------|--------------|--------------|-------------|-------------|
| Burlington | 449,117 | 15.5% | 3.0% | 60.5% | 19.7% | 1.3% | 100% |
| Camden | 513,660 | 22.3% | 4.7% | 56.9% | 15.8% | 0.3% | 100% |
| Gloucester | 288,187 | 24.8% | 1.9% | 63.3% | 10.0% | 0.1% | 100% |
| Mercer | 366,442 | 18.5% | 5.7% | 65.3% | 9.3% | 1.1% | 100% |
| NJ Counties | 1,617,406 | 20.0% | 4.0% | 60.9% | 14.4% | 0.7% | 100% |
| Bucks | 625,485 | 18.6% | 3.4% | 65.9% | 12.0% | 0.1% | 100% |
| Chester | 499,548 | 15.3% | 2.5% | 66.9% | 15.2% | 0.1% | 100% |
| Delaware | 558,874 | 14.4% | 3.0% | 66.0% | 16.4% | 0.2% | 100% |
| Montgomery | 799,886 | 16.9% | 3.3% | 60.8% | 18.9% | 0.2% | 100% |
| Philadelphia | 1,525,811 | 16.5% | 1.9% | 67.9% | 13.4% | 0.3% | 100% |
| PA Counties | 4,009,604 | 16.5% | 2.6% | 65.8% | 14.9% | 0.2% | 100% |
| DVRPC Region | 5,627,010 | 17.5% | 3.0% | 64.4% | 14.8% | 0.4% | 100% |

Source: DVRPC 2012– 2013; All persons; using person weights.

As seen in Table 29, the vast majority of regional residents aged 16 and over report having a driver's license (84.0 percent). Philadelphia County has the lowest percentage of residents with drivers' licenses (79.7 percent), while Chester County has the highest (93.7 percent).

Table 29: Licensed Driver Status

| County | Population | Yes | No | Don't Know/Refused | Total |
|---------------------------|-------------------------|---------------------|---------------------|--------------------|--------------------|
| Burlington | 379,329 | 88.8% | 11.2% | 0.0% | 100% |
| Camden | 399,035 | 81.2% | 17.9% | 0.9% | 100% |
| Gloucester | 216,831 | 89.8% | 10.0% | 0.2% | 100% |
| Mercer | 298,534 | 81.2% | 16.8% | 1.9% | 100% |
| <i>NJ Counties</i> | <i>1,293,729</i> | <i>84.9%</i> | <i>14.4%</i> | <i>0.8%</i> | <i>100%</i> |
| Bucks | 509,162 | 89.4% | 10.6% | 0.0% | 100% |
| Chester | 423,125 | 93.7% | 6.2% | 0.0% | 100% |
| Delaware | 478,424 | 80.3% | 19.6% | 0.1% | 100% |
| Montgomery | 664,878 | 83.2% | 16.7% | 0.1% | 100% |
| Philadelphia | 1,274,302 | 79.7% | 20.1% | 0.3% | 100% |
| <i>PA Counties</i> | <i>3,349,890</i> | <i>83.7%</i> | <i>16.2%</i> | <i>0.1%</i> | <i>100%</i> |
| DVRPC Region | 4,643,619 | 84.0% | 15.7% | 0.3% | 100% |

Source: DVRPC 2012– 2013; All persons aged 16+ using person weights.

6.3 Student Demographics

Slightly less than one-quarter of persons in the Delaware Valley region were full-time students. Table 30 shows that student distribution was relatively consistent across the region. Gloucester County had the highest percentage of students (31.5 percent), while Burlington County had the lowest (18.4 percent).

Table 30: Student Status

| County | Population | Full Time | Part Time | Not a Student | Don't Know/Refused | Total |
|---------------------|------------------|--------------|-------------|---------------|--------------------|-------------|
| Burlington | 449,117 | 18.4% | 2.6% | 77.3% | 1.7% | 100% |
| Camden | 513,660 | 27.1% | 3.2% | 69.6% | 0.0% | 100% |
| Gloucester | 288,187 | 31.5% | 4.2% | 64.3% | 0.0% | 100% |
| Mercer | 366,442 | 22.4% | 4.7% | 71.4% | 1.4% | 100% |
| NJ Counties | 1,617,406 | 24.4% | 3.6% | 71.2% | 0.8% | 100% |
| Bucks | 625,485 | 22.2% | 5.0% | 72.8% | 0.1% | 100% |
| Chester | 499,548 | 21.2% | 4.2% | 73.9% | 0.7% | 100% |
| Delaware | 558,874 | 22.2% | 2.4% | 75.2% | 0.1% | 100% |
| Montgomery | 799,886 | 21.7% | 3.6% | 74.3% | 0.4% | 100% |
| Philadelphia | 1,525,811 | 20.1% | 6.9% | 73.0% | 0.1% | 100% |
| PA Counties | 4,009,604 | 21.2% | 5.0% | 73.6% | 0.2% | 100% |
| DVRPC Region | 5,627,010 | 22.1% | 4.6% | 72.9% | 0.4% | 100% |

Source: DVRPC 2012– 2013; All persons, using person weights.

Of the persons identified as students, the majority attend Kindergarten (K) through 12th grade (56.0 percent), as shown in Table 31. Camden County has the highest percentage of students in K–12 grades (69.3 percent) while Chester County had the highest percentage attending a two- or four-year college (32.3 percent). However, due to demographic factors and weighting methodology, there is a higher percentage of people in Chester County with high weights that reported attending a two- or four-year college than in the rest of the region. Therefore, the proportion of Chester County students attending a two-or four-year college may be inflated.

Table 31: Level of School Attending by County of Residence

| County | Students | Daycare/ Preschool | Grades K– 12 | Vo Tech | Two or Four-Year College | Graduate/ Professional | Other | Don't Know/ Refused | Total |
|---------------------|------------------|-----------------------|-----------------|-------------|--------------------------------|---------------------------|-------------|------------------------|-------------|
| Burlington | 94,088 | 10.4% | 63.2% | 2.4% | 15.3% | 7.7% | 0.9% | 0.2% | 100% |
| Camden | 155,879 | 4.4% | 69.3% | 3.3% | 18.6% | 3.1% | 1.2% | 0.0% | 100% |
| Gloucester | 102,758 | 6.5% | 59.4% | 2.1% | 26.7% | 4.9% | 0.2% | 0.2% | 100% |
| Mercer | 99,524 | 17.2% | 60.2% | 0.9% | 13.7% | 6.7% | 1.0% | 0.3% | 100% |
| NJ Counties | 452,248 | 8.9% | 63.8% | 2.3% | 18.7% | 5.3% | 0.9% | 0.1% | 100% |
| Bucks | 169,613 | 10.1% | 55.9% | 1.6% | 24.8% | 4.2% | 0.8% | 2.5% | 100% |
| Chester | 126,845 | 8.1% | 47.0% | 1.3% | 32.3% | 6.9% | 1.1% | 3.4% | 100% |
| Delaware | 138,011 | 6.8% | 61.1% | 0.6% | 27.3% | 2.8% | 1.4% | 0.0% | 100% |
| Montgomery | 202,221 | 5.7% | 60.7% | 1.4% | 25.1% | 4.6% | 0.4% | 2.0% | 100% |
| Philadelphia | 411,510 | 9.7% | 46.3% | 5.8% | 23.9% | 12.3% | 1.2% | 0.8% | 100% |
| PA Counties | 1,048,200 | 8.4% | 52.7% | 3.0% | 25.7% | 7.6% | 1.0% | 1.5% | 100% |
| DVRPC Region | 1,500,448 | 8.6% | 56.0% | 2.8% | 23.6% | 6.9% | 1.0% | 1.1% | 100% |

Source: DVRPC 2012– 2013; All persons attending school full- or part-time; weighted using person weights.

6.4. Worker Demographics

Table 32 shows that the majority of persons in the region aged 16 and over are employed either full- or part-time (59.0 percent). Gloucester County has the highest percentage of employed residents (69.5 percent), while Philadelphia County has the lowest (53.7 percent).

Table 32: Employment Status

| County | Population | Yes | No | Don't Know/Refused | Total |
|---------------------|------------------|--------------|--------------|--------------------|-------------|
| Burlington | 381,243 | 58.8% | 40.9% | 0.3% | 100% |
| Camden | 397,477 | 56.9% | 43.1% | 0.0% | 100% |
| Gloucester | 215,247 | 69.5% | 30.5% | 0.0% | 100% |
| Mercer | 300,560 | 63.0% | 36.4% | 0.6% | 100% |
| NJ Counties | 1,294,526 | 61.0% | 38.8% | 0.3% | 100% |
| Bucks | 522,357 | 65.0% | 34.6% | 0.3% | 100% |
| Chester | 419,844 | 62.2% | 37.8% | 0.0% | 100% |
| Delaware | 480,312 | 57.3% | 42.7% | 0.1% | 100% |
| Montgomery | 653,255 | 60.1% | 39.8% | 0.1% | 100% |
| Philadelphia | 1,274,015 | 53.7% | 46.0% | 0.2% | 100% |
| PA Counties | 3,349,782 | 58.3% | 41.5% | 0.2% | 100% |
| DVRPC Region | 4,644,308 | 59.0% | 40.8% | 0.2% | 100% |

Source: DVRPC 2012– 2013; All persons ages 16+ using person weights.

Additional information was collected from both employed and unemployed household members. Of those who identified as unemployed, the majority were retired (40.2 percent), as shown in Table 33. Philadelphia County had the highest percentage of persons unemployed but seeking work (17.5 percent). Bucks County had the highest percentage of homemakers (14.0 percent).

Table 33: Status if Not Employed

| County | Population | Retired | Disabled/On Disability Status | Homemaker | Unemployed (seeking) | Unemployed (not seeking) | Student | Volunteer | Unknown | Total |
|---------------------|------------------|--------------|-------------------------------|-------------|----------------------|--------------------------|--------------|-------------|-------------|-------------|
| Burlington | 154,992 | 45.9% | 20.8% | 7.1% | 10.4% | 0.6% | 15.0% | 0.2% | 0.0% | 100% |
| Camden | 171,874 | 42.2% | 14.8% | 6.4% | 13.6% | 0.1% | 21.7% | 0.6% | 0.7% | 100% |
| Gloucester | 66,079 | 37.9% | 18.1% | 6.5% | 7.8% | 0.9% | 28.6% | 0.3% | 0.0% | 100% |
| Mercer | 108,654 | 29.5% | 18.6% | 5.4% | 16.5% | 3.8% | 21.6% | 3.8% | 0.8% | 100% |
| NJ Counties | 501,598 | 40.0% | 17.9% | 6.4% | 12.5% | 1.2% | 20.5% | 1.1% | 0.4% | 100% |
| Bucks | 176,298 | 41.5% | 17.2% | 14.0% | 8.9% | 1.1% | 15.8% | 1.4% | 0.0% | 100% |
| Chester | 159,907 | 46.8% | 10.4% | 13.1% | 11.2% | 1.8% | 16.0% | 0.6% | 0.0% | 100% |
| Delaware | 204,249 | 41.0% | 18.5% | 6.9% | 12.2% | 0.3% | 19.8% | 1.1% | 0.2% | 100% |
| Montgomery | 264,518 | 47.6% | 10.6% | 9.4% | 9.3% | 4.9% | 17.2% | 1.0% | 0.2% | 100% |
| Philadelphia | 586,799 | 34.5% | 19.9% | 8.5% | 17.5% | 2.8% | 15.5% | 1.1% | 0.2% | 100% |
| PA Counties | 1,391,770 | 40.3% | 16.5% | 9.6% | 13.3% | 2.5% | 16.5% | 1.1% | 0.1% | 100% |
| DVRPC Region | 1,893,368 | 40.2% | 16.9% | 8.8% | 13.1% | 2.2% | 17.6% | 1.1% | 0.2% | 100% |

Source: DVRPC 2012– 2013; All persons reporting employment status as Not Employed; weighted using person weights.

Table 34 shows that the majority of workers in the Delaware Valley region hold one job (89.7 percent). Mercer County has the highest percentage of workers holding more than one job (15.6 percent). Due to demographic factors and weighting methodology, there is a higher percentage of people in Mercer County with high weights that reported having more than one job than in the rest of the region. Therefore, the proportion of Mercer County residents working more than one job may be inflated.

Table 34: Number of Jobs Held

| County | Population | One Job | More Than One Job | Total |
|---------------------|------------------|--------------|-------------------|-------------|
| Burlington | 222,986 | 94.9% | 5.1% | 100% |
| Camden | 227,030 | 91.7% | 8.3% | 100% |
| Gloucester | 150,398 | 90.6% | 9.4% | 100% |
| Mercer | 184,302 | 84.4% | 15.6% | 100% |
| NJ Counties | 784,716 | 90.7% | 9.3% | 100% |
| Bucks | 330,855 | 91.5% | 8.5% | 100% |
| Chester | 262,298 | 87.6% | 12.4% | 100% |
| Delaware | 273,268 | 89.3% | 10.7% | 100% |
| Montgomery | 399,438 | 90.4% | 9.6% | 100% |
| Philadelphia | 677,742 | 88.2% | 11.8% | 100% |
| PA Counties | 1,943,601 | 89.3% | 10.7% | 100% |
| DVRPC Region | 2,728,317 | 89.7% | 10.3% | 100% |

Source: DVRPC 2012– 2013; All employed persons; excludes “Don’t know” and “Refused”; weighted using person weights.

Of those living in the Delaware Valley region, the highest percentage of workers are in Education, Training, and Library occupations (10.9 percent), followed by Management (9.7 percent), as seen in Table 35. There are only a small amount of workers in the region that do Military-Specific work (0.3 percent). Due to demographic factors and weighting methodology, there is a higher percentage of people in Gloucester and Mercer counties with high weights that reported working in the Education industry than in the rest of the region. Therefore, the proportion of Gloucester and Mercer County residents working in the Education, Training, and Library industry may be inflated.

Table 35: Industry by County of Residence

| County | Management | Business and Financial Operations | Computer and Mathematical | Architecture and Engineering | Life, Physical, and Social Science | Community and Social Service | Legal | Education, Training and Library | Arts, Design, Entertainment, and Sports | Healthcare Practitioners and Technical | Healthcare Support | Protective Service | Food Preparation and Serving | Building and Grounds Maintenance | Personal Care and Service | Sales and Related | Office and Administrative Support | Farming, Fishing, and Forestry | Construction and Extraction | Installation, Maintenance/Repair | Production | Transportation and Material Moving | Military-Specific | Other | Don't know | Refused | Total |
|---------------------|--------------|-----------------------------------|---------------------------|------------------------------|------------------------------------|------------------------------|-------------|---------------------------------|---|--|--------------------|--------------------|------------------------------|----------------------------------|---------------------------|-------------------|-----------------------------------|--------------------------------|-----------------------------|----------------------------------|-------------|------------------------------------|-------------------|-------------|-------------|-------------|-------------|
| Burlington | 13.2% | 6.9% | 5.9% | 5.4% | 1.8% | 4.9% | 3.6% | 9.0% | 2.7% | 6.8% | 1.4% | 3.4% | 4.6% | 1.3% | 0.6% | 10.6% | 7.2% | 0.1% | 1.8% | 1.4% | 1.1% | 2.6% | 0.6% | 1.0% | 0.5% | 1.9% | 100% |
| Camden | 8.9% | 9.7% | 4.7% | 3.8% | 2.8% | 2.5% | 1.4% | 9.2% | 2.3% | 7.4% | 1.9% | 1.4% | 7.0% | 2.4% | 1.8% | 7.3% | 7.0% | 0.0% | 3.0% | 3.1% | 1.2% | 4.4% | 0.0% | 1.8% | 1.7% | 3.4% | 100% |
| Gloucester | 10.6% | 9.9% | 7.9% | 1.1% | 1.1% | 1.1% | 1.7% | 13.6% | 2.1% | 12.7% | 0.7% | 0.4% | 3.3% | 1.9% | 2.7% | 9.0% | 4.8% | 0.8% | 5.7% | 1.4% | 0.9% | 2.7% | 0.1% | 3.5% | 0.0% | 0.4% | 100% |
| Mercer | 9.5% | 6.1% | 4.5% | 4.1% | 2.5% | 3.6% | 0.6% | 20.5% | 3.6% | 5.9% | 0.5% | 1.2% | 6.7% | 1.6% | 1.3% | 3.9% | 5.0% | 0.0% | 3.1% | 0.4% | 2.1% | 2.1% | 1.6% | 4.5% | 0.7% | 4.6% | 100% |
| NJ Counties | 10.6% | 8.1% | 5.6% | 3.8% | 2.1% | 3.2% | 1.9% | 12.7% | 2.7% | 7.9% | 1.2% | 1.7% | 5.6% | 1.8% | 1.5% | 7.7% | 6.2% | 0.2% | 3.2% | 1.7% | 1.3% | 3.0% | 0.6% | 2.5% | 0.8% | 2.7% | 100% |
| Bucks | 8.6% | 8.2% | 5.5% | 4.5% | 3.1% | 2.0% | 2.1% | 7.8% | 3.0% | 6.7% | 1.7% | 1.2% | 7.8% | 2.1% | 1.8% | 8.3% | 8.9% | 0.3% | 3.2% | 3.6% | 1.1% | 3.2% | 0.0% | 3.2% | 0.7% | 1.4% | 100% |
| Chester | 12.6% | 8.2% | 7.2% | 3.4% | 3.7% | 2.3% | 1.3% | 8.7% | 2.4% | 7.9% | 1.5% | 1.0% | 6.1% | 1.3% | 2.9% | 9.8% | 6.6% | 1.1% | 1.4% | 2.0% | 1.0% | 1.8% | 0.0% | 3.1% | 1.4% | 1.4% | 100% |
| Delaware | 9.8% | 10.6% | 4.1% | 2.2% | 3.5% | 2.1% | 1.3% | 11.2% | 2.4% | 7.4% | 1.3% | 3.0% | 5.4% | 3.2% | 2.0% | 6.6% | 8.0% | 0.3% | 2.8% | 1.6% | 1.4% | 2.9% | 0.2% | 2.4% | 1.1% | 3.0% | 100% |
| Montgomery | 11.4% | 10.8% | 6.4% | 3.9% | 2.5% | 2.4% | 1.8% | 10.9% | 2.4% | 5.3% | 1.6% | 0.6% | 3.7% | 2.1% | 1.7% | 8.8% | 6.0% | 0.4% | 2.3% | 2.8% | 2.3% | 2.0% | 0.1% | 4.5% | 1.4% | 2.0% | 100% |
| Philadelphia | 7.0% | 7.3% | 3.3% | 2.6% | 2.3% | 3.7% | 2.0% | 11.2% | 2.2% | 6.4% | 4.1% | 2.3% | 4.1% | 3.8% | 2.6% | 6.2% | 6.9% | 0.0% | 3.7% | 6.3% | 1.1% | 2.1% | 0.2% | 5.2% | 1.4% | 1.9% | 100% |
| PA Counties | 9.3% | 8.8% | 5.0% | 3.3% | 2.8% | 2.7% | 1.8% | 10.2% | 2.4% | 6.6% | 2.5% | 1.7% | 5.1% | 2.7% | 2.3% | 7.6% | 7.1% | 0.3% | 2.9% | 3.9% | 1.4% | 2.3% | 0.1% | 4.1% | 1.2% | 1.9% | 100% |
| DVRPC Region | 9.7% | 8.6% | 5.1% | 3.4% | 2.6% | 2.9% | 1.8% | 10.9% | 2.5% | 6.9% | 2.1% | 1.7% | 5.2% | 2.5% | 2.0% | 7.7% | 6.9% | 0.3% | 3.0% | 3.3% | 1.4% | 2.5% | 0.3% | 3.6% | 1.1% | 2.1% | 100% |

Source: DVRPC 2012–2013; All employed persons, using person weights.

Table 36 shows the distribution of industry jobs by reported work locations. Only jobs located within the nine-county region are included.

Table 36: Industry by County of Employment (Work Locations within Region Only)

| County | Management | Business and Financial Operations | Computer and Mathematical | Architecture and Engineering | Life, Physical, and Social Science | Community and Social Service | Legal | Education, Training, and Library | Arts, Design, Entertainment, and Sports | Healthcare Practitioners and Technical | Healthcare Support | Protective Service | Food Preparation and Serving | Building and Grounds Maintenance | Personal Care and Service | Sales and Related | Office and Administrative Support | Farming, Fishing, and Forestry | Construction and Extraction | Installation, Maintenance/Repair | Production | Transportation and Material Moving | Military-Specific | Other | Don't know | Refused | Total |
|---------------------|-------------|-----------------------------------|---------------------------|------------------------------|------------------------------------|------------------------------|-------------|----------------------------------|---|--|--------------------|--------------------|------------------------------|----------------------------------|---------------------------|-------------------|-----------------------------------|--------------------------------|-----------------------------|----------------------------------|-------------|------------------------------------|-------------------|-------------|-------------|-------------|-------------|
| Burlington | 9.4% | 6.2% | 4.3% | 6.4% | 0.9% | 5.4% | 1.3% | 10.6% | 2.7% | 8.4% | 1.4% | 4.0% | 3.4% | 1.6% | 2.0% | 11.3% | 5.1% | 0.0% | 2.9% | 0.6% | 1.8% | 2.1% | 1.6% | 2.5% | 0.0% | 4.0% | 100% |
| Camden | 10.7% | 9.4% | 5.2% | 5.1% | 2.3% | 2.2% | 1.5% | 12.5% | 1.7% | 8.5% | 1.8% | 1.0% | 3.5% | 2.3% | 2.1% | 7.0% | 7.8% | 0.0% | 2.3% | 2.4% | 1.0% | 4.3% | 0.0% | 0.7% | 1.9% | 2.7% | 100% |
| Gloucester | 9.6% | 5.3% | 6.7% | 2.0% | 0.8% | 1.8% | 0.1% | 21.7% | 1.3% | 7.0% | 0.8% | 0.6% | 11.5% | 0.7% | 5.1% | 9.5% | 5.9% | 0.7% | 2.0% | 2.7% | 0.8% | 2.0% | 0.0% | 1.0% | 0.0% | 0.5% | 100% |
| Mercer | 9.5% | 6.3% | 6.7% | 4.4% | 2.6% | 3.7% | 3.9% | 13.6% | 3.0% | 2.6% | 0.7% | 1.0% | 8.6% | 1.8% | 1.3% | 5.1% | 8.6% | 0.0% | 2.9% | 2.8% | 0.3% | 3.1% | 0.0% | 5.0% | 0.3% | 2.2% | 100% |
| NJ Counties | 9.8% | 7.0% | 5.5% | 4.9% | 1.8% | 3.5% | 2.0% | 13.5% | 2.3% | 6.5% | 1.2% | 1.8% | 6.0% | 1.7% | 2.2% | 8.1% | 7.0% | 0.1% | 2.6% | 2.1% | 1.0% | 3.0% | 0.5% | 2.5% | 0.6% | 2.6% | 100% |
| Bucks | 8.5% | 10.1% | 2.6% | 2.0% | 1.4% | 2.5% | 0.6% | 7.4% | 2.5% | 7.5% | 1.5% | 1.8% | 9.2% | 2.3% | 2.8% | 9.2% | 8.5% | 0.4% | 4.0% | 4.4% | 1.7% | 1.8% | 0.0% | 4.4% | 1.1% | 1.7% | 100% |
| Chester | 8.9% | 8.2% | 8.3% | 2.8% | 2.2% | 1.8% | 1.0% | 7.9% | 1.9% | 6.3% | 2.9% | 0.5% | 6.2% | 2.6% | 4.3% | 10.9% | 8.1% | 0.5% | 2.0% | 1.9% | 1.2% | 3.4% | 0.0% | 4.2% | 0.8% | 1.0% | 100% |
| Delaware | 10.9% | 10.5% | 5.9% | 1.9% | 0.8% | 3.1% | 0.9% | 10.5% | 1.8% | 9.1% | 2.5% | 0.9% | 7.6% | 4.2% | 1.8% | 5.7% | 6.8% | 0.5% | 1.2% | 2.7% | 1.5% | 1.5% | 0.0% | 2.8% | 1.0% | 3.8% | 100% |
| Montgomery | 10.3% | 9.6% | 7.0% | 3.1% | 3.8% | 2.3% | 2.0% | 8.2% | 2.8% | 5.6% | 1.0% | 1.1% | 4.6% | 2.0% | 1.4% | 8.9% | 6.3% | 0.4% | 4.6% | 3.0% | 2.4% | 2.9% | 0.0% | 3.5% | 1.8% | 1.6% | 100% |
| Philadelphia | 8.7% | 8.1% | 3.7% | 3.2% | 3.5% | 3.5% | 2.8% | 12.5% | 2.3% | 7.2% | 3.3% | 2.8% | 3.7% | 3.1% | 2.0% | 5.3% | 7.6% | 0.0% | 2.8% | 3.7% | 0.9% | 1.8% | 0.3% | 4.2% | 1.0% | 2.1% | 100% |
| PA Counties | 9.3% | 9.0% | 5.1% | 2.8% | 2.8% | 2.8% | 1.9% | 10.1% | 2.3% | 7.0% | 2.4% | 1.8% | 5.4% | 2.8% | 2.2% | 7.3% | 7.4% | 0.3% | 3.1% | 3.3% | 1.4% | 2.2% | 0.1% | 3.9% | 1.2% | 2.0% | 100% |
| DVRPC Region | 9.4% | 8.4% | 5.2% | 3.4% | 2.5% | 3.0% | 1.9% | 11.0% | 2.3% | 6.9% | 2.1% | 1.8% | 5.6% | 2.5% | 2.2% | 7.5% | 7.3% | 0.2% | 3.0% | 3.0% | 1.3% | 2.4% | 0.2% | 3.6% | 1.0% | 2.2% | 100% |

Source: DVRPC 2012– 2013; All employed persons reporting work locations within the region; weighted using person weights.

Across the Delaware Valley region, most workers work between 40 and 49 hours per week (48.5 percent), as shown in Table 37. Chester County has the highest percentage of people working over 50 hours per week (23.3 percent)

Table 37: Hours Worked Per Week by County of Residence

| Household Size | Workers | 1 to 9 | 10 to 19 | 20 to 29 | 30 to 39 | 40 to 49 | 50+ | Don't Know/Refused | Total |
|---------------------------|-------------------------|--------------------|--------------------|--------------------|---------------------|---------------------|---------------------|--------------------|--------------------|
| Burlington | 223,093 | 2.7% | 4.5% | 9.1% | 14.0% | 57.6% | 10.6% | 1.5% | 100% |
| Camden | 227,030 | 2.5% | 6.3% | 8.2% | 14.2% | 49.3% | 15.3% | 4.2% | 100% |
| Gloucester | 150,667 | 1.6% | 5.9% | 10.2% | 23.7% | 42.1% | 13.8% | 2.9% | 100% |
| Mercer | 188,056 | 4.5% | 5.9% | 8.9% | 13.2% | 44.8% | 18.9% | 3.8% | 100% |
| <i>NJ Counties</i> | <i>788,846</i> | <i>2.9%</i> | <i>5.6%</i> | <i>9.0%</i> | <i>15.7%</i> | <i>49.2%</i> | <i>14.5%</i> | <i>3.1%</i> | <i>100%</i> |
| Bucks | 331,103 | 2.8% | 9.7% | 7.4% | 12.2% | 47.7% | 15.7% | 4.5% | 100% |
| Chester | 263,036 | 3.8% | 5.5% | 9.4% | 11.8% | 44.5% | 23.3% | 1.6% | 100% |
| Delaware | 273,901 | 3.9% | 6.4% | 10.7% | 12.8% | 48.2% | 14.5% | 3.5% | 100% |
| Montgomery | 399,761 | 3.6% | 5.1% | 9.5% | 13.7% | 49.0% | 16.4% | 2.6% | 100% |
| Philadelphia | 684,402 | 4.4% | 3.9% | 10.6% | 15.1% | 49.4% | 13.0% | 3.6% | 100% |
| <i>PA Counties</i> | <i>1,952,203</i> | <i>3.8%</i> | <i>5.7%</i> | <i>9.7%</i> | <i>13.6%</i> | <i>48.2%</i> | <i>15.8%</i> | <i>3.3%</i> | <i>100%</i> |
| DVRPC Region | 2,741,049 | 3.5% | 5.7% | 9.5% | 14.2% | 48.5% | 15.4% | 3.2% | 100% |

Source: DVRPC 2012– 2013; All employed prtdond who reported hours worked per week; weighted using person weights.

Table 38 shows that most workers in the Delaware Valley region work in a fixed location (80.0 percent). Chester County had the highest percentage of workers working from home (12.2 percent) while Delaware County had the highest proportion of workers with a varied work location (13.1 percent). However, due to demographic factors and weighting methodology, there is a higher percentage of people in Chester County with high weights that reported working from home than in the rest of the region. Therefore, the proportion of Chester County residents working from home may be inflated.

Table 38: Distribution of Work Location by County of Residence

| County | Workers | Fixed | Home | Varies | Don't Know/Refused | Total |
|---------------------|------------------|--------------|-------------|--------------|--------------------|-------------|
| Burlington | 223,093 | 80.2% | 8.2% | 9.8% | 1.7% | 100% |
| Camden | 227,030 | 82.2% | 5.8% | 11.9% | 0.1% | 100% |
| Gloucester | 150,667 | 81.6% | 5.6% | 12.8% | 0.0% | 100% |
| Mercer | 188,056 | 81.1% | 7.0% | 11.1% | 0.8% | 100% |
| NJ Counties | 788,846 | 81.3% | 6.7% | 11.3% | 0.7% | 100% |
| Bucks | 331,103 | 78.5% | 8.7% | 12.8% | 0.0% | 100% |
| Chester | 263,036 | 78.3% | 12.2% | 9.5% | 0.0% | 100% |
| Delaware | 273,901 | 79.7% | 6.3% | 13.1% | 0.9% | 100% |
| Montgomery | 399,761 | 81.0% | 8.9% | 10.1% | 0.1% | 100% |
| Philadelphia | 684,402 | 79.6% | 6.0% | 12.9% | 1.6% | 100% |
| PA Counties | 1,952,203 | 79.5% | 7.9% | 11.9% | 0.7% | 100% |
| DVRPC Region | 2,741,049 | 80.0% | 7.6% | 11.7% | 0.7% | 100% |

Source: DVRPC 2012– 2013; All employed persons, using person weights.

Table 39 shows the frequency of telecommuting over the workers' previous 10 work days. Most workers in the region do not telecommute (88.6 percent). Montgomery County had the highest percentage of workers that telecommuted one or more days (15.5 percent), while Camden County had the lowest (9.4 percent)

Table 39: Telecommute in Previous 10 Work Days

| County | Workers | 0 Days | 1 or More Days | Total |
|---------------------|------------------|--------------|----------------|-------------|
| Burlington | 199,798 | 90.4% | 9.6% | 100% |
| Camden | 207,258 | 90.6% | 9.4% | 100% |
| Gloucester | 141,853 | 87.3% | 12.7% | 100% |
| Mercer | 171,653 | 89.1% | 10.9% | 100% |
| NJ Counties | 720,563 | 89.5% | 10.5% | 100% |
| Bucks | 301,212 | 90.4% | 9.6% | 100% |
| Chester | 229,960 | 85.4% | 14.6% | 100% |
| Delaware | 254,526 | 89.3% | 10.7% | 100% |
| Montgomery | 356,031 | 84.5% | 15.5% | 100% |
| Philadelphia | 633,849 | 89.9% | 10.1% | 100% |
| PA Counties | 1,775,579 | 88.2% | 11.8% | 100% |
| DVRPC Region | 2,496,142 | 88.6% | 11.4% | 100% |

Source: DVRPC 2012– 2013; All employed persons with reported telecommute status (TCOMM not blank); weighted using person weights.

Table 40 shows that most workers in the region had access to free employee parking at work (78.8 percent). Philadelphia had the lowest percentage of free employee parking (63.5 percent) and had the highest percentage of employee-paid parking (29.2 percent). Burlington County had the highest percentage of free employee parking (88.4 percent). Survey respondents had difficulty answering this question. Regionally, 16.5 percent of respondents answered “Don’t Know” or refused to answer.

Table 40: Employer Subsidies for Parking by County of Employment

| County | Workers | Free Parking Available for Employees | Employer Offers to Subsidize/Pay for Part of Workplace Parking | Employee Must Pay for Workplace Parking Out of Pocket | Total |
|---------------------|------------------|--------------------------------------|--|---|-------------|
| Burlington | 204,956 | 88.4% | 1.7% | 9.9% | 100% |
| Camden | 213,488 | 79.8% | 4.9% | 15.3% | 100% |
| Gloucester | 142,239 | 81.8% | 2.2% | 16.0% | 100% |
| Mercer | 175,025 | 87.1% | 4.1% | 8.8% | 100% |
| NJ Counties | 735,709 | 84.3% | 3.3% | 12.4% | 100% |
| Bucks | 302,135 | 87.4% | 2.5% | 10.1% | 100% |
| Chester | 230,838 | 88.5% | 2.2% | 9.3% | 100% |
| Delaware | 256,552 | 74.3% | 4.5% | 21.2% | 100% |
| Montgomery | 363,937 | 82.6% | 4.1% | 13.4% | 100% |
| Philadelphia | 641,199 | 63.5% | 7.3% | 29.2% | 100% |
| PA Counties | 1,794,660 | 76.5% | 4.7% | 18.8% | 100% |
| DVRPC Region | 2,530,368 | 78.8% | 4.3% | 16.9% | 100% |

Source: DVRPC 2012– 2013; All employed persons who responded to the question about parking subsidies (PKSUB not blank) working in the region; weighted using person weights.

Table 41 shows that most workers in the region must pay for transit fares out-of-pocket (88.6 percent). Philadelphia had the highest percentage of workers whose employers offer transit subsidies (16.9 percent), while Burlington County had the lowest (4.6 percent). Survey respondents also had difficulty answering this question. Regionally, 41 percent of respondents answered “Don’t Know” or refused to answer.

Table 41: Employer Subsidies for Transit by County of Employment

| County | Workers | Employer Offers to Subsidize/Pay for Part of Transit Fare | Employee Must Pay for Transit Fare Out of Pocket | Total |
|---------------------|------------------|---|--|-------------|
| Burlington | 204,956 | 4.6% | 95.4% | 100% |
| Camden | 213,488 | 8.3% | 91.7% | 100% |
| Gloucester | 142,239 | 7.2% | 92.8% | 100% |
| Mercer | 175,025 | 12.7% | 87.3% | 100% |
| NJ Counties | 735,709 | 8.0% | 92.0% | 100% |
| Bucks | 302,135 | 9.2% | 90.8% | 100% |
| Chester | 230,838 | 8.8% | 91.2% | 100% |
| Delaware | 256,552 | 10.0% | 90.0% | 100% |
| Montgomery | 363,937 | 11.9% | 88.1% | 100% |
| Philadelphia | 641,199 | 16.9% | 83.1% | 100% |
| PA Counties | 1,794,660 | 12.8% | 87.2% | 100% |
| DVRPC Region | 2,530,368 | 11.4% | 88.6% | 100% |

Source: DVRPC 2012– 2013; All employed persons who responded to the question about transit subsidies (TRANSUB not blank) working in the region; weighted using person weights.

6.5 Vehicle Statistics

As expected, as household size increases, the number of operational vehicles owned by the household also increases. As shown in Table 42, one-person households are most likely to have zero vehicles (30.4 percent) or one vehicle (64.8 percent). Two-person household are most likely to have two vehicles (51.2%) while five or more–person households are most likely to have three or more vehicles (60.5 percent).

Table 42: Number of Operating Vehicles by Household Size

| Household Size | Number of Operating Vehicles | | | | Total |
|-----------------------|------------------------------|--------------|--------------|--------------|-------------|
| | 0 vehicles | 1 vehicle | 2 vehicles | 3+ vehicles | |
| 1 person | 30.4% | 64.8% | 4.4% | 0.4% | 100% |
| 2 persons | 10.2% | 31.5% | 51.2% | 7.1% | 100% |
| 3 persons | 8.7% | 19.0% | 38.0% | 34.3% | 100% |
| 4 persons | 4.4% | 12.1% | 41.2% | 42.3% | 100% |
| 5+ persons | 4.0% | 10.0% | 25.5% | 60.5% | 100% |
| All Households | 13.6% | 32.4% | 31.7% | 22.3% | 100% |

Source: DVRPC 2012– 2013; All household vehicles using household weights.

Table 43 shows that most vehicles in the region are owned by household members (92.5 percent). Mercer County had the highest proportion of vehicles leased by a household member (8.0 percent), while Bucks County had the highest percentage of employer-provided vehicles (1.6 percent).

Table 43: Vehicle Ownership

| County | Vehicles | Owned by Household Member | Leased by Household Member | Employer Provided | Borrowed | Don't Know/Refused | Total |
|---------------------|------------------|---------------------------|----------------------------|-------------------|-------------|--------------------|-------------|
| Burlington | 296,930 | 90.9% | 7.5% | 0.7% | 0.6% | 0.3% | 100% |
| Camden | 294,008 | 91.7% | 6.3% | 1.2% | 0.7% | 0.1% | 100% |
| Gloucester | 192,857 | 91.3% | 7.7% | 0.7% | 0.3% | 0.0% | 100% |
| Mercer | 209,981 | 89.6% | 8.0% | 1.3% | 0.4% | 0.7% | 100% |
| NJ Counties | 993,776 | 91.0% | 7.3% | 1.0% | 0.5% | 0.3% | 100% |
| Bucks | 418,401 | 91.8% | 6.1% | 1.6% | 0.4% | 0.2% | 100% |
| Chester | 346,815 | 94.3% | 4.2% | 0.9% | 0.4% | 0.2% | 100% |
| Delaware | 317,932 | 92.3% | 5.9% | 0.7% | 1.2% | 0.0% | 100% |
| Montgomery | 537,252 | 92.8% | 5.1% | 0.8% | 1.0% | 0.3% | 100% |
| Philadelphia | 513,586 | 94.8% | 2.9% | 0.5% | 1.6% | 0.2% | 100% |
| PA Counties | 2,133,986 | 93.2% | 4.7% | 0.9% | 1.0% | 0.2% | 100% |
| DVRPC Region | 3,127,762 | 92.5% | 5.5% | 0.9% | 0.8% | 0.2% | 100% |

Source: DVRPC 2012– 2013; All household vehicles with reported ownership; weighted using household weights.

Across all counties in the region, the overwhelming majority of vehicles are powered by gasoline (95.8 percent), as seen in Table 44. Mercer County has the highest percentage of hybrid vehicles (4.1 percent). Less than 0.1 percent of vehicles in the region are plug-in hybrid electric or electric only.

Table 44: Distribution of Vehicle Type

| County | Vehicles | Hybrid Vehicle | Gasoline Only Vehicle | Diesel Only Vehicle | Plug in Hybrid Electric Vehicle | Electric Only | Other/ Don't Know | Total |
|---------------------------|-------------------------|--------------------|-----------------------|---------------------|---------------------------------|--------------------|--------------------|--------------------|
| Burlington | 296,930 | 1.4% | 97.7% | 0.8% | 0.0% | 0.1% | 0.1% | 100% |
| Camden | 295,118 | 2.2% | 97.3% | 0.3% | 0.0% | 0.0% | 0.2% | 100% |
| Gloucester | 193,043 | 1.4% | 96.2% | 2.5% | 0.0% | 0.0% | 0.0% | 100% |
| Mercer | 210,152 | 4.1% | 94.9% | 0.9% | 0.0% | 0.1% | 0.0% | 100% |
| <i>NJ Counties</i> | <i>995,244</i> | <i>2.2%</i> | <i>96.7%</i> | <i>1.0%</i> | <i>0.0%</i> | <i>0.0%</i> | <i>0.1%</i> | <i>100%</i> |
| Bucks | 418,401 | 3.1% | 95.5% | 1.3% | 0.0% | 0.0% | 0.1% | 100% |
| Chester | 346,815 | 2.6% | 96.0% | 1.2% | 0.0% | 0.1% | 0.1% | 100% |
| Delaware | 317,932 | 2.6% | 96.1% | 1.1% | 0.0% | 0.0% | 0.3% | 100% |
| Montgomery | 537,493 | 3.5% | 94.8% | 1.1% | 0.2% | 0.0% | 0.4% | 100% |
| Philadelphia | 513,776 | 3.8% | 94.9% | 0.5% | 0.0% | 0.0% | 0.8% | 100% |
| <i>PA Counties</i> | <i>2,134,417</i> | <i>3.2%</i> | <i>95.4%</i> | <i>1.0%</i> | <i>0.1%</i> | <i>0.0%</i> | <i>0.4%</i> | <i>100%</i> |
| DVRPC Region | 3,129,661 | 2.9% | 95.8% | 1.0% | 0.0% | 0.0% | 0.3% | 100% |

Source: DVRPC 2012– 2013; All household vehicles using household weights.

Table 45 shows that at the time of the survey, over one-third of the vehicles available to households in the region were from model years 2006 to 2010 (34.6 percent). Another third were from 2000–2005 (34.5 percent). The remaining third contained more vehicles from 2011+ (17.0 percent) than pre-2000 (13.9 percent). Philadelphia and Camden counties have the highest percentage of older vehicles (16.4 percent) while Mercer County has the highest percentage of newer vehicles (20.2 percent).

Table 45: Distribution of Vehicle Age

| County | Vehicles | Pre 2000 | 2000–2005 | 2006–2010 | 2011+ | Total |
|---------------------|------------------|--------------|--------------|--------------|--------------|-------------|
| Burlington | 291,994 | 12.5% | 34.0% | 36.1% | 17.3% | 100% |
| Camden | 290,586 | 16.4% | 35.1% | 32.7% | 15.7% | 100% |
| Gloucester | 190,594 | 12.5% | 32.1% | 35.6% | 19.8% | 100% |
| Mercer | 204,617 | 12.8% | 29.8% | 37.2% | 20.2% | 100% |
| NJ Counties | 977,792 | 13.8% | 33.1% | 35.2% | 17.9% | 100% |
| Bucks | 405,964 | 14.3% | 31.2% | 36.3% | 18.2% | 100% |
| Chester | 340,359 | 13.2% | 34.1% | 35.5% | 17.2% | 100% |
| Delaware | 310,771 | 12.9% | 37.1% | 33.7% | 16.2% | 100% |
| Montgomery | 529,040 | 12.6% | 33.0% | 35.8% | 18.6% | 100% |
| Philadelphia | 500,256 | 16.4% | 40.1% | 30.7% | 12.8% | 100% |
| PA Counties | 2,086,390 | 14.0% | 35.1% | 34.3% | 16.6% | 100% |
| DVRPC Region | 3,064,182 | 13.9% | 34.5% | 34.6% | 17.0% | 100% |

Source: DVRPC 2012–2013; All household vehicles using household weights.

Table 46 shows the top 25 vehicle makes ranked by their percentage share of vehicles in the Delaware Valley region. The highest percentage of cars in the region are Toyotas (14.6 percent), followed by Ford (12.8 percent).

Table 46: Distribution of Vehicle Make

| Vehicle Make | Vehicles | Percentage |
|--------------|------------------|-------------|
| Toyota | 457,575 | 14.6% |
| Ford | 400,989 | 12.8% |
| Honda | 313,086 | 10.0% |
| Chevrolet | 269,020 | 8.6% |
| Buick | 173,322 | 5.5% |
| Nissan | 159,804 | 5.1% |
| Dodge | 135,197 | 4.3% |
| Chrysler | 117,088 | 3.7% |
| Hyundai | 98,861 | 3.2% |
| Subaru | 88,990 | 2.8% |
| Acura | 84,770 | 2.7% |
| Volkswagen | 76,613 | 2.4% |
| Cadillac | 70,274 | 2.2% |
| Jeep | 65,822 | 2.1% |
| Mazda | 64,023 | 2.0% |
| BMW | 54,316 | 1.7% |
| Audi | 52,867 | 1.7% |
| Kia | 52,340 | 1.7% |
| Saturn | 39,609 | 1.3% |
| Lexus | 38,914 | 1.2% |
| GMC | 34,644 | 1.1% |
| Pontiac | 33,651 | 1.1% |
| Volvo | 32,941 | 1.1% |
| Mercury | 30,035 | 1.0% |
| Mercedes | 20,458 | 0.7% |
| Other | 164,451 | 5.3% |
| Total | 3,129,661 | 100% |

Source: DVRPC 2012– 2013; All household vehicles using household weights.

More than half of all households in the region have toll accounts, eg. EZ-Pass (51.5 percent), as shown in Table 47. Chester County has the highest percentage of households with a toll account (64.3 percent), while Philadelphia County has the lowest (30.7 percent)

Table 47: Presence of Toll Account (eg. EZ-Pass) by County of Residence

| County | Households | Yes | No | Don't Know/Refused | Total |
|--------------------|------------------|--------------|--------------|--------------------|-------------|
| Burlington | 165,620 | 61.8% | 38.2% | 0.0% | 100% |
| Camden | 188,861 | 56.1% | 43.6% | 0.3% | 100% |
| Gloucester | 104,091 | 56.4% | 43.2% | 0.3% | 100% |
| Mercer | 130,292 | 60.4% | 39.6% | 0.0% | 100% |
| NJ Counties | 588,864 | 58.7% | 41.1% | 0.2% | 100% |
| Bucks | 229,933 | 61.6% | 38.4% | 0.0% | 100% |
| Chester | 183,793 | 64.3% | 35.6% | 0.1% | 100% |
| Delaware | 206,021 | 48.6% | 51.4% | 0.0% | 100% |
| Montgomery | 308,083 | 63.4% | 36.6% | 0.1% | 100% |
| Philadelphia | 580,509 | 30.7% | 68.9% | 0.4% | 100% |
| PA Counties | 1,508,339 | 48.6% | 51.2% | 0.2% | 100% |
| DVRPC Total | 2,097,203 | 51.5% | 48.4% | 0.2% | 100% |

Source: DVRPC 2012– 2013; All households using household weights.

Table 48 shows that a total of 13.1 percent of households in the Delaware Valley region have a car-sharing membership. The question asking respondents about car-share specifically mentioned ZipCar and Philly Car Share for clarification (at the time the survey was conducted, Philly Car Share was the correct name). However, the percentage of households that reported having car-sharing memberships is surprisingly high. Philadelphia County has the highest percentage of households with car-sharing memberships (17.6 percent), while Gloucester County has the lowest (8.7 percent). Car-sharing is more common in Pennsylvania counties (14.2 percent) than in New Jersey counties (10.5 percent).

Table 48: Presence of Car-Sharing Membership by County of Residence

| County | Households | Yes | No | Don't Know/Refused | Total |
|--------------------|------------------|--------------|--------------|--------------------|-------------|
| Burlington | 165,620 | 9.8% | 90.0% | 0.2% | 100% |
| Camden | 188,861 | 11.7% | 88.3% | 0.0% | 100% |
| Gloucester | 104,091 | 8.7% | 91.3% | 0.0% | 100% |
| Mercer | 130,292 | 11.0% | 89.0% | 0.0% | 100% |
| NJ Counties | 588,864 | 10.5% | 89.4% | 0.1% | 100% |
| Bucks | 229,933 | 11.4% | 88.6% | 0.0% | 100% |
| Chester | 183,793 | 12.6% | 87.4% | 0.0% | 100% |
| Delaware | 206,021 | 12.4% | 87.4% | 0.2% | 100% |
| Montgomery | 308,083 | 11.8% | 88.1% | 0.1% | 100% |
| Philadelphia | 580,509 | 17.6% | 82.0% | 0.5% | 100% |
| PA Counties | 1,508,339 | 14.2% | 85.6% | 0.2% | 100% |
| DVRPC Total | 2,097,203 | 13.1% | 86.7% | 0.2% | 100% |

Source: DVRPC 2012– 2013; All households using household weights.

CHAPTER 7:

Travel Results

The 9,235 households sampled that completed the HTS produced 61,724 trip records. Trip records were expanded using person weights to an estimated 21,961,607 trips across the region on a given weekday. In order to account for under-reporting in the travel diaries, this chapter utilizes the adjusted GPS factor (GPS_Factor), which gives a total count of 25,174,119 trips per weekday. Detailed information was gathered about each trip, including the origin and destination place type, trip purposes and activities, travel modes, and number of people traveling together.

This section contains a variety of details about travel in the Delaware Valley region. First, the Trip Rates section will show **how many** trips are being made by households and people in the region. Then, mode share statistics will examine **how** people are making these trips. Next, travel time details will show **when** people are making trips, followed by travel matrices to show **where** people are traveling. Finally, activities analysis will provide details about **why** people are traveling and the Tours section will provide insight on how trips are linked. Tables in this section are weighted using GPS trip factors and either household weights when analyzing by household, or person weights when analyzing by person or other trip breakdowns.

Table 49 shows the total number of households and persons, as well as trips made by residents of each county in the region. Subsequent tables will show subsets of this data based on survey information provided for the topic presented.

Table 49: Weighted Number of Records per County

| County | Households | Persons | Trips |
|--------------------|------------------|------------------|-------------------|
| Burlington | 165,620 | 449,117 | 1,951,500 |
| Camden | 188,861 | 513,660 | 2,314,879 |
| Gloucester | 104,091 | 288,187 | 1,311,059 |
| Mercer | 130,292 | 366,442 | 1,801,302 |
| NJ Counties | 588,864 | 1,617,406 | 7,378,741 |
| Bucks | 229,933 | 625,485 | 2,841,165 |
| Chester | 183,793 | 499,548 | 2,213,559 |
| Delaware | 206,021 | 558,874 | 2,568,712 |
| Montgomery | 308,083 | 799,886 | 3,603,198 |
| Philadelphia | 580,509 | 1,525,811 | 6,568,744 |
| PA Counties | 1,508,339 | 4,009,604 | 17,795,377 |
| DVRPC Total | 2,097,203 | 5,627,010 | 25,174,119 |

Source: DVRPC 2012-2013

7.1. Trip Rates

The household trip rate was determined by calculating the weighted average of the factored number of trips each household made on their assigned travel date. On average, households in the Delaware Valley region took 8.41 trips per day, as shown in Table 50. The majority of these trips used motorized forms of transportation, with 6.71 trips per day compared to the 1.70 trips per day using non-motorized transportation. Households in Philadelphia took the least amount of trips (7.31), and only about half of them were motorized (3.80). Mercer County had the highest number of household trips per day (9.14).

Table 50: Average Household Trip Rates by Trip Type

| County | Households | Motorized | Non motorized | Total |
|--------------------|------------------|-------------|---------------|-------------|
| Burlington | 165,620 | 7.97 | 0.88 | 8.85 |
| Camden | 188,861 | 7.41 | 1.62 | 9.03 |
| Gloucester | 104,091 | 7.99 | 0.62 | 8.61 |
| Mercer | 130,292 | 7.83 | 1.32 | 9.14 |
| NJ Counties | 588,864 | 7.76 | 1.17 | 8.93 |
| Bucks | 229,933 | 8.14 | 0.53 | 8.67 |
| Chester | 183,793 | 8.38 | 0.57 | 8.95 |
| Delaware | 206,021 | 7.17 | 1.63 | 8.80 |
| Montgomery | 308,083 | 7.84 | 0.90 | 8.74 |
| Philadelphia | 580,509 | 3.80 | 3.51 | 7.31 |
| PA Counties | 1,508,339 | 6.31 | 1.90 | 8.21 |
| DVRPC Total | 2,097,203 | 6.71 | 1.70 | 8.41 |

Source: DVRPC 2012– 2013; All households using household weights and GPS factors.

Table 51 shows that households with more members make more trips per day. Single-person households average 3.98 trips per day, while households with 5 or more persons average 17.44 trips per day. With each additional person in the household, the total number of household trips per day increases approximately 3 trips. This agrees with the regional person trip rate of 3.67 trips per day.

Table 51: Average Household Trip Rates by Household Size

| County | Households | 1 | 2 | 3 | 4 | 5+ | Total |
|--------------------|------------------|-------------|-------------|--------------|--------------|--------------|-------------|
| Burlington | 165,620 | 3.95 | 6.92 | 9.44 | 15.60 | 17.14 | 8.85 |
| Camden | 188,861 | 4.14 | 7.54 | 9.81 | 14.37 | 18.38 | 9.03 |
| Gloucester | 104,091 | 3.48 | 6.64 | 10.14 | 12.66 | 16.76 | 8.61 |
| Mercer | 130,292 | 3.86 | 7.09 | 11.07 | 15.25 | 20.52 | 9.14 |
| NJ Counties | 588,864 | 3.92 | 7.10 | 10.04 | 14.59 | 18.07 | 8.93 |
| Bucks | 229,933 | 3.66 | 6.43 | 9.77 | 13.88 | 19.57 | 8.67 |
| Chester | 183,793 | 3.72 | 7.01 | 9.17 | 14.50 | 17.88 | 8.95 |
| Delaware | 206,021 | 3.99 | 6.94 | 10.45 | 15.60 | 16.28 | 8.80 |
| Montgomery | 308,083 | 3.76 | 7.07 | 9.55 | 14.39 | 20.02 | 8.74 |
| Philadelphia | 580,509 | 4.22 | 6.80 | 9.52 | 12.83 | 14.13 | 7.31 |
| PA Counties | 1,508,339 | 4.00 | 6.84 | 9.66 | 14.03 | 17.17 | 8.21 |
| DVRPC Total | 2,097,203 | 3.98 | 6.92 | 9.77 | 14.20 | 17.44 | 8.41 |

Source: DVRPC 2012– 2013; All households using household weights and GPS factors.

The results in Table 52 show that as the number of workers in a household increases, the number of trips that household takes also increases. The number of workers in a household is directly related household size. Households with zero workers average 5.16 trips per day, while households with three or more workers average 13.91 trips per day. Due to demographic factors and weighting methodology, there is a higher percentage of zero and three or more worker households in Mercer County with high weights that reported making many trips that those in the rest of the region. Therefore, trip rate for households with zero or three or more workers in Mercer County may be inflated.

Table 52: Average Household Trip Rates by Number of Workers

| County | Households | 0 | 1 | 2 | 3+ | Total |
|--------------------|------------------|-------------|-------------|--------------|--------------|-------------|
| Burlington | 165,620 | 4.74 | 8.20 | 11.05 | 15.18 | 8.85 |
| Camden | 188,861 | 5.84 | 8.08 | 12.00 | 13.91 | 9.03 |
| Gloucester | 104,091 | 5.63 | 8.05 | 10.59 | 11.55 | 8.61 |
| Mercer | 130,292 | 6.19 | 7.06 | 12.71 | 17.54 | 9.14 |
| NJ Counties | 588,864 | 5.59 | 7.88 | 11.64 | 14.20 | 8.93 |
| Bucks | 229,933 | 4.66 | 7.83 | 10.96 | 13.55 | 8.67 |
| Chester | 183,793 | 5.47 | 7.78 | 10.95 | 14.63 | 8.95 |
| Delaware | 206,021 | 4.80 | 7.92 | 12.15 | 13.90 | 8.80 |
| Montgomery | 308,083 | 4.91 | 7.74 | 11.27 | 14.03 | 8.74 |
| Philadelphia | 580,509 | 5.12 | 7.01 | 10.86 | 13.14 | 7.31 |
| PA Counties | 1,508,339 | 5.02 | 7.48 | 11.18 | 13.79 | 8.21 |
| DVRPC Total | 2,097,203 | 5.16 | 7.59 | 11.32 | 13.91 | 8.41 |

Source: DVRPC 2012– 2013; All households using household weights and GPS factors.

Similarly, as shown in Table 53, as the number of students in a household increases, so does the household size and, in turn, the household trip rate. Households with only one student average 9.53 trips per day, while households with three or more students average 18.05 trips per day. Due to demographic factors and weighting methodology, there is a higher percentage of households with three or more students in Mercer County with high weights that reported making a high number of trips than in the rest of the region. Therefore, the trip rate for households in Mercer County with three or more students may be inflated. Conversely, households with three or more students living in Philadelphia received comparatively low weights, artificially deflating their average trip rate.

Table 53: Average Household Trip Rates by Number of Students

| County | Households | 0 | 1 | 2 | 3+ | Total |
|---------------------------|-------------------------|--------------------|---------------------|---------------------|---------------------|--------------------|
| Burlington | 165,620 | 6.02 | 11.54 | 14.99 | 17.22 | 8.85 |
| Camden | 188,861 | 6.35 | 9.66 | 15.87 | 19.04 | 9.03 |
| Gloucester | 104,091 | 5.76 | 10.29 | 14.66 | 16.61 | 8.61 |
| Mercer | 130,292 | 6.02 | 10.96 | 14.89 | 24.47 | 9.14 |
| <i>NJ Counties</i> | <i>588,864</i> | <i>6.08</i> | <i>10.51</i> | <i>15.14</i> | <i>19.17</i> | <i>8.93</i> |
| Bucks | 229,933 | 5.72 | 9.81 | 15.51 | 18.11 | 8.67 |
| Chester | 183,793 | 5.98 | 9.43 | 14.94 | 19.10 | 8.95 |
| Delaware | 206,021 | 6.20 | 10.09 | 14.97 | 18.01 | 8.80 |
| Montgomery | 308,083 | 6.21 | 9.89 | 14.40 | 20.12 | 8.74 |
| Philadelphia | 580,509 | 5.51 | 8.29 | 11.31 | 15.22 | 7.31 |
| <i>PA Counties</i> | <i>1,508,339</i> | <i>5.84</i> | <i>9.17</i> | <i>13.68</i> | <i>17.63</i> | <i>8.21</i> |
| DVRPC Total | 2,097,203 | 5.91 | 9.53 | 14.12 | 18.05 | 8.41 |

Source: DVRPC 2012– 2013; All households using household weights and GPS factors.

Income also corresponds with the number of trips a household makes per day. Table 54 shows that households making less than \$25,000 per year average 5.49 trips per day, while households making over \$200,000 per year average 11.55 trips per day. Typically, high income households are comprised of multiple household members contributing to the total income. These earners also contribute to the total number of trips made by the household, increasing the trip rate of high income households.

Table 54: Average Household Trip Rates by Household Income

| County | Households | Less than 25k | 25–50k | 50–75k | 75–100k | 100–150k | 150–200k | 200k+ | DK/Ref | Total |
|--------------------|------------------|---------------|-------------|-------------|--------------|--------------|--------------|--------------|-------------|-------------|
| Burlington | 165,620 | 5.12 | 6.72 | 9.57 | 9.83 | 10.77 | 10.93 | 11.99 | 7.86 | 8.85 |
| Camden | 188,861 | 6.12 | 7.04 | 8.23 | 11.36 | 11.29 | 14.34 | 13.09 | 11.34 | 9.03 |
| Gloucester | 104,091 | 5.26 | 5.64 | 9.01 | 9.51 | 11.19 | 13.51 | 12.48 | 6.33 | 8.61 |
| Mercer | 130,292 | 7.02 | 5.07 | 7.35 | 9.46 | 13.08 | 12.13 | 14.21 | 8.22 | 9.14 |
| NJ Counties | 588,864 | 5.97 | 6.27 | 8.58 | 10.17 | 11.57 | 12.44 | 13.11 | 8.77 | 8.93 |
| Bucks | 229,933 | 6.15 | 6.98 | 7.77 | 10.01 | 11.11 | 10.76 | 9.98 | 8.09 | 8.67 |
| Chester | 183,793 | 4.22 | 6.27 | 9.05 | 9.78 | 9.99 | 12.56 | 11.64 | 10.30 | 8.95 |
| Delaware | 206,021 | 4.26 | 7.85 | 10.16 | 10.01 | 10.41 | 13.23 | 10.11 | 9.92 | 8.80 |
| Montgomery | 308,083 | 4.67 | 6.86 | 8.77 | 10.19 | 10.02 | 12.60 | 11.71 | 8.59 | 8.74 |
| Philadelphia | 580,509 | 5.67 | 7.17 | 8.20 | 8.80 | 9.77 | 11.39 | 10.24 | 7.60 | 7.31 |
| PA Counties | 1,508,339 | 5.36 | 7.10 | 8.63 | 9.70 | 10.23 | 12.22 | 10.88 | 8.86 | 8.21 |
| DVRPC Total | 2,097,203 | 5.49 | 6.90 | 8.61 | 9.85 | 10.67 | 12.29 | 11.55 | 8.83 | 8.41 |

Source: DVRPC 2012– 2013; All households using household weights and GPS factors.

The overall person trip rate for the region is 3.33 trips per day, as seen in Table 55, which is close to the average person trip rate estimated by the National Household Travel Survey (3.79). People living in Bucks County took the most motorized trips per day (3.15), while those living in Philadelphia County took the fewest (2.15). With the exception of Mercer County (3.77), most counties in the region have a lower person trip rate than estimated by the 2009 National Household Travel Survey. Just under 18 percent of survey respondents reported taking zero trips on their travel day. These respondents were included in the person trip rate calculations.

Table 55: Average Person Trip Rates

| County | Population | Motorized | Non Motorized | Total |
|--------------------|------------------|-------------|---------------|-------------|
| Burlington | 449,117 | 2.87 | 0.33 | 3.20 |
| Camden | 513,660 | 2.76 | 0.60 | 3.36 |
| Gloucester | 288,187 | 3.14 | 0.26 | 3.41 |
| Mercer | 366,442 | 2.99 | 0.78 | 3.77 |
| NJ Counties | 1,617,406 | 2.91 | 0.51 | 3.42 |
| Bucks | 625,485 | 3.15 | 0.25 | 3.40 |
| Chester | 499,548 | 3.07 | 0.22 | 3.29 |
| Delaware | 558,874 | 2.66 | 0.79 | 3.45 |
| Montgomery | 799,886 | 2.79 | 0.57 | 3.36 |
| Philadelphia | 1,525,811 | 2.15 | 1.00 | 3.15 |
| PA Counties | 4,009,604 | 2.62 | 0.67 | 3.29 |
| DVRPC Total | 5,627,010 | 2.70 | 0.62 | 3.33 |
| <i>NHTS 2009</i> | | | | 3.79 |

Source: DVRPC 2012– 2013; All persons, using person weights and GPS factors.

Table 56 shows that, on average, women in the Delaware Valley region take slightly more trips per day (3.38), than men (3.27).

Table 56: Average Person Trip Rates by Sex

| Sex | Population | Trip Rate |
|--------------|------------------|-------------|
| Male | 2,690,663 | 3.27 |
| Female | 2,935,305 | 3.38 |
| Refused | 1,042 | 4.08 |
| Total | 5,627,010 | 3.33 |

Source: DVRPC 2012– 2013; All persons providing sex using person weights and GPS factors.

Table 57 shows that household members between the ages of 35 and 44 took the most trips per day (3.92), while household members over the age of 86 took the fewest trips (1.33).

Table 57: Average Person Trip Rates by Respondent Age

| Respondent Age | Population | Trip Rate |
|--------------------|------------------|-------------|
| 5 or younger | 330,271 | 2.30 |
| 6 to 12 | 437,094 | 3.00 |
| 13 to 15 | 216,026 | 3.14 |
| 16 to 17 | 169,179 | 3.03 |
| 18 to 24 | 558,790 | 2.93 |
| 25 to 34 | 646,623 | 3.33 |
| 35 to 44 | 592,997 | 3.92 |
| 45 to 54 | 1,083,753 | 3.85 |
| 55 to 64 | 740,865 | 3.49 |
| 65 to 74 | 503,196 | 3.47 |
| 75 to 85 | 244,940 | 2.53 |
| 86 and over | 82,518 | 1.33 |
| Don't Know/Refused | 20,758 | 4.89 |
| Total | 5,627,010 | 3.33 |

Source: DVRPC 2012– 2013; All persons using person weights and GPS factors.

Table 58 shows that, on average, of those that provided ethnicity information, those that identified themselves as Multi-race took the most trips per day (3.47), followed closely by Whites/Caucasians (3.41). Asian/American Indian/Alaska Native/Pacific Islanders took the fewest (2.62) trips per day.

Table 58: Average Person Trip Rates by Ethnicity

| Ethnicity | Population | Motorized Trips | Non Motorized Trips | Total Trips |
|--|------------------|-----------------|---------------------|-------------|
| White/Caucasian | 4,014,079 | 2.89 | 0.53 | 3.41 |
| Black/African American | 888,706 | 2.03 | 0.98 | 3.01 |
| Hispanic or Latino | 246,926 | 2.03 | 0.90 | 2.93 |
| Asian/American Indian/Alaska Native/Pacific Islander | 140,333 | 1.98 | 0.63 | 2.62 |
| Other/Don't Know/Refused | 92,323 | 3.01 | 0.74 | 3.76 |
| Multi-race | 108,135 | 2.80 | 0.66 | 3.47 |
| Total | 5,490,502 | 2.70 | 0.62 | 3.33 |

Source: DVRPC 2012– 2013; All persons except those that responded during the pilot program; using person weights and GPS factors.

Non-students (3.41) averaged almost one half trip per day more than full-time students (3.01), as shown in Table 59. Full-time students took fewer motorized trips per day (2.41) than part-time students (2.78) and non-students (2.79). Due to demographic factors and weighting methodology, higher weights were assigned to some respondents refusing to report student status than to other respondents. Therefore, the trip rate for those who refused to provide a student status may be inflated.

Table 59: Average Person Trip Rates by Student Status

| Student Status | Population | Motorized Trips | Non Motorized Trips | Total Trips |
|--------------------|------------------|-----------------|---------------------|-------------|
| Full-Time | 1,243,467 | 2.41 | 0.61 | 3.01 |
| Part-Time | 256,981 | 2.78 | 0.61 | 3.39 |
| Not a Student | 4,104,722 | 2.79 | 0.63 | 3.41 |
| Don't Know/Refused | 21,840 | 2.67 | 1.11 | 3.78 |
| Total | 5,627,010 | 2.70 | 0.62 | 3.33 |

Source: DVRPC 2012– 2013; All persons, using person weights and GPS factors.

Table 60 shows the average trip rate by trip purpose. The activities are listed in order of trip rate. Home activities were recorded most frequently, comprising an average of 1.05 trips per person per day. This is logical because most people spend some time at home every day doing home activities. Intuitively, work for pay and everyday shopping rank next with trip rates of 0.47 and 0.27 per person per day respectively.

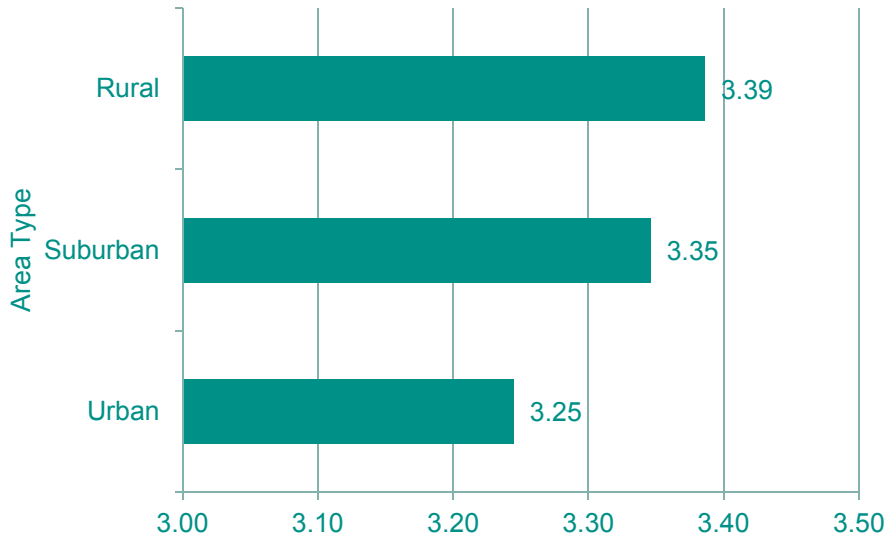
Table 60: Trip Rate by Trip Purpose

| Activity | Trip Rate |
|---|-----------|
| Home activities not related to work, school, or online | 1.05 |
| Work for pay | 0.47 |
| Everyday shopping (grocery, drug store, gas, etc.) | 0.27 |
| Eat out (restaurant, drive-thru, etc.) | 0.15 |
| Personal business (banking or ATM, salon, library) | 0.15 |
| Attended classes | 0.14 |
| Recreation- active participation (sports, exercise, walk the dog, etc.) | 0.13 |
| Social (visit friends, relatives, etc.) | 0.12 |
| Change type of transportation/transfer | 0.12 |
| Drop off passenger | 0.10 |
| Pick up passenger | 0.09 |
| Other activity | 0.08 |
| Medical (medical appointment, medical procedure, etc.) | 0.07 |
| Homework, class related assignments or attended an online course | 0.07 |
| Recreation-watch/observe (movies, concert, sports event, etc.) | 0.07 |
| Online personal business (banking, e-mail, etc.) | 0.06 |
| Social/community/religious (meetings, worship, wedding, funeral, etc.) | 0.05 |
| Accompany household member | 0.05 |
| Major shopping (appliances, cars, home furnishings, clothes, etc.) | 0.05 |
| Attended other school activities (performances, meetings, clubs) | 0.03 |

Source: DVRPC 2012– 2013; All activities performed at trip destination (activities performed at Origin were used for persons who reported making zero trips); Don't Know/Refused excluded; weighted using person weights and GPS factors.

Trip rate is also influenced by area type. The average number of trips per person increases as the density of area type decreases, as seen in Figure 21. Persons living in urban areas average 3.25 trips per day, while persons living in rural areas average 3.39 trips per day.

Figure 21: Average Person Trip Rate by Area Type



Source: DVRPC 2012– 2013; using person weights and GPS factors

7.2 Mode Share, Tolls, and Parking

Mode share is summarized in Tables 61 and 62. Table 61 provides a summary, while Table 62 provides more detail. Most trips were made using a personal vehicle (77.0 percent). Walking ranked second (10.7 percent). Philadelphia is the outlier with the highest percentage of trips made by walking (17.1 percent), biking (1.9 percent), and public transit (12.2 percent), and only 65.7 percent of trips made by personal vehicle. Private Transit includes modes such as taxis, limos, private shuttles, greyhound busses, Bolt Bus, Mega Bus, or other motorized private transportation methods.

Due to demographic factors and weighting methodology, there is a higher percentage of Mercer and Bucks counties residents with high weights that reported walking than those in the rest of the region. Therefore, the percentage of walk trips in Mercer and Bucks counties may be inflated.

Table 61: Major Travel Modes Reported by County of Residence

| County | Walk | Bike | Personal Vehicle | Private Transit | Public Transit | School Bus | Other | Total |
|--------------------|--------------|-------------|------------------|-----------------|----------------|-------------|-------------|-------------|
| Burlington | 5.6% | 0.3% | 82.2% | 0.6% | 4.5% | 6.0% | 0.8% | 100% |
| Camden | 10.4% | 0.4% | 78.6% | 0.2% | 7.0% | 3.0% | 0.4% | 100% |
| Gloucester | 4.0% | 0.0% | 84.9% | 0.1% | 3.7% | 7.0% | 0.3% | 100% |
| Mercer | 12.7% | 0.6% | 75.5% | 0.7% | 7.1% | 2.9% | 0.6% | 100% |
| NJ Counties | 8.6% | 0.4% | 79.9% | 0.4% | 5.8% | 4.5% | 0.5% | 100% |
| Bucks | 5.1% | 0.4% | 88.5% | 0.1% | 2.2% | 3.3% | 0.5% | 100% |
| Chester | 4.6% | 0.1% | 88.2% | 0.1% | 2.0% | 4.6% | 0.4% | 100% |
| Delaware | 12.3% | 0.8% | 73.5% | 0.4% | 9.7% | 2.6% | 0.7% | 100% |
| Montgomery | 10.6% | 1.1% | 78.1% | 1.0% | 4.5% | 3.6% | 1.2% | 100% |
| Philadelphia | 17.1% | 1.9% | 65.7% | 0.6% | 12.2% | 1.5% | 1.1% | 100% |
| PA Counties | 11.6% | 1.1% | 75.8% | 0.5% | 7.4% | 2.7% | 0.9% | 100% |
| DVRPC Total | 10.7% | 0.9% | 77.0% | 0.5% | 6.9% | 3.2% | 0.8% | 100% |

Source: DVRPC 2012– 2013; All trips with reported mode, weighted using person weights and GPS factors.

Table 62: Detailed Mode Usage by State of Residence

| Mode | NJ | | Total |
|------------------------------|---------------|---------------|-------------|
| | Counties | Counties | |
| Walk | 8.6% | 11.6% | 10.7% |
| Bike | 0.4% | 1.1% | 0.9% |
| Wheelchair/Scooter | 0.1% | 0.1% | 0.1% |
| Other non-motorized | 0.1% | 0.3% | 0.2% |
| Auto/Van/Truck | 78.6% | 74.7% | 75.9% |
| Carpool/Vanpool | 1.1% | 0.8% | 0.9% |
| Motorcycle/Moped | 0.1% | 0.1% | 0.1% |
| Taxi/Hired Car/Limo | 0.3% | 0.4% | 0.4% |
| Rental car/Car share vehicle | 0.2% | 0.2% | 0.2% |
| Private shuttle | 0.1% | 0.1% | 0.1% |
| Greyhound/Bolt/Mega Bus | 0.0% | 0.0% | 0.0% |
| Airplane | 0.0% | 0.0% | 0.0% |
| Other private transit | 0.4% | 0.5% | 0.5% |
| SEPTA Bus/Trolleybus | 0.5% | 4.2% | 3.1% |
| NJ TRANSIT Bus | 3.0% | 0.1% | 0.9% |
| TMA Shuttle | 0.0% | 0.1% | 0.1% |
| AMTRAK Bus | 0.0% | 0.0% | 0.0% |
| School bus | 4.5% | 2.7% | 3.2% |
| Dial-a-Ride/ParaTransit | 0.1% | 0.1% | 0.1% |
| Other bus | 0.1% | 0.2% | 0.1% |
| SEPTA Subway/the El | 0.1% | 1.1% | 0.8% |
| SEPTA Regional Rail | 0.1% | 1.3% | 0.9% |
| SEPTA Trolley/Light Rail | 0.0% | 0.2% | 0.1% |
| NJ TRANSIT Commuter Rail | 0.4% | 0.1% | 0.2% |
| NJ TRANSIT Light Rail | 0.3% | 0.0% | 0.1% |
| PATCO Speedline | 1.1% | 0.0% | 0.3% |
| AMTRAK Train | 0.0% | 0.1% | 0.1% |
| Other rail | 0.1% | 0.0% | 0.1% |
| RIVERLINK Ferry | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100% |

Source: DVRPC 2012– 2013; All trips with reported mode, weighted using person weights and GPS factors.

Table 63 shows that travel modes varied significantly by area type. As expected, CBD and urban areas had the highest percentages of walk, bike, and public transit trips. Private vehicle usage increased as the area type decreased in density. Rural areas relied heavily on personal vehicles for a total of 87.6 percent of trips. Due to demographic factors and weighting methodology, there is a higher percentage of rural residents with high weights that reported walking or biking than those in the rest of the region. Therefore, the percentage of walk and bike trips in rural areas may be inflated.

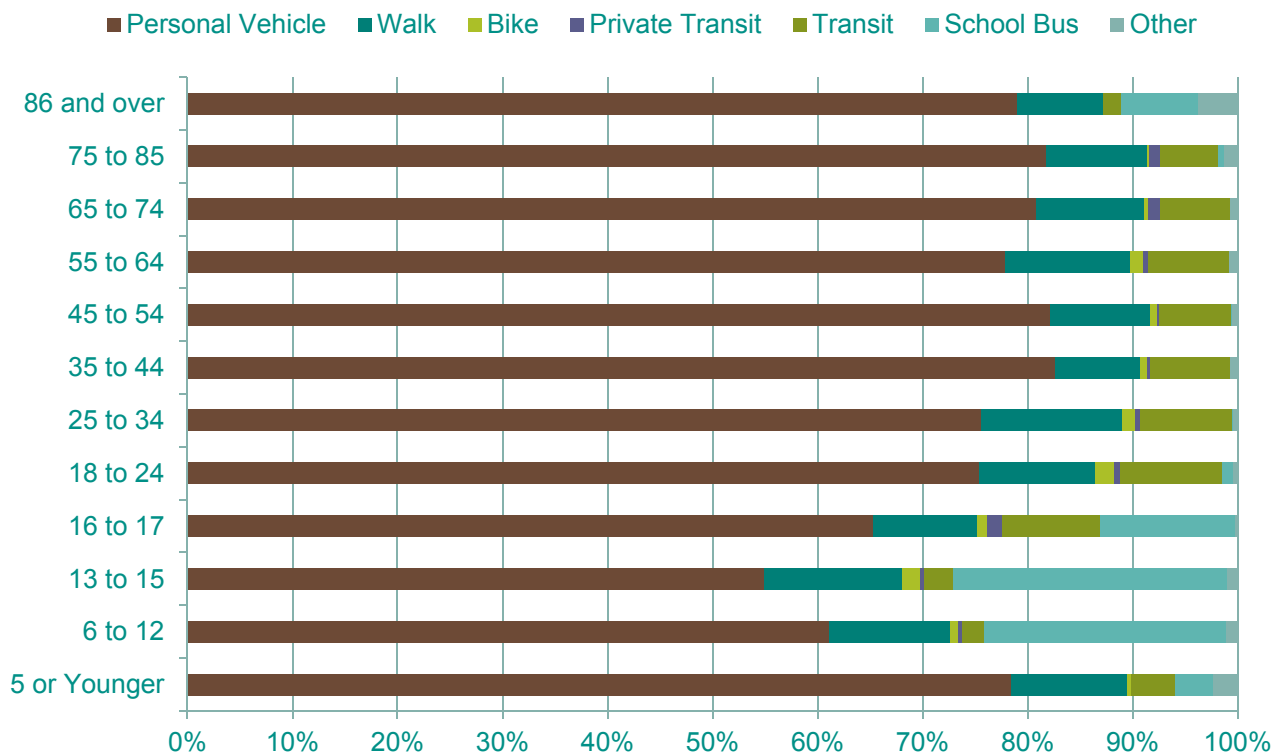
Table 63: Reported Mode Distribution by Area Type of Residence

| Area Type | Walk | Bike | Personal Vehicle | Private Transit | Public Transit | School Bus | Other | Total |
|--------------|--------------|-------------|------------------|-----------------|----------------|-------------|-------------|-------------|
| CBD/Urban | 20.2% | 1.7% | 61.1% | 0.9% | 13.5% | 1.4% | 1.2% | 100% |
| Suburban | 8.5% | 0.6% | 81.1% | 0.3% | 5.6% | 3.2% | 0.7% | 100% |
| Rural | 3.9% | 0.5% | 87.6% | 0.4% | 1.8% | 5.4% | 0.4% | 100% |
| Total | 10.7% | 0.9% | 77.0% | 0.5% | 6.9% | 3.2% | 0.8% | 100% |

Source: DVRPC 2012– 2013; All trips with reported mode and household area type, weighted using person weights and GPS factors.

Travel mode also varied by the age of the person taking the trip, as seen in Figure 22. Young travelers tended to take more school bus trips and less private vehicle trips, while older people trended in the opposite direction.

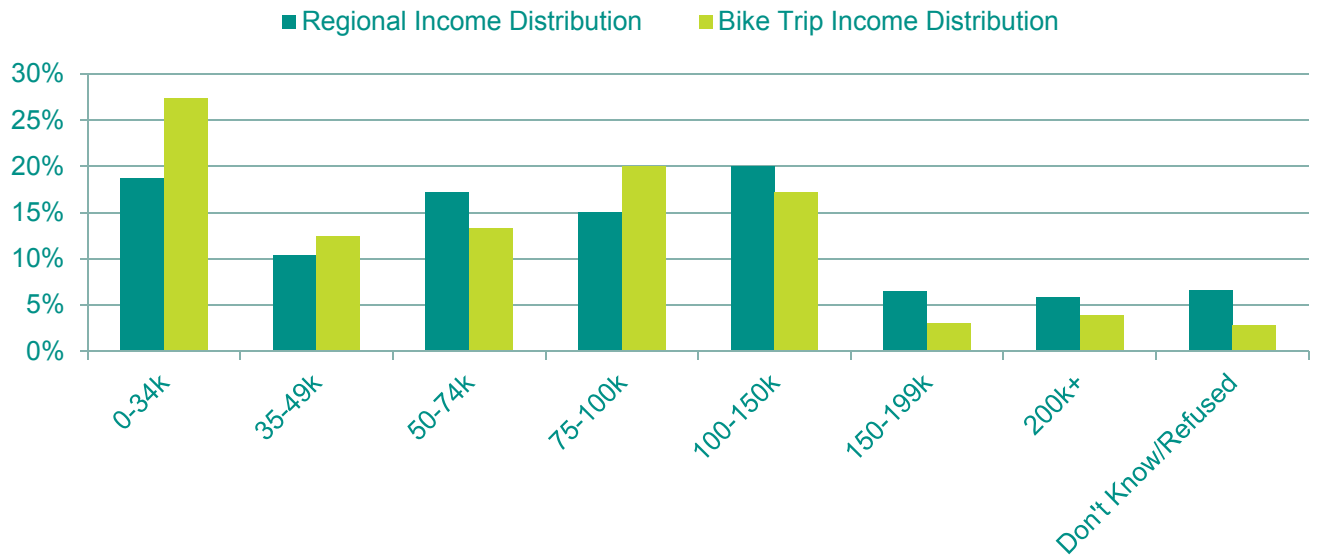
Figure 22: Mode Distribution by Age



Source: DVRPC 2012– 2013; All trips with reported mode and reported traveler age; weighted using person weights and GPS factors.

Figure 23 shows the income distribution of those who reported making bicycle trips. Over one-quarter of bicycle trips were made by those in households making between \$0 and \$34,999 per year. Persons in the highest two income brackets (making \$150,000 and higher), made the fewest bicycle trips.

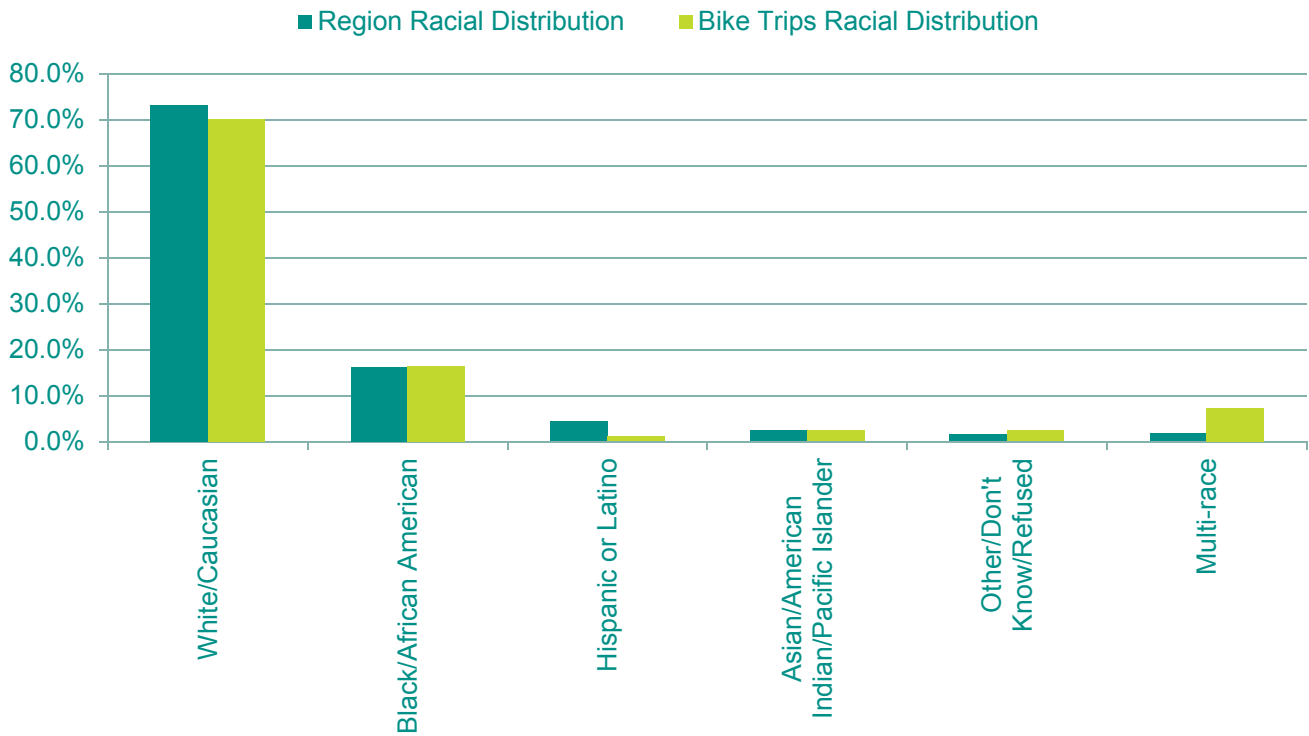
Figure 23: Income Distribution of Those Who Made Bicycle Trips



Source: DVRPC 2012– 2013; All trips with reported mode and reported income; weighted using person weights and GPS factors.

Figure 24 shows the racial distribution of those who reported making bicycle trips. Over 70 percent of bicycle trips were made by individuals who identified as White/Caucasian. Persons who identified as Hispanic or Latino made the fewest bicycle trips.

Figure 24: Racial Distribution of Those Who Made Bicycle Trips



Source: DVRPC 2012– 2013; All trips with reported mode and reported race; weighted using person weights and GPS factors.

The previous section focused on mode reported for all trips for all purposes made by survey respondents. Tables 64 through 67 focus on survey participants’ usual mode to work. This data does not represent the mode used by survey respondents to get to work on their assigned travel day (actual mode to work). Survey respondents were asked about their usual commute patterns separately from the trip reporting section of the travel diary. Survey response options for reporting usual mode to work were different than those available in the general trip mode question. For example, mode to work respondents had the option to report driving alone in their car or carpooling. These options are reflected in tables 64, 66, and 67.

Table 64 shows that most workers in the region drive in their car, alone, to get to work (73.9 percent). A total of 6.1 percent of workers carpool to work, while only 1.5 percent bike to work.

Table 64: Usual Mode of Transportation to Work

| Mode | Frequency | Percentage |
|------------------|------------------|-------------|
| Car, drove alone | 1,714,903 | 73.9% |
| Transit | 287,690 | 12.4% |
| Carpool | 141,829 | 6.1% |
| Walk | 128,539 | 5.5% |
| Bike | 34,658 | 1.5% |
| Work from home | 10,003 | 0.4% |
| Other | 3,102 | 0.1% |
| Total | 2,320,724 | 100% |

Source: DVRPC 2012– 2013; All employed persons who reported usual mode to work (WMODE not blank); weighted using person weights and GPS factors.

Table 65 shows how many times, in the previous 10 work days, workers reported using their usual mode of transportation to work (shown above). The overwhelming majority of workers in the region use a consistent mode of transportation to get to work every day (10 days: 84.7 percent).

Table 65: Frequency of Usual Work Mode

| Frequency | Workers | Percentage |
|---------------------------|------------------|-------------|
| 1 | 3,328 | 0.1% |
| 2 | 3,105 | 0.1% |
| 3 | 6,304 | 0.3% |
| 4 | 12,217 | 0.5% |
| 5 | 30,505 | 1.3% |
| 6 | 30,065 | 1.3% |
| 7 | 29,688 | 1.3% |
| 8 | 75,229 | 3.2% |
| 9 | 63,597 | 2.7% |
| 10 | 1,964,808 | 84.7% |
| Don't Know/Refused /Blank | 101,878 | 4.4% |
| Total | 2,320,724 | 100% |

Source: DVRPC 2012– 2013; All employed persons who reported mode to work frequency (WMODETMS not blank); weighted using person weights and GPS factors.

Table 66 shows the usual mode of transportation to work by county of residence. Chester County (87.9 percent) has the highest percentage of people who drive alone to work, while those living in Philadelphia are the most likely to take transit (21.8 percent). Carpooling is most common for those living in Bucks County (8.6 percent)

Due to demographic factors and weighting methodology, high weights were assigned to some of the residents in Mercer County who reported biking and walking to work. Similarly, high weights were assigned to some residents in Bucks County who reported walking to work and to Delaware County residents who reported taking transit to work. Therefore, mode share percentages for these specific modes and counties may be inflated. Conversely, lower weights were assigned to some of the Philadelphia residents who reported taking transit, artificially deflating the resulting percentage of people taking transit to work in Philadelphia.

Table 66: Reported Usual Mode to Work by County of Residence

| County | Car, Drove Alone | Carpool | Transit | Bike | Walk | Work from Home | Other | Total |
|--------------------|------------------------|-------------|--------------|-------------|-------------|----------------------|-------------|-------------|
| Burlington | 87.7% | 3.5% | 7.1% | 0.3% | 0.9% | 0.4% | 0.1% | 100% |
| Camden | 78.0% | 4.8% | 10.6% | 1.5% | 5.0% | 0.0% | 0.1% | 100% |
| Gloucester | 81.0% | 6.1% | 8.4% | 0.0% | 4.5% | 0.1% | 0.0% | 100% |
| Mercer | 74.2% | 8.3% | 4.6% | 3.1% | 8.2% | 0.5% | 1.1% | 100% |
| NJ Counties | 80.5% | 5.5% | 7.8% | 1.3% | 4.5% | 0.3% | 0.3% | 100% |
| Bucks | 79.7% | 8.6% | 3.3% | 0.3% | 7.7% | 0.3% | 0.0% | 100% |
| Chester | 87.9% | 2.0% | 4.4% | 0.5% | 4.9% | 0.3% | 0.0% | 100% |
| Delaware | 67.1% | 8.3% | 20.0% | 0.3% | 4.3% | 0.0% | 0.0% | 100% |
| Montgomery | 77.5% | 4.7% | 12.6% | 0.4% | 4.0% | 0.7% | 0.1% | 100% |
| Philadelphia | 59.1% | 7.1% | 21.8% | 3.8% | 7.4% | 0.7% | 0.1% | 100% |
| PA Counties | 71.2% | 6.4% | 14.3% | 1.6% | 6.0% | 0.5% | 0.1% | 100% |
| DVRPC Total | 73.9% | 6.1% | 12.4% | 1.5% | 5.5% | 0.4% | 0.1% | 100% |

Source: DVRPC 2012– 2013; All employed persons who reported usual mode to work; weighted using person weights and GPS factors.

Table 67 shows usual mode to work, this time by county of employment. As expected, those working in Philadelphia are least likely to drive alone (51.3 percent) and most likely to use other modes. However, Bucks County residents are most likely to walk to work (9.6 percent). Due to demographic factors and weighting methodology, high weights were assigned to some of the workers in Burlington and Camden counties who reported taking transit to work. Similarly, high weights were assigned to some workers in Bucks County who reported walking to work. Therefore, mode share percentages for these specific modes and counties might be inflated. Conversely, lower weights were assigned to some of the Philadelphia workers who reported walking to work, artificially deflating the resulting percentage of people walking to work in Philadelphia.

Table 67: Usual Mode to Work by County of Primary Work Location

| County | Car, Drove Alone | Carpool | Transit | Bike | Walk | Work from Home | Other | Total |
|--------------------|------------------------|-------------|--------------|-------------|-------------|----------------------|-------------|-------------|
| Burlington | 88.9% | 3.5% | 5.4% | 0.2% | 1.5% | 0.1% | 0.5% | 100% |
| Camden | 85.9% | 4.2% | 2.9% | 1.9% | 5.1% | 0.0% | 0.0% | 100% |
| Gloucester | 90.3% | 3.5% | 0.4% | 0.0% | 5.6% | 0.0% | 0.1% | 100% |
| Mercer | 76.4% | 9.8% | 1.2% | 2.9% | 7.9% | 1.0% | 0.6% | 100% |
| NJ Counties | 84.5% | 5.5% | 2.8% | 1.5% | 4.9% | 0.3% | 0.3% | 100% |
| Bucks | 81.0% | 6.0% | 3.0% | 0.0% | 9.6% | 0.0% | 0.4% | 100% |
| Chester | 86.1% | 4.9% | 4.9% | 0.0% | 3.9% | 0.0% | 0.2% | 100% |
| Delaware | 79.5% | 7.5% | 6.8% | 0.5% | 5.6% | 0.0% | 0.2% | 100% |
| Montgomery | 81.4% | 5.5% | 8.0% | 0.3% | 4.2% | 0.1% | 0.5% | 100% |
| Philadelphia | 51.3% | 7.5% | 30.5% | 3.5% | 6.5% | 0.1% | 0.7% | 100% |
| PA Counties | 68.7% | 6.6% | 16.6% | 1.6% | 6.0% | 0.1% | 0.5% | 100% |
| DVRPC Total | 73.0% | 6.3% | 12.9% | 1.6% | 5.7% | 0.1% | 0.4% | 100% |

Source: DVRPC 2012– 2013; All employed persons working within the region who reported usual mode to work; excludes all non-primary jobs for workers with more than one employer; weighted using person weights and GPS factors.

Survey respondents were asked how many people, besides the driver, traveled together in a personal vehicle. Overall, most trips were made by the driver alone (56.9 percent), as shown in Table 68. The proportion of trips drops with each additional person. Only 1.9 percent of trips were made with four or more people.

Table 68: Number Traveling Together on Auto Trips

| County | 0 | 1 | 2 | 3 | 4+ | Total |
|--------------------|--------------|--------------|-------------|-------------|-------------|-------------|
| Burlington | 61.2% | 29.1% | 6.4% | 1.4% | 1.9% | 100% |
| Camden | 52.8% | 30.0% | 9.5% | 4.3% | 3.4% | 100% |
| Gloucester | 58.7% | 25.8% | 10.4% | 4.3% | 0.8% | 100% |
| Mercer | 52.3% | 33.6% | 9.6% | 4.4% | 0.2% | 100% |
| NJ Counties | 56.0% | 29.8% | 8.9% | 3.5% | 1.8% | 100% |
| Bucks | 55.5% | 27.5% | 10.1% | 5.8% | 1.2% | 100% |
| Chester | 62.5% | 22.1% | 8.5% | 5.9% | 1.0% | 100% |
| Delaware | 55.7% | 30.3% | 8.2% | 3.8% | 2.0% | 100% |
| Montgomery | 60.6% | 24.2% | 8.2% | 4.9% | 2.1% | 100% |
| Philadelphia | 54.4% | 28.2% | 11.4% | 3.5% | 2.6% | 100% |
| PA Counties | 57.3% | 26.6% | 9.6% | 4.6% | 1.9% | 100% |
| DVRPC Total | 56.9% | 27.6% | 9.4% | 4.3% | 1.9% | 100% |

Source: DVRPC 2012– 2013; All auto trips with response, 0 = driver alone; using person weights and GPS factors.

Table 69 shows that most personal vehicle trips did not include toll roads or bridges (93.0 percent). Gloucester County had the highest percentage of trips that included tolls (11.6 percent).

Table 69: Tolls Paid by Auto Drivers

| County | Yes | No | Don't Know/ Refused | Total |
|--------------------|-------------|--------------|------------------------|-------------|
| Burlington | 5.9% | 92.6% | 1.5% | 100% |
| Camden | 8.3% | 88.7% | 3.0% | 100% |
| Gloucester | 11.6% | 85.8% | 2.7% | 100% |
| Mercer | 2.7% | 95.3% | 2.0% | 100% |
| NJ Counties | 6.9% | 90.8% | 2.3% | 100% |
| Bucks | 5.1% | 93.0% | 1.9% | 100% |
| Chester | 2.1% | 96.2% | 1.7% | 100% |
| Delaware | 2.6% | 94.4% | 2.9% | 100% |
| Montgomery | 3.3% | 94.9% | 1.8% | 100% |
| Philadelphia | 4.9% | 92.9% | 2.2% | 100% |
| PA Counties | 3.9% | 94.0% | 2.1% | 100% |
| DVRPC Total | 4.8% | 93.0% | 2.2% | 100% |

Source: DVRPC 2012– 2013; All auto trips with reported toll usage; using person weights and GPS factors. 43 percent of trip records did not include an answer to the toll usage question.

Table 70 shows that most personal vehicle drivers reported not having to pay for parking (92.7 parking). Philadelphia residents made the highest percentage of trips where the respondent paid for parking (6.4 percent).

Table 70: Pay for Parking by County of Residence

| County | Yes | No | Don't Know/ Refused | Total |
|--------------------|-------------|--------------|------------------------|-------------|
| Burlington | 3.0% | 93.6% | 3.4% | 100% |
| Camden | 3.2% | 94.0% | 2.8% | 100% |
| Gloucester | 3.2% | 94.5% | 2.3% | 100% |
| Mercer | 2.7% | 93.9% | 3.4% | 100% |
| NJ Counties | 3.0% | 94.0% | 3.0% | 100% |
| Bucks | 2.7% | 94.9% | 2.4% | 100% |
| Chester | 3.2% | 93.2% | 3.6% | 100% |
| Delaware | 4.0% | 91.2% | 4.7% | 100% |
| Montgomery | 3.2% | 93.3% | 3.5% | 100% |
| Philadelphia | 6.4% | 89.6% | 4.0% | 100% |
| PA Counties | 4.2% | 92.2% | 3.6% | 100% |
| DVRPC Total | 3.8% | 92.7% | 3.4% | 100% |

Source: DVRPC 2012– 2013; All personal vehicle trips with reported parking charge; excludes blanks; weighted using person weights and GPS factors.

Of all the personal vehicle trips ending in a paid parking spot, most travelers paid by the day, as shown in Table 71. The average daily rate was \$8.79.

Table 71: Average Cost of Parking

| Unit | Frequency | Percentage | Mean (\$) |
|--------------|----------------|---------------|-----------|
| Hour | 72,668 | 30.9% | 2.93 |
| Day | 93,967 | 40.0% | 8.79 |
| Week | 5,437 | 2.3% | 22.88 |
| Month | 35,973 | 15.3% | 94.35 |
| Quarter | 4,419 | 1.9% | 73.38 |
| Semester | 4,669 | 2.0% | 64.80 |
| Year | 17,944 | 7.6% | 151.75 |
| Total | 235,077 | 100.0% | - |

Source: DVRPC 2012– 2013; All auto trips with reported parking charge; weighted using person weights and GPS factors.

7.3 Time of Travel

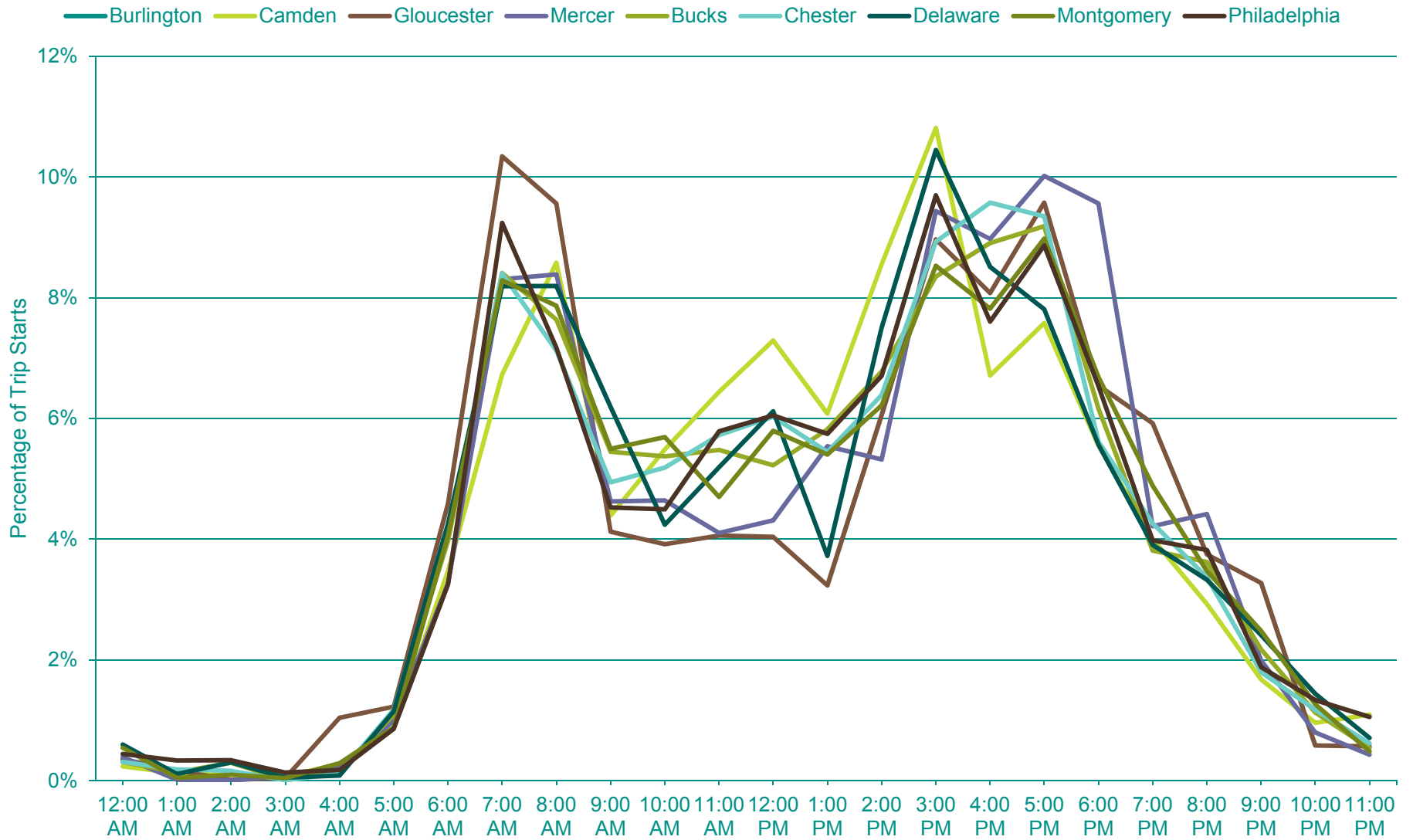
Table 72 shows that, as expected, more trips began between 7:00 AM and 9:00 AM (16.5 percent) and 3:00 PM and 5:00 PM (17.3 percent), times typically referred to as rush hour. This trend is evident in the graph displayed in Figure 25.

Table 72: Time of Trip Starts

| Hour | Number of Trips Started | Percentage |
|--------------|-------------------------|-------------|
| 12:00:00 AM | 73,703 | 0.4% |
| 1:00:00 AM | 33,637 | 0.2% |
| 2:00:00 AM | 34,186 | 0.2% |
| 3:00:00 AM | 11,051 | 0.1% |
| 4:00:00 AM | 41,167 | 0.2% |
| 5:00:00 AM | 172,878 | 1.0% |
| 6:00:00 AM | 677,518 | 3.8% |
| 7:00:00 AM | 1,530,658 | 8.6% |
| 8:00:00 AM | 1,401,822 | 7.9% |
| 9:00:00 AM | 887,044 | 5.0% |
| 10:00:00 AM | 892,861 | 5.0% |
| 11:00:00 AM | 966,950 | 5.4% |
| 12:00:00 PM | 1,037,502 | 5.8% |
| 1:00:00 PM | 944,008 | 5.3% |
| 2:00:00 PM | 1,202,105 | 6.8% |
| 3:00:00 PM | 1,634,762 | 9.2% |
| 4:00:00 PM | 1,448,190 | 8.1% |
| 5:00:00 PM | 1,590,237 | 8.9% |
| 6:00:00 PM | 1,151,172 | 6.5% |
| 7:00:00 PM | 733,611 | 4.1% |
| 8:00:00 PM | 626,136 | 3.5% |
| 9:00:00 PM | 379,583 | 2.1% |
| 10:00:00 PM | 207,077 | 1.2% |
| 11:00:00 PM | 130,474 | 0.7% |
| Total | 17,808,330 | 100% |

Source: DVRPC 2012– 2013; All trips with reported departure time; weighted using person weights and GPS factors.

Figure 25: Time of Trip Starts by County of Departure



Source: DVRPC 2012– 2013; All trips with reported departure time; weighted using person weights and GPS factors.

Across the region, over one-quarter of all workers begin their work days at different times on different days (26.9 percent), as shown in Table 73. Among the timeframes offered, the percentage of workers who start at consistent times increases from 6 AM onward, with a few exceptions in certain counties.

Table 73: Work Start Times

| County | Before 6AM | 6:00 6:30AM | 6:30 7:00AM | 7:00 7:30AM | 7:30 8:00AM | 8:00 8:30AM | 8:30 9:00AM | After 9 AM | Different Times on Different Days | Total |
|--------------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|-----------------------------------|-------------|
| Burlington | 2.8% | 2.5% | 8.7% | 6.6% | 18.6% | 11.7% | 12.0% | 13.6% | 23.5% | 100% |
| Camden | 3.6% | 4.4% | 7.9% | 9.7% | 10.4% | 12.2% | 13.1% | 13.0% | 25.7% | 100% |
| Gloucester | 3.9% | 8.1% | 8.1% | 7.4% | 9.0% | 12.0% | 7.9% | 12.3% | 31.3% | 100% |
| Mercer | 3.6% | 1.4% | 2.8% | 9.4% | 9.3% | 19.4% | 17.5% | 10.5% | 26.1% | 100% |
| NJ Counties | 3.4% | 3.9% | 6.9% | 8.3% | 12.2% | 13.7% | 12.8% | 12.4% | 26.3% | 100% |
| Bucks | 1.4% | 4.5% | 5.3% | 10.5% | 12.0% | 10.3% | 8.6% | 17.6% | 29.8% | 100% |
| Chester | 2.6% | 3.4% | 7.4% | 9.9% | 11.6% | 11.3% | 9.6% | 13.0% | 31.2% | 100% |
| Delaware | 2.6% | 6.6% | 8.4% | 10.3% | 12.6% | 9.3% | 9.7% | 12.2% | 28.3% | 100% |
| Montgomery | 4.3% | 2.9% | 7.3% | 10.3% | 10.1% | 13.0% | 16.0% | 11.8% | 24.4% | 100% |
| Philadelphia | 3.3% | 3.8% | 6.7% | 7.7% | 13.8% | 11.4% | 11.3% | 16.4% | 25.6% | 100% |
| PA Counties | 3.0% | 4.1% | 6.9% | 9.3% | 12.3% | 11.2% | 11.3% | 14.7% | 27.2% | 100% |
| DVRPC Total | 3.1% | 4.0% | 6.9% | 9.0% | 12.2% | 12.0% | 11.8% | 14.0% | 26.9% | 100% |

Source: DVRPC 2012– 2013; All employed persons who reported work start times (ARRVWRK not blank); weighted using person weights.

Similarly, Table 74 shows that 30 percent of workers end their work day at different times on different days. However, at the end of the work day, there is a noticeable increase in the percentage of workers who leave between 4:30 and 5:30 PM (22.5 percent). The amount of people leaving work drops to nearly half of the 5:00 to 5:30 PM peak in the subsequent half-hour.

Table 74: Work End Times

| County | Before 3:30 PM | 3:30 4:00PM | 4:00 4:30PM | 4:30 5:00PM | 5:00 5:30PM | 5:30 6:00PM | 6:00 6:30PM | After 6:30 PM | Different Times on Different Days | Total |
|--------------------|----------------|-------------|-------------|--------------|--------------|-------------|-------------|---------------|-----------------------------------|-------------|
| Burlington | 9.3% | 7.5% | 8.4% | 12.5% | 13.4% | 5.1% | 6.7% | 10.8% | 26.2% | 100% |
| Camden | 11.2% | 8.8% | 7.3% | 12.7% | 10.9% | 5.7% | 5.3% | 10.9% | 27.3% | 100% |
| Gloucester | 10.2% | 10.9% | 11.6% | 9.3% | 8.1% | 7.5% | 4.5% | 10.1% | 27.9% | 100% |
| Mercer | 6.8% | 11.6% | 7.3% | 10.7% | 9.7% | 9.1% | 7.9% | 11.0% | 26.0% | 100% |
| NJ Counties | 9.4% | 9.5% | 8.4% | 11.5% | 10.8% | 6.7% | 6.2% | 10.7% | 26.8% | 100% |
| Bucks | 7.2% | 5.0% | 8.4% | 10.5% | 11.6% | 6.9% | 6.0% | 9.9% | 34.6% | 100% |
| Chester | 10.4% | 6.6% | 5.4% | 8.3% | 11.0% | 9.7% | 6.4% | 9.0% | 33.3% | 100% |
| Delaware | 11.4% | 9.7% | 5.7% | 7.9% | 11.8% | 5.4% | 4.5% | 9.9% | 33.7% | 100% |
| Montgomery | 10.0% | 7.6% | 8.7% | 12.1% | 13.0% | 8.3% | 5.2% | 6.9% | 28.2% | 100% |
| Philadelphia | 8.5% | 6.8% | 7.8% | 9.8% | 13.9% | 7.1% | 5.4% | 11.0% | 29.8% | 100% |
| PA Counties | 9.2% | 7.1% | 7.5% | 9.9% | 12.6% | 7.4% | 5.5% | 9.6% | 31.3% | 100% |
| DVRPC Total | 9.3% | 7.8% | 7.7% | 10.4% | 12.1% | 7.2% | 5.7% | 9.9% | 30.0% | 100% |

Source: DVRPC 2012– 2013; All employed persons who reported work end times (LVWRK not blank); weighted using person weights.

7.4 Travel Flows

Table 75 is a trip matrix, showing where trips originated and ended. While over 1.3 million (2.4 percent) trips were made to counties outside the nine-county Delaware Valley region, the matrix only includes trips that started and ended within the region.

Table 75: Trip Matrix by County

| | | County of Trip Destination | | | | | | | | | Total |
|-----------------------|--------------|----------------------------|-----------|---------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| | | County | Burl. | Cam. | Glou. | Mer. | Bucks | Ches. | Del. | Mont. | |
| County of Trip Origin | Burlington | 824,658 | 154,139 | 33,182 | 68,115 | 21,556 | 12,782 | 7,378 | 39,643 | 37,308 | 1,198,762 |
| | Camden | 161,537 | 1,044,942 | 82,620 | 20,316 | 11,769 | 20,780 | 15,387 | 27,935 | 132,582 | 1,517,866 |
| | Gloucester | 27,124 | 83,431 | 468,280 | 10,705 | 19,944 | 27,983 | 12,706 | 23,584 | 41,629 | 715,384 |
| | Mercer | 66,494 | 17,501 | 12,769 | 959,604 | 66,203 | 26,460 | 7,338 | 24,131 | 28,641 | 1,209,141 |
| | Bucks | 18,844 | 13,687 | 18,488 | 64,998 | 1,501,053 | 5,169 | 8,559 | 144,351 | 149,110 | 1,924,258 |
| | Chester | 12,781 | 20,106 | 23,886 | 25,118 | 6,310 | 1,112,486 | 95,647 | 118,823 | 31,398 | 1,446,555 |
| | Delaware | 8,490 | 16,237 | 18,122 | 4,833 | 4,749 | 98,224 | 1,238,968 | 79,261 | 174,866 | 1,643,749 |
| | Montgomery | 34,497 | 29,744 | 23,701 | 24,309 | 140,436 | 113,167 | 82,615 | 2,043,524 | 337,940 | 2,829,933 |
| | Philadelphia | 39,576 | 124,138 | 41,652 | 26,435 | 158,635 | 33,428 | 175,722 | 325,021 | 3,924,821 | 4,849,428 |
| | Total | 1,194,000 | 1,503,925 | 722,700 | 1,204,433 | 1,930,654 | 1,450,480 | 1,644,320 | 2,826,273 | 4,858,293 | 17,335,077 |

Source: DVRPC 2012– 2013; All trips made from a county within the region to a county within the region; weighted using person weights and GPS factors.

The numbers in gray boxes in Table 76 show the percentage of trips that ended in the same county in which they originated. Over three-quarters of all trips within the region started and ended in the same county.

Table 76: Trip Matrix by County (Percentage)

| | | County of Trip Destination | | | | | | | | | Total |
|-----------------------|------------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|--------|-------|
| | | Burl. | Cam. | Glou. | Mer. | Bucks | Ches. | Del. | Mont. | Phila. | |
| County of Trip Origin | County of Origin | | | | | | | | | | |
| | Burlington | 68.8% | 12.9% | 2.8% | 5.7% | 1.8% | 1.1% | 0.6% | 3.3% | 3.1% | 100% |
| | Camden | 10.6% | 68.8% | 5.4% | 1.3% | 0.8% | 1.4% | 1.0% | 1.8% | 8.7% | 100% |
| | Gloucester | 3.8% | 11.7% | 65.5% | 1.5% | 2.8% | 3.9% | 1.8% | 3.3% | 5.8% | 100% |
| | Mercer | 5.5% | 1.4% | 1.1% | 79.4% | 5.5% | 2.2% | 0.6% | 2.0% | 2.4% | 100% |
| | Bucks | 1.0% | 0.7% | 1.0% | 3.4% | 78.0% | 0.3% | 0.4% | 7.5% | 7.7% | 100% |
| | Chester | 0.9% | 1.4% | 1.7% | 1.7% | 0.4% | 76.9% | 6.6% | 8.2% | 2.2% | 100% |
| | Delaware | 0.5% | 1.0% | 1.1% | 0.3% | 0.3% | 6.0% | 75.4% | 4.8% | 10.6% | 100% |
| | Montgomery | 1.2% | 1.1% | 0.8% | 0.9% | 5.0% | 4.0% | 2.9% | 72.2% | 11.9% | 100% |
| | Philadelphia | 0.8% | 2.6% | 0.9% | 0.5% | 3.3% | 0.7% | 3.6% | 6.7% | 80.9% | 100% |

Source: DVRPC 2012– 2013; All trips made from a county within the region to a county within the region; weighted using person weights and GPS factors.

Similarly, Tables 77 and 78 show that the vast majority of trips originating in each state end in the same state. The numbers in gray boxes in Table 78 show the percentage of trips that ended in the same state in which they originated.

Table 77: Trip Matrix by State

| | | State of Trip Destination | | | |
|----------------------|--------------|---------------------------|------------|--------------|------------|
| | | State | New Jersey | Pennsylvania | Total |
| State of Trip Origin | State | | | | |
| | New Jersey | | 4,035,416 | 605,738 | 4,641,154 |
| | Pennsylvania | | 589,642 | 12,104,281 | 12,693,923 |
| | Total | | 4,625,058 | 12,710,019 | 17,335,077 |

Source: DVRPC 2012– 2013; All trips made from a county within the region to a county within the region; weighted using person weights and GPS factors.

Table 78: Trip Matrix by State (Percentage)

| | | State of Trip Destination | | | |
|----------------------|--------------|---------------------------|------------|--------------|-------|
| | | State | New Jersey | Pennsylvania | Total |
| State of Trip Origin | State | | | | |
| | New Jersey | | 86.9% | 13.1% | 100% |
| | Pennsylvania | | 4.6% | 95.4% | 100% |

Source: DVRPC 2012– 2013; All trips made from a county within the region to a county within the region; weighted using person weights and GPS factors.

Table 79 is a commute matrix showing where residents of each county work. While the majority of workers reside in the same county in which they work, many travel from across the region to work in Philadelphia. This matrix only includes those residents that work within the nine-county region.

Table 79: Usual Work Commute Matrix by County

| | | County of Trip Destination | | | | | | | | | | |
|-----------------------|--------------|----------------------------|---------|--------|---------|---------|---------|---------|---------|---------|---------|----------------|
| | | County | Burl. | Cam. | Glou. | Mer. | Bucks | Ches. | Del. | Mont. | Phila. | Outside Region |
| County of Trip Origin | Burlington | 120,364 | 27,601 | 2,542 | 32,923 | 2,356 | 104 | 1,979 | 3,591 | 18,879 | 12,408 | 222,747 |
| | Camden | 32,614 | 105,149 | 13,916 | 2,674 | 2,191 | 1,277 | 2,114 | 3,435 | 39,769 | 16,217 | 219,356 |
| | Gloucester | 11,609 | 23,244 | 62,865 | 1,874 | 1,690 | 5,156 | 242 | 1,129 | 22,660 | 14,720 | 145,189 |
| | Mercer | 5,170 | 653 | 178 | 121,045 | 2,256 | 109 | 528 | 211 | 5,682 | 49,792 | 185,624 |
| | Bucks | 3,824 | 482 | 159 | 26,687 | 184,361 | 1,240 | 2,548 | 39,178 | 22,317 | 33,995 | 314,791 |
| | Chester | 418 | 891 | 0 | 411 | 1,827 | 152,201 | 20,264 | 28,781 | 14,787 | 32,944 | 252,524 |
| | Delaware | 966 | 1,446 | 1,026 | 358 | 1,313 | 19,075 | 32,902 | 26,716 | 62,558 | 17,684 | 164,044 |
| | Montgomery | 1,921 | 1,576 | 901 | 2,022 | 17,202 | 27,155 | 12,644 | 232,692 | 64,014 | 23,248 | 383,375 |
| | Philadelphia | 13,316 | 16,013 | 1,009 | 4,200 | 31,850 | 8,532 | 17,592 | 61,392 | 475,815 | 26,275 | 655,994 |
| | Total | 190,201 | 177,055 | 82,596 | 192,194 | 245,047 | 214,850 | 190,813 | 397,125 | 726,481 | 227,283 | 2,643,645 |

Source: DVRPC 2012– 2013; All employed persons; excludes those working in counties outside the region; weighted using person weights.

Table 80 shows the percentage of county residents (rows) working in each of the region’s counties (columns). With the exception of Gloucester County, over half of each county’s residents work in their home county.

Table 80: Percentage of County Residents Working in County

| | | County of Trip Destination | | | | | | | | | | |
|-----------------------|--------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|--------|----------------|
| | | County | Burl. | Cam. | Glou. | Mer. | Bucks | Ches. | Del. | Mont. | Phila. | Outside Region |
| County of Trip Origin | Burlington | 54.0% | 12.4% | 1.1% | 14.8% | 1.1% | 0.0% | 0.9% | 1.6% | 8.5% | 5.6% | 100% |
| | Camden | 14.9% | 47.9% | 6.3% | 1.2% | 1.0% | 0.6% | 1.0% | 1.6% | 18.1% | 7.4% | 100% |
| | Gloucester | 8.0% | 16.0% | 43.3% | 1.3% | 1.2% | 3.6% | 0.2% | 0.8% | 15.6% | 10.1% | 100% |
| | Mercer | 2.8% | 0.4% | 0.1% | 65.2% | 1.2% | 0.1% | 0.3% | 0.1% | 3.1% | 26.8% | 100% |
| | Bucks | 1.2% | 0.2% | 0.1% | 8.5% | 58.6% | 0.4% | 0.8% | 12.4% | 7.1% | 10.8% | 100% |
| | Chester | 0.2% | 0.4% | 0.0% | 0.2% | 0.7% | 60.3% | 8.0% | 11.4% | 5.9% | 13.0% | 100% |
| | Delaware | 0.6% | 0.9% | 0.6% | 0.2% | 0.8% | 11.6% | 20.1% | 16.3% | 38.1% | 10.8% | 100% |
| | Montgomery | 0.5% | 0.4% | 0.2% | 0.5% | 4.5% | 7.1% | 3.3% | 60.7% | 16.7% | 6.1% | 100% |
| | Philadelphia | 2.0% | 2.4% | 0.2% | 0.6% | 4.9% | 1.3% | 2.7% | 9.4% | 72.5% | 4.0% | 100% |

Source: DVRPC 2012– 2013; All employed persons; excludes those working in counties outside the region; weighted using person weights.

Table 81 shows where workers, working in each of the region’s counties, reside. While Philadelphia draws workers from other counties, the majority of workers live and work in the same county. Compared to Philadelphia, a larger percentage of Montgomery County’s workers commute to the county from surrounding counties. The same is true for Burlington, Camden, and Mercer Counties. This table does not include information about persons working in counties outside the region.

Table 81: Percentage of County Workers Living in County

| | | County of Trip Destination | | | | | | | | |
|-----------------------|--------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|--------|
| County | | Burl. | Cam. | Glou. | Mer. | Bucks | Ches. | Del. | Mont. | Phila. |
| County of Trip Origin | Burlington | 63.3% | 15.6% | 3.1% | 17.1% | 1.0% | 0.0% | 1.0% | 0.9% | 2.6% |
| | Camden | 17.1% | 59.4% | 16.8% | 1.4% | 0.9% | 0.6% | 1.1% | 0.9% | 5.5% |
| | Gloucester | 6.1% | 13.1% | 76.1% | 1.0% | 0.7% | 2.4% | 0.1% | 0.3% | 3.1% |
| | Mercer | 2.7% | 0.4% | 0.2% | 63.0% | 0.9% | 0.1% | 0.3% | 0.1% | 0.8% |
| | Bucks | 2.0% | 0.3% | 0.2% | 13.9% | 75.2% | 0.6% | 1.3% | 9.9% | 3.1% |
| | Chester | 0.2% | 0.5% | 0.0% | 0.2% | 0.7% | 70.8% | 10.6% | 7.2% | 2.0% |
| | Delaware | 0.5% | 0.8% | 1.2% | 0.2% | 0.5% | 8.9% | 69.7% | 6.7% | 8.6% |
| | Montgomery | 1.0% | 0.9% | 1.1% | 1.1% | 7.0% | 12.6% | 6.6% | 58.6% | 8.8% |
| | Philadelphia | 7.0% | 9.0% | 1.2% | 2.2% | 13.0% | 4.0% | 9.2% | 15.5% | 65.5% |
| | Total | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |

Source: DVRPC 2012– 2013; All employed persons; excludes those working in counties outside the region; weighted using person weights.

Similar to the county commute matrix, Tables 82 through 84 show that the majority of workers in the region live in the same state in which they work.

Table 82: Work Commute Matrix by State

| State of Residence | State of Employment | | | |
|--------------------|---------------------|------------|--------------|-----------|
| | | New Jersey | Pennsylvania | Total |
| New Jersey | | 564,423 | 115,359 | 679,782 |
| Pennsylvania | | 77,623 | 1,658,957 | 1,736,579 |
| Total | | 642,046 | 1,774,315 | 2,416,361 |

Source: DVRPC 2012– 2013; All employed persons; excludes those working in counties outside the region; weighted using person weights.

Table 83: Percentage of State Residents Working in State

| State of Residence | State of Employment | | | |
|--------------------|---------------------|------------|--------------|-------|
| | | New Jersey | Pennsylvania | Total |
| New Jersey | | 83.0% | 17.0% | 100% |
| Pennsylvania | | 4.5% | 95.5% | 100% |

Source: DVRPC 2012– 2013; All employed persons; excludes those working in counties outside the region; weighted using person weights.

Table 84: Percentage of Workers Living in State

| State of Residence | State of Employment | |
|--------------------|---------------------|--------------|
| | New Jersey | Pennsylvania |
| New Jersey | 87.9% | 6.5% |
| Pennsylvania | 12.1% | 93.5% |
| Total | 100% | 100% |

Source: DVRPC 2012– 2013; All employed persons; excludes those working in counties outside the region; weighted using person weights.

It is also interesting to graphically analyze where commuters are traveling. The map in Figure 26 shows the number of home-to-work trips made between each county. The numbers are based on the reported home and work locations gathered during the recruitment interview. The commutes are weighted using the person weight assigned to the commuter, then summarized by county. Thicker lines represent more commuters between those counties.

As expected, the largest numbers of work trips are made toward Philadelphia, while fewer trips are made out of the region to more rural counties. Montgomery County draws the second highest number of commuters from other counties, including 61,392 from Philadelphia.

Figure 27 shows the percentage of commuters that travel to jobs within their county of residence. Mercer County has the largest percentage of residents who remain in the county for work.

Figure 26: Home-to-Work Commutes by County

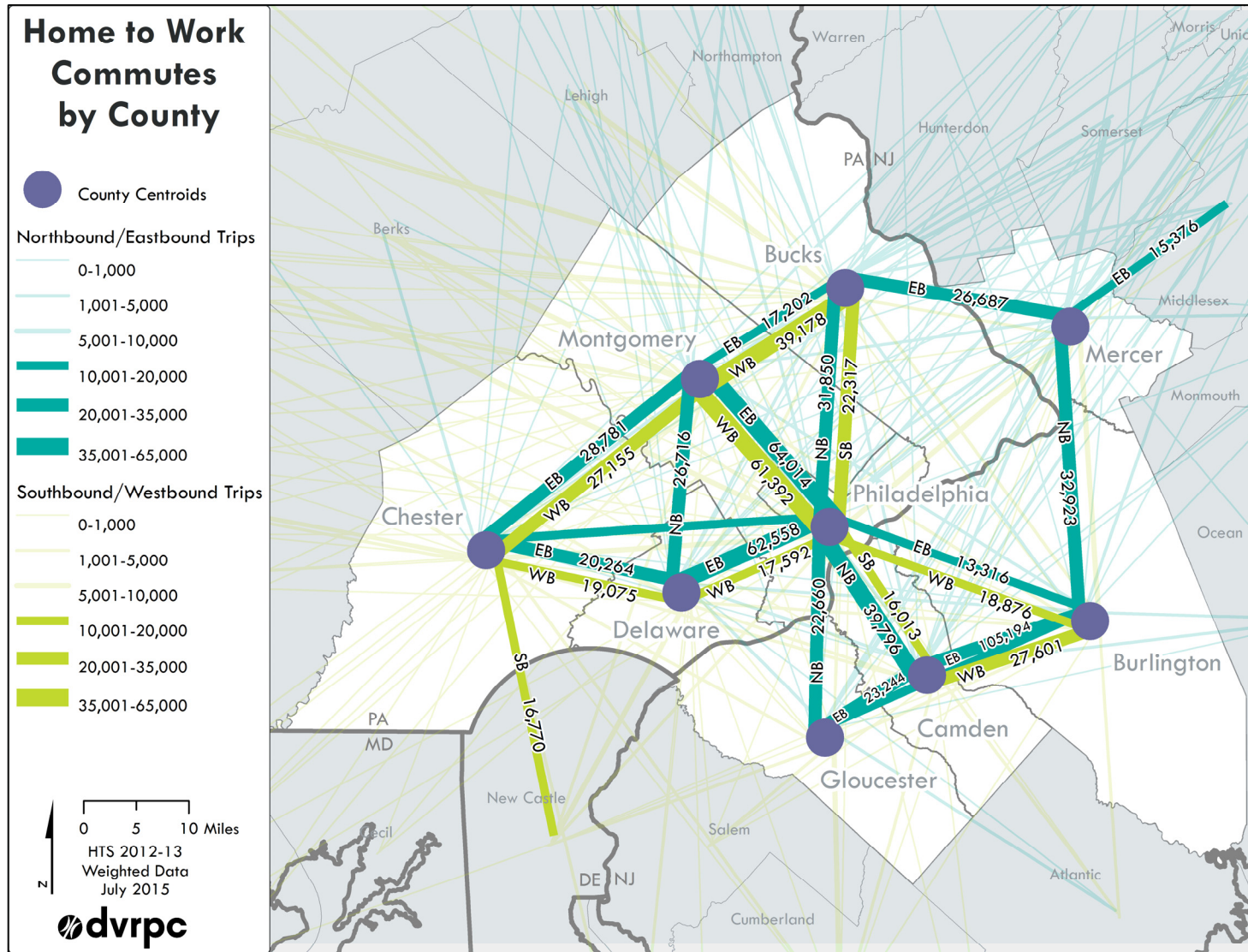
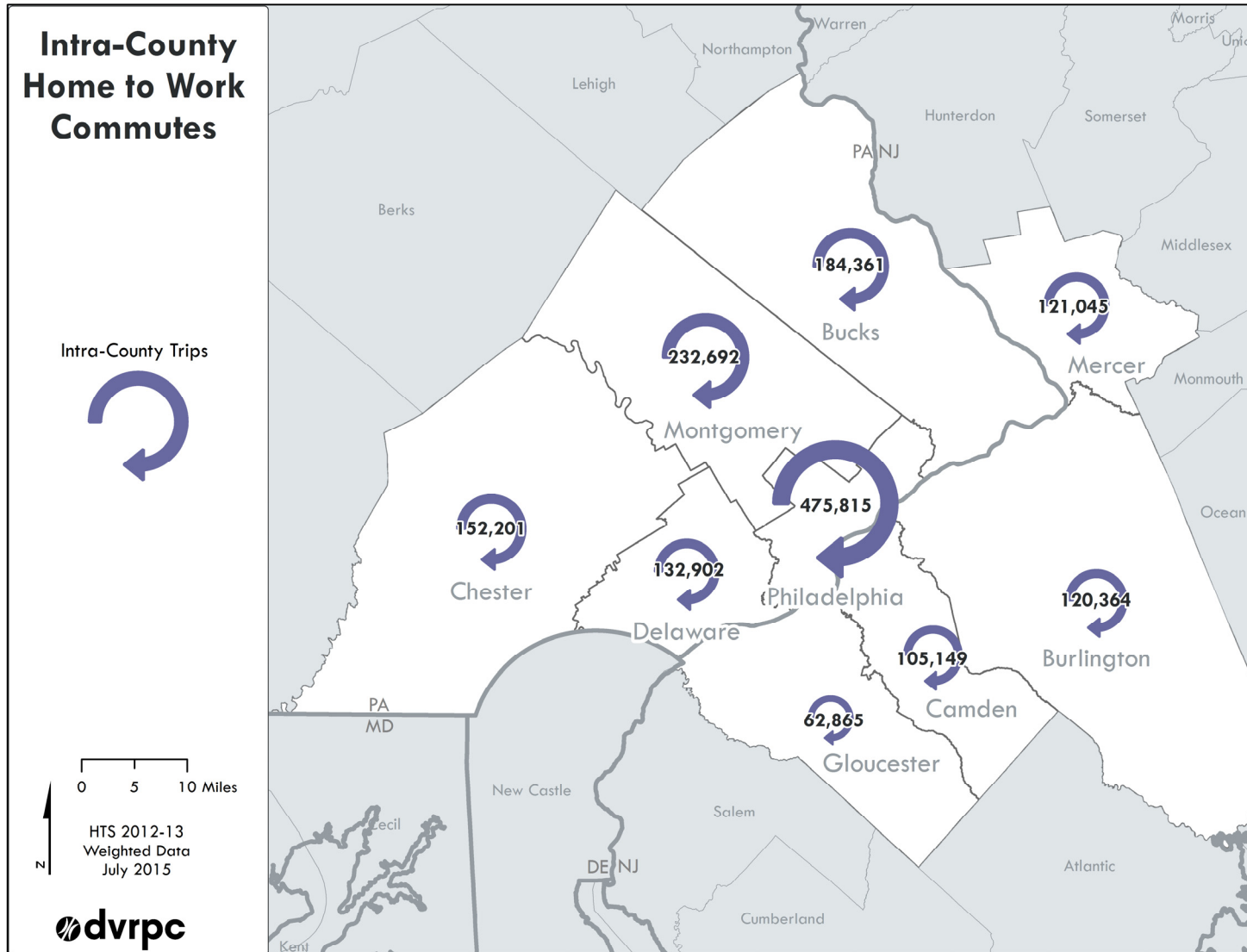


Figure 27: Intra-County Commutes



7.5 Activities

Table 85 shows that the majority of activities took place at home (52.4 percent), while one-third of activities took place at non-home, non-work, and non-school locations (33.3 percent). A total of 9.7 percent of all activities reported were took place at the traveler’s work location, and 4.6 percent occurred at school locations.

Table 85: Place of Activities by County of Activity

| County | Home | Work | School | Other | Total |
|--------------------|--------------|--------------|-------------|--------------|-------------|
| Burlington | 57.3% | 8.9% | 2.2% | 31.7% | 100% |
| Camden | 55.2% | 7.7% | 2.7% | 34.4% | 100% |
| Gloucester | 62.2% | 7.4% | 1.9% | 28.5% | 100% |
| Mercer | 53.2% | 10.9% | 1.3% | 34.7% | 100% |
| NJ Counties | 56.3% | 8.8% | 2.1% | 32.8% | 100% |
| Bucks | 54.4% | 7.7% | 5.2% | 32.7% | 100% |
| Chester | 53.1% | 10.6% | 7.6% | 28.8% | 100% |
| Delaware | 54.5% | 7.2% | 5.5% | 32.9% | 100% |
| Montgomery | 48.3% | 10.5% | 5.8% | 35.3% | 100% |
| Philadelphia | 49.1% | 11.6% | 4.9% | 34.3% | 100% |
| PA Counties | 50.9% | 10.1% | 5.5% | 33.4% | 100% |
| DVRPC Total | 52.4% | 9.7% | 4.6% | 33.3% | 100% |

Source: DVRPC 2012– 2013; All reported trips taking place within the region; weighted using person weights and GPS factors.

Survey respondents were permitted to record up to four activities per trip. Activities were recorded independent of the location type, shown in Table 85, above. For example, a respondent could report making a trip to home and then working for pay at that home location. Activities are summarized in Tables 86 through 88. The most common activity was home-related activities (41.6 percent). Work trips ranked second, comprising 10.7 percent of regional trips. The least common regional activity was online shopping (0.08 percent).

Table 86: Major Activities Reported by County of Residence

| County | Home Activities Not Related to Work, School, or Online | School Related Activities | Work for Pay | Personal Business (banking or ATM, salon, library, online) | Shopping (in store or online) | Eat Out (restaurant, drive thru, etc.) | Social/Community/Religious | Recreation | Medical (medical appointment, medical procedure, etc.) | Transporting Passenger | Other Activity | Total |
|--------------------|--|---------------------------|--------------|--|-------------------------------|--|----------------------------|-------------|--|------------------------|----------------|-------------|
| Burlington | 42.6% | 6.8% | 10.1% | 7.1% | 8.1% | 3.8% | 4.2% | 7.9% | 1.4% | 3.1% | 5.0% | 100% |
| Camden | 40.3% | 7.3% | 9.7% | 8.0% | 7.2% | 3.7% | 4.2% | 7.0% | 1.7% | 3.9% | 7.0% | 100% |
| Gloucester | 41.6% | 12.5% | 11.8% | 4.6% | 6.4% | 3.2% | 3.6% | 6.0% | 1.1% | 4.4% | 4.9% | 100% |
| Mercer | 39.7% | 6.6% | 9.6% | 5.8% | 7.0% | 3.5% | 4.7% | 6.7% | 1.8% | 5.4% | 9.1% | 100% |
| NJ Counties | 41.0% | 7.9% | 10.2% | 6.6% | 7.3% | 3.6% | 4.2% | 7.0% | 1.6% | 4.1% | 6.6% | 100% |
| Bucks | 44.3% | 6.4% | 11.5% | 6.9% | 7.3% | 3.2% | 4.7% | 5.8% | 1.4% | 4.3% | 4.3% | 100% |
| Chester | 42.9% | 6.5% | 12.5% | 6.7% | 8.3% | 3.6% | 3.2% | 7.5% | 1.4% | 3.7% | 3.8% | 100% |
| Delaware | 40.6% | 7.3% | 10.2% | 6.0% | 7.0% | 2.4% | 5.3% | 7.3% | 2.4% | 4.3% | 7.3% | 100% |
| Montgomery | 43.5% | 6.4% | 11.8% | 6.8% | 7.4% | 3.9% | 4.2% | 6.3% | 1.4% | 2.9% | 5.3% | 100% |
| Philadelphia | 40.2% | 7.4% | 9.9% | 6.7% | 8.6% | 3.7% | 4.8% | 6.5% | 2.0% | 4.0% | 6.3% | 100% |
| PA Counties | 41.9% | 6.9% | 10.9% | 6.6% | 7.9% | 3.5% | 4.5% | 6.6% | 1.7% | 3.8% | 5.6% | 100% |
| DVRPC Total | 41.6% | 7.2% | 10.7% | 6.6% | 7.7% | 3.5% | 4.4% | 6.7% | 1.7% | 3.9% | 5.9% | 100% |

Source: DVRPC 2012– 2013; All reported activities; multiple responses allowed; weighted using person weights and GPS factors.

Table 87 shows the distribution of trip activities broken down by the counties in which the reported activity took place. Reported activities that took place outside of the nine-county region were not included in this table.

Table 87: Major Activities Reported by County of Activity

| County | Home Activities Not Related to Work, School, or Online | School Related Activities | Work for Pay | Personal Business (banking, salon, library, online) | Shopping (in store or online) | Eat Out (restaurant, drive thru, etc.) | Social/Community/Religious | Recreation | Medical | Transporting passenger | Other Activity | Total |
|--------------------|--|---------------------------|--------------|---|-------------------------------|--|----------------------------|-------------|-------------|------------------------|----------------|-------------|
| Burlington | 46.8% | 5.1% | 9.9% | 7.0% | 8.9% | 3.6% | 3.7% | 7.7% | 1.2% | 2.6% | 3.5% | 100% |
| Camden | 43.2% | 5.0% | 8.1% | 8.3% | 8.0% | 3.5% | 4.3% | 7.4% | 2.1% | 3.5% | 6.6% | 100% |
| Gloucester | 50.3% | 7.9% | 8.0% | 5.1% | 7.4% | 3.0% | 3.3% | 6.2% | 1.2% | 3.4% | 4.2% | 100% |
| Mercer | 41.9% | 4.1% | 11.4% | 6.2% | 7.2% | 2.5% | 5.1% | 6.4% | 1.8% | 4.2% | 9.2% | 100% |
| NJ Counties | 45.0% | 5.2% | 9.4% | 6.9% | 7.9% | 3.2% | 4.2% | 7.1% | 1.6% | 3.4% | 6.1% | 100% |
| Bucks | 46.0% | 7.4% | 9.3% | 7.0% | 7.1% | 3.4% | 4.2% | 6.4% | 1.2% | 4.3% | 3.7% | 100% |
| Chester | 44.5% | 9.5% | 11.3% | 6.6% | 6.4% | 3.0% | 3.0% | 7.1% | 1.3% | 4.1% | 3.2% | 100% |
| Delaware | 43.6% | 8.3% | 8.1% | 5.9% | 7.5% | 2.1% | 5.0% | 8.0% | 2.2% | 4.2% | 5.2% | 100% |
| Montgomery | 41.8% | 7.5% | 11.1% | 6.8% | 8.4% | 3.4% | 4.1% | 6.1% | 1.9% | 3.8% | 5.0% | 100% |
| Philadelphia | 39.2% | 8.1% | 10.8% | 6.6% | 7.5% | 3.7% | 4.6% | 6.1% | 1.9% | 3.8% | 7.6% | 100% |
| PA Counties | 42.0% | 8.0% | 10.3% | 6.6% | 7.5% | 3.3% | 4.3% | 6.5% | 1.7% | 4.0% | 5.6% | 100% |
| DVRPC Total | 41.1% | 5.8% | 12.6% | 4.9% | 9.3% | 4.8% | 4.9% | 3.8% | 2.4% | 5.4% | 4.8% | 100% |

Source: DVRPC 2012– 2013; All reported activities for trips made in the region; multiple responses allowed; weighted using person weights and GPS factors.

Table 88: Reported Activities at All Locations

| Activity | Frequency | Percentage |
|---|-------------------|---------------|
| Home activities not related to work, school, or online | 12,614,695 | 41.6% |
| Work for pay | 3,234,531 | 10.7% |
| Everyday shopping (grocery, drug store, gas, etc.) | 1,791,670 | 5.9% |
| Recreation: active participation (sports, exercise, walk the dog, etc.) | 1,187,061 | 3.9% |
| Attended classes | 1,069,329 | 3.5% |
| Eat out (restaurant, drive-thru, etc.) | 1,064,866 | 3.5% |
| Personal business (banking or ATM, salon, library) | 1,063,398 | 3.5% |
| Social (visit friends, relatives, etc.) | 990,885 | 3.3% |
| Online personal business (banking, email, etc.) | 949,640 | 3.1% |
| Recreation: watch/observe (movies, concert, sports event, etc.) | 848,169 | 2.8% |
| Homework, class-related assignments, or attended an online course | 845,200 | 2.8% |
| Change type of transportation/transfer | 763,112 | 2.5% |
| Drop off passenger | 608,964 | 2.0% |
| Pick up passenger | 576,657 | 1.9% |
| Medical (medical appointment, medical procedure, etc.) | 511,699 | 1.7% |
| Accompany household member | 369,386 | 1.2% |
| Social/community/religious (meetings, worship, wedding, funeral, etc.) | 358,112 | 1.2% |
| Major shopping (appliances, cars, home furnishings, clothes, etc.) | 306,330 | 1.0% |
| Attended other school activities (performances, meetings, clubs) | 272,436 | 0.9% |
| Online shopping for products, services or goods | 238,100 | 0.8% |
| Other activity | 659,281 | 2.2% |
| Total | 30,323,522 | 100.0% |

Source: DVRPC 2012– 2013; All reported activities; multiple responses allowed; weighted using person weights and GPS factors.

7.6 Tours

A tour is a group of trips that start and end at the same location. Tours are categorized based on where they begin and the activities they include. A tour that begins at home, makes any number of stops, and returns home is considered a home-based tour. Home-based tours that include a stop at work are home-based work (HBW) tours. Home-based tours that do not include a stop at work are called a home-based other (HBO) tour. A tour that has only one or zero home ends is categorized as a non-home based (NHB) tour.

Analyzing travel behavior using tours instead of individual trips is helpful because tours more accurately reflect how travel actually occurs. Focusing solely on individual trips artificially isolates portions of tours which would be unlikely to occur alone. For example, one would be unlikely to go to lunch 40 minutes away from home unless work or another purpose brought them closer to that location. However, tour based analysis is less common because additional processing is required to group reported trips into tours.

Figure 28 below shows an example of both a HBW tour (in blue) and a HBO tour (in green). The HBW tour in the figure also includes a Work-Sub Tour, where the person left work to make a stop and returned to work before ending the tour. When counting tour stops, home is not included as a stop. Therefore, Tour 1 includes five stops and Tour 2 includes one stop, as shown in the stop numbers. The person made a total of 6 trips in the day.

Figure 28: Tour Example

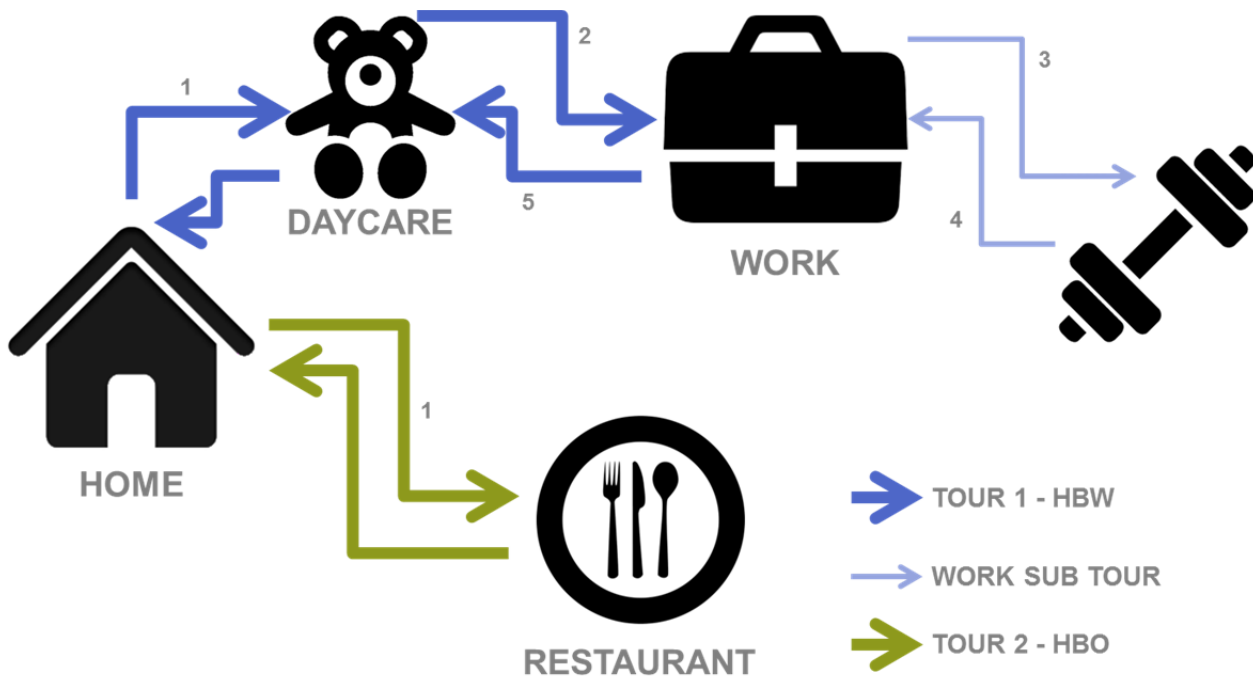


Table 89 shows that the majority of tours consisted of only one stop (57.7 percent). HBW tours make up the highest percentage of tours with more than one stop, including 13.3 percent of tours with four or more stops. HBW tours with zero stops are anomalous—potentially people incorrectly reporting working from home. HBO zero stop tours can be dog walks, or recreational outings with no destinations, but returning to home. While they comprise a small percentage of total tours, Non-Home Based tours are those where a person started or ended their travel day not at home. A zero stop NHB tour could be made when a person leaves home in the morning, drives outside of the region, or does not report returning home at the end of the day.

Table 89: Tour Stops by Tour Type

| Tour Type | Number of Trips | 0 | 1 | 2 | 3 | 4+ | Total |
|------------------|------------------|-------------|--------------|--------------|-------------|-------------|-------------|
| Home-Based Work | 2,234,724 | 1.1% | 55.6% | 19.1% | 10.9% | 13.3% | 100% |
| Home-Based Other | 4,110,050 | 4.5% | 61.9% | 18.9% | 8.4% | 6.4% | 100% |
| Non-Home-Based | 805,419 | 40.5% | 42.3% | 6.9% | 5.3% | 5.0% | 100% |
| Total | 7,150,193 | 7.5% | 57.7% | 17.6% | 8.8% | 8.4% | 100% |

Source: DVRPC 2012– 2013; All trips with reported tour type and number of stops; blanks excluded; weighted using person weights and GPS factors.

The majority of tours were Home-Based Other (56.2 percent), as shown in Table 90. Philadelphia had the highest percentage of Non-Home-Based tours (10.9 percent).

Table 90: Tour Type by County of Residence

| County | Home Based Work | Home Based Other | Non Home Based | Total |
|---------------------|-----------------|------------------|----------------|-------------|
| Burlington | 33.3% | 58.7% | 8.1% | 100% |
| Camden | 32.3% | 59.1% | 8.6% | 100% |
| Gloucester | 40.1% | 51.9% | 8.0% | 100% |
| Mercer | 35.4% | 60.8% | 3.8% | 100% |
| NJ Counties | 34.7% | 58.1% | 7.2% | 100% |
| Bucks | 35.4% | 58.0% | 6.6% | 100% |
| Chester | 36.9% | 53.4% | 9.7% | 100% |
| Delaware | 34.9% | 55.8% | 9.3% | 100% |
| Montgomery | 36.6% | 55.2% | 8.2% | 100% |
| Philadelphia | 34.3% | 54.8% | 10.9% | 100% |
| PA Counties | 35.4% | 55.4% | 9.2% | 100% |
| DVRPC Region | 35.2% | 56.2% | 8.6% | 100% |

Source: DVRPC 2012– 2013; All trips with reported tour type; weighted using person weights and GPS factors.

Table 91 shows that, on average, Delaware Valley residents made 1.11 tours per day. In general tour rates follow a similar pattern as trip rates, with New Jersey residents (1.14) making slightly more tours per day than Pennsylvania residents (1.10) and Mercer county residents making the highest number of trips and tours.

Table 91: Average Person Tour Rate

| County | Tour Rate |
|---------------------|-------------|
| Burlington | 1.09 |
| Camden | 1.13 |
| Gloucester | 1.15 |
| Mercer | 1.22 |
| NJ Counties | 1.14 |
| Bucks | 1.17 |
| Chester | 1.10 |
| Delaware | 1.14 |
| Montgomery | 1.14 |
| Philadelphia | 1.03 |
| PA Counties | 1.10 |
| DVRPC Region | 1.11 |

Source: DVRPC 2012– 2013; All trips with assigned tour number; weighted using person weights and GPS factors.

Table 92 shows that, on average, Delaware Valley residents made more stops on Home-based Work trips (1.95) than on Home-Based Other (1.56) or Non-Home Based trips (1.00). Delaware County residents made the highest number of stops per tour, making 2.19 stops on Home-Based Work tours.

Table 92: Average Number of Stops per Tour

| County | Home Based Work | Home Based Other | Non Home Based |
|---------------------|-----------------|------------------|----------------|
| Burlington | 1.84 | 1.58 | 0.91 |
| Camden | 1.92 | 1.56 | 1.03 |
| Gloucester | 2.00 | 1.45 | 0.98 |
| Mercer | 2.05 | 1.60 | 0.96 |
| NJ Counties | 1.95 | 1.56 | 0.97 |
| Bucks | 1.63 | 1.54 | 1.10 |
| Chester | 1.91 | 1.61 | 0.93 |
| Delaware | 2.19 | 1.52 | 0.98 |
| Montgomery | 1.93 | 1.48 | 0.97 |
| Philadelphia | 2.04 | 1.61 | 1.04 |
| PA Counties | 1.95 | 1.56 | 1.01 |
| DVRPC Region | 1.95 | 1.56 | 1.00 |

Source: DVRPC 2012– 2013; All trips with assigned tour number; weighted using person weights and GPS factors.

Regional Trends

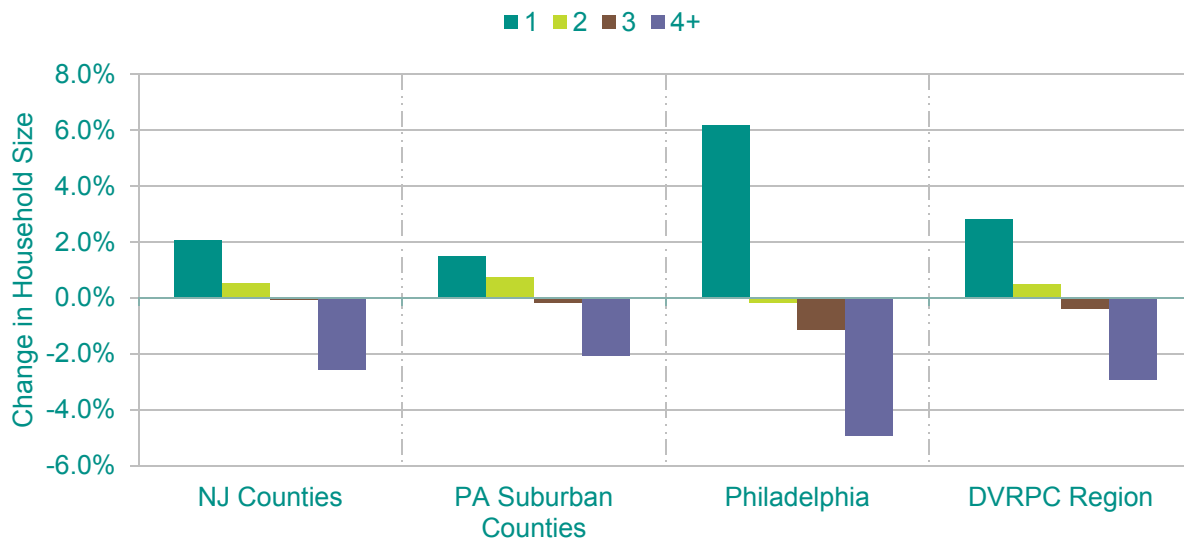
Key 2012–2013 HTS results were analyzed, and some were compared to those of the 2000 HTS to highlight changes and identify regional travel trends. Some comparisons were more complicated than others due to changes in question wording and different survey structure. The 2012–2013 HTS also used a slightly different survey methodology and included a significantly larger sample size designed to improve upon the 2000 survey. This chapter summarizes some of the notable trends revealed during data analysis. However, given the underlying differences between the two surveys and the fact that DVRPC has less confidence in the 2000 HTS than the 2012-2013 HTS, the results should not be used for conclusive trend analysis.

8.1 Background Changes

Travel trend changes between the 2000 and 2012–13 HTS could be related to changing demographics throughout the region. A number of demographics factors that could potentially impact travel decisions were analyzed to allow for a more comprehensive comparison.

According to Census and ACS data, there was a noticeable decrease in the number of households with four or more members from 2000 to 2013. There was also an increase in the number of single member households. Figure 29 shows the percentage change between the raw numbers in the 2000 and the 2012-2013 survey.

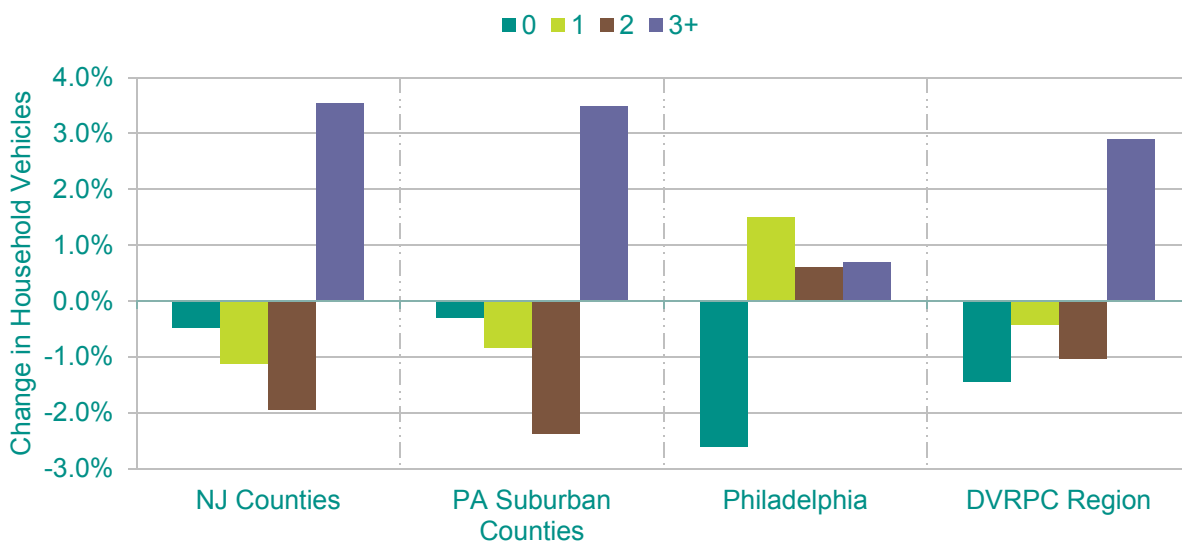
Figure 29: Change in Household Size



Source: 2000 Census, 2013 American Community Survey 3– Year Estimates.

Figure 30 shows that while household size decreased, the number of vehicles per household increased. Between 2000 and 2013, there was a significant increase in the percentage of households owning three or more vehicles. The percentage of households with two or fewer vehicles decreased slightly, except in Philadelphia, where the percentage of households owning one or two vehicles increased slightly

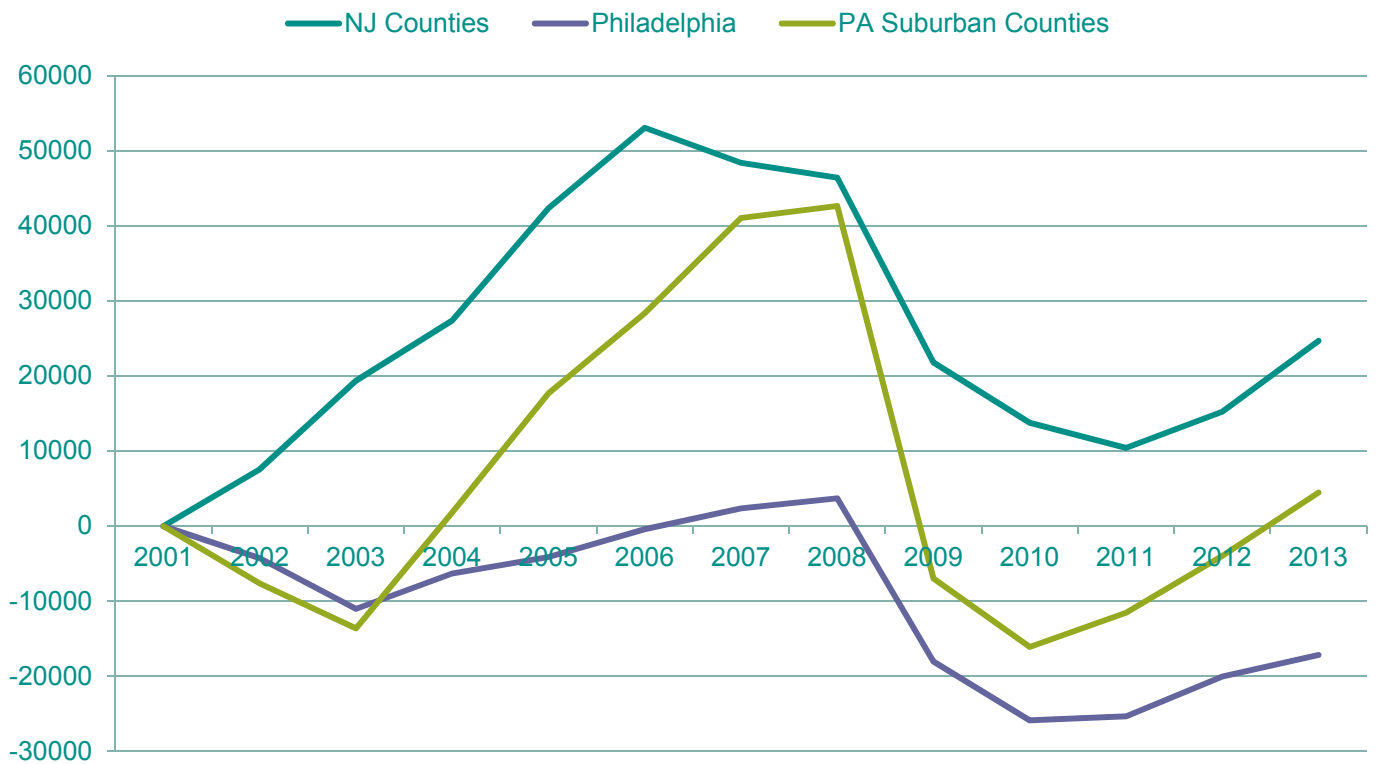
Figure 30: Change in Number of Vehicles per Household



Source: 2000 Census, 2013 American Community Survey 3-Year Estimates.

As seen in Figure 31, the Bureau of Labor Statistics Quarterly Census of Employment and Wages report major changes in the number of jobs in the region of the past twelve years. The entire region experienced job growth from 2003 to 2006 followed by a steep decline in employment in 2008 at the start of the recession. The decline slowed in 2010 and employment started to grow again in 2011. As of 2013, New Jersey and Pennsylvania suburban counties have more jobs than in 2001, but Philadelphia, having experienced much less growth before the decline is still recovering from the recession and has not yet reached the 2001 employment level.

Figure 31: Change in Employment



Source: BLS Quarterly Census of Employment and Wages, 2001 - 2013 annual average.

8.2 Household Trip Rates

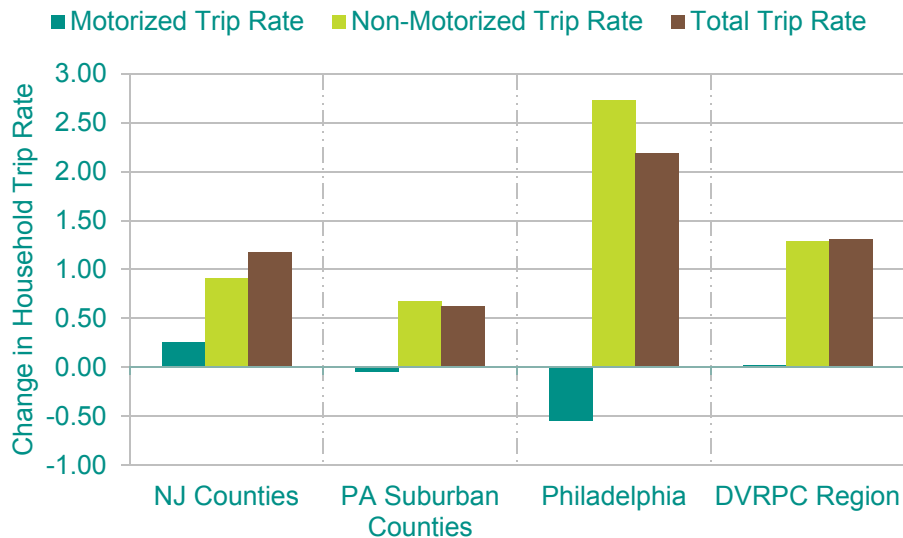
Overall, households in the Delaware Valley took more trips per day (1.32) in 2012–2013 than in 2000, as seen in Table 93 and Figure 32. The motorized trip rate decreased in Philadelphia and in suburban Pennsylvania counties. The non-motorized trip rate increased throughout the region. However, as mentioned previously, the percentage of bicycle trips in the 2000 survey was abnormally high, so the overall increase of non-motorized trip rates may have been larger.

Table 93: Change in Surveyed Household Trip Rates by Trip Type

| County | Motorized Trips | Non Motorized Trips | Total |
|----------------------|-----------------|---------------------|-------------|
| NJ Counties | 0.26 | 0.91 | 1.17 |
| PA Suburban Counties | -0.05 | 0.68 | 0.63 |
| Philadelphia | -0.55 | 2.74 | 2.19 |
| DVRPC Region | 0.02 | 1.29 | 1.32 |

Source: DVRPC 2000, 2012– 2013; based on county of residence using household weights; not factored.

Figure 32: Change in Household Trip Rate



Source: DVRPC 2000, 2012– 2013

8.3 Person Trip Rates

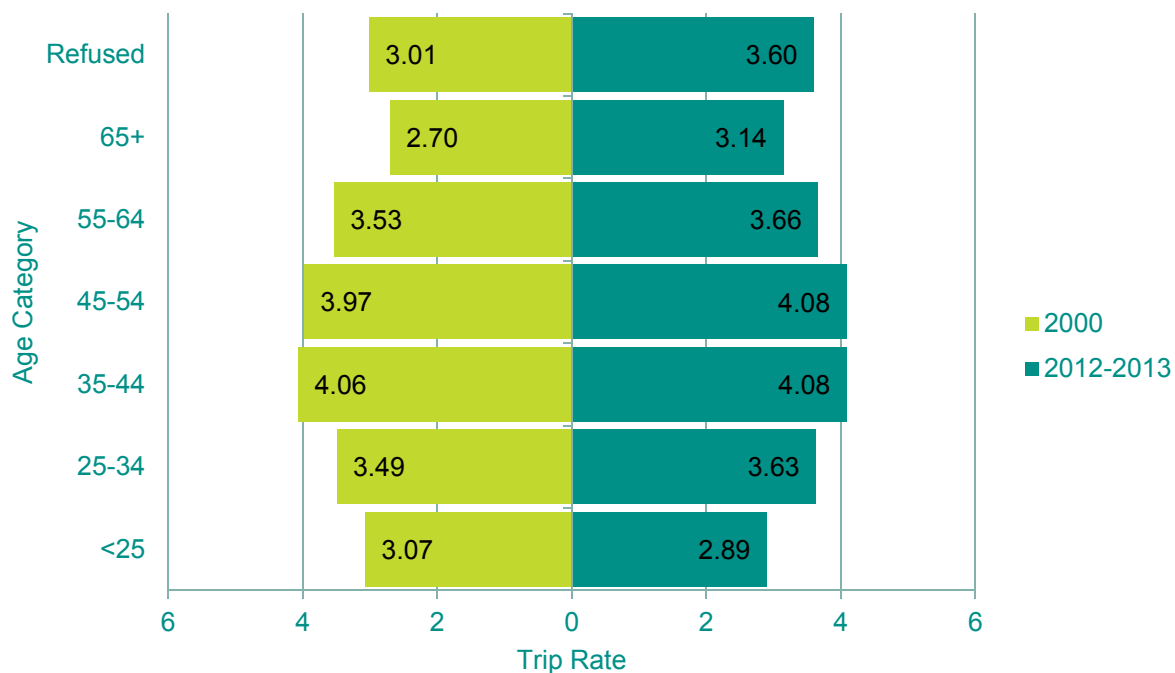
As shown in Table 94 and Figure 33, persons in the Delaware Valley region took more trips per day in 2012-2013 than in 2000. Since many of the same people that were in an age bracket (for example 25 to 34 in the 2000 survey), are now in the next age bracket, (35 to 44 in the 2012-2013) person trip rates can be used to identify trend changes in a group of people as they age. As people in the region aged from the 25-34 age group to the 35-44 age group, they seemed to increase their average trip rate by approximately a half trip per day. Interestingly, the trip rate for people aging from the 35 to 44 bracket to the 45 to 54 age bracket barely changed. Senior citizens are making more trips per day in 2012-2013 than in 2000.

Table 94: Person Trip Rate by Age Category

| County | 2000 Trip Rate | 2012 2013 Trip Rate |
|---------------------|----------------|---------------------|
| Under 25 | 3.07 | 2.89 |
| 25 to 34 | 3.49 | 3.63 |
| 35 to 44 | 4.06 | 4.08 |
| 45 to 54 | 3.97 | 4.08 |
| 55 to 64 | 3.53 | 3.66 |
| 65 and over | 2.70 | 3.14 |
| Refused | 3.01 | 3.60 |
| DVRPC Region | 3.38 | 3.46 |

Source: DVRPC 2000, 2012– 2013; using household weights

Figure 33: Person Trip Rate by Age Category



Source: DVRPC 2000, 2012– 2013; using household weights

8.4 Travel Mode

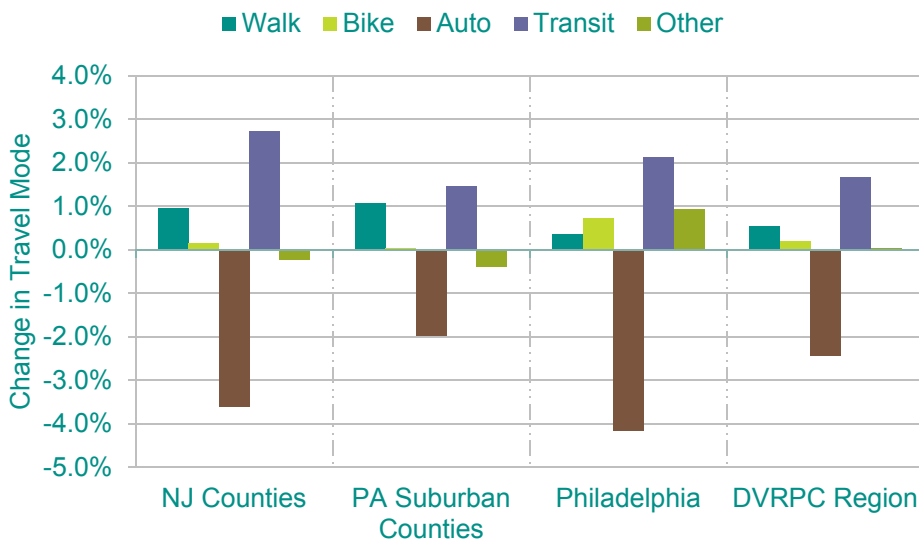
When compared to reported travel mode from the 2000 HTS, the 2012–2013 HTS revealed a shift away from auto usage and toward public transit. Table 95 and Figure 34 show that, overall, auto usage decreased while usage of transit increased (2.0 percent). Walking also increased throughout the region, while biking either saw no change or saw marginal increases. However, the mode share of bicycles in the 2000 HTS seemed too high, so in reality, the increase in bicycle usage may be higher.

Table 95: Change in Travel Mode by County of Residence

| County | Walk | Bike | Auto | Transit | Other |
|----------------------|-------------|-------------|--------------|-------------|-------------|
| NJ Counties | 1.0% | 0.2% | -3.6% | 2.7% | -0.2% |
| PA Suburban Counties | 1.1% | 0.0% | -2.0% | 1.5% | -0.4% |
| Philadelphia | 0.4% | 0.7% | -4.2% | 2.1% | 0.9% |
| DVRPC Region | 0.5% | 0.2% | -2.4% | 1.7% | 0.0% |

Source: DVRPC 2000, 2012–2013; based on county of residence using household weights.

Figure 34: Change in Travel Mode by County of Residence



Source: DVRPC 2000, 2012–2013

8.5 Persons Traveling Together on Auto Trips

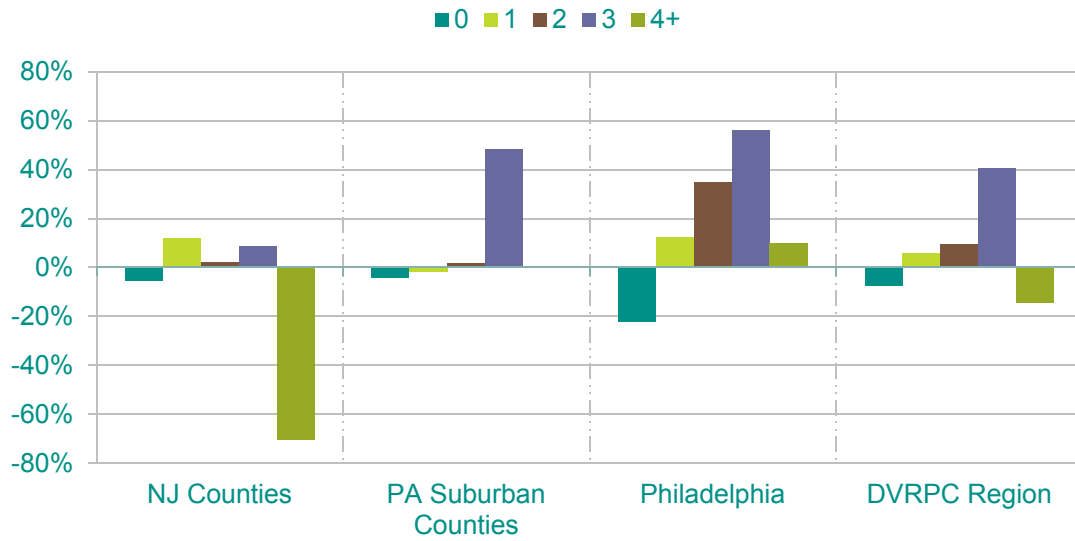
Table 96 and Figure 35 show that the percentage auto trips where persons are traveling alone decreased slightly from 2000 to 2012–13. Therefore, it is logical that the percentage of trips made with one, two, or three passengers in the vehicle increased throughout the region. Trips made with four or more passengers decreased significantly in New Jersey. This could be due to the decrease in households with four or more members.

Table 96: Percentage Change in the number of Persons Traveling Together on Auto Trips

| Number Traveling Together | NJ Counties 2000 | NJ Counties 2012 2013 | NJ Counties Change | PA Suburban Counties 2000 | PA Suburban Counties 2012 2013 | PA Suburban Counties Change | Philadelphia 2000 | Philadelphia 2012 2013 | Philadelphia Change | DVRPC Region 2000 | DVRPC Region 2012 2013 | DVRPC Region Change |
|---------------------------|------------------|-----------------------|--------------------|---------------------------|--------------------------------|-----------------------------|-------------------|------------------------|---------------------|-------------------|------------------------|---------------------|
| 0 | 58.2% | 55.2% | -3.0% | 58.9% | 56.6% | -2.3% | 62.1% | 50.8% | -11.2% | 59.5% | 55.2% | -4.2% |
| 1 | 25.3% | 28.8% | 3.5% | 26.4% | 26.0% | -0.4% | 24.7% | 28.2% | 3.5% | 25.7% | 27.2% | 1.6% |
| 2 | 10.0% | 10.2% | 0.2% | 9.6% | 9.7% | 0.2% | 8.4% | 12.9% | 4.5% | 9.4% | 10.4% | 1.0% |
| 3 | 3.8% | 4.2% | 0.4% | 2.8% | 5.4% | 2.6% | 2.3% | 5.3% | 3.0% | 3.0% | 5.0% | 2.0% |
| 4+ | 2.6% | 1.6% | -1.1% | 2.3% | 2.3% | 0.0% | 2.5% | 2.8% | 0.3% | 2.5% | 2.1% | -0.3% |
| Total | 100% | 100% | 0% | 100% | 100% | 0% | 100% | 100% | 0% | 100% | 100% | 0% |

Source: DVRPC 2000, 2012– 2013; based on county of residence using household weights.

Figure 35: Percentage Change in the Number of Persons Traveling Together on Auto Trips

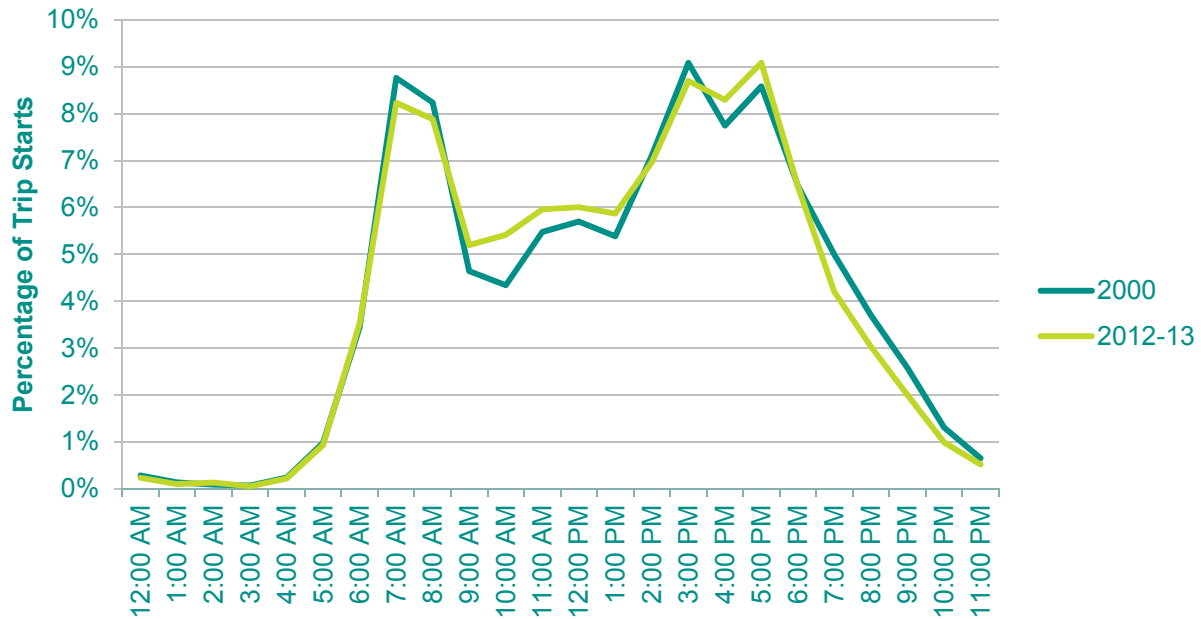


Source: DVRPC 2000, 2012– 2013

8.6 Time of Trip Starts

Figure 36 shows a comparison the distribution of trip start times through the day. The overall trend remained similar from 2000 to 2012–13. The most noticeable change is a slightly more consistent number of trips being made in the middle of the day, between the two peaks.

Figure 36: Change in Trip Start Times



Source: DVRPC 2000, 2012– 2013; unweighted data.



Appendix A

Advance Materials

Appendix A. Advance Materials

Letter (Incentive)



DVRPC is the official Metropolitan Planning Organization for the Greater Philadelphia Region

<RFNAME> <RLNAME>
<HADD> <HAPT>
<HCITY>, <HSTAT> <HZIP>
<HHID>

<DATE>

Answer the Call:

Help us make your community a better place to live.

Whether it's a daily commute, a weekly shopping trip, or a weekend getaway, understanding your travel routines can help local planners improve the way residents get around in <CTFIP> County and the Greater Philadelphia Region. The Household Travel Survey (HTS) is a way for residents like you to contribute to the quality of life in their communities – today and for years into the future.

Your household was randomly selected to participate in the survey. Conducted by research firm Abt SRBI for the Delaware Valley Regional Planning Commission (DVRPC), the study will collect information about the daily travel of residents in Southern New Jersey and South-Eastern Pennsylvania to determine how to improve roads, reduce traffic congestion, improve walking and bicycle paths, and enhance public transportation. All information collected is strictly confidential.

The way it works is simple: Participants will be asked to share information about **a single day of travel** sometime during the year. The benefit will be great and far reaching for you, your neighbors, and future generations. **To show our appreciation, your household will receive \$15 for successful completion of the whole study!**

To Start: Complete a Household Questionnaire by using ONE of the following options:



By Internet: You can complete the initial survey online by logging on to www.dvrpc.org/TravelSurvey. Click on "Start the Household Questionnaire" and enter your PIN#. **Your PIN# is: <PINNO>**



By Phone: You can call us at 215-555-5555 to participate. You will need to provide your name, home address, and telephone number when you call.

If you have any questions about the survey, don't hesitate to contact us at 215-555-5555 or email us at DVRPCTravelHelp@srb.com

Your participation is vital. Thank you in advance for your cooperation.

Sincerely,

Barry Seymour, Executive Director
Delaware Valley Regional Planning Commission

www.dvrpc.org

190 N. Independence Mall West, 8th Floor • Philadelphia, PA 19106-1520

Letter (No Incentive)



DVRPC is the official Metropolitan Planning Organization for the Greater Philadelphia Region

<RFNAME> <RLNAME>
<HADD> <HAPT>
<HCITY>, <HSTAT> <HZIP>
<HHID>

<DATE>

Answer the Call:

Help us make your community a better place to live.

Whether it's a daily commute, a weekly shopping trip, or a weekend getaway, understanding your travel routines can help local planners improve the way residents get around in <CTFIP> County and the Greater Philadelphia Region. The Household Travel Survey (HTS) is a way for residents like you to contribute to the quality of life in their communities – today and for years into the future.

Your household was randomly selected to participate in the survey. Conducted by research firm Abt SRBI for the Delaware Valley Regional Planning Commission (DVRPC), the study will collect information about the daily travel of residents in Southern New Jersey and South-Eastern Pennsylvania to determine how to improve roads, reduce traffic congestion, improve walking and bicycle paths, and enhance public transportation. All information collected is strictly confidential.

The way it works is simple: Participants will be asked to share information about **a single day of travel** sometime during the year. The benefit will be great and far reaching for you, your neighbors, and future generations.

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By Internet: You can complete the initial survey online by logging on to www.dvrpc.org/TravelSurvey. Click on "Start the Household Questionnaire" and enter your PIN#. **Your PIN# is: <PINNO>**



By Phone: You can call us at 215-555-5555 to participate. You will need to provide your name, home address, and telephone number when you call.

If you have any questions about the survey, don't hesitate to contact us at 215-555-5555 or email us at DVRPCTravelHelp@srb.com

Your participation is vital. Thank you in advance for your cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read 'Barry Seymour'.

Barry Seymour, Executive Director
Delaware Valley Regional Planning Commission

www.dvrpc.org

190 N. Independence Mall West, 8th Floor • Philadelphia, PA 19106-1520

Postcard (Incentive)



c/o Abt SRBI
Mass Venture Center
100 Venture Way, Suite 100
Hadley, MA 01035

Improve transportation in YOUR
community and earn \$10!

CURRENT RESIDENT
<HADDR> <HSUIT>
<HCITY>, <HSTAT> <HZIP>

FIRST CLASS

PIN#: <PINNO>
(Instructions are on the other side of this card)

You have the unique opportunity to shape the quality of life in your community. Please participate in the Delaware Valley Household Travel Survey and earn \$10 for completing the study:

Go to www.dvrpc.org/TravelSurvey and click on "Start the Household Questionnaire". Enter your unique PIN# located on the front of this card.

OR

Call us at 215-555-5555 to participate.

Thank you in advance!

Usted tiene la oportunidad de dar forma a la calidad de vida en su comunidad. Por favor participe en la Encuesta de Viaje para el Hogar del Valle de Delaware y gana \$10:

Ingrese en www.dvrpc.org/EncuestadeViaje y haga clic en "Empiece la Encuesta para el Hogar". Ingrese su número de PIN ubicado en el anverso de esta tarjeta.

O

Llámenos al 215-555-5555 para participar.

Gracias de antemano!

Postcard (No Incentive)



Improve transportation in **YOUR** community!

c/o Abt SRBI
Mass Venture Center
100 Venture Way, Suite 100
Hadley, MA 01035

CURRENT RESIDENT
<HADDR> <HSUIT>
<HCITY>, <HSTAT> <HZIP>

FIRST CLASS

PIN#: <PINNO>
(Instructions are on the other side of this card)

You have the unique opportunity to shape the quality of life in your community. Please participate in the Delaware Valley Household Travel Survey:

Go to www.dvrpc.org/TravelSurvey and click on "Start the Household Questionnaire". Enter your unique PIN# located on the front of this card.

OR

Call us at 215-238-2809 to participate.

Thank you in advance!

Usted tiene la oportunidad de dar forma a la calidad de vida en su comunidad. Por favor participe en la Encuesta de Viaje para el Hogar del Valle de Delaware:

Ingrese en www.dvrpc.org/EncuestadeViaje y haga clic en "Empiece la Encuesta para el Hogar". Ingrese su número de PIN ubicado en el anverso de esta tarjeta.

O

Llámenos al 215-238-2809 para participar.

Gracias de antemano!



Appendix B

Recruitment
Questionnaire

Appendix B. Recruitment Questionnaire

Introduction

INT01 Hello, my name is [INTERVIEWER NAME] calling on behalf of the Delaware Valley Regional Planning Commission, also known as DVRPC. This organization is responsible for transportation planning and quality of life improvements in the region.

Are you 18 or older?

(INTERVIEWER: IF NECESSARY, SAY: "I'm allowed to only speak to individuals that are at least 18 years of age. Are you at least 18?")

(INTERVIEWER: IF NEW RESPONDENT COMES TO PHONE, RE-READ INTRO)

(INTERVIEWER: IF UNWILLING TO CONFIRM ELIGIBILITY, READ: "Thank you for your time." THEN ENTER "SCREEN-OUT NO ONE IN HH 18," WHICH WILL TERMINATE THE INTERVIEW.)

(PROGRAMMER: INSERT DISPOSITION SCREEN)

LANG INTERVIEWER: IS THE SURVEY CONDUCTED IN ENGLISH OR SPANISH? [NOTE: FULL STUDY ONLY]

- 1 ENGLISH
- 2 SPANISH

INTRO (CONTINUE WITH HOUSEHOLD MEMBER AT LEAST 18 YEARS OF AGE)

Once every 10 years, DVRPC conducts an essential study to understand your travel needs to guide transportation projects and improve daily commutes. We need your input to make sure your community's roads, bridges, trains, and buses are meeting your needs. Your household has been randomly selected to participate in this study.

Participation is easy and all information collected is strictly confidential. To complete the study, we will first ask you some questions about your household. Then we will send each member of your household a diary to record travel information for a day.

Let's start with the questions about your household.

- 1 Continue with interview (GO TO HHSIZ)
- 2 Not a good time, call back (GO TO CALLBACK SCREEN)
- 3 (VOL) Refused (GO TO TERMINT)
- 4 Filled out survey online (TERMINATE, DISPOSITION AS PARTIAL COMPLETE – WEB RECRUIT)

TERMINT We understand everyone has a busy life but without your input, local planners cannot minimize toll increases, build new roads where they are needed, or improve public transportation. Today's interview is about 10 minutes, and is an easy way for you to make a difference for yourself, family, and neighbors.

- 1 Continue with interview (SKIP TO HHSIZ)
- 3 (VOL) Refused (TERMINATE)

Screener Questions

HHSIZ First, we would like to ask you some general information about your household. This information will help DVRPC determine the types of households that are traveling around the greater Philadelphia region. First...

How many people, including yourself, live in your home?

INCLUDE IN THIS NUMBER FOSTER CHILDREN, ROOMMATES, HOUSEMATES, PEOPLE LIVING HERE EVEN IF THEY HAVE ANOTHER PLACE TO LIVE.

DO NOT INCLUDE COLLEGE STUDENTS LIVING AWAY WHILE ATTENDING COLLEGE OR PEOPLE WHO LIVE AT ANOTHER PLACE MOST OF THE TIME.

IF NEEDED: This information will help us to be sure that we include all types of households in your area. Without this information, your household will not be eligible to participate in this study. We understand your concerns regarding this question; however, transportation planners need to know if there is a relationship between the number of people in a household and the number of trips they make.

ENTER NUMBER [RANGE 1–15] → [IF HHSIZ GE 6 AND GTYPE=1, SET STYPE=3. IF HHSIZ GE 6 AND GTYPE=2, SET STYPE=2] SKIP TO HHVEH]

98 DK → [SKIP TO HHSIZTER]

99 (VOL) RF → [SKIP TO HHSIZTER]

HHSIZTER We're sorry but unfortunately without this information, your household will not be eligible to participate in this study. We understand your concerns regarding this question; however, transportation planners need to know if there is a relationship between the number of people in a household and the number of trips they make. Rest assured your responses are completely confidential and for research purposes only.

[INTERVIEWER NOTE: PAUSE AND GIVE FINAL OPPORTUNITY FOR RESPONDENT TO ANSWER BEFORE TERMINATING; IF RESPONDENT DECIDES TO PROVIDE INFORMATION, SNAP BACK AND CONTINUE WITH SURVEY]

Unfortunately, your household is not eligible for this project. Thank you for your time. (TERMINATE)

HHVEH How many motor vehicles are owned, leased, or available for regular use by the people who currently live in your household? Please be sure to include motorcycles, motor scooters (i.e., Vespa) and RVs. Please do NOT include electric bicycles or mopeds.

[INTERVIEWER NOTE: IF RESPONDENT ASKS ABOUT COMPANY VEHICLES, PROBE IF THE VEHICLE IS AVAILABLE FOR REGULAR USE. IF YES, PLEASE INCLUDE THE VEHICLE. IF NO, DO NOT INCLUDE THE VEHICLE. DO NOT INCLUDE ZIPCARS, PHILLYCARSHARE, OR RENTAL VEHICLES.]

[IF NEEDED: Mopeds are typically small with an engine capacity not exceeding 50cc, maximum speeds of 25–30 mph, and may have operable pedals or resemble a bicycle. Motor scooters, or motor-driven cycles, are typically larger with an engine capacity exceeding 50cc, higher maximum speeds, and are a close relative of the motorcycle]

ENTER NUMBER [RANGE: 0–15] (IF GT 0 AND LT 98, SKIP TO VEHOP)

[PROGRAMMER: IF NUMBER IS OUT OF RANGE, ERROR MESSAGE IS: PLEASE PROVIDE AN ANSWER BETWEEN 0 AND 15 FOR THE NUMBER OF MOTOR VEHICLES IN YOUR HOUSEHOLD]

98 DK → SKIP TO HHVEHTER

99 (VOL) RF → SKIP TO HHVEHTER

HHVEHTER TERMINATION TEXT:

We're sorry—without knowing the number of household vehicles, you are not eligible to be part of this study.

Transportation planners want to know if the number of vehicles in a household is related to the trips people make.

Can you tell me how many vehicles are in your household?

1 BACK TO VEHICLES QUESTION → SKIPS BACK TO HHVEH.

2 EXIT THE SURVEY → SKIPS OUT AND ENDS.

VEHOP [IF HHVEH GT 0] How many of these vehicles are in working condition and used regularly during the week?

[PROGRAMMER CHECK: [HHVEH] LT [VEHOP], HAVE ERROR POP UP (SKIP TO VCHK1)]

0 NONE

ENTER NUMBER [RANGE 1–15]

[PROGRAMMER: IF NUMBER IS OUT OF RANGE, ERROR MESSAGE IS:

PLEASE PROVIDE AN ANSWER BETWEEN 1 AND 15 FOR THE NUMBER OF MOTOR VEHICLES IN WORKING CONDITION IN YOUR HOUSEHOLD.]

98 DON'T KNOW → SKIP TO VEHOPTEP

99 (VOL) REFUSED → SKIP TO VEHOPTEP

VCHK1 ERROR TEXT

"I'm sorry, but there seems to be an error: I just recorded that you have <VEHOP> working vehicles but earlier you reported having only <HHVEH> total vehicles. Which number should we correct?"

1 <HHVEH> TOTAL VEHICLES → GO BACK TO HHVEH QUESTION TO FIX

2 <VEHOP> WORKING VEHICLES → GO BACK TO VEHOP QUESTION TO FIX

VEHOPTEP TERMINATION TEXT:

We're sorry—without knowing the number of vehicles in working condition used on a regular basis during the week, you are not eligible to be part of this study.

Transportation planners want to know if the number of vehicles in working condition regularly used in a household is related to the trips people make.

Can you tell me how many vehicles in working condition are used on a regular basis during the week?

- 1 BACK TO VEHICLES QUESTION → SKIPS BACK TO VEHOP
- 2 EXIT THE SURVEY → SKIPS OUT AND ENDS.

HHBIC And how many bicycles in working condition are available to people in your household?

ENTER NUMBER [RANGE: 0–15]

[PROGRAMMER: IF NUMBER IS OUT OF RANGE, ERROR MESSAGE IS:

PLEASE PROVIDE AN ANSWER BETWEEN 0 AND 15 FOR THE NUMBER OF WORKING BICYCLES IN YOUR HOUSEHOLD.]

98 DK

99 (VOL) RF

Vehicle Roster

PROGRAMMER NOTES:

IF VEHOP GE 1, ASK CARS THROUGH VEHOWN FOR EACH VEHICLE IN THE HOUSEHOLD. THESE SHOULD BE DELINEATED BY VEHNO (GENERATED BASED ON ROTATION THROUGH THE SERIES).

VEHICLE ROSTER SHOULD GO THROUGH EACH QUESTION ONE TIME, ASKING ABOUT EACH OF THE VEHICLES IN WORKING CONDITION.

IF HHVEH EQ 0, SKIP TO HOUSEHOLD ROSTER.

ASK UP TO 15 VEHICLES.

VEHNO System Variable/VEHICLE NUMBER

CARS [IF VEHOP EQ 1] Thank you. Next, I'd like to ask you a few questions about your vehicle in working condition. This information is important for estimating the types of vehicles that are driven on the road. Having this information will also make it easier for you when we send you the travel diary.

[IF VEHOP GE 2] Thank you. Next, I'd like to ask you a few questions about your <VEHOP> vehicles in working condition. This information is important for estimating the types of vehicles that are driven on the road. Having this information will also make it easier for you when we send your household the travel diaries. Please begin with the vehicle that you drive the most:

YEAR What is the year of your [IF MULTIPLE VEHICLES: < first/the second/the third/etc.....] vehicle?

ENTER YEAR OF VEHICLE____.

PROGRAMMER NOTE: RESTRICT TO FOUR DIGITS, NO LESS—NO MORE; RESTRICT TO THE RANGE: 1900 TO 2014.

[PROGRAMMER: IF NUMBER IS OUT OF RANGE, ERROR MESSAGE IS:

PLEASE PROVIDE AN ANSWER BETWEEN 1900 TO 2014 FOR THE YEAR OF THE VEHICLE.]

9998 DK
9999 (VOL) RF

MAKE

What is the make or manufacturer of your [IF MULTIPLE VEHICLES: < first/the second/ the third/ etc.....] vehicle?

[INTERVIEWER NOTE: IF RESPONDENT DOES NOT UNDERSTAND THE MAKE OF THE VEHICLE, INDICATE IT IS THE BRAND OF VEHICLE LIKE HONDA, TOYOTA, FORD.]

| | | |
|--------------------|---------------|----------------|
| 01 ACURA | 16 INFINITI | 31 PLYMOUTH |
| 02 AUDI | 17 ISUZU | 32 PONTIAC |
| 03 BMW | 18 JAGUAR | 33 PORSCHE |
| 04 BUICK | 19 JEEP | 34 RANGE ROVER |
| 05 CADILLAC | 20 KAWASAKI | 35 SAAB |
| 06 CHEVROLET | 21 KIA | 36 SATURN |
| 07 CHRYSLER | 22 LEXUS | 37 SUBARU |
| 08 DODGE | 23 LINCOLN | 38 SUZUKI |
| 09 FIAT | 24 MAZDA | 39 TOYOTA |
| 10 FORD | 25 MERCURY | 40 VOLKSWAGEN |
| 11 GEO | 26 MERCEDES | 41 VOLVO |
| 12 GMC | 27 MINI | 42 YAMAHA |
| 13 HARLEY DAVIDSON | 28 MITSUBISHI | |
| 14 HONDA | 29 NISSAN | |
| 15 HYUNDAI | 30 OLDSMOBILE | |

97 OTHER: PROGRAMMER NOTE: PLEASE PROVIDE AN OTHER RESPONSE
98 DK
99 (VOL) RF

MODEL

What is the model of your <INSERT YEAR AND MAKE>?

PROGRAMMER NOTE: USE THE FOLLOWING "INSERT" LOGIC FOR MODEL THROUGH VEHOWN:

IF MAKE EQ 97, INSERT OPEN-ENDED RESPONSE.

IF (YEAR EQ 9998 OR 9999) AND (MAKE LE 97), INSERT MAKE ONLY IN PLACE OF <INSERT YEAR AND MAKE>.

IF (YEAR LE 2014) AND (MAKE EQ 98 OR 99), INSERT "THE <YEAR> VEHICLE" IN PLACE OF <INSERT YEAR AND MAKE>.

IF (YEAR EQ 9998 OR 9999) AND (MAKE EQ 98 OR 99) AND (VEHOP GT 1), INSERT [THE FIRST/THE SECOND/ THE THIRD/ ETC.....] VEHICLE IN PLACE OF <INSERT YEAR AND MAKE>.

IF (YEAR EQ 9998 OR 9999) AND (MAKE EQ 98 OR 99) AND (VEHOP EQ 1), INSERT "THE VEHICLE" IN PLACE OF <INSERT YEAR AND MAKE>.

INTERVIEWER NOTE: IF RESPONDENT DOES NOT UNDERSTAND THE MODEL OF THE VEHICLE, INDICATE IT IS THE TYPE OF VEHICLE LIKE HONDA CIVIC, TOYOTA CAMRY, FORD MUSTANG.

- 1 GAVE RESPONSE (SPECIFY, OPEN-ENDED)
- 98 DK
- 99 (VOL) RF

BODY What is the body type of your <INSERT YEAR AND MAKE>?

- 01 SEDAN
- 02 SUV
- 03 PICK-UP TRUCK
- 04 COUPE
- 05 CONVERTIBLE
- 06 HATCHBACK
- 07 WAGON
- 08 MINIVAN
- 09 VAN
- 10 OTHER KIND OF TRUCK
- 11 RECREATIONAL VEHICLE
- 12 MOTORCYCLE
- 13 SCOOTER (e.g., VESPA)
- 97 OTHER, SPECIFY [PROGRAMMER NOTE: PLEASE PROVIDE AN OTHER RESPONSE OPENEND]
- 98 DK
- 99 (VOL) RF

VEHT Is your <INSERT YEAR AND MAKE> a:

- 1 Hybrid Vehicle
- 2 Gasoline-Only Vehicle
- 3 Diesel-Only Vehicle
- 4 Plug-In Hybrid Electric Vehicle
- 5 CNG (Compressed Natural Gas)
- 6 Electric Only
- 7 Other, specify [PROGRAMMER NOTE: PLEASE PROVIDE AN OTHER RESPONSE OPENEND]
- 98 DK
- 99 (VOL) RF

VEHOWN Is your <INSERT YEAR AND MAKE> owned, leased, or borrowed?

- 1 OWNED BY HOUSEHOLD MEMBER
- 2 LEASED BY HOUSEHOLD MEMBER
- 3 OWNED OR LEASED BY EMPLOYER/COMPANY
- 4 OWNED OR LEASED BY PERSON NOT LIVING IN HOUSEHOLD
- 97 Other, specify [PROGRAMMER NOTE: PLEASE PROVIDE AN OTHER RESPONSE OPENEND]
- 98 DK
- 99 (VOL) RF

[PROGRAMMER NOTE: AFTER ALL VEHICLES HAVE BEEN ROSTERED, ASK VEHOUT, PASSTL, FLEX ONE TIME]

[IF VEHOP GT 0]

VEHOUT How close is the nearest electrical outlet to where you typically park your <vehicle/vehicles> at home?

ENTER RESPONSE: [NOTE: RECORD DISTANCE IN FEET (RANGE: 1–8,999)]

9000 No outlet

9998 DK

9999 (VOL) RF

[ASKED OF ALL HOUSEHOLDS]

PASSTL Do [HHSIZ=1 “you”] [HHSIZ GE 2 “you or anyone in your household”] have a toll road or toll bridge pass or account such as E-ZPass?

1 YES

2 NO

98 DK

99 (VOL) RF

FLEX Finally, do [HHSIZ=1 “you”] [HHSIZ GE 2 “you or anyone in your household”] have a Zipcar, PhillyCarShare, another type of car-sharing membership or do [HHSIZ=1 “you”] [HHSIZ GE 2 “you or anyone in your household”] rent cars from time to time?

[INTERVIEWER NOTE: “TIME TO TIME” MAY MEAN A FEW TIMES A MONTH OR ON OCCASION. A RENTAL OR ZIPCAR ONCE A YEAR ON VACATION WOULD NOT COUNT.]

1 YES

2 NO

98 DK

99 (VOL) RF

Household Roster

[IF VEHOP GE 1] Thank you for providing information about your household’s vehicles. Now I would like to ask you one question about your home.

(IF VEHOP=0 OR HHVEH=0) Thank you. Now I would like to ask you one question about your home.

RESTY Which one of the following best describes your home?

House:

01 Single-family house not attached to any other house

02 Single-family house attached to one or more houses (row home, townhouse, duplex, triplex, twin, or semi-attached) each with separate entry

Apartment:

[INTERVIEWER NOTE: "BUILDING WITH APARTMENTS" DOES NOT INCLUDE HOTELS, DORMS, BARRACKS, NURSING HOMES, ETC.]

03 Building with 2–4 apartments/rooms/flats/condos

04 Building with 5–19 apartments/rooms/flats/condos

05 Building with 20 or more apartments/rooms/flats/condos

Other:

06 A mobile home

07 Boat, RV, Van, etc.

Group Quarters:

08 Hotel/Motel

09 Dormitory

10 Military barracks

11 Nursing home/Assisted living

97 Other, specify [PROGRAMMER NOTE: PLEASE PROVIDE AN OTHER RESPONSE OPENEND]

98 DK

99 (VOL) RF

Person Roster

[PROGRAMMER NOTE: THIS BEGINS THE PERSON ROSTER. EACH PERSON SHOULD RECEIVE A NUMBER CORRESPONDING TO THE ORDER IN WHICH THEIR DATA APPEARS. FOR EXAMPLE, THE CONTACT PERSON IS 1, THE NEXT OLDEST PERSON IS 2, AND SO ON.]

HHMEM [IF HHSIZ GT 1] Thank you. At this point you have provided us with essential information about your home and vehicles. Finally, I need to ask a few questions about each member of your household, including yourself. These are important to help us prepare and mail the travel diaries to each person in the household. After we have finished, I will tell you more about the next part of the study. Earlier you mentioned there were <HHSIZ> persons in your household. Let's begin with you:

[IF HHSIZ=1] Thank you. At this point you have provided us with essential information about your home and vehicles. Finally, I need to ask a few questions about you. These are important to help us prepare and mail you the travel diary. After we have finished, I will tell you more about the next part of the study.

FNAME What is your first name?
ENTER NAME

ASK OF PERSON 2 AND GREATER: What is the name of the next oldest person in the household? [IF RELUCTANT] Initials are okay at this point.

GENG [INTERVIEWER NOTE: RECORDED BY OBSERVATION FOR RESPONDENT; DO NOT ASK RESPONDENT ABOUT HIS/HER GENDER]

(INTERVIEWER NOTE: IF UNSURE OF GENDER, PLEASE READ: "I apologize for this question but I have to read each question as it appears on the screen. May I ask what is your sex?")

- 1 Male
- 2 Female
- 99 (VOL) RF

RELAT

What is <NAME>'s relationship to you?

[PROGRAMMER NOTE: NOT ASKED OF RESPONDENT]

- 01 Spouse/Partner
- 02 Child/Daughter/Son/Adopted child/Stepchild/Son-in-law/Daughter-in-law
- 03 Parent/Parent-in-law/Step-parent
- 04 Brother or sister (stepbrother/stepsister)
- 05 Grandparent
- 06 Grandchild
- 07 Other relative, specify [PROGRAMMER NOTE: PLEASE PROVIDE AN OTHER RESPONSE OPENEND]
- 08 No Relation/housemate/roommate/foster child
- 99 (VOL) RF

AGE

What is [your/FNAME's] age?

ENTER NUMBER [RANGE: 1–98] (SKIP TO HISP)

PROGRAMMER NOTE: IF PERSON #1, DO NOT ALLOW VALUE UNDER 18.

[INTERVIEWER NOTE: IF LESS THAN 1 YR, ENTER 1]

- 99 99 YEARS OR OLDER (SKIP TO HISP)
- 998 DK
- 999 (VOL) RF

AGEC

[IF AGE=998 or 999] Which of the following categories best describes [your/FNAME's] age?

- 01 5 or younger (DO NOT SHOW FOR PERSON 1)
- 02 6 to 12 (DO NOT SHOW FOR PERSON 1)
- 03 13 to 15 (DO NOT SHOW FOR PERSON 1)
- 04 16 to 17 (DO NOT SHOW FOR PERSON 1)
- 05 18 to 24
- 06 25 to 34
- 07 35 to 44
- 08 45 to 54
- 09 55 to 64
- 10 65 to 74
- 11 75 to 85
- 12 86 and over
- 98 Don't know
- 99 Refused

HISP

And which of the following categories best describes [you/FNAME]?

PROGRAMMER NOTE: SINGLE RESPONSE

[INTERVIEWER NOTE: IF NEEDED: "These are simply for classification purposes. Can you tell me which of these categories best describes you?"]

[IF MULTIPLE OR MIX OF RACES IS PROVIDED, PLEASE SELECT "97 OTHER: SPECIFY"]

- 01 White/Caucasian
- 02 Black/African American
- 03 Hispanic or Latino
- 04 American Indian or Alaska Native
- 05 Asian (Asian Indian, Japanese, Chinese, Korean, Filipino, Vietnamese)
- 06 Native Hawaiian or Pacific Islander (Guamanian, Samoan, Fijian)
- 97 Other: Specify PROGRAMMER NOTE: PLEASE PROVIDE AN OTHER RESPONSE OPENEND
- 98 DK
- 99 (VOL) RF

TTRIP

[IF AGE GE 13 OR AGECE GE 3] Thinking about last week, how many one-way trips <did you/did FNAME> make using public transportation? A round trip counts as two one-way trips.

Answer response: ____ [RANGE: 0 to 50 trips]

[INTERVIEWER NOTE: If person says, "never or "don't use it," input "0."]

[INTERVIEWER NOTE: To guide respondent, 1 one-way trip a day, 5 days a week = 5 trips a week; 2 one-way trips a day, 5 days a week = 10 trips a week]

(IF TTRIP EQ 0, SKIP TO LIC)

- 997 50+ trips
- 998 DK
- 999 (VOL) RF

[IF TTRIP > 0]

TPTYP

[IF AGE GE 13 OR AGECE GE 3] Thinking about last week, which methods of payment <did you/did FNAME> use to pay for public transit? Select all that apply.

PROGRAMMER NOTE: MULTIPLE RESPONSE

[INTERVIEWER NOTE: RESPONDENT MAY SELECT ALL THAT APPLY. IF THEY DO NOT RECALL THE NAME, READ LIST. IF UNSURE, READ RESPONSES AND HAVE RESPONDENT CHOOSE THE RIGHT CATEGORY]

- 01 Tokens/Cash/Paper Ticket/Exact Change
- 02 SEPTA One-Day pass (including one-day convenience pass, one-day individual and family independence pass)
- 03 SEPTA Weekly pass (including weekly trailpass, weekly transpass, weekly two-zone)
- 04 SEPTA Monthly pass (including monthly trailpass, monthly transpass, monthly two-zone, monthly cross-county)
- 05 TAP > RIDE pass or Contactless Card
- 06 NJ TRANSIT One-Way Patron pass (offered by employer)

- 07 NJ TRANSIT Weekly pass
- 08 NJ TRANSIT Monthly pass (including monthly BusinessPass offered by employer)
- 09 PATCO FREEDOM Smart Card
- 10 Other Rail/Train/Subway pass/payment, specify
- 11 Other Bus/Trolleybus pass/payment, specify
- 12 Other Ferry/Boat pass/payment, specify
- 98 DK
- 99 (VOL) RF

TAP MULTIPLE [IF TPTYP=05] Which type of TAP > RIDE Pass or Contactless Card?

- 01 Pay-As-You-Go
- 02 Ten-Trip
- 03 Monthly
- 04 Other TAP>RIDE or Contactless Card type, specify
- 98 DK
- 99 (VOL) RF

LIC [IF AGE GT 15 AND AGECE NE 1, 2, 3] <Do you/does FNAME> have a valid driver's license?

- 1 Yes
- 2 No
- 98 DK
- 99 (VOL) RF

[IF AGE LE 15 OR AGECE LE 3, READ THIS SENTENCE] Thank you, we are doing great. Just a few more questions about <FNAME>. As you already know, school plays a large role in our lives and has a significant impact on and often determines how we travel each day. As such, I have just a few questions about <FNAME's> education.

[SKIP TO STUDE]

Work Information

EMPLY [IF AGE GT 15 AND AGECE NE 1, 2, 3] As of today, <are you/is FNAME> employed either full-time or part-time? Please do not include any future employment.

- 1 YES (SKIP TO SEMPLY)
- 2 NO
- 98 DK
- 99 (VOL) RF

[ASK WKSTAT IF AGE GT 15 OR AGECE NE 1, 2, 3]

WKSTAT Which of the following best describes <your/FNAME's> status?

- 1 Retired (SKIP TO STUDE)
- 2 Disabled/On Disability Status (SKIP TO STUDE)
- 3 Homemaker (SKIP TO STUDE)
- 4 Unemployed but looking for work (SKIP TO STUDE)

- 5 Unemployed and not looking for work, or (SKIP TO STUDE)
 - 6 Student (SKIP TO STUDE)
 - 7 Volunteer (SKIP TO STUDE)
 - 97 Other, specify (SKIP TO STUDE)
- PROGRAMMER NOTE: PLEASE PROVIDE AN OTHER RESPONSE OPENEND
- 98 DK
 - 99 (VOL) RF

[IF WKSTAT = 98 OR 99] Work status helps determine when and where people travel.

It is critical information for transportation planners.

- 98 DK → [THANK AND TERMINATE] DISPO = QUOTA REFUSED WKSTAT
- 99 (VOL) RF → [THANK AND TERMINATE] DISPO = QUOTA REFUSED WKSTAT

SEMPLY [IF EMPLOY = 1] <Are you/Is FNAME> self-employed either full-time or part-time?

- 1 YES
- 2 NO
- 98 DK
- 99 (VOL) RF

[IF EMPLOY = 1] Thank you, we are doing great. Just a few more questions about < you/FNAME>. As you already know, work plays a large role in our lives and has a significant impact on and often determines how we travel each day. As such, I have just a few questions about <your/FNAME's> employment.

JOBS [IF EMPLOY = 1] How many jobs <do you/does FNAME> have? Please include all paid positions that <you/he/she work(s)> on a regular basis.

PROGRAMMER NOTE: ALLOW RANGE 1 TO 5

INTERVIEWER NOTE: CODE NUMBER OF JOBS, IF MORE THAN 5 JOBS PUNCH 5

- 98 DK
- 99 (VOL) RF

WLOC [IF EMPLOY=1] Let's talk about <your/FNAME's> primary job. Is <his/her/your> primary work address fixed, is it your home, or does it vary from day to day or week to week? (IF NEEDED: THIS IS THE WORK LOCATION WHERE THE RESPONDENT SPENDS THE MOST TIME.)

- 1 Fixed
- 2 Home
- 3 No fixed workplace; varies (e.g., construction)
- 8 DK
- 9 (VOL) RF

WNAME [IF EMPLY=1] What is the name of (your/<FNAME's>) primary employer?
[INTERVIEWER NOTE: PLEASE READ BACK AND CHECK SPELLING]
[INTERVIEWER NOTE: IF NECESSARY, STATE: "We are not going to contact the employer."
98 DK
99 (VOL) RF

(IF WLOC = 2, SKIP TO WDAY)

CWADD [IF WLOC EQ 1, 8, 9] The location of where we work significantly impacts where we travel and which roads and bridges we use each day. Do you know the exact street address or the nearest cross streets of this primary job?
[IF WLOC EQ 3] The location of where we work significantly impacts where we travel and which roads and bridges we use each day. Do you know the exact street address or the nearest cross streets of the most recent primary work location?

1 Full address known
2 Cross streets only (SKIP TO WXSTR1)

98 DK (SKIP TO WCITY, WSTAT, WZIP)
99 (VOL) RF (SKIP TO WCITY, WSTAT, WZIP)

WXSTR1 [SKIP IF CWADD=1]

[IF WLOC EQ 1, 8, 9] What are the nearest cross streets to this primary job?
[IF WLOC EQ 3] What are the nearest cross streets of the most recent primary work location?

WXSTR2 [INTERVIEWER NOTE: PLEASE READ BACK AND CHECK SPELLING]

WXSTR1:
WXSTR2:

98 DK
99 (VOL) RF

WADDR [IF WLOC EQ 1, 8, 9] What is the address of this primary job?
[IF WLOC EQ 3] What is the address of the most recent primary work location?
[INTERVIEWER NOTE: PLEASE READ BACK AND CHECK SPELLING]
[INTERVIEWER NOTE: IF NECESSARY, STATE: "We are not going to contact the employer."]

[PROGRAMMER NOTE: IF CWADD EQ 2, THEN HIDE WADDR AND WSUIT.]

<WADDR> Address:
<WSUIT> Suite/Apt:
<WCITY> City: [INTERVIEWER NOTE: CAPTURE CITY AND STATE AT A MINIMUM]
<WSTAT> State:
<WZIP> Zip Code:

- 98 DK
- 99 (VOL) RF

WCHECK I understand your reluctance, but rest assured this information is only for transportation research purposes and we will not contact the employer. If you feel uncomfortable providing the full primary work address, would you be willing to at least provide just the city and state?

- 1 BACK TO CWADD
- 2 GO BACK TO WCITY, WSTAT, WZIP

100TERMINATE (ONLY TO BE USED IF REFUSED ALL ADDRESS INFORMATION)

WDAY [IF EMPLY=1] What days of the week <do/does> <you/FNAME> typically work at this primary job? RECORD ALL THAT APPLY

[PROGRAMMER NOTE: MULTIPLE RESPONSES]

[INTERVIEWER NOTE: IF NEEDED: A DAY BEGINS AND ENDS AT 3:00 AM]

[INTERVIEWER NOTE: IF RESPONDENT SAYS, "EVERY DAY" OR "5 DAYS A WEEK," PLEASE CONFIRM THAT THEY MEAN MONDAY THROUGH FRIDAY]

[INTERVIEWER NOTE: IF SCHEDULE VARIES, PLEASE HAVE RESPONDENT PROVIDE HIS/HER WORK DAYS FROM LAST WEEK]

- 1 MONDAY
- 2 TUESDAY
- 3 WEDNESDAY
- 4 THURSDAY
- 5 FRIDAY
- 6 SATURDAY
- 7 SUNDAY
- 98 DK
- 99 (VOL) RF

HOURS [IF EMPLY=1] How many hours per week <do you/does FNAME> typically work for pay? Include hours from all full-time and part-time jobs.

PROGRAMMER NOTE: RANGE OF ENTRY IS 1 TO 150]

[INTERVIEWER NOTE: IF RESPONDENT SAYS IT VARIES, PLEASE REPEAT THE QUESTION EMPHASIZING TYPICALLY WORK]

[PROGRAMMER: IF NUMBER IS OUT OF RANGE, ERROR MESSAGE IS:

PLEASE PROVIDE AN ANSWER BETWEEN 1 TO 150 FOR THE NUMBER OF HOURS PER WEEK <YOU/FNAME> TYPICALLY WORKS AT THIS PRIMARY JOB. 40 HOURS IS EQUIVALENT TO 8 HOURS A DAY, 5 DAYS A WEEK.]

998 DK

999 (VOL) RF

OCCUP

[IF EMPLY=1] What kind of work [do you/does FNAME] do at that company/business?

[PROGRAMMER NOTE: CODES NEED TO REMAIN AS SUCH]

- 11 MANAGEMENT OCCUPATIONS, SUCH AS PRESIDENT, CEO, MANGER, DIRECTOR (IN ALL FIELDS)
- 13 BUSINESS AND FINANCIAL OPERATIONS OCCUPATIONS, SUCH AS MANAGEMENT ANALYST, RESEARCH ANALYST, AGENT, ACCOUNTANT
- 15 COMPUTER AND MATHEMATICAL OCCUPATIONS, SUCH AS COMPUTER PROGRAMMER, WEB DEVELOPER, STATISTICIAN
- 17 ARCHITECTURE AND ENGINEERING OCCUPATIONS, SUCH AS ARCHITECT, ENGINEER, DRAFTER, SURVEYOR
- 19 LIFE, PHYSICAL, AND SOCIAL SCIENCE OCCUPATIONS, SUCH AS SCIENTIST, SURVEY RESEARCHER, PSYCHOLOGIST, SCIENCE TECHNICIAN
- 21 COMMUNITY AND SOCIAL SERVICE OCCUPATIONS, SUCH AS COUNSELOR, CLERGY, SOCIAL WORKER, PROBATION OFFICER
- 23 LEGAL OCCUPATIONS, SUCH AS LAWYER, LAW CLERK, PARALEGAL
- 25 EDUCATION, TRAINING AND LIBRARY OCCUPATIONS, SUCH AS TEACHER, COLLEGE PROFESSOR, LIBRARIAN, TEACHER ASSISTANT
- 27 ARTS, DESIGN, ENTERTAINMENT, SPORTS AND MEDIA OCCUPATIONS, SUCH AS PROFESSIONAL ATHLETE, WRITER, CAMERA OPERATOR
- 29 HEALTHCARE PRACTITIONERS AND TECHNICAL OCCUPATIONS, INCLUDING MD, RN, LVN, DENTIST, VETERINARIAN, LICENSED TECHNICIAN, THERAPIST
- 31 HEALTHCARE SUPPORT OCCUPATIONS, SUCH AS HEALTH AIDE, NURSING ASSISTANT, MASSAGE THERAPIST
- 33 PROTECTIVE SERVICE OCCUPATIONS, SUCH AS CORRECTIONAL OFFICER, POLICE OFFICER, FIREFIGHTER, SECURITY GUARD, CROSSING GUARD, SECURITY SCREENER, LIFEGUARD
- 35 FOOD PREPARATION AND SERVING-RELATED OCCUPATIONS, SUCH AS COOK, WAITER/WAITRESS, BARTENDER, FOOD SERVER, DISHWASHER
- 37 BUILDING AND GROUNDS CLEANING AND MAINTENANCE OCCUPATIONS, SUCH AS JANITOR, MAID, HOUSEKEEPER, GARDENER
- 39 PERSONAL CARE AND SERVICE OCCUPATIONS, SUCH AS HAIRDRESSER, TOUR GUIDE, CHILDCARE WORKER, CARD DEALER
- 41 SALES AND RELATED OCCUPATIONS, SUCH AS CASHIER, SALES CLERK, SALES AGENT, REAL ESTATE BROKER
- 43 OFFICE AND ADMINISTRATIVE SUPPORT OCCUPATIONS, SUCH AS BANK TELLER, OFFICE CLERK, ACCOUNT CLERK, POSTAL SERVICE CLERK, DATA ENTRY CLERK, SECRETARY, ADMINISTRATIVE ASSISTANT
- 45 FARMING, FISHING, AND FORESTRY OCCUPATIONS, INCLUDING FARMER, FIELD WORKER, ANIMAL TRAINER/BREEDER
- 47 CONSTRUCTION AND EXTRACTION OCCUPATIONS, INCLUDING ELECTRICIAN, CARPENTER, PAINTER, CONSTRUCTION EQUIPMENT OPERATOR, MINER, DRILLER, EXPLOSIVES WORKER, ETC.
- 49 INSTALLATION, MAINTENANCE, AND REPAIR OCCUPATIONS, SUCH AS REPAIRER, MECHANIC, EQUIPMENT INSTALLER

- 51 PRODUCTION OCCUPATIONS SUCH AS ASSEMBLER, BAKER, MACHINIST, LAB TECHNICIAN (MEDICAL, DENTAL AND OPHTHALMIC), JEWELER
- 53 TRANSPORTATION AND MATERIAL MOVING OCCUPATIONS SUCH AS BUS OR TAXI DRIVER, TRUCK DRIVER, CRANE OPERATOR, SHIP LOADER
- 55 MILITARY SPECIFIC OCCUPATIONS
- 97 OTHER: [SPECIFY] PROGRAMMER NOTE: PLEASE PROVIDE AN OTHER RESPONSE OPENEND
- 98 DK
- 99 (VOL) RF

School/Education Information

STUDE <Do you/Does FNAME> currently attend any type of school, including daycare, technical school, or university?
 (INTERVIEWER NOTE: IF YES, PLEASE ASK: "Is this full-time or part-time enrollment?")

- 1 YES – FULL-TIME
- 2 YES – PART-TIME
- 3 NO (SKIP TO EDUCA)
- 98 DK (SKIP TO EDUCA)
- 99 (VOL) RF (SKIP TO EDUCA)

SCHOL What school grade or level <do you/does FNAME> attend?
 [PROGRAMMING NOTE: CHECK AGE OF PERSON BEFORE ASKING CHOICES 1–2]

- 01 DAYCARE [PROGRAMMER NOTE: SHOW IF AGE LE 5 OR AGE=1]
- 02 NURSERY SCHOOL, PRESCHOOL [PROGRAMMER NOTE: SHOW IF AGE LE 5 OR AGE=1]
- 03 KINDERGARTEN TO GRADE 8
- 04 GRADE 9 TO 12
- 05 TECHNICAL/VOCATIONAL SCHOOL
- 06 TWO-YEAR COLLEGE (COMMUNITY COLLEGE)
- 07 FOUR-YEAR COLLEGE OR UNIVERSITY
- 08 GRADUATE SCHOOL/PROFESSIONAL
- 97 OTHER (SPECIFY) PROGRAMMER NOTE: PLEASE PROVIDE AN OTHER RESPONSE OPENEND
- 98 DK (SKIP TO EDUCA)
- 99 (VOL) RF (SKIP TO EDUCA)

PRESCH [ASK IF SCHOL = 1 OR 2]
 Which of the following best describes the daycare/preschool of <FNAME>?
 [MULTIPLE RESPONSE] Please select all that apply:

- 1 Relative/family member in your home
- 2 Relative/family member outside your home
- 3 Non-relative/friend in your home
- 4 Non-relative/friend outside your home

- 5 Private daycare center/preschool
- 6 Public daycare center/preschool
- 97 OTHER: SPECIFY [PROGRAMMER NOTE: PLEASE PROVIDE AN OTHER RESPONSE OPENEND]
- 98 DK
- 99 (VOL) RF

SLOC [IF SCHOL EQ 3 OR 4] And <is/are> <he/she/you> home schooled?

- 1 YES
- 2 NO
- 98 DK
- 99 (VOL) RF

SONLN [IF SCHOL GT 4 and LT 98] Please tell me which of the following best describes where <you/FNAME> <attend/attends> school:

- 1 On campus only
- 2 Online only
- 3 Both on campus and online
- 8 DK
- 9 RF

SNAME [(IF STUDE EQ 1 OR 2) What is the name of <your/his/her > school?
 [INTERVIEWER NOTE: PLEASE READ BACK AND CHECK SPELLING]

ENTER NAME: _____

CSADD SHOW [IF (SCHOL EQ 3 or 4) AND (SLOCE NE 1)]; [IF (SCHOL GT 4 and LT 98) AND (SONLN NE 2)]; or [IF (SCHOL EQ 1 OR 2) AND (PRESCH IS NE ONLY 1, NE ONLY 3, OR NE ONLY BOTH SELECTIONS)]

The location of where we go to school significantly affects where we travel and which roads and bridges we use each day. Do you know the exact street address or the nearest cross streets of <your/his/her> school?

[PROGRAMMER: SHOW THE NOTE BELOW [IF (SCHOL EQ 1 OR 2) AND (PRESCH IS NE ONLY 1, NE ONLY 3 OR NE ONLY BOTH SELECTIONS)]

[INTERVIEWER NOTE: IF MULTIPLE SELECTIONS FOR PRESCHOOL, PLEASE PROVIDE THE LOCATION AWAY FROM THE HOME.]

- 1 COMPLETE STREET ADDRESS KNOWN → SKIP TO SADDR
- 2 CROSS STREETS KNOWN
- 98 DK (SKIP TO SCITY, SSTAT, SZIP)
- 99 (VOL) RF (SKIP TO SCITY, SSTAT, SZIP)

SXST1&2 SHOW [IF (SCHOL EQ 3 or 4) AND (SLOCE NE 1)]; [IF (SCHOL GT 4 and LT 98) AND (SONLN NE 2)]; or [IF (SCHOL EQ 1 OR 2) AND (PRESCH IS NE ONLY 1, NE ONLY 3, OR NE ONLY BOTH SELECTIONS)]

What are the nearest cross streets of this school?

[INTERVIEWER NOTE: PLEASE READ BACK AND CHECK SPELLING]

[PROGRAMMER: SHOW THE NOTE BELOW [IF (SCHOL EQ 1 OR 2) AND (PRESCH IS NE ONLY 1, NE ONLY 3 OR NE ONLY BOTH SELECTIONS)]

[INTERVIEWER NOTE: IF MULTIPLE SELECTIONS FOR PRESCHOOL, PLEASE PROVIDE THE LOCATION AWAY FROM THE HOME.]

ENTER RESPONSE: _____

[PROGRAMMER NOTE: COLLECTED IN TWO FIELDS, SXST1 AND SXST2]

SADDR SHOW [IF (SCHOL EQ 3 or 4) AND (SLOCE NE 1)]; [IF (SCHOL GT 4 and LT 98) AND (SONLN NE 2)]; or [IF (SCHOL EQ 1 OR 2) AND (PRESCH IS NE ONLY 1, NE ONLY 3, OR NE ONLY BOTH SELECTIONS)]

What is the address of this school?

[INTERVIEWER NOTE: PLEASE READ BACK AND CHECK SPELLING]

[PROGRAMMER: SHOW THE NOTE BELOW [IF (SCHOL EQ 1 OR 2) AND (PRESCH IS NE ONLY 1, NE ONLY 3 OR NE ONLY BOTH SELECTIONS)]

INTERVIEWER NOTE: IF MULTIPLE SELECTIONS FOR PRESCHOOL, PLEASE PROVIDE THE LOCATION AWAY FROM THE HOME.

[PROGRAMMER NOTE: IF CSADD EQ 2, THEN HIDE SADDR AND SSUIT.]

<SADDR> Address: _____

<SSUIT> Suite: _____

<SCITY> City: _____ [INTERVIEWER NOTE: CAPTURE CITY AND STATE AT A MINIMUM]

<SSTAT> State: _____

<SZIP> Zip Code: _____

98 DK

99 RF

SCHECK I understand your reluctance, but rest assured this information is for transportation research purposes only and we will not contact the school. If you feel uncomfortable providing the full school address, would you be willing to at least provide just the city and state?

1 BACK TO CSADD

2 GO BACK TO SCITY, SSTAT, SZIP

100 TERMINATE (ONLY TO BE USED IF REFUSED ALL ADDRESS INFORMATION)

EDUCA [PROGRAMMER NOTE: IF SCHOL=1, 2, 3, or 4, AUTOFILL EDUCA=1 AND DO NOT ASK QUESTION]

What is the highest degree or level of school <you/FNAME> <have/has> completed?

- 1 NOT A HIGH SCHOOL GRADUATE, GRADE 12 OR LESS (THIS INCLUDES VERY YOUNG CHILDREN, TOO)
- 2 HIGH SCHOOL GRADUATE (HIGH SCHOOL DIPLOMA OR GED)
- 3 SOME COLLEGE CREDIT BUT NO DEGREE
- 4 ASSOCIATE OR TECHNICAL SCHOOL DEGREE
- 5 BACHELOR'S OR UNDERGRADUATE DEGREE
- 6 GRADUATE DEGREE (INCLUDES PROFESSIONAL DEGREE LIKE MD, DDS, JD)
- 97 OTHER PROGRAMMER NOTE: PLEASE PROVIDE AN OTHER RESPONSE
OPENEND
- 98 DK
- 99 (VOL) RF

[AFTER LAST PERSON IN HOUSEHOLD IS ROSTERED, CALCULATE STYPE BASED ON LOGIC FOR AGE: "IS AT LEAST ONE PERSON IN HOUSEHOLD BETWEEN 13-85?"]

IF HHSIZ GE 6, DO NOT OVERWRITE STYPE

("YES"): IF AGE GE 13 AND LE 85 OR AGEC GE 3 AND LE 11 → [IF GTYPE=1, SET STYPE=1; IF GTYPE = 2. SET STYPE=2]

("NO"): IF AGE LT 13 OR GT 85 AND NE 998 or 999 or AGEC LT 3 or EQ 12 → [IF GTYPE=1, SET STYPE=3; IF GTYPE = 2. SET STYPE=2]

("DON'T KNOW"): IF AGE EQ 998 AND AGEC EQ 98 → [IF GTYPE=1, SET STYPE=3; IF GTYPE = 2. SET STYPE=2]

("(VOL) REFUSED"): IF AGE EQ 999 AND AGEC EQ 99 [IF GTYPE=1, SET STYPE=3; IF GTYPE = 2. SET STYPE=2]]

AFTER PERSON ROSTER IS COMPLETE

[IF HHSIZ GT 1] Thank you for providing information for the members of your household. Finally...

[IF HHSIZ EQ 1] Thank you. Finally...

Finalizing Recruitment

INCRF Household income not only allows us to verify that we are including all types of households across the region, but it is also an extremely important characteristic in determining a household's travel behavior. Could you tell me if your total household income in [SYSYEAR - 1] belongs to one of the following categories:
[INTERVIEWER NOTE IF NEEDED: We understand if you feel uncomfortable answering this question. However, household income not only allows us to verify that we are including all types of households across the region, but income is also an extremely important characteristic in determining a household's travel behavior.]

[INTERVIEWER NOTE IF NEEDED: TOTAL HOUSEHOLD INCOME INCLUDES ALL INCOME RECEIVED BY EVERYONE IN YOUR HOUSEHOLD INCLUDING, BUT NOT LIMITED TO: WAGES, SALARIES, INTEREST, DIVIDENDS, SPOUSAL SUPPORT AND CHILD SUPPORT, GRANTS, GIFTS, ALLOWANCES, STIPENDS, PUBLIC-ASSISTANCE PAYMENTS, SOCIAL SECURITY AND PENSIONS, UNEMPLOYMENT INSURANCE PAYMENTS, WORKER'S

COMP, RENTAL INCOME, INCOME FROM SELF-EMPLOYMENT AND CASH PAYMENTS FROM OTHER SOURCES, AND ALL EMPLOYMENT-RELATED, NON-CASH INCOME.]

[READ APPROPRIATE RANGES]

- 1 \$0 to \$9,999
- 2 \$10,000 to \$24,999
- 3 \$25,000 to \$34,999
- 4 \$35,000 to \$49,999
- 5 \$50,000 to \$74,999
- 6 \$75,000 to \$99,999
- 7 \$100,000 to \$149,999
- 8 \$150,000 to \$199,999
- 9 \$200,000 to \$249,999
- 10 \$250,000 or more
- 98 DK
- 99 (VOL) RF

INCENT

[CALCULATE FOR PROGRAMMING/DATA PURPOSES]

IF STYPE EQ 2 OR 3 AND AT LEAST ONE OF THE FOLLOWING FOUR CONDITIONS IS TRUE:

- LANG EQ 2
- HHVEH EQ 0
- IF THE HOUSEHOLD MEETS ANY OF THE FOLLOWING POVERTY CALCULATIONS:
 - (INCRF LE 2 and HHSIZ GE 1) INCENT=1.
 - (INCRF EQ 3 and HHSIZ GE 5) INCENT=1.
 - (INCRF EQ 4 and HHSIZ GE 8) INCENT=1.
 - (INCRF EQ 5 and HHSIZ GE 12) INCENT=1.

- HHSIZ GE 4

...THEN INCENT=1

IF STYPE EQ 1, THEN INCENT=1

ELSE, INCENT=0

INAMT

[CALCULATE FOR PROGRAMMING/DATA PURPOSES]

IF STYPE EQ 2 OR 3 AND INCENT EQ 1, INMT EQ 25; IF INCENT EQ 0, INAMT EQ 0

IF STYPE EQ 1, INAMT EQ [25 * X], WHERE "X" IS THE NUMBER OF HOUSEHOLD MEMBERS BETWEEN THE AGES OF 13 AND 85

NOGPS

[IF STYPE GE 2] Thank you. As I mentioned earlier, in order to understand where, when, and why people travel, we would like to mail [If HHSIZE=1 SHOW: "you," ELSE SHOW: "each member of your household"] a diary to keep track of travel for a 24-hour period. [IF INCENT=1 To show our appreciation, we are offering \$25, but only if EVERYONE in your household completes a travel diary.] Your household's assigned travel day is <INTERVIEWER: READ THE FIRST START DATE FROM THE ANSWER LIST>. Is this date good for you and your household to participate in the study?

- 1 YES – Participate on <POSSIBLE DATE>
- 2 YES – Participate on <POSSIBLE DATE>
- 3 YES – Participate on <POSSIBLE DATE>
- 4 YES – Participate on <POSSIBLE DATE>
- 5 YES – Participate on <POSSIBLE DATE>
- 97 DECLINE ALL TRAVEL DATES [Go to END3]
- 99 DON'T WANT TO PARTICIPATE IN STUDY → [Go to <TERMINATE>]

[INTERVIEWER NOTE: READ FIRST DAY AND DATE ONLY. ASK IF THAT DATE WORKS FOR THEM. IF RESPONDENT REFUSES, READ NEXT, THEN NEXT, UNTIL THE LIST IS DONE.]

[INTERVIEWER NOTE: PLEASE TRY TO FILL THE TRAVEL DATE THAT IS LISTED FIRST]

[INTERVIEWER NOTE: IF THE RESPONDENT SAYS, "THIS IS NOT A DAY I TRAVEL TYPICALLY," REASSURE THEM WE NEED TRAVEL FOR SPECIFIC DAYS, REGARDLESS OF WHETHER IT IS TYPICAL OR NOT]

GPS

[IF STYPE=1] Thank you. As I mentioned earlier, in order to understand where, when, and why people travel, we would like to mail [If HHSIZE=1 SHOW: "you," ELSE SHOW: "each member of your household"] a diary to keep track of travel for a 24-hour period.

We also will send a GPS device for each household member between the ages of 13 and 85 and ask that they carry the device with them for three consecutive days, starting on <INTERVIEWER: READ THE FIRST START DATE FROM THE ANSWER LIST> and ending on <INTERVIEWER: READ THE FIRST END DATE FROM THE ANSWER LIST>. To show our appreciation, we are offering each GPS user \$25. [IF HHSIZE=1 SHOW: "You," ELSE SHOW: "Each member of your household"] will fill out <your travel diary/their travel diaries> on the first day of this travel period. Are these dates good for you and your household to participate in the study?

[INTERVIEWER NOTE: IF NEEDED: We will ask you to wear or carry your GPS units with you when you travel. The devices are small and easy to carry (you can clip them onto your belt or purse or put them in your pocket). They collect details of your travel routes during your travel days. It is very important to the survey that households like yours participate.]

[INTERVIEWER NOTE: READ FIRST DAY AND DATE ONLY. ASK IF THAT DATE WORKS FOR THEM. IF RESPONDENT REFUSES, READ NEXT, THEN NEXT, UNTIL THE LIST IS DONE.]

[INTERVIEWER NOTE: PLEASE TRY TO FILL THE TRAVEL DATE/PERIOD THAT IS LISTED FIRST]

[INTERVIEWER NOTE: IF THE RESPONDENT SAYS, "THIS IS NOT A DAY I TRAVEL TYPICALLY," REASSURE THEM WE NEED TRAVEL FOR SPECIFIC DAYS, REGARDLESS OF WHETHER IT IS TYPICAL OR NOT]

- 1 YES – Participate on <POSSIBLE DATE>
- 2 YES – Participate on <POSSIBLE DATE>
- 3 YES – Participate on <POSSIBLE DATE>
- 4 YES – Participate on <POSSIBLE DATE>
- 5 YES – Participate on <POSSIBLE DATE>
- 95 NO TO GPS PORTION
- 97 DECLINE ALL TRAVEL DATES [Go to END3]
- 99 DON'T WANT TO PARTICIPATE IN STUDY → [Go to <TERMINATE>]

GP1 [IF GPS EQ 95] SET STYPE = 3

PORT [SHOW IF GPS EQ 95] Okay, your household's assigned travel day is <INTERVIEWER: READ THE FIRST START DATE FROM THE ANSWER LIST>. Is this date good for you and your household to participate in the study?

- 1 YES – Participate on <POSSIBLE DATE>
- 2 YES – Participate on <POSSIBLE DATE>
- 3 YES – Participate on <POSSIBLE DATE>
- 4 YES – Participate on <POSSIBLE DATE>
- 5 YES – Participate on <POSSIBLE DATE>
- 97 DECLINE ALL TRAVEL DATES [Go to END3]
- 99 DON'T WANT TO PARTICIPATE IN STUDY → [Go to <TERMINATE>]

PROGRAMMER: CREATE VARIABLE "ASSN" INDICATING THE ASSIGNED TRAVEL DAY FROM NOGPS, GPS OR PORT

INSTRUCTIONS FOR ASSIGNMENT DATES:

RECRUIT WILL OCCUR SUN, MON, TUES, WED: THE FIRST POTENTIAL TRAVEL DATE BEGINS MONDAY OF THE FOLLOWING WEEK. PLEASE PROVIDE FIVE TRAVEL DAY OPTIONS (DAY AND DATE) STARTING THE FOLLOWING MONDAY. ROTATE OPTIONS.

EXAMPLE: RESPONDENT IS RECRUITED ON MON, JUNE 4, 2012. THE FIRST POTENTIAL TRAVEL DAY ASSIGNMENT IS MON, JUNE 11, 2012. SHOW 5 TRAVEL OPTIONS, ROTATE RESPONSES, NO WEEKENDS FOR TRAVEL DATES.

FOR GPS: FOLLOW SAME PROTOCOL ABOVE. END DATE FOR TRAVEL PERIOD IS ASSIGNMENT DATE + TWO DAYS.

EXAMPLE: RESPONDENT TAKES SURVEY MON, JUNE 4, 2012. THE FIRST POTENTIAL TRAVEL DAY IS MON, JUNE 11, 2012, AND ENDING ON WED, JUNE 13, 2012. SHOW FIVE TRAVEL START OPTIONS, ROTATE RESPONSES. NO WEEKENDS FOR TRAVEL/START DATE, BUT THE GPS THREE-DAY TRAVEL CAN CONTINUE THROUGH WEEKEND

END3 PROGRAMMER NOTE: IF ALL ASSIGNMENT DATES ARE DECLINED Thank you for your time. Unfortunately, those are the only travel dates available at this time. We will have someone contact you at a later date if additional travel dates become available. This concludes our survey. Thank you for your participation. Your time and opinions are valued.

SLANG In which language should I send your diary materials?

(Interviewer Note: If Spanish is selected, inform respondent that he/she will be called back by a Spanish speaker)

- 1 ENGLISH

2 SPANISH

MADDR In order to mail the diary materials to you, I need to confirm your home mailing address.

As I mentioned earlier, your household was randomly selected from households in the area and the address I have here is:

<MADDR> STREET ADDRESS:

<MSUIT> Suite/Apt:

<MCITY> City:

<MSTAT> State:

<MZIP> Zip:

Is this the best place for us to have the materials delivered?

NOTE: PO BOXES ARE NOT VALID SHIPPING ADDRESSES FOR FEDEX.
[INTERVIEWER NOTE: IF RESPONDENT ASKS HOW GOT ADDRESS: "You were randomly selected from a list of households in your area."]

[INTERVIEWER NOTE: IF PO BOX APPEARS IN THE ADDRESS FIELD, READ THE FOLLOWING: "For the purposes of this study, we need the physical address of your household. Are you willing to provide this information?"]

- 1 YES → SEND TO THIS HOME ADDRESS
- 2 NO → PROVIDE DIFFERENT HOME ADDRESS
- 3 NOT WILLING TO PROVIDE ADDRESS [GO TO <ADDRTERM>]

If they want delivery to a non-home address, **MADDR**, **MCITY**, **MSTAT**, and **MZIP** are mandatory

ADDRTERM Unfortunately, we will need your home mailing address to send the materials for this study. Thank you for your time.
(TERMINATE)

HHNME To whom should we address the envelope?

02 Update first and last name

<HHNME1> _____ First name

<HHNME2> _____ Last name

INTERVIEWER NOTE: CONFIRM SPELLING AND READ BACK

REM N1 Please note that we will contact you on the day before your travel day to remind you about your travel and to provide you with additional instructions about your participation. For future contact, where is the best place to reach you in the evenings? (DO NOT READ LIST. PROMPT, IF NEEDED.)

- 01 Home
- 02 Work (GO TO OTHNUM)
- 03 Cell Phone (GO TO OTHNUM)
- 04 Other (GO TO OTHNUM)

- 98 Don't Know
- 99 (VOL) Refused

OTHNUM (ASK IF REM N1 GT 1 AND REM N1 LT 98)
Can I have that number please?
(RECORD PHONE NUMBER TO REACH RESPONDENT AT)

(_ _ _) _ _ _ - _ _ _ _

EMAIL For your convenience, we can send out an email reminder the day before your travel day, as well as a subsequent reminder to return your materials. We also sometimes re-contact households to verify travel information. May we have your email address?

[INTERVIEWER NOTE: IF NECESSARY, SAY: "Your email address will not be sold or shared with any other company or organization."]

_____ @ _____ Email Address (Confirm spelling and punctuation)

- 7 Don't have one
- 8 Preferred to be contacted by phone
- 9 (VOL) Refused to give address

THANK Thank you for participating in this first part of the Delaware Valley Region Household Travel Survey. Please tell the other members of your household how important their participation is for the success of the study. We look forward to talking with you again. If you have any questions or comments, I have a toll-free number where you can reach us. Would you like that number? IF THEY WANT NUMBER: 800-555-5555. Thank you and have a good evening.



Appendix C

Reminder Script

Appendix C. Reminder Script

INITIAL REMINDER [CALL MADE EVENING BEFORE TRAVEL]

<IF PHONE NUMBER (PHONE; IF OTHNUM IS PROVIDED, OTHNUM) IS AVAILABLE>

PROGRAMMER NOTE: INITIAL REMINDER SCRIPT SHOULD ONLY BE ASKED IF REMINDTY=1

<ASK If STYPE GE 2>

INT1 Hi, this is _____ with the DVRPC travel survey.

- 1 Person on phone
- 2 Answering machine → SKIP TO ANSMA

[IF PERSON ON PHONE]

May I speak to someone in the house 18 years or older?

- 1 Yes (CONTINUE)
- 2 18+ unavailable (THANK AND TERMINATE)
- 8 Don't know (THANK AND TERMINATE)
- 9 No/Refused (THANK AND TERMINATE)

I am calling to remind you that your household will be participating in the DVRPC travel survey tomorrow. Please keep in mind that each member of your household must record all their trips and activities tomorrow, <ASSN> in their travel diaries. This will help improve transportation in your area.

- 1 CONTINUE → SKIP TO PACKT

<ASK If STYPE=1>

INT_GPS Hi, this is _____ with the DVRPC travel survey.

- 1 Person on phone
- 2 Answering machine → SKIP TO ANSMA_PER

[IF PERSON ON PHONE]

May I speak to someone in the house 18 years or older?

- 1 Yes (CONTINUE)
- 2 18+ unavailable (THANK AND TERMINATE)
- 8 Don't know (THANK AND TERMINATE)
- 9 No/Refused (THANK AND TERMINATE)

I am calling to remind you that your household will be participating in the DVRPC travel survey tomorrow. Please keep in mind that each member of your household must record all their trips and activities tomorrow, <ASSN> in their travel diaries. Also, all members of your household between the ages of 13 and 85 will carry their GPS devices with them for three days starting tomorrow <STDATE> until <ENDATE>. This will help improve transportation in your area.

- 1 CONTINUE → SKIP TO PACKT

<ASK IF INT1=1 OR INT_GPS=1>

PACKT [IF STYPE GE 2] Did your household receive the travel diaries packet that we sent to you?

[IF STYPE=1] Did your household receive the travel diaries packet and GPS devices that we sent to you?

- 1 YES → SKIP TO THANK
- 2 NO → SKIP TO DWNLD
- 3 NO LONGER WISHES TO PARTICIPATE → SKIP TO WHY

WHY

Can you please tell us why you no longer wish to participate in this study?
[PROGRAMMER NOTE: OPENENDED RESPONSE]

SKIP TO THANK2

<IF PACKT=2>
DWNLD

[IF STYPE GE 2] Your participation is very important. I'm sorry you haven't received the materials. It is possible that they are still en route. In the meantime, we suggest jotting down the places you go that day, including times, reasons, and how you got to each place. Then, you can either fill out the paper diary when it arrives, or fill out the survey online at www.dvrpc.org/TravelSurvey. Alternatively, one of our representatives will call you to retrieve your travel information over the phone within a few days of your travel day.

[IF STYPE=1] I'm sorry you haven't received the materials. It is possible that they are still en route. Since you are receiving the materials late, you are no longer required to complete the GPS portion of the study. Therefore, please return all GPS devices as soon as possible. You still qualify for an incentive check of \$<INAMT>, on the condition that all diary information is collected and all GPS devices are returned.

Your participation on the travel diary portion of the survey still remains very important. In the meantime, we suggest jotting down the places you go that day, including times, reasons, and how you got to each place. Then, you can either fill out the paper diary when it arrives, or fill out the survey online at www.dvrpc.org/TravelSurvey. Alternatively, one of our representatives will call you to retrieve your travel information over the phone within a few days of your travel day.

<IF PACKT=1>
THANK

[IF STYPE GE 2] Thank you for your time. Please make sure to have every household member record their travel information tomorrow in their travel diaries. You can enter your travel information online at www.dvrpc.org/TravelSurvey the day after you complete your travel, or you can mail back all diaries using the postage-paid envelope provided in your travel packet. Alternatively, one of our representatives will call you to retrieve your travel information. Thank you for your time and participation.

[IF STYPE=1] Thank you for your time. Please make sure to have every household member record their travel information tomorrow in their travel diaries. Don't forget to tell everyone to start carrying their units with them as well. You can enter your travel information online at www.dvrpc.org/TravelSurvey the day after you complete your travel, or you can mail back all diaries using the postage-paid envelope provided in your travel packet. Alternatively, one of our representatives will call you to retrieve your travel information. Once you have finished carrying your GPS devices, please return all GPS devices as soon as possible. Thank you for your time and participation.

<IF PACKT=1>
THANK2

That is all the information I need. Thank you for your time.

<IF LEAVING A MESSAGE AND If STYPE GE 2>

ANSMA Hello, my name is _____ and I am calling to remind you that your household will be participating in the DVRPC travel survey tomorrow. Please keep in mind that each member of your household must record all their trips and activities tomorrow, <ASSN> in their travel diaries. We thank you for your time and participation. This will help improve transportation in your area.

<IF LEAVING A MESSAGE AND If STYPE=1>

ANSMA_PER Hello, my name is _____ and I am calling to remind you that your household will be participating in the DVRPC travel survey tomorrow. Please keep in mind that each member of your household must record all their trips and activities tomorrow, <ASSN> in their travel diaries. Also, household members between the ages of 13 and 85 will carry their GPS devices with them for three days starting tomorrow <STDATE> until <ENDATE>. We thank you for your time and participation. This will help improve transportation in your area.



Appendix D

Retrieval

Questionnaire

Appendix D. Retrieval Questionnaire

INTRO# Hello, may I speak with . . . [INTERVIEWER NOTE: INSERT PERSON NAME STARTING WITH PERSON 1; IF PERSON 1 IS NOT AVAILABLE, ASK FOR EACH PERSON AND THEN PUNCH THE PERSON NUMBER]

(INTERVIEWER NOTE: IF CONTACT PERSON NOT AVAILABLE, SAY: "Okay, may I speak with . . ." [READ NEXT NAME ON LIST])

01 [SHOW CONTACT PERSON NAME → MOST DESIRABLE] (GO TO INT_CALL)
02 [SHOW PERSON 2 NAME] (GO TO INT_CALL)
03 [SHOW PERSON 3 NAME] (GO TO INT_CALL)
04 –15 [SHOW PERSON NAME] (GO TO INT_CALL)

97 NO ONE AVAILABLE → SCHEDULE CALL BACK (GO TO CALL SCHEDULER)

PROGRAMMER NOTE: THE ONLY NAMES TO APPEAR IN THE LIST ARE THOSE PERSONS OVER THE AGE OF 18 AND COLLECT EQUALS ZERO. NAMES SHOULD ONLY APPEAR IF THOSE TWO CONDITIONS ARE MET.

INTCALL "My name is <INSERT INTERVIEWER'S FIRST NAME>, and I'm calling on behalf of the Delaware Valley Regional Planning Commission. Your household recently agreed to participate in the 'Household Travel Survey.' I'm calling now to collect your household's travel information from <INSERT TRAVEL DAY>."

[INTERVIEWER NOTE: READ AS NECESSARY: "Last week an individual in your household agreed to participate in an official Delaware Valley region travel study to better understand the travel characteristics of residents in your area. To participate, we asked each person in your household to record their travel for one day using a paper diary we provided. We are calling now to collect the information you recorded."]

01 Continue with interview (GO TO DIARY)
02 REFUSED → No longer willing to participate (GO TO REFUSE)
03 ALL HOUSEHOLD MEMBERS Mailed Diaries (GO TO RCEND [TBD QUEUE])
04 ALL HOUSEHOLD MEMBERS Diaries entered on the Internet (GO TO RCEND; [TBD QUEUE])
98 Not a good time (SCHEDULE CALLBACK)

REFUSE If you decide to change your mind, please call our 1-800 number provided on the materials your household was sent and we will reassign you. Thank you for your time.

DIARY [IF HHSIZ EQ 1] Next, I want to confirm whether or not you completed your diary. Please bring your diary to the phone with you. <PAUSE TO ALLOW FOR RESPONDENT TO GET DIARY>. Please tell me if the diary is completed and if it has already been mailed back, completed online, or not.

[IF HHSIZ GT 1] Please gather all the travel diaries for each household member, whether complete or not. I will wait until you are ready.

Next, I want to confirm that each person’s diary is completed. I will read each person’s name. Please tell me if the diary is completed and if it has already been mailed back, completed online, or not.

[IF STYPE GE 2 AND INCENT=1] Remember, your household is ONLY eligible to receive the gift of \$[INAMT] if EVERY person in the household completes the diary and returns the information to us.

[IF STYPE EQ 1] Remember, your household is ONLY eligible to receive the gift of \$[INAMT] if every person in the household completes the diary, provides the information to us, and mails back the GPS units.

((IF CONTACT PERSON/PERSON 1:Let’s start with you) (IF PERSON>1: How about NAME OF PERSON>). . . Is your/his/her diary complete? Have you <(IF PERSON>1: Has INSERT NAME> entered it online or mailed it back?

SHOW IF INT_CALL EQUALS 3 OR 4 “Thank you for your participation. Before I let you go, I just need to confirm the status of each person’s diary. Let’s start with you . . . was (your/Name’s) diary <INT_Call eq 3 “mailed back”> <INT_Call eq 2 “entered via the web”>?”

| | Y, Comp but not retrieved | Y, Mailed | Y, Online | No, Not comp | DK | Refused | Not in HH |
|-------------------------------|---------------------------|-----------|-----------|--------------|----|---------|-----------|
| CONTACT NAME (PROXY, COLLECT) | 1 | 2 | 3 | 4 | 8 | 9 | 97 |
| PERSON_2 | 1 | 2 | 3 | 4 | 8 | 9 | 97 |
| PERSON_3 | 1 | 2 | 3 | 4 | 8 | 9 | 97 |
| PERSON_# | 1 | 2 | 3 | 4 | 8 | 9 | 97 |

PROGRAMMER: SHOW UP TO 12 HH Members

[PROGRAMMER NOTE: IF ALL HH MEMBERS EQ 1, GO TO PINTRO]
 [IF ANY HH MEMBER EQ 1, GO TO PINTRO AND RETRIEVE FROM THOSE HOUSEHOLD MEMBERS WITH A “1”
 IF ANY HH MEMBER EQ 4, SCHEDULE CALLBACK WITH HOUSEHOLD
 IF ANY HH MEMBER EQ 8, SCHEDULE CALLBACK WITH HOUSEHOLD
 [PROGRAMMER NOTE: IF DIARY EQ 97 SET COLLECT2 EQ 1]
 [PROGRAMMER NOTE: IF HHSIZ EQ 1 AND DIARY EQ 2 OR 3 GO TO RCEND]
 [PROGRAMMER NOTE: IF ALL HH MEMBERS DIARIES EQ 2 OR 3 GO TO RCEND]

RCEND [IF STYPE GE 2 AND INCENT=0] Thank you very much for your time. (TERMINATE)

[IF STYPE GE 2 AND INCENT=1] Thank you very much for your time. Remember, your household is ONLY eligible to receive the gift of \$[INAMT] if EVERY person in the household completes the diary and returns the information to us. (TERMINATE)

[IF STYPE EQ 1] Thank you very much for your time. After carrying your GPS units for the assigned three-day period, please don't forget to mail them back using the postage-paid envelope provided in your travel packet. Remember, your household is ONLY eligible to receive the gift of \$[INAMT] if every person in the household completes the diary, provides the information to us, and mails back the GPS units. (TERMINATE)

(PROGRAMMER NOTE: IF REFCON1 EQ 1, MAKE COLLECT2 EQ 3 FOR ALL HOUSEHOLD MEMBERS. BUT THESE ARE NOT NECESSARILY CM YET—NEED TO BE VERIFIED.)

(PROGRAMMER NOTE: IF REFCON2 EQ 1, MAKE COLLECT2 EQ 4 FOR ALL HOUSEHOLD MEMBERS.)

(PROGRAMMER NOTE: IF REFCON1 EQ 98 OR 99 OR REFCON2 EQ 98 OR 99, MAKE COLLECT2 EQ 1 FOR ALL HOUSEHOLD MEMBERS.)

(PROGRAMMER NOTE: IF REFCON1 EQ 2 AND REFCON2 EQ 2, MAKE COLLECT2 EQ 0—THESE ARE BEING SENT TO PHONE)

INFOA# [IF HH HAS PERSON NEEDING PROXY]

Now, I would like you to provide me <NAME's of person needing a proxy> travel information. Do the best you can.

[IF NO PROXY IN HH OR ALL PROXY ARE COMPLETED]

Now, we would like to talk to (NAME) directly. Is (NAME) available to give me their travel information?

[IF STYPE GE 2 AND INCENT=1] Remember, your household is ONLY eligible to receive the gift of \$[INAMT] if EVERY person in the household completes the diary and returns the information to us.

[IF STYPE EQ 1] Remember, your household is ONLY eligible to receive the gift of \$[INAMT] if every person in the household completes the diary, provides the information to us, and mails back the GPS units.

01 [SHOW CONTACT PERSON NAME][PROXY]
02 [SHOW PERSON 2 NAME] [PROXY]
03 [SHOW PERSON 3 NAME] [PROXY]
04 -15 [SHOW PERSON NAME] [PROXY]
97 NOT AVAILABLE → SCHEDULE CALLBACK (GO TO NEXT NAME; IF NO HHPERSON IS AVAILABLE, GO TO CALL SCHEDULER)

[SKIP TO PINTRO IF SOMEONE IS AVAILABLE]

[SHOW ALL NAMES IN HOUSEHOLD WHO HAVE COLLECT EQUAL TO ZERO]

PINTRO. Now, I would like to gather all the information in <your/FNAME's> travel diary. After I have

collected <your/FNAME's> information, we will go back and gather <IF PROXY EQ 1>
<INSERT FNAME>, <INSERT FNAME>, . . . <INSERT PERSON#> travel diary information.

[SKIP TO INFO]

[PROGRAMMER NOTE: IF NO ONE IN HOUSEHOLD NEEDS PROXY OR ALL PERSONS REQUIRING
PROXY ARE COMPLETE, GO TO INFO]

INFO. INTERVIEWER CODED:

(INTERVIEWER: Is the person on the phone sharing their own diary or someone else's?)

- 01 Sharing their own diary/travel information
- 02 Sharing travel information for someone requiring a proxy
- 03 Sharing travel information for someone not requiring a proxy

JOURNEY-TO-WORK SECTION [ASK SECTION IF EMPLY EQ 1 AND WLOC NE 2 FROM RECRUIT FOR
EACH HOUSEHOLD MEMBER]

First, I'd like to gather the information on the inside cover of your diary about <your/FNAME's> regular
travel to work.

[INTERVIEWER NOTE: THIS SECTION'S QUESTIONS DO NOT PERTAIN TO THE TRAVEL DAY. THEY
ARE ASKED IN THE GENERAL SENSE]

WMODE When <you/FNAME> <go/goes> to work at this address, how <do you> <does he/she>
usually travel there?
[INTERVIEWER PROBES: If respondent says, "car" or "drive," ask if they drive alone or
ride with others; if respondent indicates "bus," "train," or "subway," ask if they use park and
ride; if mode does not fit into one of six categories, mark as Other]

- 1 Car, driving alone
- 2 Car, sharing a ride with others
- 3 Transit using park and ride
- 4 Transit NOT using park and ride
- 5 Bicycle
- 6 Walking the entire way
- 7 Other, please specify [PROGRAMMER: PROVIDE OTHER BOX] (SKIP TO
ARRVWRK)

WMODETMS [IF WMODE NE 7] In the last 10 times <you/FNAME> went to work at this address,
roughly how many of those times did <you/he/she> travel there by <ANSWER FROM
WMODE>?

ENTER RESPONSE: [PROGRAMMER NOTE: ALLOW RANGE 0 TO 10]

- 98 DK
- 99 (VOL) RF

ARRVWRK When <you/FNAME> <go/goes> to work at this address, at what time <do you/does
he/does she> regularly ARRIVE there?

[INTERVIEWER NOTE: DO NOT READ CATEGORIES. PROBE TO IDENTIFY THE APPROPRIATE CODE FROM RESPONDENT'S ANSWER. STRESS REGULAR ARRIVAL TIME]

[INTERVIEWER NOTE: IF RESPONDENT SAYS, "SCHEDULE VARIES," PROBE TO DETERMINE IF HE/SHE ARRIVES AT DIFFERENT TIMES ON DIFFERENT DAYS. IF YES, PUNCH CODE 9]

- 1 Before 6:00 AM
- 2 Between 6:00 and 6:30 AM
- 3 Between 6:30 and 7:00 AM
- 4 Between 7:00 and 7:30 AM
- 5 Between 7:30 and 8:00 AM
- 6 Between 8:00 and 8:30 AM
- 7 Between 8:30 and 9:00 AM
- 8 After 9:00 AM
- 9 I travel to work at different times on different days [SKIP TO LVWRK]

ARRVTMS [IF ARRVWRK NE 9] In the last 10 times <you/FNAME> went to work at this address, roughly how many of those times did <you/he/she> arrive there <ANSWER FROM ARRVWRK>?

ENTER RESPONSE: [PROGRAMMER NOTE: ALLOW RANGE 0 TO 10]

- 98 DK
- 99 (VOL) RF

LVWRK And, when <you/FNAME> <go/goes> to work at this address, at what time <do you/does he/does she>regularly LEAVE there?

[INTERVIEWER NOTE: DO NOT READ CATEGORIES. PROBE TO IDENTIFY THE APPROPRIATE CODE FROM RESPONDENT'S ANSWER. STRESS REGULAR DEPARTURE TIME.]

[INTERVIEWER NOTE: IF RESPONDENT SAYS "SCHEDULE VARIES," PROBE TO DETERMINE IF HE/SHE LEAVES AT DIFFERENT TIMES ON DIFFERENT DAYS. IF YES, PUNCH CODE 9.]

- 1 Before 3:30 PM
- 2 Between 3:30 and 4:00 PM
- 3 Between 4:00 and 4:30 PM
- 4 Between 4:30 and 5:00 PM
- 5 Between 5:00 and 5:30 PM
- 6 Between 5:30 and 6:00 PM
- 7 Between 6:00 and 6:30 PM
- 8 After 6:30 PM
- 9 I travel to work at different times on different days [SKIP TO TCOMM]

LVTMS [IF LVWRK NE 9] In the last 10 times <you/FNAME> went to work at this address, roughly how many of those times did <you/he/she> leave there <ANSWER FROM LVWRK>?

ENTER RESPONSE: [PROGRAMMER NOTE: ALLOW RANGE 0 TO 10]

- 98 DK
- 99 (VOL) RF

TCOMM Finally, in the last 10 times <you/FNAME> worked, how many times did <you/FNAME> work from home or telecommute instead of traveling to <your/his/her> work location?

ENTER NUMBER: [PROGRAMMER NOTE: ALLOW RANGE 0 to 10]

98 DK

99 (VOL) RF

Thank you. Next...

PKSUB Which best describes the parking arrangement or benefits offered for employees at <your/FNAME's> workplace? Is it...

[INTERVIEWER: LOOKING FOR THE WORKPLACE CIRCUMSTANCES OR POLICIES FOR EMPLOYEES, EVEN IF RESPONDENT DOES NOT TAKE ADVANTAGE]

[INTERVIEWER NOTE: PLEASE READ ALL CATEGORIES BEFORE ALLOWING RESPONDENT TO ANSWER]

1 Employer offers to subsidize/pay for part of workplace parking

2 Employee must pay for workplace parking out-of-pocket

3 Employer offers free parking available for all employees

8 DK

9 (VOL) RF

PKSUBAMT [IF PRKSUB EQ 1] What percentage of workplace parking does <your/FNAME's> employer offer to pay?

[INTERVIEWER NOTE: DO NOT READ CATEGORIES. IF RESPONDENT SAYS DK OR RF, THEN READ CATEGORIES OR TRY PROBING WITH: "In general, what would you say it is?"]

1 1 to 24 percent

2 25 to 49 percent

3 50 to 74 percent

4 75 to 99 percent

5 100 percent

7 Employer does not provide a subsidy [INTERVIEWER: DO NOT READ. ONLY USE CODE 7 IF RESPONDENT HAD MISSPOKE]

8 DK

9 (VOL) RF

TRANSUB Which best describes the public transit benefits offered for employees at <your/FNAME's> workplace?

[INTERVIEWER: LOOKING FOR THE WORKPLACE CIRCUMSTANCES OR POLICIES FOR EMPLOYEES, EVEN IF RESPONDENT DOES NOT TAKE ADVANTAGE]

[INTERVIEWER NOTE: PLEASE READ ALL CATEGORIES BEFORE ALLOWING RESPONDENT TO ANSWER]

1 Employer offers to subsidize/pay for part of transit fare

2 Employee must pay for transit fare out-of-pocket

8 DK

9 (VOL) RF

TRSUBAMT [IF TRANSUB EQ 1] What percentage of transit fare does <your/FNAME's> employer subsidize or offer to pay?

[INTERVIEWER NOTE: DO NOT READ CATEGORIES. IF RESPONDENT SAYS DK OR RF, THEN READ CATEGORIES OR TRY PROBING WITH: "In general, what would you say it is?"]

1 1 to 24 percent

2 25 to 49 percent

3 50 to 74 percent

4 75 to 99 percent

5 100 percent

7 Employer does not provide subsidy [INTERVIEWER: DO NOT READ. ONLY USE CODE 7 IF RESPONDENT HAD MISSPOKE]

8 DK

9 (VOL) RF

JOURNEY-TO-WORK SECTION END

PLACE INFORMATION

STTRAVEL. Now, let's talk about the locations [you/FNAME] [were/was] at on [your/his/her] travel day. In general, questions will be asked in the order as they appear in [your/FNAME's] diary. Let's begin with Place 1.

At 3:00 AM on <INSERT TRAVEL DAY>, [were you/ was FNAME] ...?
(READ LIST)

01 Traveling

02 At a location

HIDDEN VARIABLE REFLECTS NUMBER OF LOCATIONS AFTER RECORDING DEPTM, AUTOMARK THE NUMBER EACH TIME THROUGH.

IF LOC# EQ BLANK, SET LOC# EQ 1
ELSE SET LOC# EQ LOC#+1

ALLOW UP TO 11 LOCATIONS.

(ASK AT THE BEGINNING OF EACH NEW TRIP)

PNAME1ON. Where [were you/was FNAME] at 3:00 AM on [ASSN]?

[IF LOC# NE 1, ABOVE QUESTION SHOULD INSTEAD READ: "Where did [you/FNAME] go next?"]

[IF LOC# EQ 1 and STTRAVEL EQ 01, ABOVE QUESTION SHOULD INSTEAD READ: "Where was [your/his/her] destination?"]

[INTERVIEWER NOTE: PLEASE READ: "If you made any stops before your next destination (such as to stop for fuel, pick up food, or to pick up drop off someone), these will be added as separate places."]

IF STOPS EQ 1 ADD: "Where was [your/his/her] brief stop? If it was a transit stop, please mark "transit stop." Otherwise, please mark the appropriate location."

- 01 Home
- 02 Primary workplace
- 03 Secondary workplace
- 04 School
- 05 Previous location [ONLY SHOWN FROM THE 2ND TRIP AND ON FOR EACH HH MEMBER]
- 06 New location
- 07 Transit stop

STOPS

[ASK IF STTRAVEL EQ 1 OR LOC# NE 1]

Did [you/FNAME] make any stops along [your/his/her] way to [INSERT PNAME1ON EQ 1,2,3,4 OR THE DESTINATION (IF PNAME NE 1 OR 2 OR 3 OR 4)]? Anything like a quick errand, catching a bus or train, stopping at a gas station, picking up food, or picking up or dropping off someone?

- 1 Yes [LOOP BACK TO PNAME1ON]
- 2 No
- 98 DK
- 99 RF

CONFIRM

[ASK IF PNAME1ON EQ 01, 02, 04]

We have in our records the address for [your/FNAME's] [home/primary workplace/ /school] as:

[IF PNAME1ON EQ 01, 02, 04 AND LOCATION INFORMATION NOT ON FILE, AUTOMARK CONFIRM EQ 2.

IF PNAME1ON EQ 01, 02, 04 AND LOCATION INFORMATION ON FILE, ASK CONFIRM. CONFIRM SHOULD ONLY BE ASKED THE FIRST TIME EACH PERSON GIVES 01, 02, 04 FOR PNAME1ON]

PROGRAMMER NOTES:

PNAME1ON EQ 1, INSERT HADDR TO HZIP

PNAME1ON EQ 2, INSERT WNAME, WADDR TO WZIP (IF CWADD EQ 2, PULL IN WXSTR1&2 INSTEAD OF WADDR)

PNAME1ON EQ 4, INSERT SNAME, SADDR TO SZIP (IF CSADD EQ 2, PULL IN SXSTR1&2 INSTEAD OF SADDR)

[INTERVIEWER NOTE: READ IF NECESSARY: "Do NOT enter a Post Office Box. For the purposes of this study, we need the physical address."]

<ADDR> Address: _____

<SUITE>: Suite: _____

<CITY> City: _____

<STAT> State: _____

<ZIP> Zip Code: _____

Is this correct?

- 01 Yes [IF LOC# EQ 1 AND STTRAVEL EQ 02, SKIP TO APURP; ELSE GO TO ARRTM]
- 02 No

[ASK IF PNAME1ON EQ 05]

CPRLOC

Which location was that? Was it . . . [READ LIST]

[INTERVIEWER NOTE: PLEASE READ THE LIST OF LOCATIONS AND KEY PUNCH THE APPROPRIATE RESPONSE]

PROGRAMMER NOTE: LIST ALL LOCATIONS REPORTED TO THIS POINT.

- 1 PNAME1 (OR PNAME1ON EQ 1,2,3,4) [SKIP TO ARRTM]
- 2 PNAME2 (OR PNAME1ON EQ 1,2,3,4) [SKIP TO ARRTM]
- 3 PNAME3 (OR PNAME1ON EQ 1,2,3,4) [SKIP TO ARRTM]
- 4 PNAME4 (OR PNAME1ON EQ 1,2,3,4) [SKIP TO ARRTM]
- 5 PNAME5 (OR PNAME1ON EQ 1,2,3,4) [SKIP TO ARRTM]

AND SO ON . . .

197 RESPONDENT MISSPOKE; NEW LOCATION [SKIP TO PNAME]

PNAME

[ASK IF PNAME1ON EQ 03, 06 OR 07 IF CONFIRM EQ 02 OR CPRLOC EQ 97]

What is the NAME of this location?
(IF NEEDED, ASK FOR SPELLING.)
(RECORD NAME OF LOCATION)

[INTERVIEWER NOTE] PLACE NAME SHOULD INCLUDE INFORMATION DESCRIBING THE PLACE IF IT IS UNCERTAIN. EXAMPLE: "NOVEL IDEAS" SHOULD BE "NOVEL IDEAS BOOKSTORE." ASK "What type of place is this?" IF YOU DO NOT KNOW THE TYPE OF THE PLACE

[INTERVIEWER NOTE: IF RESPONDENT SAYS THEY ALREADY REPORTED, ASK FOR THE LOCATION NAME AND RE-TYPE]

-
- 8 Don't know
 - 9 Refused

ADDR

[ASK IF PNAME1ON EQ 03, 06 OR 07 OR IF CONFIRM EQ 02 OR CPRLOC EQ 97]

What is the street address of that place?
(IF NEEDED, ASK FOR SPELLING.)
(READ IF NECESSARY: "Do NOT enter a Post Office Box. For the purposes of this study, we need the physical address of your household.")
(RECORD STREET NUMBER AND NAME)

[INTERVIEWER NOTE: IF RESPONDENT SAYS THEY ALREADY REPORTED, ASK FOR THE LOCATION NAME AND RE-TYPE]

-
- 8 Don't know
 - 9 Refused

CITY

[ASK IF PNAME1ON EQ 03, 06 OR 07 IF CONFIRM EQ 02 OR CPRLOC EQ 97]

And the City?
(RECORD CITY NUMBER FROM LIST OF DELAWARE VALLEY REGION CITIES—SEE TACK-UP)

[INTERVIEWER NOTE: IF RESPONDENT SAYS THEY ALREADY REPORTED, ASK FOR THE LOCATION NAME AND RE-TYPE]

-
- 996 Other (Specify _____)
 - 998 Don't Know
 - 999 Refused

STATE

[ASK IF PNAME1ON EQ 03, 06 OR 07 IF CONFIRM EQ 02 OR CPRLOC EQ 97]

Is that in Pennsylvania or New Jersey?
RECORD RESPONSE

INSERT STATE CODE LIST

98 Don't Know
99 Refused

[ASK IF PNAME10N EQ 03, 06 OR 07 IF CONFIRM EQ 02 OR CPRLOC EQ 97]
ZIP Do you know the Zip Code?

[INTERVIEWER NOTE: IF RESPONDENT SAYS THEY ALREADY REPORTED, ASK FOR THE LOCATION NAME AND RE-TYPE]

8 Don't Know
9 Refused

XSTS [ASK IF PNAME10N EQ 03, 06 OR 07 IF CONFIRM EQ 02 OR CPRLOC EQ 97 AND ADDR IS NOT PROVIDED]
What are the nearest cross streets?
(RECORD CROSS STREETS)

8 Don't know
9 Refused

[IF LOC# EQ 1 AND STTRAVEL EQ 02 SKIP TO APURP]

ARRTM What time did [you/FNAME] arrive at this place?

INTERVIEWER NOTE: TIME WILL BE RECORDED AS MILITARY TIME. USE THE GUIDE BELOW FOR CONVERSION

01 EQ 1 AM
02 EQ 2 AM
03 EQ 3 AM 10 EQ 10 AM 17 EQ 05 PM 24 EQ 12 AM
04 EQ 4 AM 11 EQ 11 AM 18 EQ 06 PM
05 EQ 5 AM 12 EQ 12 PM 19 EQ 07 PM SECOND DAY:
06 EQ 6 AM 13 EQ 01 PM 20 EQ 08 PM 25 EQ 1 AM
07 EQ 7 AM 14 EQ 02 PM 21 EQ 09 PM 26 EQ 2 AM
08 EQ 8 AM 15 EQ 03 PM 22 EQ 10 PM MINUTES RECORDED VERBATIM
09 EQ 9 AM 16 EQ 04 PM 23 EQ 11 PM

[INTERVIEWER NOTE: RECORD CODE PROVIDED IN LIST FOR THE HOUR OF TRAVEL AND THEN THE MINUTES VERBATIM]

[PROGRAMMER NOTE: MAKE OPENEND BOX LIMITED TO 4 CHARACTERS]

____ (INTERVIEWER: FOR EXAMPLE, 3:12 PM SHOULD BE RECORDED AS 15:12.)

9998 DON'T KNOW/REMEMBER
9999 REFUSED

MODE How did [you/FNAME] get there?

[Interviewer Note: DON'T KNOW/REFUSE INVALID → MUST HAVE MODE; PLEASE RESTATE QUESTION,)

[INTERVIEWER NOTE: IF RESPONDENT ATTEMPTS TO PROVIDE MULTIPLE MODES, PLEASE ASK THEM TO CONSIDER IT A SEPARATE LOCATION AND REPORT. FOR EXAMPLE, IF THEY TRANSFER FROM A BUS TO A TRAIN, THEN THE TRANSFER POINT IS A NEW LOCATION.]

NON-MOTORIZED TRAVEL:

- 01 Walk
- 02 Bike
- 03 Wheelchair/Mobility Scooter
- 04 Other non-motorized (Skateboard, etc.)

PRIVATE VEHICLE:

- 05 Auto/Van/Truck
- 06 Carpool/Vanpool
- 07 Motorcycle/Scooter/Moped

PRIVATE TRANSIT:

- 08 Taxi/Hired Car/Limo
- 09 Rental car/Car share vehicle (Zipcar, etc.)
- 10 Private shuttle (RapidRover, employer, hotel, etc.)
- 11 Greyhound/Bolt/Mega Bus
- 12 Airplane
- 13 Other private transit

PUBLIC TRANSIT:

BUS:

- 14 SEPTA Bus/Trolleybus
- 15 NJ TRANSIT Bus
- 16 TMA Shuttle (includes Pottstown Area Rapid Transit, Coatesville Link, Beeline Burlink, Doylestown DART, Bieber Bus, Tiger Transit)
- 17 AMTRAK Bus
- 18 School bus
- 19 Dial-a-Ride/ParaTransit (Access Services, etc.)
- 20 Other bus

RAIL/SUBWAY:

- 21 SEPTA Subway/the El (includes Market-Frankford Line, Broad Street Line, or Norristown High Speed Line)
- 22 SEPTA Regional Rail
- 23 SEPTA Trolley/Light Rail
- 24 NJ TRANSIT Commuter Rail (includes Northeast Corridor, Atlantic City Line, etc.)
- 25 NJ TRANSIT Light Rail (includes River LINE, Hudson-Bergen Light Rail, Newark Light Rail)
- 26 PATCO (Port Authority Transit Corporation) Speedline
- 27 AMTRAK Train
- 28 Other rail

FERRY:

- 29 RIVERLINK FERRY
- 30 Other Boat / Ferry

[NOTE: IF MODE EQ 14–30, THEN TRANSIT ON AND OFF NEED TO BE RECORDED AS SEPARATE PLACES]

PARTY

[ASK IF MODE EQ 05, 06, 07, OR 09]

How many other people were traveling with <you/FNAME>?

[Interviewer Note IF NECESSARY: If talking to respondent, say: "Don't include yourself."

If talking about other household person, say: "Don't include <INTERVIEWER: SAY PERSON'S FIRST NAME>."]

RECORD NUMBER [RANGE: 0–15] [IF 0, SKIP TO DRIVER]

[PROGRAMMER NOTE: RESTRICT 16 THRU 96]

97 MORE THAN 15 PEOPLE

98 DON'T KNOW

99 REFUSE

HHMEM

[IF MODE EQ 05, 06, 07 OR 09, AND IF PARTY GT 0 AND LT 98]

Of these, how many were household members?

[INTERVIEWER NOTE IF NECESSARY: IF TALKING TO RESPONDENT, SAY:
"Don't include yourself."

IF TALKING ABOUT OTHER HOUSEHOLD PERSON, SAY: "Don't include <INTERVIEWER: SAY PERSON'S FIRST NAME>."]

[PROGRAMMER NOTE: CHECK THAT HHMEM LE PARTY]

RECORD NUMBER [RANGE: 0– 15]

98 DON'T KNOW

99 REFUSE

HCHK1

ERROR TEXT [IF HHMEM > PARTY]

SINGLE "I'M SORRY, BUT THERE SEEMS TO BE AN ERROR: I JUST RECORDED THAT <HHMEM> HOUSEHOLD MEMBERS TRAVELED WITH YOU BUT EARLIER YOU REPORTED <PARTY> OTHER PEOPLE TRAVELING WITH YOU. WHICH NUMBER SHOULD WE CORRECT?"

1 <HHMEM> HOUSEHOLD MEMBERS [GO BACK TO HHMEM QUESTION TO FIX]

2 <PARTY> OTHER PEOPLE [GO BACK TO PARTY QUESTION TO FIX]

PERTP

[IF HHMEM >0 AND LESS THAN 98]

Who were the household members?

[LIST PERSONID AND FNAME OF EACH PERSON IN THE HOUSEHOLD]

[INTERVIEWER NOTE IF NECESSARY: IF TALKING TO RESPONDENT, SAY:
"Don't include yourself."

IF TALKING ABOUT OTHER HOUSEHOLD PERSON, SAY: "Don't include
<INTERVIEWER: SAY PERSON'S FIRST NAME>."]

[INTERVIEWER NOTE: THIS IS A MULTI-PUNCH QUESTION.]

[PROGRAMMER NOTE: SHOW PERSNO AND FIRST NAME]

98 DON'T KNOW
99 REFUSE

PCHK1 ERROR TEXT [IF NUMBER OF PERSONS SELECTED IN PERTP NE HHMEM]

SINGLE "WE'RE SORRY, BUT THERE SEEMS TO BE AN ERROR: WE JUST
RECORDED THAT <FIRST NAMES SELECTED IN PERTP> TRAVELED WITH YOU
BUT EARLIER YOU REPORTED <HHMEM> HOUSEHOLD MEMBERS TRAVELED
WITH YOU. WHICH SHOULD WE CORRECT?"

1 Names of household members traveling with you

[GO BACK TO PERTP QUESTION TO FIX]

2 Number of household members traveling with you (currently marked as <HHMEM>)

[GO BACK TO HHMEM QUESTION TO FIX]

DRVER [IF MODE=05, 06, 07 or 09] <Were/Was> <you/FNAME> the driver?

1 YES
2 NO
98 DON'T KNOW
99 REFUSE

VEHNO [IF MODE EQ 05, 06, or 07. IF MODE EQ 09 AUTOMARK AS NON-HOUSEHOLD
VEHICLE (97).] [IF 0 WORKING VEHICLES IN SAMPLE, AUTOMARK AS NON-HH
VEHICLE (97).

Which vehicle did [you/FNAME] use?

ON-SCREEN DISPLAY

| <u>HH VEH NUMBER</u> | <u>VEHICLE NAME</u> |
|----------------------|---------------------|
| VEH1 | YEAR, MAKE, MODEL |
| VEH2 | YEAR, MAKE, MODEL |
| VEH3 | YEAR, MAKE, MODEL |

[PROGRAMMER: DISPLAY ALL HH VEHICLES]

[INTERVIEWER NOTE: ENTER HH VEH NUMBER OR 97 FOR NON-HH VEHICLE]

98 DK
99 RF

TOLLF [IF MODE=05, 06, 07, or 09] Did [you/FNAME] use a toll road or toll bridge?

1 YES – TOLL ROAD
2 YES – TOLL BRIDGE
3 YES – BOTH TOLL ROAD AND TOLL BRIDGE
4 NO

- 8 DON'T KNOW
- 9 REFUSE

TOLLR [IF TOLLF EQ 1 OR 3]

MULTIPLE RESPONSE

Which toll road(s) or express lane(s) did [you/FNAME] use?

- 1 New Jersey Turnpike (I-95)
- 2 Garden State Parkway
- 3 Atlantic City Expressway
- 4 Pennsylvania Turnpike (I-476)
- 5 New Jersey Turnpike-Pennsylvania Extension (I-276)
- 97 Other Toll Road or Express Lane: Specify [OPEN-ENDED BOX]
- 98 DON'T KNOW
- 99 REFUSE

TOLLB [IF TOLLF EQ 2 OR 3]

MULTIPLE RESPONSE

Which toll bridge(s) did [you/FNAME] use?

- 1 Benjamin Franklin Bridge
- 2 Walt Whitman Bridge
- 3 Betsy Ross Bridge
- 4 Burlington-Bristol Bridge
- 5 Delaware Memorial Bridge
- 6 Tacony-Palmyra Bridge
- 7 Commodore Barry Bridge
- 8 Trenton-Morrisville Route 1 Toll Bridge
- 9 New Hope-Lambertville Route 202 Toll Bridge
- 97 Other Bridge, Specify [OPEN-ENDED BOX]
- 98 DON'T KNOW
- 99 REFUSE

DYGOV [IF MODE EQ 05, 06, 07, OR 09 AND PNAME1ON NE 1] Did [you/FNAME] park at or near this location?

- 1 YES
- 2 NO →APURP
- 8 DON'T KNOW →APURP
- 9 REFUSE →APURP

PRKLC How many minutes did it take <you/FNAME> to walk from the parking location to your destination?

RECORD MINUTES [RANGE: 0 to 60]

- 97 More than 60

- 98 DK
- 99 (VOL) RF

PAYPK [IF MODE EQ 05, 06, 07, OR 09, PNAME1ON NE 1, AND DYGOV EQ 1]

Did [you/FNAME] pay to park?

- 1 YES
- 2 NO →APURP
- 8 DON'T KNOW →APURP
- 9 REFUSE →APURP

PKAMT [IF PAYPK EQ 1] How much did [you/FNAME] pay to park?

RECORD RESPONSE [FORMAT: ____ . ____]
 [RANGE 0 TO 999.99, UP TO 2 DECIMAL PLACES]

[INTERVIEWER NOTE] ENTER 9999.99 IF RESPONDENT DOESN'T KNOW THE AMOUNT

PKUNT [IF PKAMT GT 0]

Was the cost per:

- 1 Hour
- 2 Day
- 3 Week
- 4 Month
- 5 Quarter
- 6 Semester
- 7 Year
- 97 OTHER: RECORD RESPONSE _____
- 98 DON'T KNOW
- 99 REFUSE

ACTIVITY INFORMATION

[PROGRAMMER NOTE: START OF ACTIVITY ROSTER → MULTIPLE RESPONSE: ALLOW UP TO FOUR ACTIVITIES AT EACH LOCATION]

[INTERVIEWER NOTE: DO NOT READ LIST → CONFIRM PUNCHED CATEGORIES AFTER RESPONDENT PROVIDES ANSWERS]

APURP1/2/3/4 Now, I'd like to talk about the activities <you/FNAME> conducted at this location. What did <you/FNAME> do at this location? Please select up to four activities.

- 1 HOME ACTIVITIES NOT RELATED TO WORK, SCHOOL, OR ONLINE (sleeping, personal care, chores, etc.)

- COURSE
- 2 HOMEWORK, CLASS-RELATED ASSIGNMENTS, OR ATTENDED AN ONLINE
 - 3 ATTENDED CLASSES
 - 4 ATTENDED OTHER SCHOOL ACTIVITIES (performances, meetings, clubs)
 - 5 WORK FOR PAY
 - 6 PERSONAL BUSINESS (banking or ATM, salon, library)
 - 7 ONLINE PERSONAL BUSINESS (banking, email, etc.)
 - 8 EVERYDAY SHOPPING (grocery, drug store, gas, etc.)
 - 9 MAJOR SHOPPING (appliances, cars, home furnishings, clothes, etc.)
 - 10 ONLINE SHOPPING FOR PRODUCTS, SERVICES OR GOODS
 - 11 EAT OUT (restaurant, drive-thru, etc.)
 - 12 SOCIAL (visit friends, relatives, etc.)
 - 13 SOCIAL COMMUNITY/RELIGIOUS (meetings, worship, wedding, funeral, etc.)
 - 14 RECREATION: ACTIVE PARTICIPATION (sports, exercise, walk the dog, etc.)
 - 15 RECREATION: WATCH/OBSERVE (movies, concert, sports event, etc.)
 - 16 MEDICAL (medical appointment, medical procedure, etc.)
 - 17 PICK UP PASSENGER
 - 18 DROP OFF PASSENGER
 - 19 CHANGE TYPE OF TRANSPORTATION/TRANSFER
 - 20 ACCOMPANY HOUSEHOLD MEMBER
 - 96 OTHER ACTIVITY: SPECIFY _____

DUR 1/2/3/4 How long did [you/FNAME] do each of these activities?
 [PROGRAMMER NOTE: ALLOW DURATION TIME FOR EACH ACTIVITY.
 FORMAT: 30 MINUTES = PUNCH 0:30; 1 HOUR = PUNCH 1:00; 1 HOUR, 30 MINUTES
 = PUNCH 1:30]
 [INTERVIEWER NOTE: THIS MUST BE COLLECTED FOR ALL ACTIVITIES]
 8 DK [HAS A VALUE OF 00:00]
 9 (VOL) RF [HAS A VALUE OF 00:00]

EOTD [IF DURATION OF ACTIVITIES ENDS THE TRAVEL DAY (2:59 AM NEXT DAY)] This would
 end your travel day. Is that correct?
 [INTERVIEWER: IF RESPONDENT SAYS, "YES," CONTINUE AND ENTER 9997; IF
 "NO,"
 ENTER 9996 AND CHANGE THE DURATION TIME.]

DEPTM What time did [you/FNAME] leave?
 (INTERVIEWER NOTE: TIME WILL BE RECORDED AS MILITARY TIME. USE THE GUIDE
 BELOW FOR CONVERSION)

01 EQ 1 AM
 02 EQ 2 AM
 03 EQ 3 AM 10 EQ 10 AM 17 EQ 05 PM 24 EQ 12 AM
 04 EQ 4 AM 11 EQ 11 AM 18 EQ 06 PM
 05 EQ 5 AM 12 EQ 12 PM 19 EQ 07 PM SECOND DAY:
 06 EQ 6 AM 13 EQ 01 PM 20 EQ 08 PM 25 EQ 1 AM
 07 EQ 7 AM 14 EQ 02 PM 21 EQ 09 PM 26 EQ 2 AM
 08 EQ 8 AM 15 EQ 03 PM 22 EQ 10 PM MINUTES RECORDED VERBATIM
 09 EQ 9 AM 16 EQ 04 PM 23 EQ 11 PM

[INTERVIEWER NOTE: RECORD CODE PROVIDED IN LIST FOR THE HOUR OF TRAVEL AND THEN THE MINUTES VERBATIM]

[PROGRAMMER NOTE: MAKE OPENEND BOX LIMITED TO FOUR CHARACTERS]

____ (INTERVIEWER: FOR EXAMPLE, 3:12 PM SHOULD BE RECORDED AS 15:12.)

9996 BACK TO DUR
 9997 DID NOT LEAVE LOCATION (IF STTRAVEL EQ 02 AND LOC# EQ 1 GO TO < NOGO>, ELSE GO TO <ENDTRVL>)
 9998 DON'T KNOW/REMEMBER
 9999 REFUSED

PROGRAMMER NOTE:

(1) DEPARTURE TIME MUST BE LATER THAN ARRIVAL TIME.
 IF DEPARTURE TIME IS NOT LATER THAN ARRIVAL, RE-ASK DEPARTURE TIME SHOWING:

“Your arrival time was [IF LOC EQ 1, SHOW 3am; IF LOC GT 1, SHOW <ARRTM>] and your departure time was <DEPTM>, which is earlier than you arrived. What is the correct departure time?” <GO TO DEPTM>

(2) DEPARTURE TIME MUST NOT BE LESS THAN [ARRIVAL TIME + DURATION OF ACTIVITES].

IF THIS IS THE CASE, SHOW:

“Your arrival time was [IF LOC EQ 1, SHOW 3am; IF LOC GT 1, SHOW <ARRTM>] and the total duration of time spent doing activities was [SUM OF DUR]. As a result, your DEPTM must be [ARRTM+DUR: SHOW THIS TIME IN AM OR PM] or later. What is the correct departure time?” <GO TO DEPTM>

- (1) DUR cannot be less than one minute for any activity.
- (2) DUR cannot be greater 23 hours, 59 minutes total for all activities listed.
- (3) Arrival Time + Total Time Spent for all DUR activities cannot exceed 2:59 AM (next day following TDay), or as we calculate it: 26:59.
- (4) If the respondent enters Total Time Spent for all DUR activities that would exceed 26:59, display a message.
- (5) If the respondent enters Total Time Spent for all DUR activities that would bring DEPT time to 2:59 AM, display a message once: “This would end your travel diary. Are you sure that this is correct?”

Effect on DEPTM:

If the time the respondent enters for DEPTM is earlier than MinDeptTime (Arrival Time + Total Time Spent for all DUR activities), then display a message at DEPTM, asking the respondent to either:

- (1) Change the DEPTM time, or
- (2) Click on the GO BACK button and change the DUR activity times.

[IF DEPTM EQ 9997, STTRAVEL EQ 02, AND LOC# EQ 1, GO TO < NOGO>. IF DEPTM EQ 9997 AND [STTRAVEL NE 02 OR LOC# NE 1], GO TO <ENDTRVL>. ELSE GO TO PNAME1ONLY.]

NOGO [ASK IF DEPTM EQ 9997, STTRAVEL EQ 02, AND LOC# EQ 1]

So, [you/FNAME] made no trips, including for work or school. Is this correct?

- 1 YES →WHYNO
- 2 NO →DEPTM
- 8 DON'T KNOW →WHYNO
- 9 REFUSE →WHYNO

WHYNO [ASK IF NOGO EQ 1, 8, OR 9]

It would help if you could provide the reason why no trips were made. Why were there no trips made on <ASSN>?

- 01 PERSONALLY SICK
- 02 VACATION OR PERSONAL DAY
- 03 CARETAKING SICK KIDS
- 04 CARETAKING SICK OTHER
- 05 HOMEBOUND ELDERLY OR DISABLED
- 06 WORKED AT HOME FOR PAY
- 07 NOT SCHEDULED TO WORK
- 08 WORKED AROUND HOME (NOT FOR PAY)
- 09 No transportation available
- 10 Out of Delaware Valley Region
- 11 Weather
- 12 No reason to travel
- 97 OTHER
- 98 DON'T KNOW
- 99 REFUSE

ENDTRVL [PROGRAMMER NOTE: IF RESPONDENT REACHES THE 11TH TRIP, PLEASE SHOW THE FOLLOWING BEFORE THE QUESTION: "We have now collected information for eleven trips on your scheduled travel day . . ."]

Does this mean [you/FNAME] took no more trips during [your/his/her] 24-hour travel period?

[INTERVIEWER NOTE: IF MORE THAN 11 TRIPS, PUNCH "3" TO GO TO ADD TRIPS]

- 01 YES → NO MORE TRIPS
- 02 NO → DID MAKE MORE TRIPS [IF LOC# NE 11, GO BACK TO <DEPTM>, ELSE GO TO <ADDTRIP>]
- 98 DON'T KNOW [GO BACK TO <DEPTM>]
- 99 REFUSED [GO BACK TO <DEPTM>]

ADDTRIP [ASK IF ENDTRVL EQ 02 AND LOC# EQ 11] Please provide us with the additional trip information.

FINALIZING RETRIEVAL

INCRF [ASK IF PERSONID EQ 1 AND IF RECRUIT INCRF=99 or 98] And to make sure your household properly represents others in the region, can you pick the option from the following categories that best represents your total household income in [SYSYEAR - 1]?

[INTERVIEWER NOTE, IF NEEDED: We understand if you feel uncomfortable answering this question. Household income not only allows us to verify that we are including all types of households across the region, but income may also be an important characteristic in analyzing and determining travel behavior]

[READ APPROPRIATE RANGES]

- 01 \$0 to \$9,999
- 02 \$10,000 to \$24,999
- 03 \$25,000 to \$34,999
- 04 \$35,000 to \$49,999
- 05 \$50,000 to \$74,999
- 06 \$75,000 to \$99,999
- 07 \$100,000 to \$149,999
- 08 \$150,000 to \$199,999
- 09 \$200,000 to \$249,999
- 10 \$250,000 or more
- 98 DON'T KNOW
- 99 REFUSE

[ALL HOUSEHOLDS] Thank you. At this point, those are all the questions I have for you about your travel day. Before we conclude...

For GPS households only, we will ask if they have been able to use the GPS equipment as instructed. If after the last deployment date, we will ask if they have returned their equipment. If not, we will ask them to do so as soon as possible, using the return envelope and instructions provided.

[IF STYPE EQ 1 AND CURRENT DATE IS LESS THAN <ASSN + 3 DAYS>]:

L1 Please remember to keep carrying your GPS devices and then mail them back on <ASSN + 3 DAYS>.

[IF STYPE EQ 1 AND CURRENT DATE IS GREATER THAN OR EQUAL TO <ASSN + 3 DAYS>]:

L2 Have you returned your GPS equipment yet? (IF NOT: "You can drop the package in any USPS mailbox.")

- 1 YES
- 2 NO
- 8 DON'T KNOW
- 9 REFUSE

[IF INCENT EQ 1]: Once all of your travel information is reviewed and confirmed for consistency, you should receive your check for \$<INAMT> in the mail in about 8–10 weeks.

RESPF [IF INCENT EQ 1]: Please indicate the first and last name that will appear on the check.

[IF NECESSARY, READ: "Without a full and correct name of an adult to put on the check, we will be unable to process your household's incentive."]

FUTUR

We would like you to know that your household may be contacted by the Delaware Valley Regional Planning Commission to give you the option of participating in future studies.

[INTERVIEWER NOTE: IF RESPONDENT SAYS, "I WOULDN'T BE INTERESTED" OR "NO," PLEASE PUNCH "DO NOT CONTACT"]

2 DO NOT CONTACT
8 DK
9 (VOL) RF

END. [ALL HOUSEHOLDS] Thank you very much for participating in the Delaware Valley Household Travel Survey. We sincerely thank you for your time and cooperation.

[IF NECESSARY READ: "Since we completed the interview over the phone, you do not need to mail in the travel diary".]



Appendix E

Travel Diary Packet
Materials

Appendix E. Travel Diary Packet Materials



Travel Diary for:

Welcome!

Thank you for participating in the Delaware Valley Household Travel Survey! The information you provide in this diary will be essential for DVRPC to understand your travel needs and improve transportation in your area.

Please read the instructions on the inside cover before your assigned travel day.

DIARY INSTRUCTIONS:

Journey to Work: First, we would like to ask you a few questions about how you typically travel to work. Complete this section (*located underneath this page*) only if you are employed (either full or part time) and do not work only from home. These questions are asked in **general** and do **not** only pertain to your assigned travel day.

Travel Diary: On your assigned travel day, carry this diary with you and record information about all the places you visit, how you got there, and what you did there. Begin when you get up and start your day (no earlier than 3 a.m.) on your travel day. The day ends when you go to sleep (no later than 2:59 AM the following day). We ask that a parent or guardian fill out travel diaries for children under age 16.

Remember that a place includes any new location that you travel to, no matter how long you are there (this includes each **new place you visit... if you walked upstairs in your home, do not mark that as another place).*

Please fill out all the required fields to provide your travel day information:

- 1** **The exact time when you arrive and the complete address of each place.** If you are unsure about the address of a location, write in as much information as possible. If you submit your information online, you can use the locator tool on our website to help you find your location.
- 2** **How you traveled (use *List 1—"Method of Travel"* from the foldout inside)**
If you traveled by private vehicle, you will be instructed to answer a few additional questions.
- 3** **Activities and how long you spent doing each activity**
(use *"List 2 – Activities"* from the foldout inside)
- 4** **The exact time when you left each location**

After filling out the diary, please remember to submit all household members' travel information by following the instructions on the **back cover**.

Questions, Comments, or Concerns?

See our FAQ Page at www.dvrpc.org/TravelSurvey

Call the toll-free survey hotline at 1-800-334-4702 or e-mail us at DVRPCTravelHelp@srbi.com

LIST 1 METHOD OF TRAVEL

NON-MOTORIZED TRAVEL:

- 1 Walk
- 2 Bike
- 3 Wheelchair / Mobility Scooter
- 4 Other non-motorized (Skateboard, etc.)

PRIVATE VEHICLE:

- 5 Auto / Van / Truck
- 6 Carpool / Vanpool
- 7 Motorcycle / Scooter / Moped

PRIVATE TRANSIT:

- 8 Taxi / Hired Car / Limo
- 9 Rental car / Car Share Vehicle (e. g. ZipCar)
- 10 Private shuttle (*RapidRover, employer, hotel, etc.*)
- 11 Greyhound / Bolt / Mega Bus
- 12 Airplane
- 13 Other private transit

PUBLIC TRANSIT:

BUS:

- 14 SEPTA Bus / Trolleybus
- 15 NJ TRANSIT Bus
- 16 TMA Shuttle (*includes Pottstown Area Rapid Transit, Coatesville Link, Beeline Burlink, Doylestown DART, Bieber Bus, Tiger Transit*)
- 17 AMTRAK Bus
- 18 School Bus
- 19 Dial-a-Ride / ParaTransit (*Access Services, etc.*)
- 20 Other bus

RAIL/SUBWAY:

- 21 SEPTA Subway/the El (*includes Market-Frankford Line, Broad Street Line, Norris town High Speed Line*)
- 22 SEPTA Regional Rail
- 23 SEPTA Trolley / Light Rail
- 24 NJ TRANSIT Commuter Rail (*includes Northeast Corridor, Atlantic City Line, etc.*)
- 25 NJ TRANSIT Light Rail (*includes River LINE, Hudson-Bergen Light Rail, Newark Light Rail*)
- 26 PATCO (Port Authority Transit Corporation) Speedline
- 27 AMTRAK Train
- 28 Other rail

FERRY:

- 29 RIVERLINK FERRY
- 30 Other Boat / Ferry

LIST 2 ACTIVITIES

- 1 Home activities not related to work, school, or online
- 2 Homework, class related assignments or attended an online course
- 3 Attended classes
- 4 Attended other school activities (*performances, meetings, clubs*)
- 5 Work for pay
- 6 Personal business (*banking or ATM, salon, library*)
- 7 Personal business online (*banking, e-mail, etc.*)
- 8 Everyday shopping (*grocery, drug store, gas, etc.*)
- 9 Major shopping (*appliances, cars, home furnishings, clothes, etc.*)
- 10 Shopping for products, services or goods online
- 11 Eat out (*restaurant, drive-thru, etc.*)
- 12 Social (*visit friends, relatives, etc.*)
- 13 Social community/religious (*meetings, worship, wedding, funeral, etc.*)
- 14 Recreation – active participation (*sports, exercise, walk the dog, etc.*)
- 15 Recreation – watch/observe (*movies, concert, sports event, etc.*)
- 16 Medical (*medical appointment, medical procedure, etc.*)
- 17 Pick up passenger
- 18 Drop off passenger
- 19 Change type of transportation/transfer
- 20 Accompany household member
- 96 Other activity

Journey to Work

Please fill out this section only if you are currently employed (either full or part time) and do not work from home.

The questions in this section are asked **in general** and do not only pertain to your assigned travel day.

First, we would like to get some information about how you usually go to work. These questions are asked in general and do not only pertain to your assigned travel day.

1. How do you usually travel to your primary workplace? (Select One)

- | | |
|--|---|
| <input type="checkbox"/> Car, driving alone | <input type="checkbox"/> Bicycle |
| <input type="checkbox"/> Car, sharing a ride with others | <input type="checkbox"/> Walking the entire way |
| <input type="checkbox"/> Transit using park and ride | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Transit NOT using park and ride | |

1a.

In the last 10 times you went to work at this address, roughly how many of those times did you travel that way?
 _____ Times I don't know

2. When you go to work at this address, at what time do you regularly arrive there? (Select one)

- | | |
|--|---|
| <input type="checkbox"/> Before 6:00 AM | <input type="checkbox"/> 7:30 AM to 8:00 AM |
| <input type="checkbox"/> 6:00 AM to 6:30 AM | <input type="checkbox"/> 8:00 AM to 8:30 AM |
| <input type="checkbox"/> 6:30 AM to 7:00 AM | <input type="checkbox"/> 8:30 AM to 9:00 AM |
| <input type="checkbox"/> 7:00 AM to 7:30 AM | <input type="checkbox"/> After 9 AM |
| <input type="checkbox"/> Different times on different days | |

2a.

In the last 10 times you went to work at this address, roughly how many times did you arrive there at that time?
 _____ Times I don't know

3. When you go to work at this address, at what time do you regularly leave there? (Select one)

- | | |
|--|---|
| <input type="checkbox"/> Before 3:30 PM | <input type="checkbox"/> 5:00 PM to 5:30 PM |
| <input type="checkbox"/> 3:30 PM to 4:00 PM | <input type="checkbox"/> 5:30 PM to 6:00 PM |
| <input type="checkbox"/> 4:00 PM to 4:30 PM | <input type="checkbox"/> 6:00 PM to 6:30 PM |
| <input type="checkbox"/> 4:30 PM to 5:00 PM | <input type="checkbox"/> After 6:30 PM |
| <input type="checkbox"/> Different times on different days | |

3a.

In the last 10 times you went to work at this address, roughly how many times did you leave there at that time?
 _____ Times I don't know

4. In the last 10 times you worked, how many times did you **work from home** or **telecommute** instead of traveling to your work location?

_____ Times I don't know

5. Which best describes the parking arrangement or benefits offered for employees at your workplace?

- Employer offers to subsidize / pay for part of workplace parking
- Employee must pay for workplace parking out-of-pocket
- Employer offers free parking available for all employees
- I don't know

5a.

What percentage of workplace parking does your employer subsidize or offer to pay?
 1% to 24% 75% to 99%
 25% to 49% 100%
 50% to 74% I don't know

6. Which best describes the public transit benefits offered for employees at your workplace?

- Employer offers to subsidize / pay for part of transit fare
- Employee must pay for transit fare out-of-pocket
- I don't know

6a.

What percentage of transit fare does your employer subsidize or offer to pay?
 1% to 24% 75% to 99%
 25% to 49% 100%
 50% to 74% I don't know

Example PLACE

1 What time did you arrive at this place (record exact time) 9:00 (am/pm)

What is this place? Home Primary Workplace School Secondary Workplace Transit Stop Other Location

Name of Place: Happy Kids Daycare

Street Address or Nearest Cross Streets: 901 Main Street

City: Anytown State: PA Zip Code: 99999

2 How did you travel there? (Write Code from "LIST 1-Method of Travel" from the foldout) 5

IF YOU TRAVELED BY PRIVATE VEHICLE (CODE 05, 06, 07 or 09 FROM LIST 1) PLEASE FILL OUT THE QUESTIONS BELOW IN THIS SECTION

How many other people traveled with you? (Don't include yourself) 4

How many were household members? (Don't include yourself) 3

Which household members? (Use person #s from label)

P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15

Were you the driver? Yes No

Which household vehicle did you use? (Year/Make/Model): 2008 Honda Accord Did not use a household vehicle

Did you use a toll road or toll bridge?

Yes - Toll road Yes - Toll bridge Yes - Both toll road and toll bridge No

Which toll road(s) did you use? Pennsylvania Turnpike (1-476)

Which toll bridge(s) did you use? Betsy Ross Bridge
Benjamin Franklin Bridge

Did you park at or near this location? Yes No

How many minutes did it take you to walk from the parking location to your destination? 5 Minutes

Did you pay to park? Yes, I paid \$2.00 per: Hour Quarter Day Semester Week Year Month Other

3 What activities did you do there? (Please include up to 4 codes from "List 2 - Activities")
If you cannot find the appropriate code from List 2, please specify the activity.

| | Code | Specify if "Other" | How long did you do each activity? |
|-------------|----------|--------------------|------------------------------------|
| Activity 1: | <u>5</u> | | <u>6</u> Hours <u>0</u> Minutes |
| Activity 2: | <u>7</u> | | <u>0</u> Hours <u>30</u> Minutes |
| Activity 3: | | | ___ Hours ___ Minutes |
| Activity 4: | | | ___ Hours ___ Minutes |

4 What time did you LEAVE this place? 3:30 am/pm → **Move on to the next place**

I DID NOT LEAVE THIS PLACE → You are DONE. Thank you! Please remember to follow the instructions on the back cover.

**PLACE
1**

BEGIN RECORDING YOUR TRAVEL HERE:

At 3:00 AM on your travel day, were you:

- Traveling (Record your destination or any stop along the way as Place 1)
- At a location (Record this location as Place 1)

What is this place?

- Home
- Primary Workplace
- School
- Secondary Workplace
- Transit Stop
- Other Location

Name of Place: _____

Street Address or Nearest Cross Streets: _____

City: _____ State _____ Zip Code: _____

What activities did you do there? (Please include up to 4 codes from "List 2 – Activities")
If you cannot find the appropriate code from List 2, please specify the activity.

| | Code | Specify if "Other" | How long did you each activity? |
|-------------|----------------------|----------------------|---------------------------------|
| Activity 1: | <input type="text"/> | <input type="text"/> | ➔ _____ Hours _____ Minutes |
| Activity 2: | <input type="text"/> | <input type="text"/> | ➔ _____ Hours _____ Minutes |
| Activity 3: | <input type="text"/> | <input type="text"/> | ➔ _____ Hours _____ Minutes |
| Activity 4: | <input type="text"/> | <input type="text"/> | ➔ _____ Hours _____ Minutes |

What time did you leave this place?

: AM/PM ➔ **Continue to Place 2** to record your next place!

I did not leave this place

IF YOU DID NOT LEAVE THIS PLACE: It would help if you could provide the **main** reason why no trips were made. Why were there no trips made on this day? **(SELECT ONE)**

- Personally sick
- Vacation or personal Day
- Caretaking sick kids
- Caretaking sick other
- Homebound elderly or disabled
- Worked at home for pay
- Not scheduled to work
- Worked around home (not for pay)
- No transportation available
- Out of Delaware Valley Region
- Weather
- No reason to travel
- Other _____

IF YOU DID NOT LEAVE THIS PLACE TODAY: You are done. Thank you! Please remember to submit this information by following the instructions on the back cover.

**PLACE
2**

1 What time did you arrive at this place (record exact time) ____ am / pm

What is this place? Home Primary Workplace School Secondary Workplace Transit Stop Other Location

Name of Place: _____

Street Address or Nearest Cross Streets: _____

City: _____ State _____ Zip Code: _____

2 How did you travel there? (Write Code from "LIST 1-Method of Travel" from the foldout) _____

IF YOU TRAVELED BY PRIVATE VEHICLE (CODE 05, 06, 07 or 09 FROM LIST 1) PLEASE FILL OUT THE QUESTIONS BELOW IN THIS SECTION

How many other people traveled with you? (Don't include yourself) _____

How many were household members? (Don't include yourself) _____

Which household members? (Use person #s from label)
 P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15

Were you the driver? Yes No

Which household vehicle did you use? (Year/Make/Model): _____ Did not use a household vehicle

Did you use a toll road or toll bridge?
 Yes - Toll road Yes - Toll bridge Yes - Both toll road and toll bridge No

Which toll road(s) did you use? _____

Which toll bridge(s) did you use? _____

Did you park at or near this location?
 Yes No

How many minutes did it take you to walk from the parking location to your destination? _____ Minutes

Did you pay to park?
 Yes, I paid \$____ per: Hour Quarter Day Semester Week Year Month Other _____

3 What activities did you do there? (Please include up to 4 codes from "List 2 - Activities")
 If you cannot find the appropriate code from List 2, please specify the activity.

| | Code | Specify if "Other" | How long did you do each activity? |
|-------------|-------|--------------------|------------------------------------|
| Activity 1: | _____ | _____ | → _____ Hours _____ Minutes |
| Activity 2: | _____ | _____ | → _____ Hours _____ Minutes |
| Activity 3: | _____ | _____ | → _____ Hours _____ Minutes |
| Activity 4: | _____ | _____ | → _____ Hours _____ Minutes |

4 What time did you LEAVE this place? ____:____ am / pm → **Move on to the next place**

I DID NOT LEAVE THIS PLACE → You are DONE. Thank you! Please remember to follow the instructions on the back cover.

**PLACE
3**

1 What time did you arrive at this place (record exact time) ____ am / pm

What is this place?

- Home
- Primary Workplace
- School
- Secondary Workplace
- Transit Stop
- Other Location

Name of Place: _____

Street Address or Nearest Cross Streets: _____

City: _____ State _____ Zip Code: _____

2 How did you travel there? (Write Code from "LIST 1-Method of Travel" from the foldout) _____

IF YOU TRAVELED BY PRIVATE VEHICLE (CODE 05, 06, 07 or 09 FROM LIST 1) PLEASE FILL OUT THE QUESTIONS BELOW IN THIS SECTION

How many other people traveled with you? (Don't include yourself) _____

How many were household members? (Don't include yourself) _____

Which household members? (Use person #s from label)

P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15

Were you the driver? Yes No

Which household vehicle did you use? (Year/Make/Model): _____ Did not use a household vehicle

Did you use a toll road or toll bridge?

- Yes - Toll road
- Yes - Toll bridge
- Yes - Both toll road and toll bridge
- No

Which toll road(s) did you use? _____

Which toll bridge(s) did you use? _____

Did you park at or near this location?

- Yes
- No

How many minutes did it take you to walk from the parking location to your destination? _____ Minutes

Did you pay to park?

- Yes, I paid \$_____ per: Hour Quarter
- Day Semester
- Week Year
- Month Other_____
- No

3 What activities did you do there? (Please include up to 4 codes from "List 2 - Activities")

If you cannot find the appropriate code from List 2, please specify the activity.

| | Code | Specify if "Other" | How long did you do each activity? |
|-------------|-------|--------------------|------------------------------------|
| Activity 1: | _____ | _____ | ➡ _____ Hours _____ Minutes |
| Activity 2: | _____ | _____ | ➡ _____ Hours _____ Minutes |
| Activity 3: | _____ | _____ | ➡ _____ Hours _____ Minutes |
| Activity 4: | _____ | _____ | ➡ _____ Hours _____ Minutes |

4 What time did you LEAVE this place? ____:____ am / pm ➡ **Move on to the next place**

I DID NOT LEAVE THIS PLACE ➡ You are **DONE**. Thank you! Please remember to follow the instructions on the back cover.

**PLACE
4**

1 What time did you arrive at this place (record exact time) _____ am / pm

What is this place?

- Home
- Primary Workplace
- School
- Secondary Workplace
- Transit Stop
- Other Location

Name of Place: _____

Street Address or Nearest Cross Streets: _____

City: _____ State _____ Zip Code: _____

2 How did you travel there? (Write Code from "LIST 1-Method of Travel" from the foldout) _____

IF YOU TRAVELED BY PRIVATE VEHICLE (CODE 05, 06, 07 or 09 FROM LIST 1) PLEASE FILL OUT THE QUESTIONS BELOW IN THIS SECTION

How many other people traveled with you? (Don't include yourself) _____

How many were household members? (Don't include yourself) _____

Which household members? (Use person #s from label)

P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15

Were you the driver? Yes No

Which household vehicle did you use? (Year/Make/Model): _____ Did not use a household vehicle

Did you use a toll road or toll bridge?

- Yes - Toll road
- Yes - Toll bridge
- Yes - Both toll road and toll bridge
- No

Which toll road(s) did you use? _____

Which toll bridge(s) did you use? _____

Did you park at or near this location?

- Yes
- No

How many minutes did it take you to walk from the parking location to your destination? _____ Minutes

Did you pay to park?

- Yes, I paid \$_____per: Hour Quarter
- No Day Semester
- Week Year
- Month Other_____

3 What activities did you do there? (Please Include up to 4 codes from "List 2 - Activities")

If you cannot find the appropriate code from List 2, please specify the activity.

| | Code | Specify if "Other" | How long did you do each activity? |
|-------------|-------|--------------------|------------------------------------|
| Activity 1: | _____ | _____ | ➔ _____ Hours _____ Minutes |
| Activity 2: | _____ | _____ | ➔ _____ Hours _____ Minutes |
| Activity 3: | _____ | _____ | ➔ _____ Hours _____ Minutes |
| Activity 4: | _____ | _____ | ➔ _____ Hours _____ Minutes |

4 What time did you LEAVE this place? _____ : _____ am / pm ➔ **Move on to the next place**

I DID NOT LEAVE THIS PLACE ➔ You are **DONE**. Thank you! Please remember to follow the instructions on the back cover.

**PLACE
5**

1 What time did you arrive at this place (record exact time) ____ am / pm

What is this place?

- Home
- Primary Workplace
- School
- Secondary Workplace
- Transit Stop
- Other Location

Name of Place: _____

Street Address or Nearest Cross Streets: _____

City: _____ State _____ Zip Code: _____

2 How did you travel there? (Write Code from "LIST 1-Method of Travel" from the foldout) _____

IF YOU TRAVELED BY PRIVATE VEHICLE (CODE 05, 06, 07 or 09 FROM LIST 1) PLEASE FILL OUT THE QUESTIONS BELOW IN THIS SECTION

How many other people traveled with you? (Don't include yourself) _____

How many were household members? (Don't include yourself) _____

Which household members? (Use person #s from label)

P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15

Were you the driver? Yes No

Which household vehicle did you use? (Year/Make/Model): _____ Did not use a household vehicle

Did you use a toll road or toll bridge?

- Yes - Toll road
- Yes - Toll bridge
- Yes - Both toll road and toll bridge
- No

Which toll road(s) did you use? _____

Which toll bridge(s) did you use? _____

Did you park at or near this location?

- Yes
- No

How many minutes did it take you to walk from the parking location to your destination? _____ Minutes

Did you pay to park?

- Yes, I paid \$_____per: Hour Quarter
- No Day Semester
- Week Year
- Month Other_____

3 What activities did you do there? (Please include up to 4 codes from "List 2 - Activities")

If you cannot find the appropriate code from List 2, please specify the activity.

| | Code | Specify if "Other" | How long did you do each activity? |
|-------------|-------|--------------------|------------------------------------|
| Activity 1: | _____ | _____ | → _____ Hours _____ Minutes |
| Activity 2: | _____ | _____ | → _____ Hours _____ Minutes |
| Activity 3: | _____ | _____ | → _____ Hours _____ Minutes |
| Activity 4: | _____ | _____ | → _____ Hours _____ Minutes |

4 What time did you LEAVE this place? ____: ____ am / pm → **Move on to the next place**

I DID NOT LEAVE THIS PLACE → You are **DONE**. Thank you! Please remember to follow the instructions on the back cover.

**PLACE
6**

1 What time did you arrive at this place (record exact time) _____ am / pm

What is this place?

- Home
- Primary Workplace
- School
- Secondary Workplace
- Transit Stop
- Other Location

Name of Place: _____

Street Address or Nearest Cross Streets: _____

City: _____ State _____ Zip Code: _____

2 How did you travel there? (Write Code from "LIST 1-Method of Travel" from the foldout) _____

IF YOU TRAVELED BY PRIVATE VEHICLE (CODE 05, 06, 07 or 09 FROM LIST 1) PLEASE FILL OUT THE QUESTIONS BELOW IN THIS SECTION

How many other people traveled with you? (Don't include yourself) _____

How many were household members? (Don't include yourself) _____

Which household members? (Use person #s from label)

- P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15

Were you the driver? Yes No

Which household vehicle did you use? (Year/Make/Model): _____ Did not use a household vehicle

Did you use a toll road or toll bridge?

- Yes - Toll road
- Yes - Toll bridge
- Yes - Both toll road and toll bridge
- No

Which toll road(s) did you use? _____

Which toll bridge(s) did you use? _____

Did you park at or near this location?

- Yes
- No

How many minutes did it take you to walk from the parking location to your destination? _____ Minutes

Did you pay to park?

- Yes, I paid \$_____ per: Hour Quarter
- Day Semester
- Week Year
- Month Other_____
- No

3 What activities did you do there? (Please include up to 4 codes from "List 2 - Activities")

If you cannot find the appropriate code from List 2, please specify the activity.

| | Code | Specify if "Other" | How long did you do each activity? |
|-------------|-------|--------------------|------------------------------------|
| Activity 1: | _____ | _____ | ➡ _____ Hours _____ Minutes |
| Activity 2: | _____ | _____ | ➡ _____ Hours _____ Minutes |
| Activity 3: | _____ | _____ | ➡ _____ Hours _____ Minutes |
| Activity 4: | _____ | _____ | ➡ _____ Hours _____ Minutes |

4 What time did you LEAVE this place? _____ : _____ am / pm ➡ **Move on to the next place**

I DID NOT LEAVE THIS PLACE ➡ You are DONE. Thank you! Please remember to follow the instructions on the back cover.

**PLACE
7**

1 What time did you arrive at this place (record exact time) _____ am / pm

What is this place?

Home
 Primary Workplace
 School
 Secondary Workplace
 Transit Stop
 Other Location

Name of Place: _____

Street Address or Nearest Cross Streets: _____

City: _____ State _____ Zip Code: _____

2 How did you travel there? (Write Code from "LIST 1-Method of Travel" from the foldout) _____

IF YOU TRAVELED BY PRIVATE VEHICLE (CODE 05, 06, 07 or 09 FROM LIST 1) PLEASE FILL OUT THE QUESTIONS BELOW IN THIS SECTION

How many other people traveled with you? (Don't include yourself) _____

How many were household members? (Don't include yourself) _____

Which household members? (Use person #s from label)
 P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15

Were you the driver? Yes No

Which household vehicle did you use? (Year/Make/Model): _____ Did not use a household vehicle

Did you use a toll road or toll bridge?
 Yes – Toll road
 Yes – Toll bridge
 Yes – Both toll road and toll bridge
 No

Which toll road(s) did you use? _____

Which toll bridge(s) did you use? _____

Did you park at or near this location?
 Yes
 No

How many minutes did it take you to walk from the parking location to your destination? _____ Minutes

Did you pay to park?
 Yes, I paid \$_____ per: Hour Quarter
 Day Semester
 No Week Year
 Month Other _____

3 What activities did you do there? (Please Include up to 4 codes from "List 2 – Activities")
If you cannot find the appropriate code from List 2, please specify the activity.

| | Code | Specify if "Other" | How long did you do each activity? |
|-------------|-------|--------------------|------------------------------------|
| Activity 1: | _____ | _____ | → _____ Hours _____ Minutes |
| Activity 2: | _____ | _____ | → _____ Hours _____ Minutes |
| Activity 3: | _____ | _____ | → _____ Hours _____ Minutes |
| Activity 4: | _____ | _____ | → _____ Hours _____ Minutes |

4 What time did you LEAVE this place? ____:____ am / pm → **Move on to the next place**

I DID NOT LEAVE THIS PLACE → You are DONE. Thank you! Please remember to follow the instructions on the back cover.

**PLACE
8**

1 What time did you arrive at this place (record exact time) ____ am / pm

What is this place?

- Home
- Primary Workplace
- School
- Secondary Workplace
- Transit Stop
- Other Location

Name of Place: _____

Street Address or Nearest Cross Streets: _____

City: _____ State _____ Zip Code: _____

2 How did you travel there? (Write Code from "LIST 1-Method of Travel" from the foldout) _____

IF YOU TRAVELED BY PRIVATE VEHICLE (CODE 05, 06, 07 or 09 FROM LIST 1) PLEASE FILL OUT THE QUESTIONS BELOW IN THIS SECTION

How many other people traveled with you? (Don't include yourself) _____

How many were household members? (Don't include yourself) _____

Which household members? (Use person #s from label)

P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15

Were you the driver? Yes No

Which household vehicle did you use? (Year/Make/Model): _____ Did not use a household vehicle

Did you use a toll road or toll bridge?

- Yes - Toll road
- Yes - Toll bridge
- Yes - Both toll road and toll bridge
- No

Which toll road(s) did you use? _____

Which toll bridge(s) did you use? _____

Did you park at or near this location?

- Yes
- No

How many minutes did it take you to walk from the parking location to your destination? _____ Minutes

Did you pay to park?

- No
- Yes, I paid \$_____per:
 - Hour
 - Day
 - Week
 - Month
- Quarter
- Semester
- Year
- Other_____

3 What activities did you do there? (Please include up to 4 codes from "List 2 - Activities")
If you cannot find the appropriate code from List 2, please specify the activity.

| | Code | Specify if "Other" | How long did you do each activity? |
|-------------|-------|--------------------|------------------------------------|
| Activity 1: | _____ | _____ | ➔ _____ Hours _____ Minutes |
| Activity 2: | _____ | _____ | ➔ _____ Hours _____ Minutes |
| Activity 3: | _____ | _____ | ➔ _____ Hours _____ Minutes |
| Activity 4: | _____ | _____ | ➔ _____ Hours _____ Minutes |

4 What time did you LEAVE this place? ____:____ am / pm ➔ **Move on to the next place**

I DID NOT LEAVE THIS PLACE ➔ You are DONE. Thank you! Please remember to follow the instructions on the back cover.

**PLACE
9**

1 What time did you arrive at this place (record exact time) _____ am / pm

What is this place?

- Home
- Primary Workplace
- School
- Secondary Workplace
- Transit Stop
- Other Location

Name of Place: _____

Street Address or Nearest Cross Streets: _____

City: _____ State _____ Zip Code: _____

2 How did you travel there? (Write Code from "LIST 1-Method of Travel" from the foldout) _____

IF YOU TRAVELED BY PRIVATE VEHICLE (CODE 05, 06, 07 or 09 FROM LIST 1) PLEASE FILL OUT THE QUESTIONS BELOW IN THIS SECTION

How many other people traveled with you? (Don't include yourself) _____

How many were household members? (Don't include yourself) _____

Which household members? (Use person #s from label)

P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15

Were you the driver? Yes No

Which household vehicle did you use? (Year/Make/Model): _____ Did not use a household vehicle

Did you use a toll road or toll bridge?

- Yes – Toll road
- Yes – Toll bridge
- Yes – Both toll road and toll bridge
- No

Which toll road(s) did you use? _____

Which toll bridge(s) did you use? _____

Did you park at or near this location?

- Yes
- No

How many minutes did it take you to walk from the parking location to your destination? _____ Minutes

Did you pay to park?

- Yes, I paid \$_____ per: Hour Quarter
- No Day Semester
- Week Year
- Month Other _____

3 What activities did you do there? (Please include up to 4 codes from "List 2 – Activities")

If you cannot find the appropriate code from List 2, please specify the activity.

| | Code | Specify if "Other" | How long did you do each activity? |
|-------------|-------|--------------------|------------------------------------|
| Activity 1: | _____ | _____ | _____ Hours _____ Minutes |
| Activity 2: | _____ | _____ | _____ Hours _____ Minutes |
| Activity 3: | _____ | _____ | _____ Hours _____ Minutes |
| Activity 4: | _____ | _____ | _____ Hours _____ Minutes |

4 What time did you LEAVE this place? _____ am / pm → **Move on to the next place**

I DID NOT LEAVE THIS PLACE → You are DONE. Thank you! Please remember to follow the instructions on the back cover.

**PLACE
10**

1 What time did you arrive at this place (record exact time) ____ am / pm

What is this place?

- Home
- Primary Workplace
- School
- Secondary Workplace
- Transit Stop
- Other Location

Name of Place: _____

Street Address or Nearest Cross Streets: _____

City: _____ State _____ Zip Code: _____

2 How did you travel there? (Write Code from "LIST 1-Method of Travel" from the foldout) _____

IF YOU TRAVELED BY PRIVATE VEHICLE (CODE 05, 06, 07 or 09 FROM LIST 1) PLEASE FILL OUT THE QUESTIONS BELOW IN THIS SECTION

How many other people traveled with you? (Don't include yourself) _____

How many were household members? (Don't include yourself) _____

Which household members? (Use person #s from label)

P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15

Were you the driver? Yes No

Which household vehicle did you use? (Year/Make/Model): _____ Did not use a household vehicle

Did you use a toll road or toll bridge?

- Yes - Toll road
- Yes - Toll bridge
- Yes - Both toll road and toll bridge
- No

Which toll road(s) did you use? _____

Which toll bridge(s) did you use? _____

Did you park at or near this location?

- Yes
- No

How many minutes did it take you to walk from the parking location to your destination? _____ Minutes

Did you pay to park?

- Yes, I paid \$_____ per: Hour Quarter
- Day Semester
- Week Year
- Month Other_____
- No

3 What activities did you do there? (Please include up to 4 codes from "List 2 - Activities")

If you cannot find the appropriate code from List 2, please specify the activity.

| | Code | Specify if "Other" | How long did you do each activity? |
|-------------|-------|--------------------|------------------------------------|
| Activity 1: | _____ | _____ | ➡ _____ Hours _____ Minutes |
| Activity 2: | _____ | _____ | ➡ _____ Hours _____ Minutes |
| Activity 3: | _____ | _____ | ➡ _____ Hours _____ Minutes |
| Activity 4: | _____ | _____ | ➡ _____ Hours _____ Minutes |

4 What time did you LEAVE this place? ____ : ____ am / pm ➡ **Move on to the next place**

I DID NOT LEAVE THIS PLACE ➡ You are **DONE**. Thank you! Please remember to follow the instructions on the back cover.

**PLACE
11**

1 What time did you arrive at this place (record exact time) ____ am / pm

What is this place? Home
 Primary Workplace
 School
 Secondary Workplace
 Transit Stop
 Other Location

Name of Place: _____

Street Address or Nearest Cross Streets: _____

City: _____ State _____ Zip Code: _____

2 How did you travel there? (Write Code from "LIST 1-Method of Travel" from the foldout) _____

IF YOU TRAVELED BY PRIVATE VEHICLE (CODE 05, 06, 07 or 09 FROM LIST 1) PLEASE FILL OUT THE QUESTIONS BELOW IN THIS SECTION

How many other people traveled with you? (Don't include yourself) _____

How many were household members? (Don't include yourself) _____

Which household members? (Use person #s from label)
 P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15

Were you the driver? Yes No

Which household vehicle did you use? (Year/Make/Model): _____ Did not use a household vehicle

Did you use a toll road or toll bridge?
 Yes - Toll road
 Yes - Toll bridge
 Yes - Both toll road and toll bridge
 No

Which toll road(s) did you use? _____

Which toll bridge(s) did you use? _____

Did you park at or near this location?
 Yes
 No

How many minutes did it take you to walk from the parking location to your destination? _____ Minutes

Did you pay to park?
 Yes, I paid \$____ per: Hour Quarter
 Day Semester
 Week Year
 Month Other _____

3 What activities did you do there? (Please include up to 4 codes from "List 2 - Activities")
 If you cannot find the appropriate code from List 2, please specify the activity.

| | Code | Specify if "Other" | How long did you do each activity? |
|-------------|-------|--------------------|------------------------------------|
| Activity 1: | _____ | _____ | → _____ Hours _____ Minutes |
| Activity 2: | _____ | _____ | → _____ Hours _____ Minutes |
| Activity 3: | _____ | _____ | → _____ Hours _____ Minutes |
| Activity 4: | _____ | _____ | → _____ Hours _____ Minutes |

4 What time did you LEAVE this place? ____: ____ am / pm → **Move on to the next place**

I DID NOT LEAVE THIS PLACE → You are DONE. Thank you! Please remember to follow the instructions on the back cover.

EXTRA PLACES

If you used all of the previous pages, use the chart below to write information about the other places you visited. Don't forget to record your exact times!

| PLACE # | What time did you arrive? (Record exact time) | What is the place? What is the NAME and ADDRESS? | How did you TRAVEL? (Use LIST 1) | What ACTIVITIES? (Use LIST 2) | What TIME did you LEAVE? Record exact time) |
|---------|--|---|-------------------------------------|----------------------------------|--|
| 12 | : am / pm | | | | : am / pm |
| 13 | : am / pm | | | | : am / pm |
| 14 | : am / pm | | | | : am / pm |
| 15 | : am / pm | | | | : am / pm |
| 16 | : am / pm | | | | : am / pm |
| 17 | : am / pm | | | | : am / pm |
| 18 | : am / pm | | | | : am / pm |
| 19 | : am / pm | | | | : am / pm |
| 20 | : am / pm | | | | : am / pm |
| 21 | : am / pm | | | | : am / pm |

How Do I Provide My Travel Information?

Online



Enter your information online at:
www.dvrpc.org/TravelSurvey
Click on "Report Your Travel" and use
the PIN# on the front of this diary.

OR

Mail



Return your completed diaries in the postage-paid
envelope provided in your packet.
*Please note that we may need to call you to clarify
or to collect any missing information.*

OR

Phone



Keep your completed diaries by the phone
and we will call you to collect the information.

For more information, visit the survey website at:
www.dvrpc.org/TravelSurvey

For questions or help filling out your Travel Diary:

Call the toll-free survey hotline
1-800-334-4702

or send an email to
DVRPCTravelHelp@srbi.com

Thank you for your participation!

Survey conducted by Abt SRBI on behalf of:



GPS Cover Letter



DVRPC is the official Metropolitan Planning Organization for the Greater Philadelphia Region

Dear <HHNME1> <HHNME2>,

<DATE>

Thank you for participating in the Delaware Valley Household Travel Survey! The information you provide will be essential for DVRPC to understand your travel needs and improve transportation in your area. To show our appreciation, your household will receive \$<INAMT> for completing and returning all travel diaries and GPS study components. Participation is as easy as 1, 2, 3.

1 Please read the instructions and go over the example in the diary before your scheduled travel date.

2 Record your travel information

GPS: Carry the GPS unit(s) for *three days*. When you get up and start your day (no earlier than 3 a.m.) on <ASSN>, have each assigned household member begin carrying his or her GPS unit until <ENDATE>. Please follow the enclosed GPS instructions.

Travel Diary: Complete the enclosed *one day* travel diary on the first day. When you get up and start your day (no earlier than 3 a.m.) on <ASSN>, please begin recording details about your travel and activities. Please continue until you have finished traveling for the day. Each household person should carry and fill out his or her travel diary. We ask that an adult help anyone under the age of 16 fill out the diary.

3 Report your travel information to us in ONE of the following ways:

Online: Go to www.dvrpc.org/TravelSurvey and click on "Report Your Travel". Enter the information you recorded in your diary using your unique household PIN#. Your PIN# is <<PINNO>>. An adult can enter information for anyone under the age of 16.

Mail: Use the enclosed postage-paid materials to return your completed travel diaries.

Phone: Abt SRBI will call you after your travel day to collect your household's travel information.

Please mail back all GPS units and chargers in the prepaid envelope after the three-day GPS travel period ending on <ENDATE> in order to receive your incentive check.

Remember, the information you provide will be kept **confidential** and **secure**. If you have any questions about filling out the travel diaries, don't hesitate to contact Abt SRBI at 1-800-555-5555 or email us at DVRPCTravelHelp@srbi.com. Thank you again for your household's participation in this important study!

Sincerely,

A handwritten signature in black ink, appearing to read 'Barry Seymour'.

Barry Seymour, Executive Director
Delaware Valley Regional Planning Commission

www.dvrpc.org

190 N. Independence Mall West, 8th Floor • Philadelphia, PA 19106-1520

Non-GPS Cover Letter (Incentive)



DVRPC is the official Metropolitan Planning Organization for the Greater Philadelphia Region

Dear <HHNME1> <HHNME2>,

<DATE>

Thank you for participating in the Delaware Valley Household Travel Survey! The information you provide will be essential for DVRPC to understand your travel needs and improve transportation in your area. To show our appreciation, your household will receive \$<INAMT> for completing and returning all travel diaries. Participation is as easy as 1, 2, 3.

1

Please read the instructions and go over the example in the diary before your scheduled travel date.

2

When you get up and start your day (no earlier than 3 a.m.) on <ASSN>, please use your diary to track your travel and activities. Please continue until you have finished traveling for the day. Each household person should carry and use his or her travel diary. We ask that an adult help anyone under the age of 16 with their diary.

3

Report your travel information to us in ONE of the following ways:

Online: Go to www.dvrpc.org/TravelSurvey and click on "Report Your Travel". Using your diaries as a guide, enter your travel information with your unique household PIN#. Your PIN# is <<PINNO>>. **You will receive an additional \$10 for completing on the web!**

Phone: Call us at 1-800-555-5555. Please select option "2" and leave us a message with your full name and telephone number. One of our representatives will call you back to retrieve your household's travel information.

Mail: Fill out your diaries completely and accurately. Then, use the enclosed postage-paid materials to return your household's completed travel diaries.

Once we receive your travel information for all members of your household, we will send your gift of \$<INAMT> for participation. Your household will receive an additional \$10 if you complete on the web! Remember, the information you provide will be kept confidential and secure.

If you have any questions about filling out the travel diaries, don't hesitate to contact **Abt SRBI** at 1-800-555-5555 or email us at DVRPCTravelHelp@srbi.com. Thank you again for your household's participation in this important study!

Sincerely,

Barry Seymour, Executive Director
Delaware Valley Regional Planning Commission

www.dvrpc.org

190 N. Independence Mall West, 8th Floor • Philadelphia, PA 19106-1520

Non-GPS Cover Letter (No Incentive)



DVRPC is the official Metropolitan Planning Organization for the Greater Philadelphia Region

Dear <HHNME1> <HHNME2>,

<DATE>

Thank you for participating in the Delaware Valley Household Travel Survey! The information you provide will be essential for DVRPC to understand your travel needs and improve transportation in your area. Participation is as easy as 1, 2, 3.

- 1** Please read the instructions and go over the example in the diary before your scheduled travel date.
- 2** When you get up and start your day (no earlier than 3 a.m.) on <ASSN>, please use your diary to track your travel and activities. Please continue until you have finished traveling for the day. Each household person should carry and fill out his or her travel diary. We ask that an adult help anyone under the age of 16 fill out the diary.
- 3** Report your travel information to us in ONE of the following ways:
 - Online:** Go to www.dvrpc.org/TravelSurvey and click on "Report Your Travel". Using your diaries as a guide, enter your travel information with your unique household PIN#. Your PIN# is <<PINNO>>. **You will receive an additional \$10 for completing on the web!**
 - Phone:** Call us at 1-800-555-5555. Please select option "2" and leave us a message with your full name and telephone number. One of our representatives will call you back to retrieve your household's travel information.
 - Mail:** Fill out your diaries completely and accurately. Then, use the enclosed postage-paid materials to return your household's completed travel diaries.

Remember, the information you provide will be kept confidential and secure.

If you have any questions about filling out the travel diaries, don't hesitate to contact **Abt SRBI** at 1-800-555-5555 or email us at DVRPCTravelHelp@srb.com

Thank you again for your household's participation in this important study!

Sincerely,

Barry Seymour, Executive Director
Delaware Valley Regional Planning Commission

www.dvrpc.org

190N. Independence Mall West, 8th Floor • Philadelphia, PA 19106-1520



Appendix F
Interviewer Training
Manual

Appendix F. Interviewer Training Manual

Interviewer Training Manual

Study Components (#s): Recruitment; Initial Reminder; Late Reminder; Retrieval

Recruitment Protocols: Recruitment of households will occur Sunday to Wednesday of each week. GPS Households will be recruited only on Sunday and Monday. Non-GPS households will be recruited Sunday through Wednesday. Staff will use a quota variable STYPE to track production for each component of the study. We will attempt households up to six attempts.

Note: Recruitment will also take place on the web. Prior to shift each Sunday, an email notification will be sent to the field to set the allowable number of recruited households for each portion of the study.

Reminder Protocols: Reminder calls will be made evenings before households are scheduled to travel the next day (so, reminder calls will take place Sundays through Thursdays)—this will be set by sampling. Reminder calls are intended to remind households to begin recording travel information, to carry their GPS units (both a live contact and answering machine message is acceptable). In some cases households will be called to remind them to return materials/units if they have not completed by a certain date.

Retrieval Protocols: Retrieval calls will be ongoing, made Sundays through Saturdays. Retrieval calls will include households having traveled the previous day and households that have not reached a qualified level. We will attempt households up to eight attempts.

Background Information

What is the Delaware Valley Household Travel Survey?

The Delaware Valley Household Travel Survey is an in-depth study of the state's household travel and activity patterns. Ten thousand households will be asked to identify where and how they traveled on a specific, designated travel day (24 hours). In order to ensure a sample that is representative of the state population, each household will be asked a series of detailed questions about their demographic and socio-economic (such as age, gender, income level) and travel characteristics, and access to transportation. When completed, the data will be used to estimate how much travel is generated by all households.

Please note: We are only conducting surveys in the Delaware Valley region in specific counties. Specifically, the Delaware Valley region consists of Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer counties in New Jersey. We will not be contacting households outside of the designated region.

Who is sponsoring this survey?

This project is sponsored by the Delaware Valley Regional Planning Commission (DVRPC).

What can households expect?

The first step (RECRUITMENT) is an introductory interview, in which households are invited to participate in the survey and, if they agree to participate, we collect some information about all household members and

vehicles. At the end of this interview, we assign a travel day. On this travel day, we ask that households record all the travel and activities performed by all household members for a 24-hour period.

Once we assign households a valid travel day, we will mail each person a personalized travel diary. Each person should use the diary to record all the places to which they travel, how they travel, and the activities they performed at each place. Diaries should be self-completed by all persons age 16 and older. We ask that parents fill out the diaries for all children under age 16.

The day before assigned travel days, households will receive a call reminding them of their upcoming travel day. (REMINDER)

The day after a household's travel day, we ask that everyone in the household provide their travel details to us (RETRIEVAL). If the diaries are complete, this interview is quick!

How can households provide travel details to us?

In order to be respectful of daily schedules, we have three ways that households can provide us with the information: web, phone, and mail.

Households can provide us travel details...

- Via web by navigating to www.dvrpc.org/TravelSurvey (for Spanish-speaking, the link is www.dvrpc.org/EncuestadeViaje) and clicking on the “Report Travel” or “Registre su viajes” link—households will need their unique PIN number to report; this is included as part of their cover letter in their travel packet.
- Via mail by mailing completed travel diaries to Abt SRBI using the postage-paid envelope we provide in the travel packet.
- Or, we will call them or they can call us toll-free at 1-800-555-5555. We will re-contact them if they choose to call in.

How were households with an unlisted and/or a Do–Not–Call phone number selected?

Participants in the survey were randomly selected from a list of household addresses, not from a list of published phone numbers. Survey organizations are exempt from Do-Not-Call lists.

Study Types and Incentives

Study Types

ALL HOUSEHOLDS recruited to participate in the study will receive a diary for each household member.

SOME HOUSEHOLDS will be recruited to participate in the GPS portion of the study.

Those selected for the GPS portion will receive a GPS device for each household member (up to 15 people) and will be asked to carry the GPS device(s) for three days.

Households participating in the GPS portion of the study will receive \$25 per GPS device upon completion of the study, including the return of each GPS device.

Incentives

Incentives vary by household and are not always offered.

DO NOT offer incentives until relevant instructions are displayed on-screen.

If incentives are offered, please be mindful of the amount indicated on-screen.

If respondent asks about incentives before they are offered, say “The following series of questions will determine your eligibility for incentives. If you are eligible, you will be notified after answering these questions.”

Data Entry

Geographic Information

As is true for any household travel survey, we ask for a lot of detailed geographic information. It is important to keep a number of things in mind when gathering this information. Below are aids to assist you on the phone.

REASSURE respondents that geographic information is for research purposes. We will not contact their employer, school, or send unsolicited information to their home that does not relate directly to this study or follow-up studies.

REPEAT respondents' information back to them as you enter their verbatim response. When repeating the information, do it slowly and clearly.

CONFIRM all information after you have entered to ensure everything is accurate

CONSISTENCY is extremely important when entering geographic information. Please use all upper cases for geographic information

Things you may encounter:

Partial information: If respondents do not provide all details, please probe.

Cross streets versus physical address: Cross streets are an acceptable substitution for physical address. Please confirm the spelling for each street. Partial responses like MAIN are not appropriate. Probe: Is this a street, an avenue, a boulevard, or what?

Cities are numeric punches. You will need to use the tack-up to identify the appropriate city to enter. Please confirm the city with the respondent and spelling if the pronunciation of the city is difficult.

Additional Notes

Method of Travel

Numeric codes for the question pertaining to their travel mode in the Retrieval Interview can be found on the LIST 1 – METHOD OF TRAVEL sheet (*also, please see the diary*)

Activities

Numeric codes for the question pertaining to their activities in the Retrieval Interview can be found on the LIST 2 – ACTIVITIES sheet (*also, please see the diary*)

Times

All time fields must be entered in Military time (for instance 1512 for 3:12 PM). For all times, confirm whether it is AM or PM.

Times cannot be entered before 3:00 AM at the beginning of the travel day.

Times cannot be entered after 3:00 AM toward the end of the travel day.

“Enter” Key

In open-end fields, **do not** use the “ENTER” key to create a new line unless it is absolutely necessary. Doing so will lead to the appearance of “pipes” “|” in the data.

Do not snap back, or please do so as little as possible.

*Some “Other” fields require further specification; some do not.

*It is possible that a few questions may not have a DK/RF option.

Recruitment Survey

The Recruitment Survey gathers information about each household, vehicle, and household member. This is not unlike previous household travel surveys you may have worked on. Households are assigned to one of three study types (**STYPE**), which will determine if they are part of the GPS portion of the study or not. This will be done automatically through Computer Assisted Telephone Interviewing, but it is important to be mindful of question text and response categories. The following provides additional guidance on key sections and variables.

During our detailed walkthrough, below are a few key variables to consider:

LANG – Text for the entire interview will be displayed using the selected language.

INTRO – Select “4” if the respondent indicated that the survey was already completed online.

Non-Response Follow-Up Section

If a household declines to continue with the interview, they will be taken to a few questions in the Non-Response Follow-Up Section. These few questions are there to determine the demographic of households who decide not to take the survey. If the respondent gets to the non-response section and refuses to continue/answer any questions, then TERMINATE and DISPOSITION AS “**NRFREFUSAL.**”

NRFHHSIZ – When needed, please read/clarify with the text in CAPS

NRFHVEH – This will ask about all the household’s vehicles. Please see question text and interviewer notes (in all CAPS) for clarification on what constitutes a household vehicle.

NRFPART– Open-ended response. Please input their verbatim answer.

NRFCFIP2 – Note that these are the nine eligible counties. If “Other,” then specify.

HHSIZ –Please be sure to read/clarify with the text in CAPS.

HHVEH – This will ask about all household vehicles, including those that are not in working condition.

VEHOP – VEHOP will ask how many vehicles **in working condition** there are in an HH. All subsequent vehicle questions will only pertain to vehicles **in working condition**.

MAKE – If the respondent does not understand the make of the vehicle, indicate that it is the brand of vehicle like Honda, Toyota, Ford.

MODEL – If the respondent does not understand the model of the vehicle, indicate that it is the type of vehicle like Honda Civic, Toyota Camry, Ford Mustang.

BODY – If the respondent is unsure, read responses until the respondent indicates an answer choice.

VEHT – Read all response choices.

VEHOUT – This will be asked after all vehicles have been rostered. Ask for the number of feet to the closest electrical outlet to where they park their vehicles. Option 9000 is “No Outlet.” Give examples if necessary.

RESTDY – Read until the respondent indicates an answer choice.

TEN – If the respondent says “all my life,” please probe with “About how many years would you say that is?” If they say less than one year, Option 97 is “Less than 1 year.”

GEND – Do not ask a question; record by observation. If in doubt, read: “I apologize for this question, but I have to read each question as it appears on the screen. May I ask what is your sex?”

TTRIP – If they say “never” or “didn’t use it,” input “0”. Use interviewer notes to guide the respondent for the number of one-way trips last week.

TPTYP – Multiple response. If unsure, read responses and have the respondent choose the right category

TAP – Multiple response. If unsure, read responses and have the respondent choose the right category

FLEX – See Interviewer note. “Time to time” may mean a few times a month or on occasion.

WKSTAT – Read responses and have the respondent choose the right category

Work questions – If necessary, state: “We are not going to contact the employer.”

WADDR – Note that we will need to capture city and state at a minimum. If they refuse city and/or state, they will go to WCHECK, which will ask them if they’d be willing to at least provide city and state. 1 = Back to full work address, 2 = Back to work city and state. Emphasize that we will not contact the employer. If they refuse to provide at least city and state, you will select “100” to terminate the interview.

WDAY – If the respondent says “every day” or “five days a week,” please confirm that they mean Monday through Friday.

HOURS – If the respondent says it varies, please repeat the question by emphasizing “typically work.” Include hours from all full-time and part-time jobs.

OCCUP – The first word/phrase in each response option usually summarizes the examples included. Please only use “Other” if the respondent’s answer is not listed.

PRESCH – Read responses and have the respondent choose the right category.

SONLN – Read responses and have the respondent choose the right category.

SADDR – Note that we will need to capture city and state at a minimum. If they refuse city and/or state, they will go to WCHECK, which will ask them if they'd be willing to at least provide city and state. 1 = Back to full school address, 2 = Back to school city and state. Emphasize that we will not contact the school. If they refuse to provide at least city and state, you will select "100" to terminate the interview.

INCO35, INCU35, INCRF – Read responses until the respondent chooses the right category

NOGPS/GPS/PORT – Depending on the study type, they will go to a certain assignment screen. Please be mindful of the key punch. Response punches are rotated. Read first day and date only. Ask if that date works for them. If the respondent refuses, read next, then next, until the list is done. Please try to fill the travel date that is listed first. If the respondent says, "This is not a day I travel typically," reassure them that we need travel for specific days regardless of whether it is typical or not. GPS is an assignment range for three days; others are just a one-day assignment.

SLANG – Always ask this question. If Spanish is selected, inform the respondent that he/she will be called back by a Spanish speaker.

Retrieval Survey

The Retrieval Survey gathers information about each household member's travel activity on their assigned travel day. Households have the option of providing this information by phone, web, or by mailing back their diaries. This is not unlike previous household travel surveys you may have worked on. The following provides additional guidance on a number of key variables.

During our detailed walkthrough, below are some few key variables to consider:

ON-SCREEN DISPLAY [THIS DISPLAY APPEARS FROM INTROA TO INT_CALL] – Please note that proxies will be marked as such on the on-screen display.

Diary information for persons not requiring a proxy should not be collected by another member of the household unless the interview will otherwise be incomplete.

Diary information for persons requiring a proxy should be collected by a household member over 18.

REFCON1/REFCON2 – We prefer that all household members complete the survey using the same mode (mail, phone, web). However, if individuals decline and wish to complete the survey by phone, select "2" and continue with retrieval.

INFOA# – Instructions on who receives a proxy and how to handle when proxies are in the household; interviewers should complete interviews in the following order:

- the HH adult on the phone;
- all of the proxy persons;

– ask for next adult, etc.

JOURNEY-TO-WORK SECTION – Some respondents will be asked a few questions about their travel to work, and some will not. If this section is included in the survey, please stress that this section’s questions are asked in the general sense and pertain to a TYPICAL work day. This **does not** necessarily pertain to the respondent’s assigned travel day.

WMODE – Please see interviewer note for clarification. If the respondent says “car” or “drive,” ask if:

– They drive alone or ride with others. If te respondent indicates “bus,” “train,” or “subway,” ask if:

– They use park and ride. If mode does not fit into one of six categories, mark as “Other.”

ARRVWRK – Don’t read categories. Instead, determine which category it belongs to. If they say 6:30 AM, then clarify: “Would you say that is typically between 6:00 AM and 6:30 or 6:30 and 7:00?” Stress regular arrival time. If, after probing, there is no typical time and the respondent says “schedule varies,” probe to determine if he/she arrives at different times on different days. If yes, punch Code 9.

LVWRK – Don’t read categories. Instead, determine which category it belongs to. If they say 4:30 PM, then clarify: “Would you say that is typically between 4:00 PM and 4:30 PM or 4:30 PM and 5:00 PM?” Stress regular or typical arrival time. If, after probing, there is no typical time and the respondent says “schedule varies,” probe to determine if he/she arrives at different times on different days. If yes, punch Code 9.

PRKSUB – Please read all categories. We are interested in the workplace circumstances or policies for employees, even if the respondent does not take advantage: in other words, the general policy for all employees.

PRKSUBAMT – Similarly, we are interested in the workplace policies for employees. Probe to see if the respondent knows. If they really have no idea, then they can be DK. Code 7, “employer does not provide subsidy,” is simply an error code in case they had misspoken and the employer really doesn’t provide a subsidy. Only use this code in that circumstance.

TRSUB – Please read all categories. We are interested in the workplace circumstances or policies for employees, even if the respondent does not take advantage]: in other words, the general policy for all employees.

TRSUBAMT – Similarly, we are interested in the workplace policies for employees. Probe to see if the respondent knows. If they really have no idea, then they can be DK. Code 7, “employer does not provide subsidy,” is simply an error code in case they had misspoken and the employer really doesn’t provide a subsidy. Only use this code in that circumstance.

Now we are into the respondent’s travel diary day.

PNAME1ON – PNAME1ON describes the respondent’s initial location or arrival location.

Please note that, depending on the situation, question text will change. Text can be:

Where [were you/was FNAME] at 3:00 AM on <TDAY>?

Where did [you/FNAME] go next?

Where was [your/his/her] destination?

STOPS – If STOPS eq 1, previous data is erased. Therefore, STOPS serves as an error message in case respondents overlook a stop.

CONFIRM – This question is intended to ensure that address data provided by the respondent in Recruitment is still accurate. If information is outdated, or if no information is on file, please collect the address using the procedures described in the “GEOGRAPHIC INFORMATION” section of this guide.

PNAME – Place name should include information describing the place if it is uncertain. Example: “Novel Ideas” should be “Novel Ideas Bookstore.” Ask, “What type of place is this?” if you do not know the type of the place.

MODE – Single code needed for the mode of travel. Please see the mode list from the diary we sent over, for reference.

VEHNO – Note that Code 97 is for non-HH vehicle.

PARTY and HHMEM – Respondent is excluded from count.

PERTP – Please select all that apply. The respondent is instructed: “Don’t include yourself,” so respondent’s name will not be on the list. If speaking about another HH member (let’s call him “John”), then the respondent will be instructed to “not include John.”

TOLLF, TOLLR, TOLLB – Toll road and toll bridge questions. TOLLR and TOLLB are multiple response.

PRKLC – There is a Code 97 = more than 60 minutes.

APURP – This is multiple choice and can select up to four activities. See the activity list from the diary we sent over, for reference. Do **NOT** read the list. Please confirm the punched categories after the respondent provides their activities.

DUR 1/2/3/4 – You will enter the duration of time for each activity selected. Enter hours followed by minutes (HH:MM). The duration must be entered in four-digit times (for example, 1:30 **will not** work but 01:30 **will** work). If someone says they did an activity for 30 minutes, then it will be 00:30, 1 hour and 30 minutes will be 01:30, etc...

There is a validation regarding the departure and duration times. If the departure time from a location is earlier than the sum of durations, you will see an error screen. You will either need to go back to change duration time, or make the departure time later. In general, most people will probably choose to go back and change duration times to be less.

WHYNO – This question is on “PLACE 1” of the diary. We are looking for the main reason why they did not travel on their assigned day.

ADDTRIP – Please use the “EXTRA PLACES” chart in the diary as a guide for this question. Ask questions by place, beginning with PLACE 12. I.e., start with PLACE 12, the first column; continue with PLACE 12, Column B; then PLACE 12, Column C; etc. Please enter this information.

FUTUR – Please read as displayed on-screen, word-for-word. If there is no response to the statement, select “continue.” If the respondent asks to “opt-out,” do not argue and select “2 DO NOT CONTACT.”

RESPF – If the person is getting an incentive, we need a full first and last name for the incentive check. If necessary, read: “Without a **full and correct name** of an adult to put on the check, we will be unable to process your household’s incentive.”

Frequently Asked Questions (FAQs)

General Information

What is the Delaware Valley Household Travel Survey?

Sponsored by the Delaware Valley Regional Planning Commission, or DVRPC, The Delaware Valley Household Travel Survey is an in-depth study of the travel and activity patterns in the Greater Philadelphia region. DVRPC is hoping to hear from 10,000 households to identify where and how residents traveled on a specific, designated travel day (24 hours).

In order to ensure a sample that is representative of the region's population, each household will be asked a series of questions about their demographics, travel routines, and use of transportation. The data will provide complete information on the daily travel of residents in southern New Jersey and southeastern Pennsylvania to determine how to improve roads, reduce traffic congestion, improve walking and bicycle paths, and enhance public transportation in the area.

Who is sponsoring this survey?

This project is sponsored by DVRPC.

DVRPC is the federally designated Metropolitan Planning Organization for the nine-county Delaware Valley region. Created in 1965, DVRPC provides continuing, comprehensive, and coordinated planning to shape a vision for the future growth of the Delaware Valley region. The Delaware Valley region consists of Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer counties in New Jersey. These nine counties together comprise over 3,800 square miles and are made up of 352 municipalities. The region is home to 5.6 million residents and 2.8 million jobs.

Who is conducting this survey?

Abt SRBI is a full-service global strategy and research organization specializing in public policy and opinion surveys, banking and finance, telecommunications, media, energy, transportation, insurance, and healthcare. Clients include major financial institutions; Fortune 500 companies; federal, state, and local governments; foundations; and universities. Abt SRBI has an established track record of providing high-quality, timely, and cost-effective research and analysis. For more information, please contact DVRPCTravelHelp@srbi.com.

What can I expect?

The first step is a brief introductory interview, in which your household is invited to participate in the survey. If you agree to participate, we collect some information about all household members and vehicles. At the end of this interview, we'll assign your household a travel day. On this travel day, we ask that you record all the travel and activities performed by all members of your household for a 24-hour period.

Once we assign your household a travel day, we will mail each person in your household a personalized travel diary. Each person should use the diary to record all the places to which they travel, how they travel, and the activities they performed at each place. Diaries should be self-completed by all persons age 16 and older. We ask that parents fill out the diaries for all children under age 16.

The day before your assigned travel day, you will receive a call or email reminding you of your upcoming travel day.

Following your travel day, we ask that everyone in your household provide their travel details to us. If the diaries are complete, this interview is quick!

How can I provide you with my travel details?

We realize that everyone is busy, and that your time is important to you. In order to be respectful of your daily schedules, we have a few ways that you can provide us with the information.

You can participate in the introductory interview...

- Via web by navigating back to “Home” and clicking on “Begin Household Questionnaire.” You will need your unique PIN number provided in your advance letter.
- Via phone by calling us toll-free at 800-334-4702 and providing your PIN number provided in a letter sent to your home.

If you have a listed landline phone number, we will be initiating the survey process by calling you.

Once your household has recorded all their travel information, you can provide us your travel day details...

- Via web by navigating back to “Home” and clicking on “Report Your Travel.” You will need your unique PIN number provided in your cover letter;
- Via mail by mailing your completed travel diaries to Abt SRBI, using the postage-paid envelope we provide to you in the diary packet; or
- Via phone by speaking to one of our representatives when we call to collect your travel information.

Why participate?

You have an opportunity to help your community! DVRPC and your local transportation planning agencies continually work to provide a safe and efficient transportation system. To best meet the transportation needs across the Delaware Valley region, we're asking you to help us by participating in this travel survey. If everyone in your household can tell us about their daily travel and activities, it will help us plan future transportation improvements.

It's important that everyone's travel routines are included as we develop transportation solutions for the future. To successfully plan for future travel demand, our survey must include travel details from households of all types, including yours. Whether you travel a lot or a little; whether you travel by car, bus, rail, biking, or walking, all your travel is important.

Surveys of this type are usually not taken more than once in a decade (or even longer). If you participate, your household will be one of the more than 10,000 selected to represent all the rest. Regional and local decision makers require accurate, updated travel information to make the best recommendations for transportation improvements. When you participate, your travel information will help build a fuller, more accurate picture of local transportation needs. Your information will enable us to get the most value out of future transportation investments and spend public funds where they are needed most. Making wise transportation investments can provide better access to jobs and housing, reduce traffic congestion, improve walking and bicycle paths, enhance public transportation, and ultimately increase mobility—all of which can improve our economy, environment, and quality of life.

If you have ever wondered what you can do to help improve transportation, this is your chance to help!

Who is being asked to participate in the survey?

Participants in the survey will be randomly selected from all household addresses to ensure participation from across the region and from different community types. Household addresses with listed phone numbers will be contacted by phone. Those households without a listed phone (including cell phone-only households) will be contacted by mail.

I have an unlisted and/or a Do-Not-Call phone number, so how was my household selected?

Participants in the survey were randomly selected from a list of household addresses, not from a list of published phone numbers. Survey organizations are exempt from Do-Not-Call lists; everyone in your area has an equal chance of being selected to participate in our survey.

Can I participate even if I did not receive a letter in the mail?

No. Due to the need to gather statistically accurate information that represents the entire region, we can only include randomly chosen households.

What will be done with the data collected from the survey?

The data collected from participating households will be statistically summarized to describe the travel patterns resulting from a variety of typical daily activities. For example, the general activities people engage in, the means of travel they use to get to these activities, where the trips are coming from and going to, the extent the trips are combined together, and the time of day the trips are made, will be summarized.

How will my information be used?

The information you provide will be used to better plan travel options in your region. For example, knowing where and how people travel helps determine which roads are primarily used and may need widening, or where more bus or train options are needed. The data is used by air quality agencies to better anticipate the types and amount of emissions due to travel. The data is also used to better plan for the Delaware Valley region's future energy needs.

Taking the Survey

Why do you need to know information about the household?

The number, timing and type of trips made are affected by the characteristics of the person and the household in which he or she lives. A person's age, gender, employment, number of vehicles, and household income all affect his or her travel. This information is needed to measure how different sectors of the population are served by the Delaware Valley region's transportation system.

What is meant by "travel" and "activities"?

Travel means going from one place to another; activities are the reason you go there. Activities are things like going to work, shopping, visiting friends, or having a picnic.

Why do you want to know about my activities?

When transportation planners can better understand how people's activities are arranged and how travel plans are made, they can make better recommendations for transportation improvements that ultimately make it easier for you to get where you're going.

Why do you need to know when and where each activity took place?

We need to know the times of day and locations to determine the uses of the transportation system in "peak" and "off-peak" periods of travel. This will allow planners to understand the connection between land use and transportation so that they can better plan for future modifications and improvements to the system.

Why do you need to know my occupation or job?

A significant portion of travel is made by people going to and from work and by people at work. We want to understand the amount of travel generated by different jobs and occupations.

Why do you need to know when and where our children go to school?

A significant portion of travel is generated by children going to and from school. Sometimes, this affects the travel patterns and behavior of their parents and caretakers. We need to better understand this connection.

Why is the travel and activity diary so important?

Experience has shown that if people do not use a diary to record their travel and activities, they forget key details about what they've done and the places they've been. It is really important that all trips, even short stops in the evening and all activities no matter how routine, are captured in the survey.

How much detail is needed on each place I visit?

Detailed location information is an important part of analyzing travel patterns. Providing detailed information such as the name of the place, bus stop/train station, street address, city, cross street, and nearby landmark will enable us to see which streets, highways, and transit services are being used.

When you visit a place and record it in your travel diary, providing as much detail as possible about where the place is will make the effort less time consuming. If you decide to report your travel information on the web, we have provided tools to help you find the address for many of the locations you will visit.

Can I review my answers using the website even if my diary was collected over the phone?

Our online reporting program cannot revise or review diaries once you have completed the survey. If you would like to review your survey, please contact a survey representative, toll-free, at 800-334-4702 and we will be happy to verify your information.

Will any of the information collected be useful for environmental purposes?

Yes. The survey contains questions about the vehicle(s) your household has and how those vehicles are used during the travel period. It is important to know what types of vehicles are being used to estimate fuel consumption and emissions resulting from daily travel patterns. Improving air quality by reducing vehicle emissions is an important part of transportation planning and decision making. The survey will also ask about your walking, biking, and public transit use to/from various locations and activities. This information may help to improve infrastructure that would support more non-motorized trips to reduce carbon emissions and the need for petroleum-based transportation.

Will information from the survey be available to the public?

No, your specific activities and travel patterns will remain strictly confidential, as will any contact information (your name, home address, phone number, email address, etc.). Key findings about travel patterns drawn from the survey will be summarized by different socio-economic groups at the Census tract level. This information will be general in nature and will relate to our region and local transportation needs.

What if I don't feel comfortable answering some of the questions?

We are required by law to adhere to strict confidentiality regulations for all the information collected but, of

course, you may decline to answer any question. Your privacy is respected. You are not obligated to complete the forms or study.

What if out-of-the-ordinary events happen during my assigned travel day that change my travel?

On any given day, many households across the region have a "non-ordinary" travel day. But collectively, all these variations—less travel, more travel, and different travel—balance out. So, even if the assigned travel period turns out to be out of the ordinary for you or someone else in your household, it is important that you still record your travel in the travel diaries for the assigned travel day.

What if I travel out of the region during my assigned travel day?

If you travel out of the region during your assigned travel day, you will be asked to tell us the city you traveled to.

What if I don't drive a car?

We are interested in all types of travel—by train, bus, walk, bicycle, car, and truck—any means you use to get around. All travel modes are included in the survey and in state and local transportation models.

What if I don't travel very much?

Some people feel that just because all they did during their "travel period" was visit a friend or go to the post office, this information would not be important. In fact, these people, as well as those who don't travel at all during their travel period, are just as important as someone who did. Remember that the purpose of the survey is to get a complete picture of travel patterns throughout the state. So during your assigned travel day, we'd like to know even if you didn't travel at all.

What if I have additional questions?

Call or send us a message on the Additional Questions page.

For Households using GPS Devices

What do you do with the GPS data captured?

The GPS data improves the details of the information collected in travel diaries. The device collects the travel path for each trip you make, as well as start/stop times.

Is information about where I live and where I go linked to my name?

No, there is no connection between your name and the information collected on the GPS device. Your household is assigned a confidential ID number. The ID is never attached to your name with the data.

Can you tell where I am all the time?

No, the GPS device is not a tracking device. It collects information about where you went. You then send the device back to us when you are done with the survey. It cannot transfer data, so no one will know where you are in real time as you use the device. Your privacy and security are important to us.

How should I carry the GPS device?

Carry it in your pocket, bag, purse, or even on a key chain! Participants from prior studies have reported the GPS device is very convenient to carry because of the small size and light weight.

How do I know if my GPS device is working?

The GPS device will flash red or green or multiple colors when it is working properly. If lights of any color are blinking while you are in motion, then the device is functioning correctly.

How often do I need to charge my GPS device?

The GPS device only needs to be charged with the enclosed charger once every other day for three hours. The lights on the device will flash green when it is charging properly.

What if my GPS device doesn't show any lights?

The GPS devices will go to sleep in 15 minutes without movement. Pick the device up and move it around. If it doesn't light up, charge the device for three hours. If the device does not flash green when charging, you will need to take out the battery. Slide open the back cover, pull out the rectangular battery by the tab, and put it back in the device. Place the silver lanyard back on the hook, and replace the cover. Continue to charge the device for three hours.



Appendix G

Sampling Plan

Appendix G. Sampling Plan

The sampling plan presented in this Appendix is the original sampling plan written at the beginning of survey development. While sampling methodology was altered slightly throughout the process, those changes are not reflected in this Appendix. Rather, this sampling plan represents a static point in time.

Overview

The Delaware Valley Regional Planning Commission (DVRPC) Household Travel Survey (HTS) will feature a representative, geographically stratified sample of households in the study region. This document details how the sampling will be conducted.

The sample design presented here incorporates feedback from the DVRPC Committee on an initial draft investigating transit propensity oversampling criteria. The major difference between previous drafts of the sample design and the current design is how the oversampling will be conducted. In previous designs, households in Census tracts that were identified by transit station counts and tract-level incidence of zero-vehicle households were going to be oversampled relative to households in the balance of the study region. In the design presented below, transit propensity oversampling will be determined by pre-defined transit scores. These scores were derived by DVRPC from 2000 Census data. Transit scores were adopted and redefined according to 2010 Census tract definitions (see discussion below).

Sample Frame

The sample for the DVRPC HTS will be drawn from the U.S. Postal Service Delivery Sequence File (DSF). The DSF is a master list of residential addresses, providing very high coverage for household surveys. Abt SRBI will obtain the sample from Marketing Systems Group (MSG), which is an official licensed vendor of the DSF and has supplied samples to Abt SRBI for numerous household studies.

Sample Design

The design for the DVRPC HTS is a stratified random sample with targeted oversampling of transit propensity areas. The sample will be stratified by State × Area Type, as defined by DVRPC. The sample will be allocated proportional to the number of occupied housing units in each State × Area Type cell, based on figures from the 2010 Census. As a result of this stratified approach, the proportion of addresses sampled for the survey in each State × Area Type cell will be proportional to the actual population distribution of occupied households in the State × Area Type cell. Note that the oversampling described below, however, does lead to some modest deviation between the distribution of occupied households across the Delaware Valley region (DVR) counties and the distribution of sampled households across the DVR counties. The DVRPC area type codes were merged in at the tract level to produce this design. These area type classifications will be monitored at the state level.

Table G-1 provides the detailed State × Area Type classifications and expected to completes in each classification. The expected total number of completes is 10,000 households. Approximately 2,777 households will be completed in New Jersey (27.9 percent) and another 7,233 in Pennsylvania (72.1 percent).

Table G-1: Distribution of Expected Completes by State × Area Type

| | Area Type | Total Households | Expected Completes |
|--------------------|----------------------|------------------|--------------------|
| New Jersey | CBD/CBD Fringe/Urban | 47,026 | 271 |
| | Suburban | 405,017 | 1,882 |
| | Rural/Open Rural | 142,681 | 624 |
| | Total | 594,724 | 2,777 |
| Pennsylvania | CBD/CBD Fringe/Urban | 576,993 | 2,854 |
| | Suburban | 706,573 | 3,284 |
| | Rural/Open Rural | 250,369 | 1,094 |
| | Total | 1,533,935 | 7,233 |
| DVRPC Total | | 2,128,659 | 10,009 |

Source: AbtSRBI

Transit Scores

Transit scores are a metric for selection of appropriate transit investments for a given community (Lutin et al., 2008). Transit scores are derived from a series of linear regressions to determine best fit factors by using observed transit journey-to-work mode share. This methodology was developed for DVRPC in 1989, updated and expanded by New Jersey Transit Corporation in 2000, and calibrated in 2005 to areas within the DVRPC region. Three best fit factors were identified: population density, employment density, and carless households.

Transit scores were made available to Abt SRBI to use in determining high transit propensity Census tracts. Recalibrated transit scores in 2005 were developed for 2000 Census tracts. Abt SRBI reclassified original 2000 Census tract transit scores to align with current 2010 Census tracts. Of the 1,379 2010 Census tracts, 1,088 tracts were determined to have a 1–1 relationship with 2000 Census tracts and thus assigned the original transit score. A cross walk was developed to allocate the remaining 291 tracts. Transit scores were averaged from original 2000 data to produce the final score for the 2010 tract. There were 48 cases that could not be joined in this manner using traffic analysis zone (TAZ) and 2000 Census boundaries. For these 48, we determined the intersection between the TAZ zones and the 2010 Census tract boundaries. If a 2010 Census tract consisted of multiple TAZ zones, the TAZ transit scores were averaged to produce the final score. Transit score categories were then revised according to the original score criteria (see Luftin et al., 2008, for original score criteria).

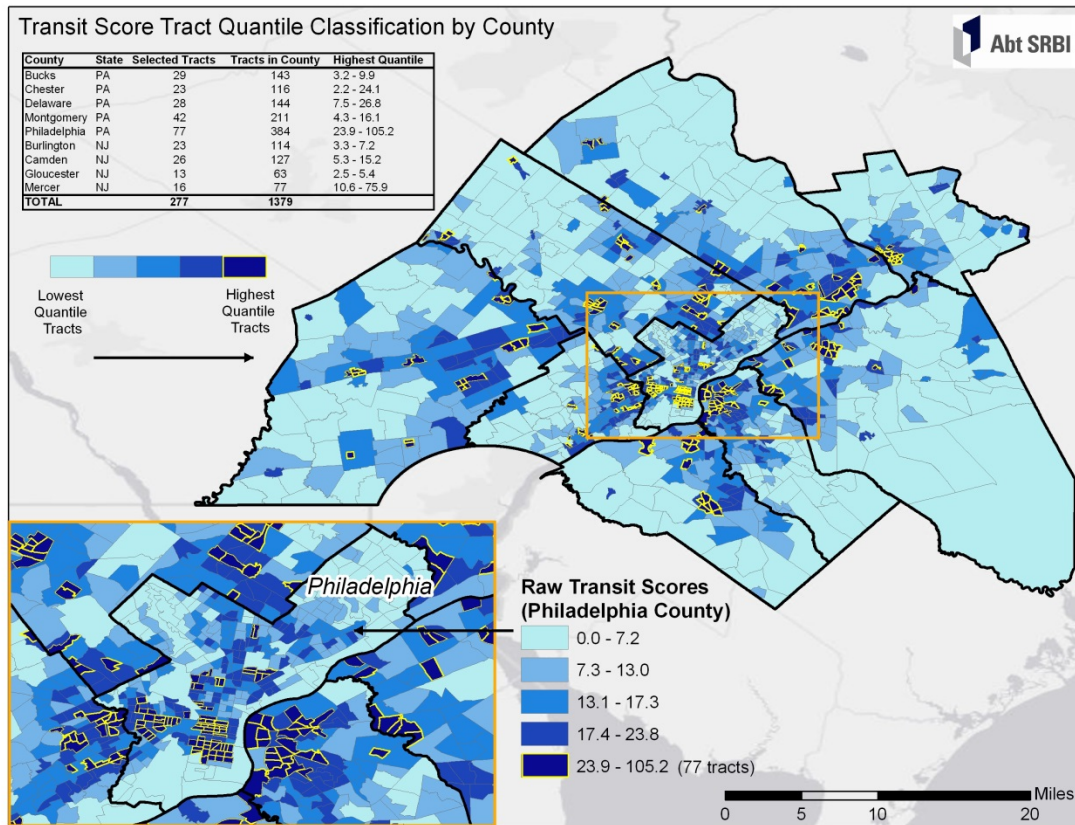
After establishing scores for all 2010 Census tracts, the tracts were sorted by county and within county sorted by transit score. Within each county, the tracts were then divided into transit score quintiles. This quintile classification within county was performed to identify appropriate high transit score tracts for each county. The quintile approach classifies each county's tracts into five equally-sized classes. The tracts in the quintile with the highest-class transit scores were then flagged for oversampling. The quintile approach was incorporated to help account for original score criteria adjustments. These adjustments were made to account for rich transit investment areas and potential transit opportunity areas. It should be noted that across the region the scores reflect originally defined high transit opportunities and those for potentially high to medium-high opportunities. Table G-2 shows the distribution of high transit score tracts for each county and the range for the highest quintile in each county. Figure G-1 illustrates the distribution of these tracts across the region.

Table G-2: Transit Score Quintile Classification by County

| County | Tracts Not Flagged for OS | Tracts Flagged for OS | Total Tracts | Highest Quintile Range |
|--------------------|---------------------------|-----------------------|--------------|------------------------|
| Burlington | 91 | 23 | 114 | 3.3–7.2 |
| Camden | 101 | 26 | 127 | 5.3–15.2 |
| Gloucester | 50 | 13 | 63 | 2.5–5.4 |
| Mercer | 61 | 16 | 77 | 10.6–75.9 |
| Bucks | 114 | 29 | 143 | 3.2–9.9 |
| Chester | 93 | 23 | 116 | 2.2–24.1 |
| Delaware | 116 | 28 | 144 | 7.5–26.8 |
| Montgomery | 169 | 42 | 211 | 4.3–16.1 |
| Philadelphia | 307 | 77 | 384 | 23.9–105.2 |
| DVRPC Total | 1102 | 277 | 1379 | 2.2 –105.2 |

Source: AbtSRBI

Figure G-1: Delaware Valley Regional Distribution of Oversampling Data



These methods result in 19 percent of total households represented in the transit propensity oversample, with a relative percentage being nearly equivalent in counties across the region. The oversampling strategy will result in the 19.2 percent of all households in the region representing 24.9 percent (or by a factor of 1.3). It is

important to bear in mind that relative sampling proportions are a zero-sum situation; one cannot oversample all parts of the study region. Oversampling should be used very strategically to increase the case base among only the most critical groups, as necessary. Table G-3 demonstrates the percentage of total households compared to sampled households.

Table G-3: Distribution of Transit Propensity in the Study Area and the Survey Sample

| | Total Households | % of Total Households | % of Sampled Addresses |
|-----------------------|------------------|-----------------------|------------------------|
| Transit Propensity OS | 406,471 | 19.2% | 24.9% |
| No Oversample | 1,722,188 | 80.8% | 75.1% |
| Total | 2,128,659 | 100.0% | 100.0% |

Source: AbtSRBI

Sampling Procedures

In order to achieve the desired $N = 10,000$ completes, Abt SRBI will purchase a larger number of addresses from MSG. The total sample count must allow for multiple sources of attrition, including undeliverable addresses, unoccupied households, ineligible households (e.g., no adult who speaks English or Spanish), households refusing the survey request, and households cooperating but not providing sufficient data. The total set of addresses obtained from MSG will be randomly divided into sample replicates. Each replicate is a random subsample of the total sample. In other words, each replicate has the same State \times Area Type distribution. By releasing the study sample in replicates, the survey manager maintains tight quality control over the field work, making sure that the protocol is implemented correctly for each set of addresses released for the study.

The sample of addresses will be matched against the file of listed landlines in the U.S. Where available, a known landline number will be appended to the sample. As described in the proposal, addresses matched to a landline phone will be recruited via Computer Assisted Telephone Interviewing, while unmatched addresses will be recruited via mail with a web recruitment survey. All households recruited will receive diaries and instructions and GPS units if they are pre-selected randomly for GPS recordings.

Continuous Monitoring

In addition to the proposed design, a battery of key socio-demographic variables will be monitored to ensure representativeness. While adjustments for known low-responding households have been incorporated into the plan, survey design factors may contribute to other population groups responding at a lower rate than expected. Continuous monitoring of key socio-demographics will allow for immediate corrective action. Several key variables will be monitored throughout the project. They include but are not limited to:

- State \times Area Type (see Table G-1);
- Income by Household Size (see Table G-4 below);
- Number of Vehicles by Household Size; and
- Number of Workers by Household Size – within each State of the DVR.

Table G-4: Household Income by Household Size and State

| Total Household Income | New Jersey (Four-County Area) | | | | Pennsylvania (Five-County Area) | | | |
|------------------------|-------------------------------|----------|----------|-----------|---------------------------------|----------|----------|-----------|
| | 1 person | 2 person | 3 person | 4+ person | 1 person | 2 person | 3 person | 4+ person |
| \$34,999 or below | 13.3% | 6.7% | 2.9% | 2.7% | 18.5% | 7.9% | 3.1% | 4.0% |
| \$35,000 to \$49,999 | 4.3% | 3.6% | 1.6% | 2.2% | 4.2% | 4.5% | 1.5% | 1.9% |
| \$50,000 to \$74,999 | 4.7% | 7.0% | 2.8% | 3.9% | 4.3% | 6.2% | 2.8% | 3.7% |
| \$75,000 to \$99,999 | 2.1% | 5.3% | 2.7% | 4.2% | 1.8% | 4.4% | 2.4% | 3.2% |
| \$100,000 to \$149,999 | 1.2% | 4.6% | 3.8% | 6.3% | 115.0% | 4.4% | 3.1% | 4.6% |
| \$150,000 to \$199,999 | 0.3% | 1.9% | 1.4% | 3.4% | 0.7% | 1.9% | 1.2% | 2.3% |
| \$200,000 or more | 0.4% | 2.0% | 1.6% | 3.1% | 0.3% | 2.2% | 1.2% | 2.4% |

Source: AbtSRBI

Moreover, monitoring practices may include additional household or person-level characteristics. It should be noted that corrective actions at the sampling level can only be achieved on a geographic basis. Corrective actions for household characteristics (e.g., household size) are achieved using other non-response strategies (e.g., incentives).



Appendix H
Protocol Adjustment
Memo

Appendix H. Protocol Adjustment Memo

Date: August 17, 2012

Pilot Purpose

The purpose of the pilot for the Delaware Valley Household Travel Survey was to understand all of the survey effects in a live collection environment. The pilot provided essential information that has informed the research team to understand and improve all elements of the survey, backend processes, and data collection protocols.

Pilot Overview

The pilot began on July 23, 2012, and concluded on August 10, 2012.

Recruitment of households was completed over the phone and by the web. Specifically, advanced letters were sent to households without a listed landline number (*unmatched households*) to participate in the study. The letters informed households to log on to the website, or alternatively to call our helpline to participate in the study. Matched households were called on the phone.

For successfully recruited households, travel packets were prepared and sent in timely fashion to arrive by the assigned travel date. Each travel packet included a cover letter, a diary for each member of the household (*with personalized diary label*), GPS units and instructions (*when applicable for GPS households*), and a business reply envelope for diary returns.

Reminder calls were made to each household the evening before their scheduled travel date. The day after each household traveled, households were re-contacted to retrieve their travel information. Households were instructed to report their travel information via one of three ways: by web, phone, or mail.

Summary of Results (*as of August 14, 2012*)

Total number of households contacted on the phone: 17,214

Total number of households recruited for pilot: 569

Total number of households completing the phone retrieval: 7

Total number of households completing the mail retrieval: 177

Total number of households completing web retrieval: 37

Average timing of Computer Assisted Telephone Interviewing (CATI) recruit interview: 16.68 minutes

Average timing of CATI retrieval interview: 16.42 minutes

Findings

Below are Abt SRBI's findings, insights, and solutions for the Recruitment Survey, the Retrieval survey, and the Travel Diary. An overall summary is provided, followed by detailed question insights and solutions. We will begin with the Recruitment and proceed to the Diary and Retrieval.

Recruitment Summary

Overall the recruitment of each household went very well. Both CATI and web surveys were programmed to meet all of the demands of the recruitment interview (e.g., skip patterns, household person collection, etc.). In general, interviewers moved seamlessly through the script and in fact, comments were made from the field regarding the logicity and seamless nature of question ordering. The script itself allowed for good interviewer/respondent rapport.

Ultimately, we have two main concerns coming out of the pilot:

(1) We experienced a lower production rate (*or, completes per hour*) than expected.

(2) We experienced a higher rate of refusals and drop-offs than expected. While various factors are at play (*seasonality, for instance*), modifications to the survey now will have significant impacts down the line. This is particularly important to ensure that we reach our target of completes within budgetary constraints.

In particular, one problem that re-occurred and contributed to our drop-off was that respondents were not made aware enough of what was required for the study. Respondents were frustrated without knowing all the requirements. While some guidance is already present, it is evident that transparency and language is needed to "hand-hold" respondents throughout.

As a result, we have adjusted introductory and transitional language throughout the survey with the intent of guiding and educating the respondent. This language will inform what each section entails, what will be involved in the second part of the study regarding the diaries, and the specific reasoning for why we collect a given piece of information for transportation research. Given the feedback we received from the field, this additional wording will go a long way.

On Tuesday, August 7, 2012, Abt SRBI discussed a document with the Delaware Valley Regional Planning Commission that was entitled "*Proposed Solutions Grid*." This document included Abt SRBI's comments and proposed solutions to shed more detailed light on specific questions to put this into action.

SRBI's proposed solutions had three main objectives in mind:

Improve the production rate. This can be accomplished by trimming the survey and/or by retaining more households on the phone to complete the survey.

Reduce the rate of refusals and drop-offs.

Improve language and transitions to develop a greater rapport and keep respondents engaged and comfortable (*particularly when it comes to providing sensitive information*). In multiple places, we have added language that walks the respondent through the process.

Recruitment: Detailed Question Insights and Solutions

INTRO: We received numerous comments from the field that respondents were dropping out later in the survey at the assignment portion, in part because he/she would have preferred to know more about the second portion of the study. Thus, we initially adjusted the intro wording to elucidate the second element of the project. After additional internal review, we have further tweaked the introduction slightly to be as concise, informative, and persuasive as possible. We have also provided guiding language throughout the survey to discuss the diary portion. The intro will read as follows:

Once every 10 years, the Delaware Valley Regional Planning Commission, or DVRPC, conducts an essential study to understand your travel needs to guide transportation projects and improve daily commutes. We need your input to make sure your community's roads, bridges, trains, and buses are meeting your needs. Your household has been randomly selected to participate in this study.

Participation is easy and all information collected is strictly confidential. To complete the study, we will first ask you some questions about your household. Then we will send each member of your household a diary to record travel information for a day.

Let's start with the questions about your household.

TERMINT: As the last “plead” to the respondent to continue, additional completes could have been retained at this refusal conversion (*and thus improve our production rate/drop-off*). The non-response suggests the major reason for respondents to decline the survey to be “I am too busy” or “I just don’t feel like doing it.” As such, this paragraph has been reviewed, constructed, and revised to increase participation. TERMINT will read as follows:

We understand everyone has a busy life but without your input, local planners cannot minimize toll increases, build new roads where they are needed, and improve public transportation. Today's interview is about 10 minutes and is an easy way for you to make a difference for yourself, family, and neighbors.

HHWRK (Household Workers): No issues arose. However, it was decided that the number of employed persons in the household will be calculated in the person roster, and this validation question is unnecessary. This presented an opportunity for survey trimming. The question has been removed.

HHSIZ (Household Size): No issues arose, but wording needed to be adjusted from the revised intro with a better transition. With the goal in mind of improving rapport and informing the reasons for gathering certain information, we have included improved transition language.

CADDR/HADDR (Home Address): We experienced drop-offs and refusals from asking respondents to provide or confirm their home address. We will confirm their mailing address at the end of the Recruitment (merge into MADDR). This reduces the question's sensitivity (*the reason why we need the address will be more transparent*), and it also occurs at the end of the Recruitment, after the interviewer/respondent rapport has been developed.

Cars (Introduction to vehicle roster): No issues. This is one instance where we have improved language with the intent of guiding and educating. To provide an example of this approach, the transition wording is below:

Thank you. Next, I'd like to ask you a few questions about your vehicle in working condition.

This information is important for estimating the types of vehicles that are driven on the road.

Having this information will also make it easier for you when we send you the travel diary.

Vehicle Roster: The field reported fatigue regarding the vehicle roster. While the majority of households have on average around 1.64 vehicles, households with more vehicles, in particular, had some drop-off here. To reduce repetitiveness, we will run through each question once and address all vehicles (as opposed to one vehicle roster at a time). This will be implemented into the CATI script. The repetitiveness is less of a factor on the web. Additionally, survey loop set-up on the web side makes this problematic to implement.

PASSTL and FLEX (Toll Road Pass and Rental/Car Share Information): Asking these questions for each person not only is repetitive and somewhat burdensome, but appears as much more appropriate in the household roster. (*Basic Research suggests most people would have accounts in the same household for E-ZPass/Zipcar, e.g., adding up to four cars on one household E-ZPass account; adding household members to the family Zipcar account.*) These have been moved after the vehicle roster and will each be asked once at the household level.

OWN and TEN (Household Information): No issues arose, but these questions were nonessential and offered an opportunity for trimming. This has been approved. OWN and TEN have been removed from the survey.

HISP (Race/Ethnicity): No issues arose, but DVRPC determined they would like to add/combine a RACE question. We have adjusted HISP to ask about the race/ethnicity category that best describes the person. Although by definitions race and ethnicity may be considered separate, respondents do not think this way. Particularly because there is no specific modeling need to differentiate them, the best solution for this case is to define race categories with a single response "catch-all" question to define the category that best describes the household member.

TTRIP / TPTY (Public Transportation): Very low percentage of persons under 13 using public transit (~5%) the previous week. In addition, the field reported these questions to be irrelevant and a bit baffling to ask of young children (*for instance, to ask these questions of a 5-year-old*). Approved by RSG/DVRPC, we will ask this question only of persons aged 13 years or older. This will eliminate this unnecessary burden of asking about young children and will streamline the survey.

CWADD, WADDR, WCHECK, CSADD, SADDR, SCHECK (Introductory and Transition Language for Work and School): No significant issues. We have added educating language and reasoning for asking work and school address. While respondents did tend to provide us some information with a very low drop-off rate here, providing extra wording will help reassure.

INCOM, INCO35, INCU35, INCRF: No significant issues. The current rate of refusal (9.9 percent) for income would appear as the same when a single question is asked. In many cases, respondents did not provide anything finer than the initial broad category of <\$35,000 or >\$35,000. As such, reducing to one question will reduce burden, trim survey length, and result in a similar incidence. Again, we have included educating language here, as well to explain why we need income information.

LNAME: Potentially due to sensitivity, there seems to have potentially been some reluctance at this question. As such, we have removed LNAME and we will simply capture the last name at the end when determining mailing the materials.

Additional Implementations:

INTO1: Minor adjustment to describe the DVRPC organization better. We don't need Abt SRBI there as well, as it clutters the intro too much with too many organization names. Revised wording is as follows:

Hello, my name is [INTERVIEWER NAME] calling on behalf of the Delaware Valley Regional Planning Commission, also known as DVRPC. This organization is responsible for transportation planning and quality of life improvements in the region. Are you 18 years or older?

HHMEM (Transition before Person Roster): No issues. Improved transition language before asking about each household member. We have similarly added educating/guiding language and tied the language to the second diary part of the study.

EMPLY: We had one individual call the helpline because he saw the journey to work in the Retrieval, but his new job does not start for a number of months. We have added wording to EMPLY to ensure we avoid this rare issue. We would like respondents to provide information about current employment, not future. Wording has been adjusted to:

As of today, <are you/is FNAME> employed either full-time or part-time? Please do not include any future employment.

Diary Summary

After reviewing the diaries, we are extremely pleased with the results. In particular, the journey-to-work section appears to be very clear to respondents. For instance, in a preliminary subsample of 54 individual diaries that were received early in the process, 23 of 25 people (92 percent) that SHOULD have completed the journey-to-work section based on the Recruitment DID completely fill it out. Qualitatively, there appears to be fairly good understanding of how to fill out the diary.

After our review, we have two slight changes (*these were detailed in an email sent on August 13, 2012, and approved on the conference call on August 14, 2012*).

Diary: Detailed Question Insights and Solutions

Activity List, Option 1, "Home activities not related to work, school, or online": We saw a few diaries indicate "sleeping" or "chores" as 96, "Other." This type of activity should appropriately be marked as "1." We will add a few examples in italics, in the same way we have done with other codes. We will make Option 1 become: "Home activities not related to work, school, or online (*sleeping, personal care, chores, etc.*)."

Activity List, Options 7 and 10, "Personal business online (banking, email, etc.)" and "Shopping for products, services or goods online": We had an instance of a diary who stated they/he/she was at Home Depot and then the mall. The activity code used for both was 10, "Shopping for products, services or goods online." It is possible some respondents may skim through codes while filling out the diary.

As a result, to ensure everything is as clear as possible, we will move "Online" to the beginning of the sentence for Codes 7 and 10. This should clarify and avoid inappropriate codes for personal

business/shopping. We will move the word "Online" to the front of the sentence for Codes 7 and 10 to become:

7 Online personal business (*banking, email, etc.*)

10 Online shopping for products, services, or goods

DUR (Activity Durations): As expected, respondents omitted some duration times for various activities. As such, the protocol for diary data entry will be as follows:

If there is one activity only at a place and duration time is missing from the diary, data entry staff will impute the information. For instance, if someone arrives at 9:00 AM and leaves at 11:00 AM, and they did one activity but left the duration blank, we will have data entry staff enter two hours.

If there is more than one activity at a place, and duration is missing from the diary for a particular activity, we cannot assume the duration. We will have data entry leave that particular activity duration as "Rather not say."

Retrieval Summary

For the Retrieval, we experienced far more mail and web completes than phone (*only seven phone completes, 214 mail/web*). This is very helpful for us to gauge the types of returns we can expect for the main study for the region. There are also some positives from this as well, particularly because the web retrieval has the lookup/mapping tool and will help with address verification. Similarly, mail-backs provide the same convenience, as data entry will be submitting this information from the diaries into the web.

*We are continuing to data enter diaries and received some mail-back diaries this week. As such, we will continue to monitor, but this will make it somewhat difficult to provide substantial quantitative results at this time. We will provide as soon as possible.

Retrieval: Detailed Question Insights and Solutions

Activity List, Options 1, 7, and 10: The same changes will be made to the Phone and Web Retrieval as to the diary.

Sentence after INCRT (Finalizing Paragraph): Before the end of the Retrieval, we say the following: "Those are all the questions I have for you today. Thank you for participating in the Delaware Valley Household Travel Survey. At this point, I wish to reiterate how important your participation was for the success of the study."


However, this is followed by a few additional items asking about the best name for the incentive check and a question regarding potential future participation. The field noted this is very confusing and potentially dangerous, for the web in particular, because people may close the browser before completing. As such, we need to ensure respondents know this is not the last page/screen. We will adjust wording to inform respondents that this is not the last screen and there are just a few remaining items.

ENDTRVL (End of Travel): If a person indicates “Don’t Know” or “Refused” when asked if they did not take any more trips, they are currently asked where they went to the next place. However, this can be problematic if they really did end their day. As such, DK and RF should go back to DEPTM (the departure time of the previous place) to give them the opportunity to indicate if/when they really left or not.

Re-direct link to DVRPC HTS site at the end of the Retrieval: In response to a request sent on August 1, 2012, from the DVRPC team, we will implement a re-direct link/clickable text at the end of the Retrieval to the DVRPC travel survey home page. Unfortunately, we will not be able to automatically re-direct because we capture completes on the final screen.

Journey-to-work questions WMODE, ARRVRK, LVWRK: Just in case we do end up with a situation where a person receives journey to work on the web but really should not (as in the one person who had future employment), we will add in a soft prompt and then allow a click through the second time for these three questions. This eliminates the need for a refusal/dk option which would increase the likelihood of non-response. It also allows data entry to allow no response where none should be (should this rare scenario occur).

*Additional protocol note: For the main study, we will be implementing Reminder emails into the Reminder scheme. In other words, in addition to calling households the night before travel, we will also email those households (in the cases when an email has been provided). It is our hope this will also increase our response rate.



Appendix I

Imputation Strategies

Appendix I. Imputation Strategies

The quality control process revealed missing data in a variety of fields. Missing data was imputed where possible to increase the number of complete records available for transportation modeling and data analysis. Imputation was based on a series of logic checks specific to each field. For example, the question asking how often employed residents used their specified mode to work was often missing a response. When responses were given, 88 percent reported using the same mode 10 of 10 times. Therefore, the imputation strategy was to assign a value of 10 to a random 88 percent of non-response records.

Table I-1: Imputed Fields and Strategies

| Field Name | Field Description | Breakdown | Imputation Strategy |
|-----------------|--|---|--|
| WDAY | Typical Days Worked | 80% of non-responders provided work hours; average hours worked by this group is 30. | Identify those persons with a similar average hours worked and impute the same number of days |
| DYGOV | Parked at or Near Location | 57% indicated the home as the location | Indicate as parked and impute group mean of 1.72 minutes |
| LVTMS | Frequency of Departure Time From Work | Non-response is evenly distributed across arrival times. Suggest random imputation assignment. | Random assignment across times |
| ARRVTMS | Frequency of Arrival Time at Work | Non-response is evenly distributed across arrival times. Suggest random imputation assignment. | Random assignment across times |
| VEHOUT | Electrical Outlet | 67% of non-responders live in an apartment, group living, or some other residence ((resty ge 2) and (resty le 97)); 33% live in a single unattached home (resty eq 1). | For non-home living, re-code to no outlet (vehout eq 9000). For those living in a single home impute the mean distance of 32. |
| WMODETMS | Frequency of Using Mode Transportation to Work | 88% of all respondents report using the same mode 10 of 10 times | Impute a random 88% of non-response cases to 10 times a week |
| PRKLC | Number of Minutes from Parking Location to Destination | 93% did not pay to park; average minutes is 1.5 for persons who did not pay to park | Impute 1.5 mean for this group. |
| TCOMM | Frequency of Telecommuting | 88% report arriving or leaving work at different times on different days; another 5% report arriving or leaving work at the same time 10 of 10 times; (1) 20% have no fixed work location | Impute 0 for telecommute if arrival or departure times are different times/days; where arrive or leave equal 10 (1) Re-code to Employee out-of-pocket |
| PKSUB | Employer Parking Subsidy | (2) 4% indicate employer offers transit subsidy; 11% do not offer transit subsidy (3) "I don't know" accounts for 4% | (2) Re-code to Reflect Transub condition (3) "Don't know" is a valid response |
| PKSUBAMT | Percentage of Employer Parking | 66% of persons reported the exact same subsidy for parking and | Impute 66% of missing to reflect what is reported in trsubamt |

| | | | |
|-----------------|--|--|---|
| | Subsidy | transit | |
| TRANSUB | Employer Transit Subsidy | 87% of non-responders made zero transit trips in the past week 23% are "Don't know" | "Don't know" is a valid response |
| TRSUBAMT | Percentage of Employer Transit Subsidy | 66% of persons reported the exact same subsidy for parking and transit | Impute 66% of missing to reflect what is reported in pksubamt |

Source: DVRPC

As an extra check on suspicious trips, DVRPC developed logic checks to determine a reasonable answer for questions that may not have been completely clear or for missing answers. For example, many respondents neglected to report their trip home at the end of their travel day. To determine if a person truly did not go home, the imputation method, illustrated in Figures I-1 and I-2, examined trip patterns and other characteristics which either verified the last trip of the day, added a trip to return home, or flagged a record for manual review.

Figure I-1: Trip Imputation Method: Missing Home Start

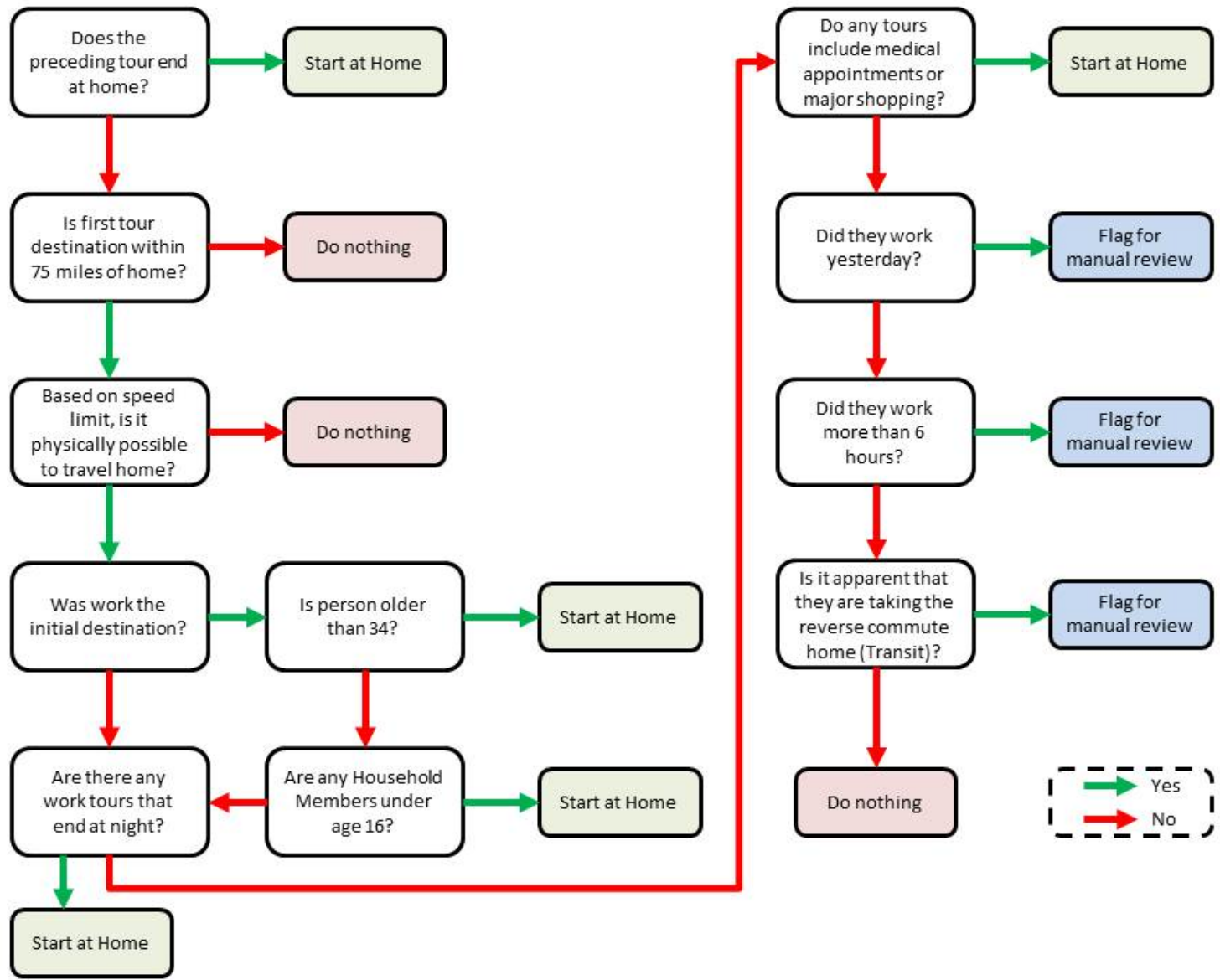
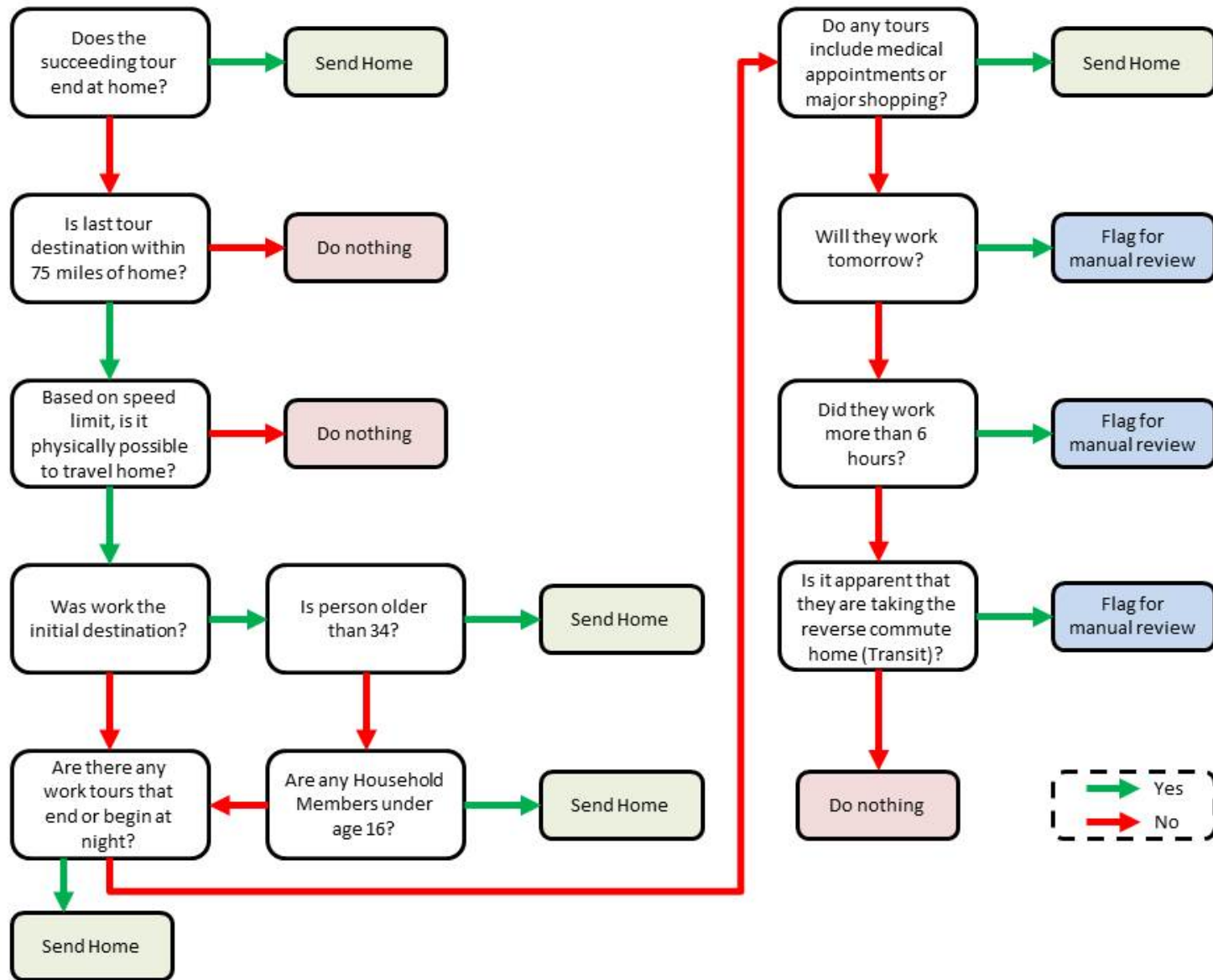


Figure I-2: Trip Imputation Method: Missing Home End





Appendix J

Geocoding Process

Appendix J. Geocoding Process

Introduction

The collection of high-quality geographic information, in the form of latitude and longitude coordinates, is an important goal of household travel surveys (HTSs). The more accurate the location data used as travel demand model inputs, the more accurately the models are able to represent regional travel patterns. Initially, the data collection contractor used the ERSI ArcGIS geocoding tool to identify the latitude and longitude of addresses reported in the survey. However, the geocoder had recently loosened its accuracy standards to increase the number of matched records. Therefore, the resulting geocoded locations were full of errors and not accurate enough for use in the travel demand model. To improve data quality, DVRPC staff implemented a multi-step geocoding process, maximizing the number of addresses in the final dataset with accurate latitude and longitude information.

Background

Complex travel demand models require a high level of geographic accuracy for determining regional trip patterns, trip chaining, and home-based and non-home-based trips. In a travel survey context, geographic information (e.g., latitude and longitude) is critical to defining what is and is not a complete record. Levels of geographic accuracy are often defined by location type. For instance, households' knowledge of address information often degrades as travel goes beyond the home. Fully formed addresses are more likely to occur for familiar locations, such as home, work, and school, while less familiar locations often result in partially formed address information. These partially formed addresses may include anything from the name of the place and the city to the name of the closest intersection and a city.

Data Preparation

The HTS gathered many different types of addresses, including home, work, and school addresses, as well as other trip origins and destinations. Home addresses were stored in the Household data file, usual work and school addresses were associated with each individual so they were stored in the Person data file, and the other trip addresses were provided as either origins or destinations in the Trip data file. To increase geocoding efficiency, addresses were sorted by type and each type went through the geocoding process separately.

School addresses were compared to an existing regional shapefile of school locations, and coordinates were extracted from ArcGIS. Schools not included in the shapefile were searched for manually using Google Maps.

Home and usual work addresses were prepared for geocoding using the same process. First, the addresses were "cleaned." Address data was sorted and manually inspected in an attempt to catch and correct typos and misspellings that would reduce the likelihood of successful geocoding. For example, efforts were made to ensure that all place names of the same municipalities had the correct spelling. Once cleaned, the addresses were further sorted, this time based on quality and suspected ease of geocoding:

- complete usable address, including at least street address, city, and state;
- usable place names, including a place name (such as ShopRite), city, and state or zip code:
 - only applicable to work and other addresses, not home addresses; and
- usable cross streets, including cross streets, city, and state or zip code.

Table J-1 shows the number of addresses categorized into each bin.

Table J-1: Address Bins

| Location Type | Address | Place Name | Intersections | Other | Total |
|---------------|---------------|---------------|---------------|--------------|---------------|
| Home | 9,628 | - | - | - | 9,628 |
| Work | 4,799 | 1,865 | 182 | - | 6,846 |
| School | - | - | - | 3,514 | 3,514 |
| Other | 17,853 | 13,167 | - | - | 31,020 |
| Total | 32,280 | 15,032 | 182 | 3,514 | 51,008 |

Source: DVRPC

Automated and Manual Coordinate Assignment

Complete usable addresses were geocoded first since the process was linear and could be partially automated. The list of complete addresses was run through a python script that searched for each address using Google Maps and Bing Maps. Corresponding coordinate locations were extracted from Google and Bing and added as fields to the list of complete addresses.

The resulting coordinates were then run through a model built in ArcGIS that served to identify those records where Google and Bing did not agree on the coordinate location of the address. The point locations of the Google and Bing coordinates were overlaid onto a polygon shapefile containing all relevant regional boundaries, from state and county boundaries all the way down to transportation analysis zones and Census blocks. When both the Google and Bing points for a record fell within the same block, meaning that both sources agreed on the location, the Google coordinates were selected as the geocoded location for that address. When the points fell in different blocks, they were flagged for review.

The reviewer utilized a variety of Internet sources to search for the correct address location. If the reviewer verified that one of the Google or Bing coordinate locations was correct, those coordinates were selected as the geocoded location for that address. If the reviewer was unable to verify existing coordinates, but instead found and verified other coordinates, the new coordinates were used as the geocoded location for that address. If the reviewer exhausted available resources and was still unable to locate the address, no changes were made and the contractor-provided coordinates (if available) were used as the geocoded location. The resulting list of coordinate locations was run through a script that replaced the existing latitude and longitude in the database with the new, verified coordinates. Updated records were flagged throughout the process for identification.

Usable place names were geocoded next. Initially, the records identified as having incomplete address information but that had usable place names were run through a script designed to pull coordinate information for matching records from Google and Yelp. The goal was to simplify the search and reduce manual investigation time. However, when these coordinates were placed in ArcMap for comparison, selecting the best match became very tedious. Instead, the usable place names were investigated manually by a team of reviewers that scoured the Internet for a unique matching location. If one was identified, the resulting coordinates were used as the coordinate location for that place and updated in the database. If no matching place was located, no updates were made.

Records where the most useful location information available was the nearest cross street were also run through the coordinate extracting script, followed by the ArcGIS location matching model. When both Google and Bing agreed on the same block location, the Google coordinates were selected as the geocoded location

for that record. When Google and Bing did not agree, the record was investigated using available Internet sources as well as other details about the household or person traveling, including previous trip locations and arrival/departure times, to ensure logical location selection. Selected coordinates were used to update the database. If no matching cross street was identified, no updates were made.

Other Addresses

On average, 36.6 percent of activities reported in the region took place at locations other than home, work, or school. Address and place name information for these places was recorded as origins and destinations in the Trip file. In an effort to reduce duplication by geocoding the same address twice, the trip file was combed to find trip records with addresses that matched home, work, or school addresses. These records were identified using a combination of reported trip purposes and place types. For example, records where the trip purpose was to attend classes were flagged as possible school locations. Flagged records were then compared to the provided home, work, or school address of the person making the trip. If they matched, completely or at least in the important details, the record was flagged for update. The update script replaced the existing coordinates of the trip origin or destination with those of the previously verified home, work, or school location, and identified the record as updated.


Remaining trip records that were not updated were then cleaned to give the geocoding script the best chance at finding a matching address. The records were categorized based on quality into the same classes as the other addresses. They were run through the coordinate extracting script and the location matching model. Correct coordinates were selected and updated using the same methods as previously described for the home, work, and school addresses.

The coordinate extracting scripts and ArcGIS model saved significant time and effort, as shown in Table J-2. Since Google and Bing agreed on 78 percent of the locations down to the Census block level, the reviewing staff was saved from manually investigating over 25,000 records.

Table J-2: Geocoding Results

| Result | Home | Work | Other | Total |
|---|--------------|--------------|---------------|---------------|
| Google and Bing agreed to Census Block level | 8,611 | 3,407 | 13,167 | 25,185 |
| <i>% Agreed</i> | <i>89.4%</i> | <i>71.0%</i> | <i>73.8%</i> | <i>78.0%</i> |
| Mismatched | 1,017 | 1,392 | 4,686 | 7,095 |
| Total | 9,628 | 4,799 | 17,853 | 32,280 |

Source: DVRPC



Appendix K
Public Outreach

Appendix K. Public Outreach

A public outreach plan was developed to raise awareness of the survey effort throughout the Delaware Valley region. The goal of the outreach plan was to communicate the purpose and importance of the HTS and increase public interest in the study. Project management, public outreach experts, stakeholders, and DVRPC's Office of Communications and Engagement developed a plan that:

- informed the public of the purpose and procedures of the HTS;
- attempted to gain the public's confidence in the legitimacy of the household survey and the travel demand model; and
- addressed public concerns regarding how the data would be collected, processed, maintained, and employed.

The Public Outreach plan included:

- A comprehensive branding strategy, created by DVRPC design staff. This included guidelines and protocols for logo use, formatting, and style points for all documents and materials.
- A website (www.dvrpc.org/travelsurvey) that hosts all information and materials prepared for the project. In addition, the website serves as the entry portal for participation in the recruitment questionnaire and the reporting of travel information from households.
- Press releases for local newspapers and community papers to share the merits of the project and generate public awareness.
- A video, available on the website, featuring Barry Seymour, Executive Director, sharing insights into the survey process and speaking to the uses of the data from the study.
- A toll-free 1-800 number and unique email were available for study and information purposes.

Brand/Logo Guidelines



HOUSEHOLD TRAVEL SURVEY LOGO USAGE

Pg: 1

The Household Travel Survey logo is to be used on all materials associated with the DVRPC Household Travel Survey. The DVRPC logo is a part of the brand mark, and must always be a part of the full logo graphic. **The logo will be supplied in file types for print and web use.**

COLORS:

The official logo colors are PMS 430, PMS 3275, and PMS 382.

Print use: If producing a 4 color job or where spot color is not feasible use the CMYK breakdown (below). The logo can also be used in all black, gray scale, or if needed reversed to white. **Web use:** see RGB breakdown below.

PANTONE 430: The DVRPC logo

PANTONE 3275: "HOUSEHOLD", house graphic, and arrows intersection

PANTONE 382: "TRAVEL SURVEY" and arrows

CMYK BREAKDOWN:

PMS 430: C:5 / M:0 / Y:0 / K:45

PMS 3275: C:95 / M:0 / Y:47 / K:0

PMS 382: C:29 / M:0 / Y:100 / K:0

RGB BREAKDOWN:

PMS 430: R:148 / G:156 / B:47

PMS 3275: R:0 / G:172 / B:161

PMS 382: R:193 / G:216 / B:47

FONTS:

The font used in the logo is "ITC Avant Garde Gothic, Bold"

Any accompanying fonts used should be from the Avant Garde font family of weights. (Bold, Book, Light)



official logo



grayscale



black



reverse/white

ITC Avant Garde Gothic, Bold
ITC Avant Garde Gothic, Book
ITC Avant Garde Gothic, Light

HOUSEHOLD TRAVEL SURVEY LOGO USAGE

Pg: 2

STAGING AREA:

Always be generous with the space around the logo in your layouts to ensure legibility. As a guide use the length of two "O"s from the word "HOUSEHOLD" in the logo for spacing on all four sides, as shown.

CONFIGURATIONS:

This is the DVRPC/Household Travel Survey official brand mark. It is a graphic image. The **fonts can not be changed**. The signature elements must always remain in the exact proportions and color values as shown here. **Do NOT skew, stretch or distort the logo.** Do not reproduce the logo in a way other than is described in these guidelines without the permission of DVRPC creative services.*

BACKGROUNDS:

The logo may be placed on a solid color or photographic background as long as there is sufficient contrast between the logo and background. The logo should never have a white box around it on a non-white background.

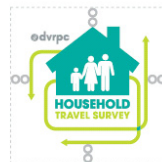
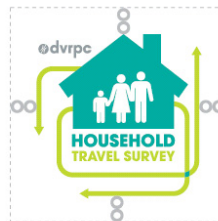
MINIMUM SIZE:

The minimum size the logo can be used is 1.114" x .1194" to ensure legibility. (For web: 86px x 80px)

*FOR MORE INFO:

If you have any questions or needs concerning the usage of the DVRPC Household Travel Survey logo/brand. Please contact:

Rebecca Maule
Senior Graphic Artist
215.238.2866
bmaule@dvrpc.org



Website (English)



DVRPCwebsiteHome

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[SPANISH/ESPAÑOL](#)

DVRPC is the official Metropolitan Planning Organization for the Greater Philadelphia Region.

Welcome!

The Delaware Valley region is growing and changing and with your help, the Delaware Valley Regional Planning Commission can plan now for our shared future. DVRPC is the metropolitan planning organization for the Greater Philadelphia region, and fosters regional cooperation to address key issues, including transportation, land use, environmental protection, and economic development. We're conducting a Household Travel Survey (HTS) to learn how people travel in our region to help planners take steps to improve mobility, safety, and the economic vitality of the Greater Philadelphia area.

Participation is easy and voluntary—and information collected is confidential. We're currently inviting randomly selected households by phone and by mail—if you answer the call to join, you'll be asked to complete a diary of your travel on a single day. That's it!

To everyone who answers the call: *Thank you!*

Learn More About HTS. . . [Link to the About Page or Fact Sheet]

If you have received a letter and wish to begin your survey, click [here](#), or call 1-800-334-4702.

[PRIVACY](#) [DISCLAIMER](#) [ACCESSIBILITY](#) [SITE MAP](#) [CONTACT](#)

About the Household Travel Survey

Sponsored by the [Delaware Valley Regional Planning Commission](#) (DVRPC), the Household Travel Survey (HTS) collects data about the daily travel behaviors of residents in southern New Jersey and southeastern Pennsylvania to determine how to improve roads, reduce traffic congestion, enhance walking and bicycle paths, and upgrade public transportation.

The survey is conducted about once every 10 years to help DVRPC better understand the region's travel characteristics and guide future transportation projects. Participation is voluntary. All information gathered will be strictly confidential.

Randomly selected participants will use a travel diary to record how, where, and when they travel for a single day.

The survey is being carried out by the research firm Abt SRBI and will involve 10,000 household for the nine counties of the DVRPC region: Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer counties in New Jersey.

The main survey is scheduled to begin in August 2012 and will be conducted every weekday for twelve full months.

Learn More . . . [\[Link to FAQ or Fact Sheet\]](#)



How You Get the Call

Participants are randomly selected from all households in the nine counties of the DVRPC region: Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer counties in New Jersey. Households selected will either receive a letter in the mail or be contacted over the phone to participate.

What You Need to Get Started

If you receive a letter in the mail, all you will need is your personal identification number (PIN). To start the survey, complete a Household Questionnaire using ONE of the following options:

By Internet: You can complete the initial survey on this webpage. Return to the home page and click on “Start the Household Questionnaire” and enter the PIN number you received in the advance letter. It looks like this: “Your **PIN#**. **Your PIN# is: A2jR345Z.**”

By Phone: You can call our toll-free line at 1-800-334-4702 to participate. You will need to provide your name, home address, and telephone number when you call.

If a representative contacts you by phone, all you need to do is answer the questions the representative asks and agree to a travel day.

Whether by web or over the phone, reporting accurately and with as much detail as possible helps advance the region’s efforts to create a transportation system that benefits everyone.

How You Begin

After completing the household questionnaire, each participating household will be assigned a travel day and sent a survey packet with travel diaries for each member of the household.

Some households will be randomly selected to complete travel diaries and carry GPS devices with them for a period of three days. If you are selected for this part of the study, each member of the household will receive an honorarium for this additional effort.

What It Involves

Participants will record travel information in their travel diaries, including travel modes (such as walking, biking, driving, riding the bus), destinations, trip purposes, and times for a single day of travel. The travel data can be submitted to DVRPC online, by telephone, or by mail.



Frequently Asked Questions

[General Information](#)

[Taking the Survey](#)

[For Households Using GPS Devices](#)

[Contact](#)

General Information

What is the Delaware Valley Household Travel Survey?

Sponsored by the Delaware Valley Regional Planning Commission, or DVRPC, the **Delaware Valley Household Travel Survey** is an in-depth study of the travel and activity patterns in the Greater Philadelphia region. DVRPC is hoping to hear from 10,000 households to identify where and how residents traveled on a specific, designated travel day (24 hours).

In order to ensure a sample that is representative of the region's population, each household will be asked a series of questions about their demographics, travel routines, and use of transportation. The data will provide complete information on the daily travel of residents in southern New Jersey and southeastern Pennsylvania to determine how to improve roads, reduce traffic congestion, improve walking and bicycle paths, and enhance public transportation in the area.

Who is sponsoring this survey?

This project is sponsored by the Delaware Valley Regional Planning Commission.

DVRPC is the federally designated Metropolitan Planning Organization for the nine-county Delaware Valley region. Created in 1965, DVRPC provides continuing, comprehensive, and coordinated planning to shape a vision for the future growth of the Delaware Valley region.

The Delaware Valley region consists of Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer counties in New Jersey. These nine counties together comprise over 3,800 square miles and are made up of 352 municipalities. The region is home to 5.6 million residents and 2.8 million jobs.

Who is conducting this survey?

Abt SRBI, Inc. is a full-service global strategy and research organization specializing in public policy and opinion surveys, banking and finance, telecommunications, media, energy, transportation, insurance, and healthcare. Clients include major financial institutions; Fortune 500 companies; federal, state, and local governments; foundations; and universities. Abt SRBI has an established track record of providing high-quality, timely, and cost-effective research and analysis. For more information, please contact DVRPCTravelHelp@srbi.com.

What can I expect?

The first step is a brief introductory interview, in which your household is invited to participate in the survey. If you agree to participate, we collect some information about all household members and vehicles. At the end of this interview, we'll assign your household a travel day. On this travel day, we ask that you record all the travel and activities performed by all members of your household for a 24-hour period.

Once we assign your household a travel day, we will mail each person in your household a personalized travel diary. Each person should use the diary to record all the places to which they travel, how they travel, and the activities they

performed at each place. Diaries should be self-completed by all persons aged 16 and older. We ask that parents fill out the diaries for all children under age 16.

The day before your assigned travel day, you will receive a call or email reminding you of your upcoming travel day.

Following your travel day, we ask that everyone in your household provide their travel details to us. If the diaries are complete, this interview is quick!

How can I provide you with my travel details?

We realize that everyone is busy, and that your time is important to you. In order to be respectful of your daily schedules, we have a few ways that you can provide us with the information.

You can participate in the introductory interview...

- **via web** by navigating back to “Home” and clicking on “Begin Household Questionnaire.” You will need your unique PIN number provided in your advance letter; or
- **via phone** by calling us toll-free at 800-334-4702 and providing your PIN number provided in a letter sent to your home.
- If you have a listed landline phone number, we will be initiating the survey process by calling you.

Once your household has recorded all their travel information, you can provide us your travel day details...

- **via web** by navigating back to “Home” and clicking on “Begin Reporting Travel.” You will need your unique PIN number provided in your cover letter;
- **via mail** by mailing your completed travel diaries to Abt SRBI, Inc. using the postage-paid envelope we provide to you in the diary packet; or
- **via phone** by speaking to one of our representatives when we call to collect your travel information.

Why participate?

You have an opportunity to help your community! DVRPC and your local transportation planning agencies continually work to provide a safe and efficient transportation system. To best meet the transportation needs across the Delaware Valley region, we’re asking you to help us by participating in this travel survey. If everyone in your household can tell us about their daily travel and activities, it will help us plan future transportation improvements.

It’s important that everyone’s travel routines are included as we develop transportation solutions for the future. To successfully plan for future travel demand, our survey must include travel details from households of all types, including yours. Whether you travel a lot or a little; whether you travel by car, bus, rail, biking or walking, all your travel is important.

Surveys of this type are usually not taken more than once in a decade (or even longer). If you participate, your household will be one of the more than 10,000 selected to represent all the rest. Regional and local decision makers require accurate, updated travel information to make the best recommendations for transportation improvements. When you participate, your travel information will help build a fuller, more accurate picture of local transportation needs. Your information will enable us to get the most value out of future transportation investments and spend public funds where they are needed most. Making wise transportation investments can provide better access to jobs and housing, reduce traffic congestion, improve walking and bicycle paths, enhance public transportation, and ultimately increase mobility—all of which can improve our economy, environment, and quality of life.

If you have ever wondered what you can do to help improve transportation, this is your chance to help!

Who is being asked to participate in the Survey?

Participants in the survey will be randomly selected from all household addresses to ensure participation from across the region and from different community types. Household addresses with listed phone numbers will be contacted by phone. Those households without a listed phone (including cell phone-only households) will be contacted by mail.

I have an unlisted and/or a Do-Not-Call phone number, so how was my household selected?

Participants in the survey were randomly selected from a list of household addresses, not from a list of published phone

numbers. Survey organizations are exempt from Do-Not-Call lists; everyone in your area has an equal chance of being selected to participate in our survey.

Can I participate even if I did not receive a letter in the mail?

No. Due to the need to gather statistically accurate information that represents the entire region, we can only include randomly chosen households.

What will be done with the data collected from the survey?

The data collected from participating households will be statistically summarized to describe the travel patterns resulting from a variety of typical daily activities. For example, the general activities people engage in, the means of travel they use to get to these activities, where the trips are coming from and going to, the extent the trips are combined together, and the time of day the trips are made, will be summarized.

How will my information be used?

The information you provide will be used to better plan travel options in your region. For example, knowing where and how people travel helps determine which roads are primarily used and may need widening, or where more bus or train options are needed. The data is used by air quality agencies to better anticipate the types and amount of emissions due to travel. The data is also used to better plan for the Delaware Valley region's future energy needs.

Taking the Survey

Why do you need to know information about the household?

The number, timing, and type of trips made are affected by the characteristics of the person and the household in which he or she lives. A person's age, gender, employment, number of vehicles, and household income all affect his or her travel. This information is needed to measure how different sectors of the population are served by the Delaware Valley region's transportation system.

What is meant by "travel" and "activities"?

Travel means going from one place to another; activities are the reason you go there. Activities are things like going to work, shopping, visiting friends, or having a picnic.

Why do you want to know about my activities?

When transportation planners can better understand how people's activities are arranged and how travel plans are made, they can make better recommendations for transportation improvements that ultimately make it easier for you to get where you're going.

Why do you need to know when and where each activity took place?

We need to know the times of day and locations to determine the uses of the transportation system in "peak" and "off-peak" periods of travel. This will allow planners to understand the connection between land use and transportation so that they can better plan for future modifications and improvements to the system.

Why do you need to know my occupation or job?

A significant portion of travel is made by people going to and from work and by people at work. We want to understand the amount of travel generated by different jobs and occupations.

Why do you need to know when and where our children go to school?

A significant portion of travel is generated by children going to and from school. Sometimes, this affects the travel patterns and behavior of their parents and caretakers. We need to better understand this connection.

Why is the travel and activity diary so important?

Experience has shown that if people do not use a diary to record their travel and activities, they forget key details about what they've done and the places they've been. It is really important that all trips, even short stops in the evening and all activities no matter how routine, are captured in the survey.

How much detail is needed on each place I visit?

Detailed location information is an important part of analyzing travel patterns. Providing detailed information, such as the name of the place, bus stop/train station, street address, city, cross street, and nearby landmark will enable us to see which streets, highways, and transit services are being used.

When you visit a place and record it in your travel diary, providing as much detail as possible about where the place is will make the effort less time consuming. If you decide to report your travel information on the web, we have provided tools to help you find the address for many of the locations you will visit.

Can I review my answers using the website even if my diary was collected over the phone?

Our online reporting program cannot revise or review diaries once you have completed the survey. If you would like to review your survey, please contact a survey representative, toll-free, at 800-334-4702 and we will be happy to verify your information.

Will any of the information collected be useful for environmental purposes?

Yes. The survey contains questions about the vehicle(s) your household has and how those vehicles are used during the travel period. It is important to know what types of vehicles are being used to estimate fuel consumption and emissions resulting from daily travel patterns. Improving air quality by reducing vehicle emissions is an important part of transportation planning and decision making. The survey will also ask about your walking, biking, and public transit use to/from various locations and activities. This information may help to improve infrastructure that would support more non-motorized trips to reduce carbon emissions and the need for petroleum-based transportation.

Will information from the survey be available to the public?

No, your specific activities and travel patterns will remain strictly confidential, as will any contact information (your name, home address, phone number, email address, etc.). Key findings about travel patterns drawn from the survey will be summarized by different socio-economic groups at the Census tract level. This information will be general in nature and will relate to our region and local transportation needs.

What if I don't feel comfortable answering some of the questions?

We are required by law to adhere to strict confidentiality regulations for all the information collected but, of course, you may decline to answer any question. Your privacy is respected. You are not obligated to complete the forms or study.

What if out-of-the-ordinary events happen during my assigned travel day that change my travel?

On any given day, many households across the region have a "non-ordinary" travel day. But collectively, all these variations—less travel, more travel, and different travel—balance out. So even if the assigned travel period turns out to be out of the ordinary for you or someone else in your household, it is important that you still record your travel in the travel diaries for the assigned travel day.

What if I travel out of the region during my assigned travel day?

If you travel out of the region during your assigned travel day, you will be asked to tell us the city you traveled to.

What if I don't drive a car?

We are interested in all types of travel—by train, bus, walk, bicycle, car, and truck—any means you use to get around. All travel modes are included in the survey and in state and local transportation models.

What if I don't travel very much?

Some people feel that just because all they did during their "travel period" was visit a friend or go to the post office, this information would not be important. In fact, these people, as well as those who don't travel at all during their travel period, are just as important as someone who did. Remember that the purpose of the survey is to get a complete picture of travel patterns throughout the state. So during your assigned travel day, we'd like to know even if you didn't travel at all.

What if I have additional questions?

Call or send us a message on the Additional Questions page.

For Households Using GPS Devices**What do you do with the GPS data captured?**

The GPS data improves the details of the information collected in travel diaries. The device collects the travel path for each trip you make, as well as start/stop times.

Is information about where I live and where I go linked to my name?

No, there is no connection between your name and the information collected on the GPS device. Your household is assigned a confidential ID number. The ID is never attached to your name with the data.

Can you tell where I am all the time?

No, the GPS device is not a tracking device. It collects information about where you went. You then send the device back to us when you are done with the survey. It cannot transfer data, so no one will know where you are in real time as you use the device. Your privacy and security are important to us.

How should I carry the GPS device?

Carry it in your pocket, bag, purse, or even on a key chain! Participants from prior studies have reported the GPS device is very convenient to carry because of the small size and light weight.

How do I know if my GPS device is working?

The GPS device will flash red or green or multiple colors when it is working properly. If lights of any color are blinking while you are in motion, then the device is functioning correctly.

How often do I need to charge my GPS device?

The GPS device only needs to be charged with the enclosed charger once every other day for three hours. The lights on the device will flash green when it is charging properly.

What if my GPS device doesn't show any lights?

The GPS devices will go to sleep in 15 minutes without movement. Pick the device up and move it around. If it doesn't light up, charge the device for three hours. If the device does not flash green when charging, you will need to take out the battery. Slide open the back cover, pull out the rectangular battery by the tab, and put it back in the device. Place the silver lanyard back on the hook, and replace the cover. Continue to charge the device for three hours.



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Answer the Call:

Help us make your community a better place to live.

Whether it's a daily commute, a weekly shopping trip, or a weekend getaway, your travel habits can help local transportation planners improve the way residents get around town in the Greater Philadelphia region. The Household Travel Survey (HTS) is a way for residents like you to contribute to the quality of life of your community—today and for years into the future.

Conducted by research firm [Abt SRBI](#) for the [Delaware Valley Regional Planning Commission](#), the study will collect data about the daily travel behaviors of residents in southern New Jersey and southeastern Pennsylvania to determine how to improve roads, reduce traffic congestion, enhance walking and bicycle paths, and upgrade public transportation. All information collected will be strictly confidential.

The way it works is simple. Participants will be asked to share information about a single day of travel sometime during the survey year.

The payoff will be great and far reaching for you, your neighbors and future generations.

Your participation is vital.

Thank you in advance for your participation.



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TO INCLUDE ALL COMMUNICATION FROM DVRPC, POSTINGS, VIDEOS AND STORIES IN THE MEDIA.



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If you have any questions about the survey, don't hesitate to contact **Abt SRBI**.

Phone: 1-800-334-4702

Email us at DVRPCTravelHelp@srbi.com [HYPERLINK TO EMAIL FORM]

- A brochure explaining the merits and outcomes of the Household Travel Survey. These brochures were made available on the web for the general public and mailed to public officials to generate interest and inform officials of the project.

Website (Spanish)



Sitio web DVRPCInicio

INICIO ACERCA DE CÓMO FUNCIONA PREGUNTAS FRECUENTES INVOLÚCRESE NOTICIAS CONTACTO

DVRPC es la organización oficial de planificaciones del área metropolitana de Filadelfia

¡Bienvenido!

La Región del Valle de Delaware está creciendo y cambiando y con su ayuda [la Comisión Regional de Planificación del Valle de Delaware](#) (DVRPC, por sus siglas en inglés) podrá comenzar a planear ahora para nuestro futuro común. DVRPC es la organización oficial de planificaciones del área metropolitana de Filadelfia, y promueve la cooperación regional para abordar temas claves, que incluyen el transporte, el uso de la tierra, la protección ambiental y el desarrollo económico. Estamos dirigiendo una Encuesta de Viaje para el Hogar (HTS, por sus siglas en inglés) para saber cómo viaja la gente de un punto a otro en nuestra región y asistir a los planificadores a tomar pasos para mejorar la movilidad, la seguridad, y la vitalidad económica del área metropolitana de Filadelfia.

La participación es fácil y voluntaria y la información que se recolecta es confidencial. Actualmente estamos invitando a los hogares seleccionados al azar por teléfono y por correo—si usted responde al llamado, se le pedirá que complete un diario de sus viajes en un día en particular. ¡Eso es todo!

Para todos aquellos que respondan al llamado: *¡Gracias!*

Familiarícese más con la HTS. . . [Link to the About Page or Fact Sheet]

Si usted ha recibido una carta y quisiera empezar la encuesta, haga clic [aquí](#), o llame al 1-800-334-4702.

PRIVACIDAD **ACLARACIÓN** **ACCESO** **MAPA DEL SITIO** **CONTACTO**



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Acerca de la Encuesta de Viajes para el Hogar

Patrocinado por [la Comisión Regional de Planificación del Valle de Delaware](#) (DVRPC, por sus siglas en inglés), la Encuesta de Viajes para el Hogar (HTS, por sus siglas en inglés) recolecta datos acerca de los patrones de transporte diario de los habitantes del sur de Nueva Jersey y sudeste de Pensilvania para determinar cómo mejorar las carreteras, reducir la congestión de tráfico, mejorar los senderos para caminar y andar en bicicleta y mejorar el transporte público .

La encuesta se lleva a cabo una vez cada 10 años para ayudar a la DVRPC a entender mejor las características de transporte de la región y guiar proyectos futuros de este servicio. La participación es voluntaria. Toda la información recopilada será mantenida estrictamente confidencial.

Los participantes seleccionados al azar usarán un diario de viaje para anotar cómo, dónde, y cuándo viajan en un día en particular.

Esta encuesta es realizada por la empresa de investigaciones Abt SRBI e involucrará a 10,000 hogares en los nueve condados de la región de la DVRPC: los condados de Bucks, Chester, Delaware, Montgomery y Filadelfia en Pensilvania y los condados de Burlington, Camden, Gloucester y Mercer en Nueva Jersey.

La encuesta principal está programada para empezar en agosto de 2012 y se llevará a cabo todos los días de la semana por doce meses.

Para obtener más información . . . [[Link to FAQ or Fact Sheet](#)]



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Cómo recibe usted la llamada

Los participantes son seleccionados al azar de todos los hogares en los nueve condados en la región de la DVRPC: los condados de Bucks, Chester, Delaware, Montgomery y Filadelfia en Pensilvania y los condados de Burlington, Camden, Gloucester y Mercer en Nueva Jersey. Los hogares seleccionados recibirán una carta por correo o serán llamados por teléfono para participar.

Lo que necesita para empezar

Si usted recibe una carta en el correo, lo único que necesitará es su número personal de identificación (PIN). Para empezar la encuesta, complete un cuestionario para el hogar usando UNA de las siguientes opciones:

Por Internet: usted puede completar la encuesta inicial en esta página de Internet. Regrese a la página inicial y haga clic en “Empiece la Encuesta para el Hogar” e ingrese el número PIN que recibió en la carta por anticipado. Aparece así: “Su número **PIN**. **Su número de PIN es:** **A2jR345Z”**.

Por teléfono: usted puede comunicarse con nuestra línea gratuita llamando al 1-800-334-4702 para participar. Usted tendrá que proveer su nombre, domicilio y número de teléfono cuando llame.

Si un representante se pone en contacto con usted por teléfono, solamente tiene que contestar las preguntas que le haga el mismo y acordar un día de viaje.

Ya sea por Internet o por teléfono, reportar correctamente con el mayor detalle posible ayuda a mejorar los esfuerzos de la región para crear un sistema de transporte que nos beneficie a todos.

Cómo empieza usted

Después de completar la encuesta para el hogar, a cada integrante del hogar se le asignará un día de viaje y se le enviará un paquete de la encuesta con los diarios de viaje para cada miembro del hogar.

Algunos hogares serán seleccionados al azar para completar los diarios de viaje y portar aparatos de GPS por un período de 3 días. Si usted es seleccionado para esta parte de la encuesta, cada miembro del hogar recibirá un honorario por este esfuerzo adicional.

Lo que involucra

Los participantes anotarán la información de transporte en sus diarios de viaje, que incluya los modos de viajar (tal como caminar, andar en bicicleta, tomar el autobús), los destinos, propósitos de viaje y las horas, por un único día de viaje. Los datos de los viajes pueden ser enviados al DVRPC por Internet, por teléfono o por correo.



Sitio web DVRPC Preguntas frecuentes

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Información general

¿En qué consiste la Encuesta de Viajes para el Hogar del Valle Delaware?

Patrocinado por La Comisión Regional de Planificación del Valle de Delaware, o DVRPC, la **Encuesta de Viajes para el Hogar del Valle de Delaware** es un estudio exhaustivo de los patrones de transporte y actividades en el área metropolitana de Filadelfia. La DVRPC espera recibir información de 10,000 hogares para identificar dónde y cómo viajaron los habitantes en un día de viaje específico y designado (24 horas).

Para asegurar una muestra que represente a la población de la región, a cada hogar se le hará una serie de preguntas acerca de su demografía, rutinas de viaje y el uso del transporte. Los datos proveerán información completa del viaje de los habitantes del sur de Nueva Jersey y el sudeste de Pensilvania para determinar cómo mejorar las carreteras, reducir la congestión de tráfico, mejorar los senderos para caminar y andar en bicicleta y el transporte público en el área.

¿Quién es el patrocinador de esta encuesta?

Este proyecto está patrocinado por la Comisión Regional de Planificación del Valle de Delaware (DVRPC, por sus siglas en inglés).

La DVRPC es la Organización de Planificación Metropolitana nombrada por el gobierno federal para la región de 9 condados del Valle de Delaware. Establecida en 1965, la DVRPC brinda planificación continua, comprehensiva y coordinada para formar una visión del crecimiento futuro de la región del Valle de Delaware.

La región del Valle de Delaware consta de los condados de Bucks, Chester, Delaware, Montgomery y Filadelfia en Pensilvania, y los condados de Burlington, Camden, Gloucester, y Mercer en Nueva Jersey. Estos nueve condados juntos componen más de 3,800 millas cuadradas y están compuestos por 352 municipalidades. La región es hogar para más de 5,6 millones de habitantes y 2,8 millones de trabajos.

¿Quién está dirigiendo esta encuesta?

Abt SRBI, Inc. es una organización de servicios integrales de estrategia global e investigaciones que se especializa en encuestas de políticas públicas y opiniones, la banca y finanzas, telecomunicaciones, medios de comunicación, energía, transporte, seguros y cuidados de la salud. Sus clientes incluyen importantes instituciones financieras, empresas de Fortune 500, gobiernos, fundaciones y universidades federales, estatales y locales. Abt SRBI tiene una reputación establecida de proveer análisis e investigaciones efectivas de alta calidad, oportunas, y rentables. Para más información, por favor, comuníquese con DVRPCTravelHelp@srbi.com.

¿Qué puedo esperar?

El primer paso es una entrevista breve de introducción, en la cual su hogar es invitado a participar en la encuesta. Si usted accede a participar, nosotros recolectaremos alguna información acerca de los miembros y vehículos del hogar. Al final de la entrevista, le asignaremos a su hogar un día de viaje. En este día de viaje, le pediremos que anote todos los viajes y las actividades realizadas por todos los miembros del hogar para un período de 24 horas.

Una vez que le asignemos a su hogar un día de viaje, le enviaremos a cada persona de su hogar un diario de viaje personalizado. Cada persona debe usar el diario para anotar todos los lugares adonde viajan, cómo viajan, y las actividades que realizaron en cada lugar. Los diarios deben ser llenados personalmente por todas las personas mayores de 16 años de edad. Les pedimos a los padres que llenen los diarios de todos los jóvenes menores de 16 años de edad.

El día antes de su día asignado de viaje, usted recibirá una llamada o un correo electrónico para recordarle que se aproxima su día de viaje.

Después de su día de viaje, les pedimos a todos los integrantes de su hogar que nos suministren sus detalles de viaje. Si los diarios están completos, esta entrevista es rápida.

¿Cómo les puedo brindar mis detalles de viaje?

Nosotros sabemos que todo el mundo está ocupado, y que su tiempo es importante para usted. Para respetar su horario diario, tenemos varias maneras en que usted nos pueda proveer la información.

Usted puede participar en la entrevista de introducción...

- **Por internet**, volviendo a la página de "Inicio" y haciendo clic en "Empiece la Encuesta para el Hogar". Usted va a necesitar su número exclusivo de identificación (PIN) que le fue suministrado en su carta por anticipado.
- **Por teléfono**, llamándonos gratuitamente al 800-334-4702 y brindándonos su número exclusivo de identificación (número PIN) suministrado en la carta enviada a su casa.
- Si usted tiene un número telefónico fijo publicado en la guía telefónica, empezaremos la encuesta llamándole.

Una vez que los integrantes de su hogar hayan anotado toda la información de sus viajes, usted puede proveernos los detalles de su día de viaje...

- **Por internet**, volviendo a la página de "Inicio" y haciendo clic en "Registre sus viajes". Usted va a necesitar su número exclusivo de identificación (PIN) suministrado en su carta de presentación
- **Por correo**, enviando sus diarios de viaje completos a Abt SRBI, Inc. Utilizando el sobre con estampilla postal prepaga que le suministramos en el paquete del diario
- **Por teléfono**, hablando con uno de nuestros representantes cuando le llamemos para recolectar su información de viaje.

¿Por qué participar?

¡Usted tiene una oportunidad para ayudar a su comunidad! La DVRPC y sus agencias locales de planificación de transporte trabajan constantemente para proveer un sistema de transporte seguro y eficaz. Para poder satisfacer mejor las necesidades de transporte en la región del Valle de Delaware, le solicitamos que nos ayude con su participación en esta encuesta de viaje. Si todos los integrantes de su hogar nos pueden brindar información acerca de sus viajes y actividades diarias, nos ayudará a planear las mejoras venideras de transporte.

Es importante que incluyan las rutinas de viaje de todos mientras desarrollamos las soluciones de transporte para el futuro. Para planear exitosamente las exigencias futuras de viajes, nuestra encuesta debe incluir detalles de viaje de todo tipo de hogares, incluido el suyo. Aunque usted viaje a menudo o viaje poco, viaje por automóvil, autobús, tren, bicicleta o camine, todos sus viajes son importantes.

Las encuestas de este tipo usualmente no se toman más de una vez por década (o más tiempo). Si usted participa, su hogar será uno de más de 10,000 seleccionados para representar al resto. Las personas que toman las decisiones regionales y locales requieren información exacta y actualizada para ofrecer las mejores recomendaciones para las mejoras en el transporte. Cuando usted participa, su información ayudará a formar un panorama detallado y más exacto de las necesidades locales de transporte. Su información nos permitirá obtener el mayor valor de inversiones venideras en transporte y usar los fondos públicos disponibles donde sean más necesarios. Realizar inversiones inteligentes en el transporte puede proveer mejor acceso a los trabajos y viviendas, reducir la congestión del tráfico, mejorar los senderos para caminar y andar en bicicleta, y el transporte público, y por último aumentar la movilidad, mejorando así nuestra economía, el medio ambiente y la calidad de vida.

Si alguna vez usted se ha preguntado lo que puede hacer para ayudar a mejorar el transporte, ¡esta es su oportunidad!

¿A quién le están pidiendo participar en la encuesta?

Los participantes de la encuesta serán seleccionados al azar de todos los domicilios para asegurar la participación de toda la región y de diferentes tipos de comunidades. Los hogares con números de teléfono publicados serán contactados por teléfono. Los hogares sin un número publicado (incluidos los hogares que usan teléfonos celulares solamente) serán contactados por correo.

Yo tengo un número no publicado y/o un número de teléfono al que no se debe llamar con fines comerciales, entonces ¿cómo fue seleccionado mi hogar?

Los participantes de la encuesta fueron seleccionados al azar de una lista de domicilios y no de una lista de números de teléfonos publicados. Las organizaciones de encuestas están desafectadas de las listas de teléfonos a los que no se debe llamar; todos los hogares en su área tienen la misma oportunidad de ser seleccionados para participar en nuestra encuesta.

¿Puedo participar aunque no haya recibido una carta en el correo?

No. Debido a la necesidad de recolectar información estadísticamente correcta que represente la región entera, podemos incluir solamente a los hogares seleccionados al azar.

¿Qué se hará con los datos recolectados en la encuesta?

Los datos recolectados de los hogares participantes serán estadísticamente resumidos para describir los modelos de viaje que resulten de una variedad de actividades diarias típicas. Por ejemplo, se resumirán las actividades generales a las que la gente se dedica, los modos de viaje que usan para llegar a estas actividades, dónde comienzan los viajes y adónde se dirigen, la distancia de los viajes combinados, y la hora del día en que se hacen los viajes.

¿Cómo será usada mi información?

La información que usted suministre será utilizada para poder planear mejor las opciones de viaje en su región. Por ejemplo, saber adónde y cómo viaja la gente ayuda a determinar cuáles carreteras se utilizan principalmente y la que necesitan ensancharse, o donde se requieren más opciones de autobús o tren. Los datos son utilizados por agencias que supervisan la calidad del aire para anticipar mejor los tipos y cantidades de emisiones debido al transporte. Los datos también son utilizados para planear mejor las necesidades futuras de energía de la región del Valle de Delaware.

Tomando la Encuesta

¿Por qué necesita saber la información acerca del hogar?

El número, el horario y el tipo de viajes hechos son afectados por las características de la persona y el hogar donde vive. La edad de una persona, su género, su estado de empleo, número de vehículos y los ingresos al hogar afectan el transporte de la persona. Esta información es necesaria para medir de qué manera reciben los servicios del sistema de transporte de la región del Valle de Delaware los diferentes sectores de la población.

¿Qué significa "viaje" y "actividades"?

Viaje significa ir de un lugar al otro; actividad es la razón por la cual usted va al sitio. Las actividades son cosas tal como ir al trabajo, ir de compras, visitar amigos o ir de paseo.

¿Por qué quieren saber sobre mis actividades?

Cuando los planificadores de transporte logren entender mejor cómo organiza la gente sus actividades y cómo hacen sus planes de viaje podrán hacer recomendaciones para mejorar el transporte que le hará más fácil a usted llegar adonde se dirija.

¿Por qué tienen que saber cuándo y dónde tomé parte cada actividad?

Necesitamos saber las horas del día y las ubicaciones para determinar los usos del sistema de transporte durante períodos de máxima y mínima actividad. Esto permitirá a los planificadores entender la conexión entre el uso terrestre y el transporte para que puedan planear modificaciones y mejoras al sistema en el futuro.

¿Por qué tienen que saber mi profesión o empleo?

Una gran parte del viaje es realizado por gente que va a y viene del trabajo o por gente que se encuentra trabajando.

Queremos saber la cantidad de viajes generados por diferentes empleos y profesiones.

¿Por qué necesita saber cuándo y dónde van nuestros hijos a la escuela?

Una gran parte del viaje es realizada por muchachos que van y vienen de la escuela. A veces esto afecta los patrones de viaje y la conducta de sus padres y los proveedores de cuidado. Tenemos que entender mejor esta conexión.

¿Por qué es el diario de viajes y actividades tan importante?

La experiencia ha demostrado que si la gente no usa un diario para anotar sus viajes y actividades, se olvidan de detalles claves acerca de lo que han hecho y los lugares adonde han ido. Es realmente importante que todos los viajes, aun las paradas cortas en la noche y todas las actividades sin importar qué tan rutinarias sean, se registren en la encuesta.

¿Cuánto detalle es requerido de cada lugar que visito?

la información detallada de la ubicación es una parte importante al analizar los patrones de viaje. Proveer información detallada tal como el nombre del lugar, parada de autobús, estación de tren, dirección de calle, ciudad, calle que cruza y lugar muy conocido cercano nos permitirá ver que calles, carreteras y servicios de tránsito se utilizan.

Cuando usted visite un lugar y lo anote en su diario de viaje, proporcionando todos los detalles posibles acerca de dónde queda el lugar, hará que el esfuerzo consuma menos tiempo. Si usted decide registrar su información de viajes por Internet, hemos suministrado herramientas para ayudarle a encontrar las direcciones de muchos de los sitios que visitará.

¿Puedo revisar mis respuestas usando el sitio web aunque mi diario haya sido registrado por teléfono?

Nuestro programa para registrar información por Internet no puede revisar o repasar los diarios una vez que usted haya completado la encuesta. Si usted quisiera revisar su encuesta, comuníquese con un representante de la encuesta, llamando gratuitamente al 800-334-4702 y le ayudaremos a verificar su información.

¿Será alguna parte de la información recolectada usada para propósitos ambientales?

Si. La encuesta contiene preguntas acerca de los vehículos que hay en su hogar y cómo se usan dichos vehículos durante el período de viaje. Es importante saber qué tipos de vehículos se usan para estimar el consumo de combustible que resulte de los patrones de viaje diarios. Mejorar la calidad del aire reduciendo las emisiones de vehículos es una parte importante de la planificación del transporte y la toma de decisiones. La encuesta le hará preguntas acerca de si camina, anda en bicicleta, y el uso de transporte público para asistir a sitios y realizar actividades. Esta información podrá ayudar a mejorar la infraestructura que apoyaría viajes no motorizados para reducir las emisiones del carbono y la necesidad de transporte que funciona a base de petróleo.

¿Estará la información de la encuesta disponible al público?

No, sus actividades específicas y patrones de viaje permanecerán estrictamente confidenciales, como también su información de contacto (su nombre, domicilio, número de teléfono, dirección de correo electrónico, etc.). Las recomendaciones claves de los patrones de viaje tomados de la encuesta serán resumidas por diferentes grupos socioeconómicos al nivel del censo. Esta información será de naturaleza general y estará relacionada con nuestra región y las necesidades de transporte local.

¿Qué ocurre si no me siento cómodo contestando algunas de las preguntas?

Estamos requeridos por ley adherirnos a las regulaciones estrictas de confidencialidad para toda la información recolectada, pero obviamente usted puede rehusar a contestar cualquiera de las preguntas. Se respeta su privacidad. Usted no está obligado completar las solicitudes o el estudio.

¿Qué ocurre si suceden eventos fuera de lo común durante mi día asignado de viaje y lo modifican?

En un día dado, muchos hogares de la región pasan un día de viaje "no común". Pero en forma colectiva, todas estas variantes, menos viaje, más viaje o un viaje diferente viaje se compensan. De todas formas, aunque el período asignado de viaje sea fuera de lo común para usted o alguien más, es importante que siga anotando sus viajes en los diarios de viaje para su día asignado.

¿Y si viajo fuera de la región durante mi día asignado de viaje?

Si usted viaja fuera de la región durante su día asignado de viaje, le pediremos que nos diga a qué ciudad se dirigió.

¿Y si no conduzco un automóvil?

Estamos interesados en todos los tipos de viajes: por tren, autobús, a pie, en bicicleta, automóvil y camión. Cualquier medio que usted usa para viajar. Todos los medios de transporte son incluidos en la encuesta y en los patrones de transportación estatales y locales.

¿Y si no viajo mucho?

Alguna gente siente que porque lo único que hicieron durante su "período de viaje" fue visitar a un amigo o ir al correo, esa información no sería importante. En realidad, estas personas, como las personas que no viajan de ninguna manera durante su período de viaje, son tan importantes como alguien que viajó. Recuerde que el propósito de la encuesta es obtener un panorama completo de los patrones de viaje por el estado. Por eso, durante su día asignado de viaje, nos gustaría saber incluso si usted no viaja para nada.

¿Y si tengo otras preguntas?

Llámenos o mándenos un mensaje a la página de Preguntas Adicionales.

Para hogares que utilicen los aparatos GPS**¿Qué hacen con los datos registrados por el GPS?**

Los datos del GPS mejoran los detalles de la información recopilada en los diarios de viaje. Este aparato registra la ruta de cada viaje que usted haga y los momentos de actividad e inactividad.

¿Hay información vinculada a mi nombre acerca de dónde vivo y adónde voy?

No, no hay conexión entre su nombre y la información registrada por el aparato GPS. A su hogar se le asigna un número de identificación confidencial. El número de identificación nunca está conectado a su nombre con los datos.

¿Puede usted determinar dónde estoy todo el tiempo?

No, el aparato GPS no es un dispositivo de localización. El aparato registra información acerca de adónde usted fue. Luego usted nos devuelve el aparato cuando termine con la encuesta. El aparato no puede transferir los datos, por lo tanto nadie sabrá donde está usted en tiempo real mientras usa el aparato. Su privacidad y seguridad es importante para nosotros.

¿Cómo debo llevar el aparato GPS?

Puede llevarlo en su bolsillo, bolsa, cartera, o en un llavero. Participantes en estudios previos han informado que el aparato GPS es muy fácil de llevar por su tamaño pequeño y poco peso.

¿Cómo sé si mi aparato GPS está funcionando?

El aparato GPS oscilará entre rojo, verde o en varios colores cuando funciona debidamente. Si hay luces de cualquier color oscilando mientras usted está en movimiento, entonces el aparato funciona correctamente.

¿Cuán a menudo tengo que cargar mi aparato GPS?

El aparato GPS necesita cargarse con el cargador incluido durante 3 horas una sola vez día por medio. Las luces del aparato titilarán en verde cuando se esté cargando correctamente.

¿Y si mi aparato de GPS no muestra luces?

Los aparatos GPS se "duermen" luego de 15 minutos de inactividad. Levante el aparato y muévelo. Si no se enciende, cargue el aparato por 3 horas. Si el aparato no titila con una luz verde cuando está cargando, tendrá que quitar la pila. Deslice la cubierta trasera, saque la pila rectangular por el orificio e introdúzcala nuevamente en el aparato. Enganche nuevamente el cordón plateado y cierre la cubierta. Continúe cargando el aparato por 3 horas.



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Responda el llamado:

Ayúdenos a hacer de su comunidad un mejor lugar donde vivir.

Aunque sea un viaje diario, un viaje de compras semanal, o un escape de fin de semana, entender sus rutinas de viaje puede ayudar a los planificadores a mejorar la manera en que viajan los habitantes del condado y del área metropolitana de Filadelfia. La Encuesta de Viaje para el Hogar (HTS, por sus siglas en inglés) es una manera por la cual los habitantes como usted pueden contribuir a la calidad de la vida en sus comunidades, hoy y para el futuro.

Dirigido por la empresa de investigaciones, Abt SRBI para la Comisión Regional de Planificación del Valle de Delaware (DVRPC, por sus siglas en inglés) la encuesta recolectará la información acerca del viaje diario de los habitantes del sur de Nueva Jersey y sudeste de Pensilvania para determinar cómo mejorar las carreteras, reducir la congestión de tráfico, mejorar los senderos para caminar y andar en bicicleta, y mejorar el transporte público. Toda la información recopilada será mantenida estrictamente confidencial.

Como funciona es fácil. Se les pedirá a los participantes que proporcionen información acerca de cómo viajan en un día en particular en algún momento durante el año de la encuesta.

El beneficio será inmenso y de gran alcance para usted, sus vecinos y generaciones futuras.

Su participación es esencial.

Gracias de antemano por su cooperación.



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Si usted tiene preguntas acerca de la encuesta, no dude en comunicarse con **Abt SRBI**.

Teléfono: 1-800-334-4702

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ANSWER THE CALL FOR THE ROAD AHEAD

The Delaware Valley region is growing and changing. The next 20 years will see population growth, job growth, a shift in immigration trends, and a doubling of the elderly population.

TRAVEL IN THE AREA WILL BE IMPACTED DIRECTLY BY THESE EVENTS...



DVRPC is the official Metropolitan Planning Organization for the Greater Philadelphia region.

GREATER PHILADELPHIA: TOMORROW AT A GLANCE

Here are some of the reasons we need to act now for a better transportation future. Over the next twenty years:



• The population of the nine-county Greater Philadelphia region is projected to grow by 11%, from 5.5 million to 6.1 million.



• Employment is forecasted to increase by 13%, from 2.8 million jobs to 3.1 million.



• Demographic configurations will shift dramatically, given immigration trends and a doubling of the elderly population.

To meet these challenges by 2035:

• \$40.6 billion is projected to be spent on transportation and transit projects in PA.

• \$24.2 billion is projected to be spent on transportation and transit projects in NJ.



• The region will need to reconstruct more than 4,000 lane miles, resurface more than 18,000 lane miles of roadway, and replace or rehabilitate more than 2,200 bridges; along with regular replacement of bus and rail vehicles, rehabilitation of rail track, bridges, stations, and vehicle storage facilities.



• Transportation needs are underfunded.

The Household Travel Survey will help guide future transportation improvements! To learn more visit: www.dvrpc.org/TravelSurvey

To help planners take informed action today to build a better transportation future for Greater Philadelphia, residents in the nine counties that make up the region are being asked to participate in a study called the Household Travel Survey, or "Travel Survey" for short. The Delaware Valley Regional Planning Commission (DVRPC), the official Metropolitan Planning Organization for Greater Philadelphia, is sponsoring the survey.

HERE ARE A FEW FACTS ABOUT THIS VITAL EFFORT TO PLAN SMART FOR TOMORROW...

THE GOAL: 

To collect data about the daily travel behaviors of residents in Southern New Jersey and Southeastern Pennsylvania to determine how to improve roads, reduce traffic congestion, enhance walking and bicycle paths, and upgrade public transportation.

WHO WILL PARTICIPATE:

10,000 volunteer households in the DVRPC region – Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania, and Burlington, Camden, Gloucester, and Mercer counties in New Jersey.

THE TIME PERIOD: 

The Household Travel Survey began this summer with a July-August pilot and continues with the main survey through September 2013.

HOW THE SURVEY WORKS: 

The research firm Abt SRBI is conducting the survey. Households will be randomly selected and invited to participate by mail or phone. They will be asked to use a diary to record how, where, and when they travel for a single day. A subsample of 500 households will also be provided with a portable GPS device to carry with them. All information gathered will be held strictly confidential and will be used for regional planning purposes only.

LANGUAGES:

The survey will be available in English and Spanish.

TO LEARN MORE:

www.dvrpc.org/travelsurvey

Media Release

FOR IMMEDIATE RELEASE (____, ____, 2012)

Elise Turner, 215-238-2941 Communications Manager

Pull Quote: **“Change is coming to the Delaware Valley region,” says Barry Seymour, Executive Director, DVRPC, “and our transportation system must be ready to support its changing needs.”**

Planning Commission Launches Household Travel Survey 10,000 Households to Chronicle Travel Behaviors in Nine Counties

Philadelphia – The Delaware Valley Planning Commission (DVRPC) is sponsoring a year-long, region-wide travel survey to prepare for coming change in the Greater Philadelphia area. The Household Travel Survey (HTS) will collect data about the daily travel behaviors of residents in southern New Jersey and southeastern Pennsylvania to determine how to improve roads, reduce traffic congestion, enhance walking and bicycle paths, and upgrade public transportation. The survey is conducted about once every 10 years to help DVRPC, the official planning organization for Greater Philadelphia, better understand the region’s travel characteristics and inform future transportation projects. The last HTS took place in 2001. Participation is voluntary and will involve 10,000 households in the DVRPC region—Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer counties in New Jersey.

Households will be randomly selected and invited to participate by mail or phone. They will be asked to use a diary to record how, where, and when they travel for a single day during the year. A subsample of 500 households will also be provided with a portable GPS device to carry on their day of travel. All information gathered will be held strictly confidential and will be used for regional planning purposes only.

“Change is coming to the Delaware Valley region,” says Barry Seymour, Executive Director, DVRPC, “and we need to prepare now to meet the transportation needs of tomorrow.” Over the next 20 years the population of the nine-county Greater Philadelphia region is projected to grow by 11 percent, from 5.5 million to 6.1 million. Employment is forecasted to increase by 13 percent, from 2.8 million jobs to 3.1 million. And demographic configurations will also shift, given immigration trends and a doubling of the elderly population.

“Gathering a robust real-time archive of travel patterns is essential to help us plan smart for the future,” added Seymour. “We are grateful to all who answer the call when they are asked to volunteer. They will be making a direct, positive impact on each of their communities by helping us improve mobility, safety, and economic viability in the region.”

The research firm Abt SRBI will be conducting the survey, beginning with a pilot program this summer. The main survey will take place from September 2012 to September 2013. To learn more visit www._____.

About the Delaware Valley Regional Planning Commission

The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with the common vision of making a great region even greater. Shaping the way we live, work and play, DVRPC builds consensus on improving transportation, promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester and Mercer in New Jersey. DVRPC is the official metropolitan planning organization for the Greater Philadelphia Region – leading the way to a better future. DVRPC fully complies with Title VI of the Civil Rights Act of 1964 and related statutes and regulations in all programs and activities.

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Letter to Journalists

Re: Large-scale Regional Transportation Initiative

Dear Transportation Journalist,

The Delaware Valley Regional Planning Commission is sponsoring an ambitious Household Travel Survey that will begin this summer with a July–August pilot and continue through September 2013. We are eager to talk to you about this vital initiative that will enlist the help of 10,000 households to inform planners as they take action to improve the livability of our larger community.

Here are a few basics:

The Purpose: To prepare now for anticipated region-wide changes that may affect mobility, safety, and the economic viability in Greater Philadelphia.

The Goal: To collect data about the daily travel behaviors of residents in southern New Jersey and southeastern Pennsylvania to determine how to improve roads, reduce traffic congestion, enhance walking and bicycle paths, and upgrade public transportation.

Who Will Participate: Ten thousand volunteer households in the DVRPC region—Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer counties in New Jersey.

How the Survey Works: The research firm Abt SRBI will be conducting the survey. Households will be randomly selected and invited to participate by mail or phone. They will be asked to use a diary to record how, where, and when they travel for a **single day** during the year. A subsample of 500 households will also be provided with a portable GPS device to carry on their day of travel. All information gathered will be held strictly confidential and will be used for regional planning purposes only.

Languages: The survey will be available in English and Spanish.

We are excited about the potential, far-reaching benefits of the 2012–2013 Household Travel Survey. Don't hesitate to give me a call to learn more.

Sincerely,

Helpline Script

SCRIPT:

Welcome Screen:

You have reached the DVRPC Travel Survey hotline, para continuar en español, marque 9. On behalf of the Delaware Valley Regional Planning Commission, thank you for expressing interest in the study. Please listen to the following options so we may best direct your call. If you have received your letter in the mail and wish to participate, press 1. If you have begun the survey and have a question regarding your diary or web survey, press 2. If you have a question regarding how to use or operate your GPS device, press 3. If you have a general comment about the study, press 4.

- **Option 1** Thank you for your interest in the household travel study. If you wish to participate in the survey, press 1. If you no longer wish to participate in the survey, press 2; to return to the main menu, please press pound (#).
 - **Option 1-1** In order to participate, please leave your name, phone number, address, and the PIN number provided for you in your invitation letter. To return to the main menu, please press pound (#).
 - **Option 1-1-1** Thank you. Please expect a call from a field representative in one to two weeks.
 - **Option 1-2**
In order to remove yourself from participation, please leave your name, address, phone number, and the PIN number provided for you on your invitation letter. To return to the main menu, please press pound (#).
 - **Option 1-2-1** Thank you. You will be removed from the sample.
- **Option 2** Please leave a detailed message with your name, telephone number, and your question regarding the survey, and someone will return your call as soon as possible. To return to the main menu, please press pound (#).
- **Option 3** For questions about how to operate your GPS device, press 1. If your GPS does not turn on, press 2. To return to the main menu, please press pound (#).
 - **Option 3-1** For charging questions, press 2. To make sure your GPS device is working properly, press 3. To repeat, press star (*). If none of the above, press 9 (Send to Option 3-VM).
 - **Option 3-1-2** Devices should be charged for three hours every other day with the enclosed charger. The GPS light will flash green when charging. If your device is not charging properly, press 9 (Send to Option 3-2). To repeat, press star (*).
 - **Option 3-1-3** A functioning device should show red or green flashing lights. If any lights are flashing, the device is working. To repeat, press star (*). If you are not seeing these, press 9 (Send to Option 3-2).
 - **Option 3-2**
If your device does not turn on or does not hold a charge, slide open the back cover of the unit, take out the battery, and put it right back in. Charge the device for three hours and check that the green light is flashing while charging. To repeat this message, press star (*). If you are still having trouble, press 9 to leave a message (Send to Option 3-VM).
 - **Option 3-VM**
Please leave a voicemail with your name and number along with a detailed description of your GPS problem, and someone will return your call.
- **Option 4** If you have a comment regarding the survey, and do not require a response, please press 1. If you have a comment regarding the survey and would like a response, please press 2. If you

would no longer like to participate in the survey, please press 3. To return to the main menu, please press pound (#).

- **Option 4-1**
Please leave us your comment. Thank you for your feedback and participation in the Travel Survey. To return to the main menu, please press pound (#).
- **Option 4-2** Please leave a message with your comment along with your name and number, and someone will return your call.
- **Option 4-3** In order to remove your household from further participation in the HTS, please leave your name, address, and phone number. To return to the main menu, please press pound (#).

Household Travel Survey

2012–2013

Publication Number: 14033

Date Published: September 2015

Geographic Area Covered:

The nine-county DVRPC Planning Area, which covers the counties of Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey.

Key Words:

Household Travel Survey, Recruitment Interview, Households, Travel Modes, Survey Methods, Results, Travel Data, Travel Modes, Trip Rates, Non-motorized Trips, Transit Trips, Household Vehicle Availability, Employed Residents, Employment, Travel Diary, and GPS.

Abstract:

This report documents the methods used to conduct the 2012–2013 Household Travel Survey and presents the survey results. The study was conducted from August 2012 through September 2013 under the auspices of the Delaware Valley Regional Planning Commission and funded through the Pennsylvania and New Jersey Departments of Transportation. AbtSRBI administered the survey and made contributions to the report. The survey successfully collected travel information from 9,235 households using a 1-day paper travel diary, 380 of which also participated in the GPS subsample to provide additional travel details.

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