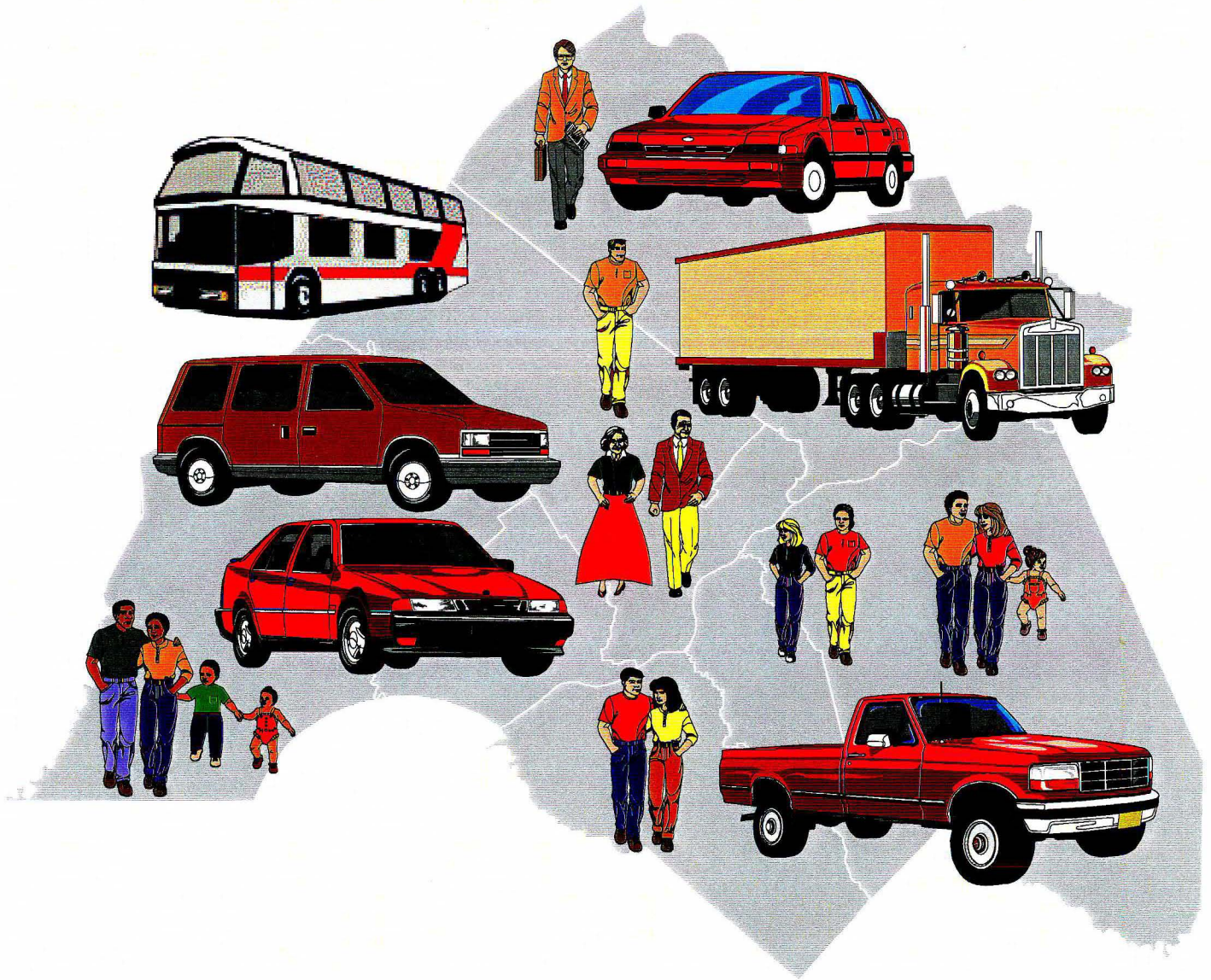


VEHICLE OCCUPANCY SURVEY FOR THE DELAWARE VALLEY REGION



Delaware Valley Regional Planning Commission
September 1999

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**Delaware Valley Regional Planning Commission
Regional Planning Division**

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Created in 1965, the Delaware Valley Regional Planning Commission (DVRPC) is an interstate, intercounty, and intercity agency which provides continuing, comprehensive, and coordinated planning for the orderly growth and development of the Delaware Valley region. The region includes Bucks, Chester, Delaware, and Montgomery counties, as well as the City of Philadelphia, in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer counties in New Jersey. The Commission is an advisory agency which divides its planning and service functions between the Office of the Executive Director, the Office of Public Affairs, and three line Divisions: Transportation Planning, Regional Planning, and Administration. DVRPC's mission for the 1990s is to emphasize technical assistance and services, and to conduct high priority studies for member state and local governments, while determining and meeting the needs of the private sector.



The DVRPC logo is adapted from the official seal of the Commission and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River flowing through it. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey. The logo combines these elements to depict the areas served by DVRPC.

DELAWARE VALLEY REGIONAL PLANNING COMMISSION

Publication Abstract

TITLE	Date Published: September 1999
Vehicle Occupancy Survey for the Delaware Valley Region	Publication No. 99019

Geographic Area Covered:

Delaware Valley Region comprising five counties in Pennsylvania (Bucks, Chester, Delaware, Montgomery, and Philadelphia); and four in New Jersey (Burlington, Camden, Gloucester, and Mercer)

Key Words:

Vehicle occupancy, vehicle availability, traffic counts, surveys, highway functional class, vehicle type

ABSTRACT

This report presents the methodology and documents the results of field surveys conducted by DVRPC to determine average vehicle occupancy rates for the nine counties comprising the Delaware Valley Region. The resulting rates are reported at state and county levels. Also included are rates determined by vehicle type, highway functional class, area type, and hour of the day.

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EXECUTIVE SUMMARY

In 1995, the Delaware Valley Regional Planning Commission (DVRPC) initiated a study to determine the average vehicle occupancy (AVO) rates found in the region. The region comprises Burlington, Camden, Gloucester, and Mercer counties in New Jersey; and Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania. The AVO rate is derived by dividing the total number of observed occupants, including the driver, by the number of vehicles counted.

The Vehicle Occupancy Survey was done in four phases. Phases I and II were the initial surveys for New Jersey in 1995 and Pennsylvania in 1996, respectively. The results of these two surveys were presented in a DVRPC report entitled "Vehicle Occupancy for the Delaware Valley Region", published in April 1998. This final report presents the results of the Phase III and Phase IV follow-up surveys which were done for New Jersey in 1997 and Pennsylvania in 1998, and also reports the combined survey findings for the four phases of surveys.

In Phases III and IV, a total of 76 locations were surveyed, 28 in New Jersey and 48 in Pennsylvania. Like Phases I and II, the survey was conducted with a classification of eight vehicle types that included passenger cars, vans, pickups, trucks, and buses. The survey results were also reported by functional class, area type and time interval which provided supplementary information needed for detailed analyses.

This report also presents the combined survey findings for the four phases of the survey. A combined occupancy rate was developed for each facility, county, state and the DVRPC region as a whole from the four phases of the survey. The survey, in total consisted of over 1,350,000 observations on 109 roadways within New Jersey and Pennsylvania. The average vehicle occupancy values based on the data collected in the four phases of the survey are shown in the following table.

**VEHICLE OCCUPANCY BY COUNTY AND VEHICLE TYPE
FOR THE DVRPC REGION**

	Auto	Pickup	Van	Auto, Pickup and Van	Truck	Bus	All Vehicles
New Jersey							
Burlington County	1.21	1.16	1.23	1.21	1.05	9.06	1.27
Camden County	1.27	1.20	1.30	1.26	1.12	9.60	1.38
Gloucester County	1.21	1.18	1.25	1.21	1.07	8.90	1.27
Mercer County	1.20	1.17	1.22	1.20	1.05	8.09	1.26
Total for NJ Counties	1.22	1.18	1.25	1.22	1.06	8.94	1.29
Pennsylvania							
Bucks County	1.18	1.14	1.17	1.18	1.07	8.56	1.22
Chester County	1.18	1.14	1.19	1.17	1.05	8.04	1.20
Delaware County	1.15	1.16	1.20	1.16	1.04	8.00	1.18
Montgomery County	1.17	1.13	1.17	1.16	1.06	8.75	1.20
Philadelphia County	1.18	1.17	1.21	1.18	1.06	8.73	1.23
Total for PA Counties	1.17	1.15	1.19	1.17	1.05	8.49	1.21
Total for DVRPC Region	1.19	1.16	1.21	1.19	1.06	8.73	1.24

I. INTRODUCTION

In 1995, the Delaware Valley Region Planning Commission initiated a study of vehicle occupancy in the Delaware Valley Region, comprised by Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer counties in New Jersey. This effort was undertaken to comply with Federal Regulations to implement the Clean Air Act Amendments (CAAA) and the Intermodal Surface Transportation Act (ISTEA). The results of the survey will be used to update and support various planning projects in the DVRPC Work Program related to Travel Simulation and Forecasting, Congestion Management, Traffic Monitoring, and Air Quality Analysis.

The four-phase project started in 1995 with Phase I covering the collection and processing of data for the New Jersey portion of the DVRPC region, and Phase II in 1996 covering the Pennsylvania portion. The results of this work were documented in the DVRPC Report "Vehicle Occupancy for the Delaware Valley Region", in April 1998.

This report describes briefly the Phase III collection and processing of 1997 data for the New Jersey portion, and the Phase IV 1998 data for the Pennsylvania portion of the DVRPC Region. Also, it includes an analysis and estimates of the average vehicle occupancy found in the four phases of the survey. The project was done in four phases to sample seasonal variations and compare original survey results with follow-up results.

This report on average vehicle occupancy describes the study, the survey sample design, methodology, processing and analysis, and conclusions. Section II describes the sample design, and Section III the methodology used to collect the counts. Since the New Jersey and Pennsylvania portions of the DVRPC region were covered in two separate surveys, the analysis is presented separately, with that for New Jersey in Section IV and Pennsylvania in Section V. Section VI presents the findings and conclusions from Phase III and IV follow-up surveys conducted in New Jersey and Pennsylvania, respectively, and the overall findings from the four phases of the survey. The survey in total consisted of over 1,350,000 observations on 109 roadways in New Jersey and Pennsylvania. Appendices describing the theory linking sample size and accuracy, listing survey locations, and tabulating vehicle counts and average occupancy rates by location and vehicle type are also included.

II. SAMPLE DESIGN

The first step in sample design is to choose a sampling procedure that will provide the study with the desired statistical reliability. The size of the sample used for this study was determined by the statistical equation shown in Appendix I (see page I-1). The sample was designed to yield a precision rate of ± 3 percent at a 95 percent confidence level at the state and regional levels. The confidence level represents the probability (95%) that the count will fall within the range specified by the precision rate ($\pm 3\%$). The precision rate represents the maximum tolerable sampling error.

For the Phase III and IV Follow-Up Survey, 76 locations were surveyed, 28 in New Jersey and 48 in Pennsylvania. During the initial Phase I and II Surveys, 109 locations were surveyed, 54 in New Jersey and 55 in Pennsylvania. This sample, however, does not provide the number of counts required to yield the same precision rate and confidence level for each highway stratum when the results are disaggregated by federal functional classification and area type. To obtain the desired precision for each of these strata would require a budget and manpower beyond the resources available.

With the exception of the functional classification and area type at regional and state levels, the sampling plan of this study should generate expected results with margins of error less than ± 3 percent with the sampling error allowance at the 95 percent confidence level, since the number of survey days exceeded the minimum of 16 link-days as indicated in Appendix I. A link-day represents a full day count taken at one location.

III. METHODOLOGY

1. Selection of Vehicle Categories

For all four phases of the survey, vehicle occupancy data were collected on the following vehicle classifications: automobiles, passenger pickups, work pickups, passenger vans, work vans, light trucks, heavy trucks, and buses as additional information. For tabulating purposes, passenger and work pickup occupancy data were aggregated into a "total pickup" occupancy category, that for passenger and work van data into a "total van" occupancy category, and that for light and heavy truck data into a "total truck" occupancy category. Buses were included in the survey, but the survey was designed to report bus occupancy as additional information only. The bus category includes school and charter buses, as well as transit vehicles. Since the primary purpose of the survey is to estimate vehicle occupancy for individual passenger vehicles, automobile, pickup, and van occupancy data were combined into an "aggregated automobiles, pickups, and vans" category. In summary, the following vehicle classification categories were used:

- A. Automobiles, Pickups, and Vans
 - 1. Automobiles
 - 2. Pickups
 - a. Passenger pickups
 - b. Work pickups
 - 3. Vans
 - a. Passenger vans
 - b. Work vans
- B. Trucks
 - 1. Light trucks
 - 2. Heavy trucks
- C. Buses

2. Location Selection

After designing the sample size, DVRPC, in cooperation with PennDot and NJ DOT, selected the individual sample locations to be counted in each county. The samples were distributed among various types of functionally classified highways as follows:

Functional Class	<u>NJ</u>	<u>PA</u>
Interstate	2	6
Freeway/Expressway	2	3
Principal Arterial	6	8
Minor Arterial	6	9
Collector	8	12
Local	<u>4</u>	<u>10</u>
Total	28	48

In addition, the Interstate and Freeway/Expressway categories were aggregated to determine combined vehicle occupancy data for limited access highways, as were the Minor Collector and Local categories for neighborhood facilities.

The locations selected for the study were chosen to provide a representative sample of all types of facilities with both urban and rural characteristics, and accommodating various levels of traffic, in each of the nine counties of the region.

A prime consideration in choosing a count location is the physical characteristic of the site. The selected locations provided a place to set the counting equipment and a safe and accessible location for DVRPC personnel to perform the manual counts. Whenever possible, Interstate and Freeway/Expressway sample locations were selected on the basis of the existence of a median to permit traffic counters to be secured and protected from damage and vandalism.

3. Data Collection Equipment and Counting Techniques

DVRPC used two counting techniques for this study: manual counts, which were needed to obtain the number of occupants and determine vehicle classification; and the automatic classification recorder count, which efficiently provided vehicle counts and classification.

Manual Classification - Manual Classification is generally considered to be more reliable and accurate than the electronic recorder classification. Most of the manual counts performed by DVRPC involve the use of hand-held electronic counters. This type of counter is a state of the art device that allows the user to count vehicles and occupants continuously, without having to take one's eyes off of the road. The device tallies the vehicles counted at predetermined intervals, so that the field personnel need not do so themselves. After the count is completed, the machine is downloaded onto a personal computer (PC) where the data is integrated into a spreadsheet program for easy handling and processing.

DVRPC uses the TDC-8 manual classifier, manufactured by Jamar Technologies, Inc., a tool that helps in performing the most common traffic data collection studies. The TDC-8 stores the type of study, the date and time, the interval used, a site code, and the data for each location. At any convenient time, one can transfer the data to a personal computer through a serial port and process it. A software program is available to read, edit, and print a variety of reports.

The manual counts were performed by teams of two people at most locations. The manual classification counts were taken by direction, and vehicles were classified into the eight categories as described in the section on vehicle categories. The counting periods were from 7:00 a.m. to 9:30 a.m., 10:30 a.m. to 1:00 p.m., 1:00 p.m. to 3:30 p.m., and 4:00 p.m. to 7:00 p.m.. Each period was counted on 30 minute intervals.

Safety of field personnel was a prime consideration in this type of count. Therefore, field conditions at each particular location, such as darkness or inclement weather, dictated the actual count hours. Field personnel counting at locations conducted the survey from vans safely parked in medians, or at a roadside vantage point. The New Jersey counts were taken in the summer of 1997, ending in early October 1997, and the Pennsylvania counts in the summer of 1998.

Once the field data were delivered to the office, checks were performed to verify that no unusual conditions were reported that would lead to erroneous results. Individual spread sheets were created for each survey station, and files were then combined for further analysis. One of the initial processing steps was to determine the various criteria to be used for calculating the occupancy rates. The rates can then be determined by any item contained in the database.

Vehicle occupancy rates were calculated by dividing the total number of occupants recorded by the total number of vehicles observed, i.e.,

$$\text{Vehicle Occupancy Rate} = \frac{\text{Total Vehicle Occupants}}{\text{Total Vehicles}}$$

The raw data from the field were grouped and imported into a spreadsheet application software package, which is ideal for calculating the rates. The results were then presented in a practical and easy-to-understand format.

Automatic Classification Counts - Automatic traffic counters are used to determine the number and type of vehicles passing a particular location. They were used for the survey to provide comparison counts for the manual survey, but of course cannot provide vehicle occupancy. The counters are anchored to a fixed object, such as a utility pole, and use sensors (rubber hoses) that stretch across the width of the road. A diaphragm switch, actuated by the tires of a vehicle passing over the hose, sends an air pulse to the recorder, which in turn activates the electronic memory. At the end of a counting interval, usually a sixty minute period, the data is electronically stored in the counter memory. Power for the counters is supplied by long lasting, rechargeable batteries.

By using two road tubes spaced at a known distance, the electronic counters can classify vehicles according to their standard axle-pattern. If a machine had bidirectional classification capability, it was set accordingly. Field personnel set the counters for approximately 48 hours over a three-day period. The second day of the count provided a full 24-hour analysis period, and was scheduled to coincide with the day of the manual count. At the end of a 48-hour counting period, a field technician picked up the recorded counts from the locations and returned to the office to download and print the data. The data were then transferred directly from the electronic counters to the PC using the serial computer input port and cable. DVRPC uses two automatic classification counters, the Peek TrafiCOMP III, Model 241 and the Timemark Delta I. The Peek TrafiCOMP III, Model 241 is a computerized traffic counter used to perform volume and classification studies. The standard machine comes equipped with an internal computer containing 64 kilobytes of memory, a keyboard interface with a digital display, two air switches, one serial port, and a ten ampere-hour battery.

At a traffic count location, the machine is configured to perform the appropriate type of study. The user must input a station identification number, count interval, and count type to the machine. Additionally, for a classification count, the spacing between the two road tubes is entered. To this information, the counter automatically adds the date and time of the count. The counter is then armed and ready to begin the count.

The Timemark Delta I is an automatic traffic recorder that comes with a graphic user interface. On the control panel of the counter, eight different sensor configurations are presented, including two that are user defined. This allows the user to quickly and easily choose the correct layout for both the machine and the road tubes. The Delta I also comes equipped with two air switches, thirty-two kilobytes of internal memory, a slot for a one megabyte memory card, and a six-volt, ten ampere-hour lead gel battery.

The procedure for setting up a Delta I for traffic counting differs from that followed for most other counters. At the count location, the user must simply select the proper sensor configuration from the control panel shown on the counter screen. The counter does not require a station identification number or any other data from the user. It keeps the date and time internally, and uses this information and the sensor configuration to store the data. When the count is complete, the machine is downloaded to a personal computer for processing and analysis.

The Delta I does not process the count within the traffic counter, as all processing is done later by the software. This provides flexibility in choosing the information to be extracted from the count.

IV. NEW JERSEY SURVEY RESULTS

1. Survey Locations

The 28 Phase III Survey locations for the New Jersey counties are shown in Map 1 following, and listed in Table A-1 found in Appendix II. The table also provides information on highway functional class and area type. The locations are distributed evenly among the four counties, with about 60 percent of the locations classified as urban. Care was taken to see that all highway functional classes and area types were represented in each county's selection.

2. AVO By Vehicle Type and County

The Average Vehicle Occupancy (AVO) rates by county and vehicle type are reported in Table 1. The average for all vehicles in the four New Jersey counties is 1.28 persons per vehicle, with the average for individual counties ranging from 1.27 persons in Burlington and Gloucester Counties to 1.30 in Camden County.

The rate for autos, pickups and vans combined is 1.22 and was consistent for all four counties. The occupancy rates by individual vehicle type for all four counties are 1.22 for autos, 1.20 for pickups, 1.23 for vans, 1.08 for trucks, and 8.1 persons for buses. Trucks are the vehicles with the lowest rate followed by pickups, and not surprisingly, buses display the highest occupancy rate, ranging from 7.46 in Mercer County to 9.07 persons in Gloucester County.

3. Functional Class and Area Type

The functional class analysis indirectly provides insight into the average occupancy rate for rural and urban areas. Results are tabulated in Table 2. In rural areas, the highest rates were recorded, 1.37 or higher, for the lower functional classes, i.e., those represented by local, collector, and arterial roads. In contrast, rates on expressways were 1.24 or lower. A similar dependence on functional class was not observed for roads in urban areas.

Relatively lower rates were found for the lower functional classes in urban areas, when a comparison is made with the rural rates. Major variations between rural and urban areas became apparent, especially with vans and trucks, with the urban areas displaying higher rates. With buses, urban area showed higher rates for the higher functional classes, but the situation reverses for the lower classes of roads.

TABLE 1
PHASE III - FOLLOW UP SURVEY
VEHICLE OCCUPANCY BY COUNTY AND VEHICLE TYPE
FOR THE NEW JERSEY COUNTIES

County	Auto	Pickup	Van	Auto, Pickup and Van	Truck	Bus	All Vehicles
Burlington	1.21	1.19	1.22	1.21	1.07	8.17	1.27
Camden	1.22	1.21	1.27	1.22	1.13	7.89	1.29
Gloucester	1.22	1.20	1.23	1.22	1.07	9.07	1.27
Mercer	1.23	1.19	1.21	1.22	1.06	7.45	1.30
Avg. NJ Counties	1.22	1.20	1.23	1.22	1.08	8.10	1.28

Map 1 NEW JERSEY VEHICLE OCCUPANCY SURVEY LOCATIONS

Note:

- ● All Locations surveyed in Phase I
- Locations not surveyed in Phase III



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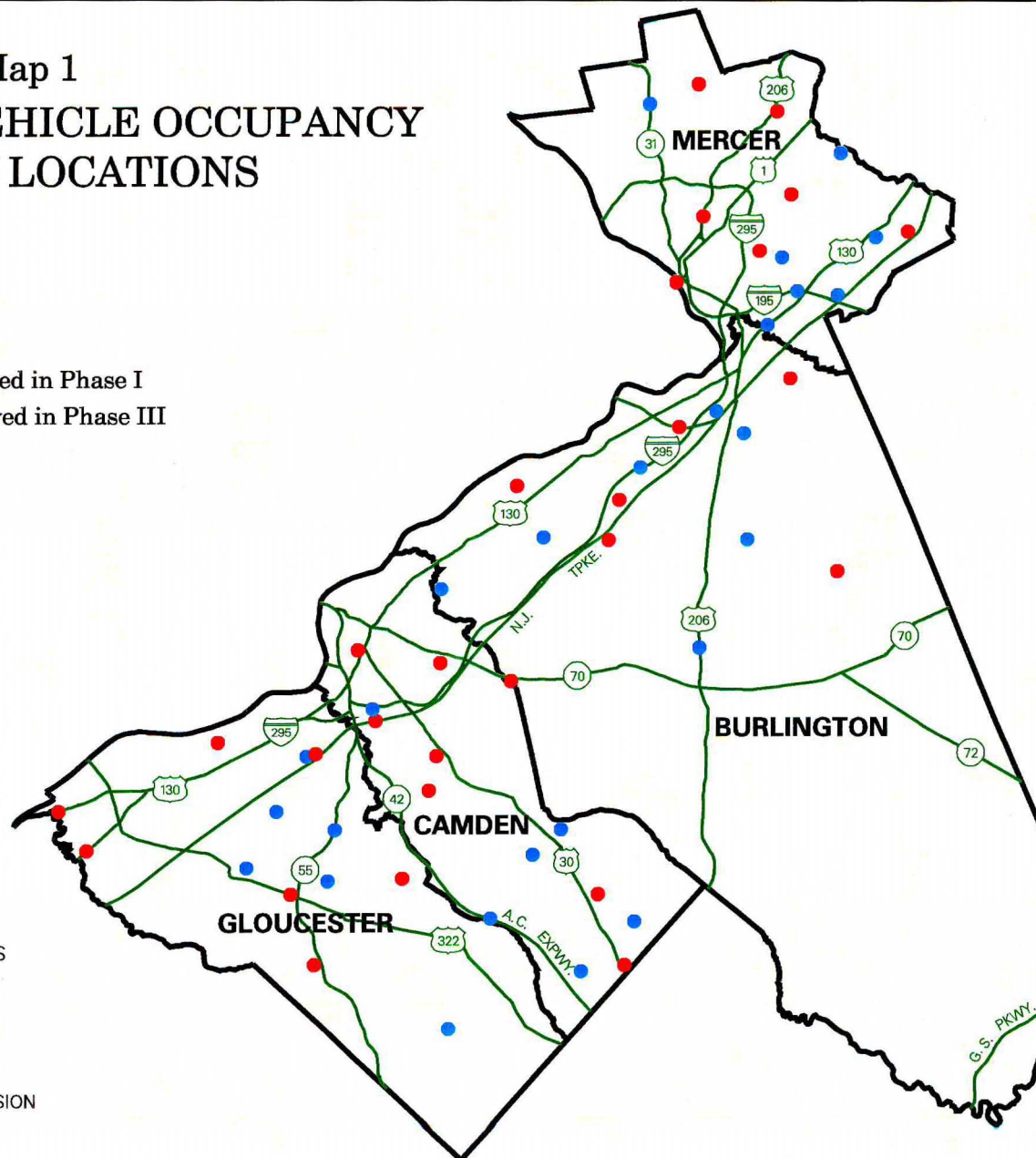


TABLE 2
PHASE III - FOLLOW UP SURVEY
VEHICLE OCCUPANCY BY HIGHWAY FUNCTIONAL CLASS AND VEHICLE TYPE
FOR THE NEW JERSEY COUNTIES

	Auto	Passenger Pickup	Work Pickup	Passenger Van	Work Van	Auto, Pickup and Van	Light Truck	Heavy Truck	Bus	All Vehicles
Interstate	1.20	1.16	1.16	1.18	1.21	1.20	1.05	1.04	10.59	1.24
Rural	1.20	1.14	1.17	1.17	1.22	1.20	1.03	1.05	10.92	1.24
Urban	1.20	1.18	1.12	1.18	1.20	1.19	1.17	1.01	9.88	1.24
Freeway/Expwy	1.22	1.20	1.21	1.14	1.21	1.22	1.15	1.02	7.93	1.22
Urban	1.22	1.20	1.21	1.14	1.21	1.22	1.15	1.02	7.93	1.22
Principal Arterial	1.22	1.19	1.22	1.22	1.24	1.22	1.10	1.05	7.98	1.28
Rural	1.22	1.17	1.18	1.19	1.21	1.21	1.08	1.04	8.10	1.25
Urban	1.23	1.20	1.24	1.24	1.26	1.23	1.13	1.10	7.93	1.31
Minor Arterial	1.21	1.21	1.24	1.30	1.22	1.22	1.23	1.17	7.90	1.31
Rural	1.22	1.18	1.20	1.23	1.23	1.22	1.14	1.06	7.22	1.37
Urban	1.21	1.22	1.25	1.31	1.22	1.22	1.24	1.24	8.15	1.30
Collector	1.24	1.17	1.19	1.31	1.18	1.23	1.15	1.04	7.75	1.32
Rural	1.24	1.20	1.21	1.29	1.19	1.24	1.16	1.05	8.42	1.37
Urban	1.23	1.15	1.16	1.34	1.18	1.23	1.14	1.04	6.95	1.29
Local	1.23	1.19	1.39	1.32	1.20	1.24	1.26	1.18	7.42	1.44
Rural	1.22	1.19	1.42	1.28	1.22	1.23	1.23	1.18	7.84	1.39
Urban	1.25	1.20	1.32	1.37	1.17	1.25	1.32	1.17	7.06	1.50
All Highways	1.22	1.19	1.21	1.24	1.23	1.22	1.10	1.05	8.10	1.28
Rural	1.22	1.17	1.19	1.20	1.21	1.21	1.07	1.04	8.39	1.27
Urban	1.22	1.20	1.23	1.26	1.23	1.22	1.17	1.06	7.95	1.29

4. Analysis by Hour of Day

The counting periods of the survey were designed in such a way that it is possible to aggregate AVO rates for the morning peak hours (7:00 - 9:30 a.m.), midday period hours (10:30 a.m. - 3:30 p.m.), and the evening peak hours (4:00 - 7:00 p.m.). Results are shown in Table 3.

The lowest rate for autos occurs during the morning rush hours (1.20). The rate climbs to a peak in late morning (1.24), and then falls back to 1.22 for the evening rush. The mix of trip purposes that occur during the afternoon and evening hours helps raise the rates as the day progresses. Within the broader peak categories, the lowest morning rate occurs between 7:00 and 7:30 a.m. (1.19), and in the evening between 4:30 and 5:00 p.m. (1.21), i.e., at the peak of the peak. Pickups and vans show a similar variation, but never moving far from the full day average of 1.20 and 1.23, respectively. The variation observed for all vehicles climbs from 1.29 during the morning peak to 1.31 in the afternoon, falling back to 1.26 in the evening peak.

5. Vehicle Occupancy Trend

In 1987 the New Jersey Department of Transportation conducted a telephone survey of regional households in order to determine the travel patterns of local residents. The collected data included information on vehicle occupancy which is compared to the DVRPC roadside survey. Vehicle occupancy for the 1987 household and 1995 and 1997 combined roadside surveys are shown in Table 4.

The table also shows vehicle occupancy declining by an average of 8 percent in New Jersey. With the exception of Mercer County, which showed an unusually large occupancy rate in 1987, the decline in vehicle occupancy ranges from 6 to 10 percent.

TABLE 3
PHASE III - FOLLOW UP SURVEY
VEHICLE OCCUPANCY BY HOUR OF DAY AND VEHICLE TYPE
FOR THE NEW JERSEY COUNTIES

Hour of Day	Auto	Passenger Pickup	Work Pickup	Passenger Van	Work Van	Auto, Pickup and Van	Light Truck	Heavy Truck	Bus	All Vehicles
7:00 am - 7:30 am	1.19	1.18	1.13	1.28	1.24	1.19	1.09	1.06	7.54	1.25
7:30 am - 8:00 am	1.20	1.16	1.12	1.18	1.25	1.19	1.07	1.05	9.17	1.30
8:00 am - 8:30 am	1.20	1.16	1.26	1.23	1.21	1.20	1.07	1.06	8.14	1.29
8:30 am - 9:00 am	1.20	1.20	1.22	1.27	1.18	1.20	1.06	1.04	8.24	1.31
9:00 am - 9:30 am	1.21	1.23	1.21	1.26	1.22	1.22	1.09	1.03	9.68	1.30
9:30 am - 10:00 am	-	-	-	-	-	-	-	-	-	-
7:00 am - 10:00 am	1.20	1.18	1.18	1.24	1.22	1.20	1.08	1.05	8.56	1.29
10:00 am - 10:30 am	-	-	-	-	-	-	-	-	-	-
10:30 am - 11:00 am	1.23	1.24	1.21	1.29	1.26	1.24	1.09	1.07	10.18	1.30
11:00 am - 11:30 am	1.24	1.21	1.19	1.25	1.22	1.23	1.08	1.06	8.02	1.30
11:30 am - 12:00 am	1.23	1.17	1.25	1.25	1.18	1.23	1.06	1.06	7.50	1.26
12:00 am - 12:30 pm	1.25	1.18	1.26	1.27	1.33	1.25	1.10	1.14	10.27	1.31
12:30 pm - 1:00 pm	1.23	1.21	1.24	1.25	1.23	1.23	1.07	1.04	8.66	1.26
10:00 am - 1:00 pm	1.24	1.20	1.23	1.26	1.24	1.23	1.08	1.07	8.88	1.29
1:00 pm - 1:30 pm	1.23	1.21	1.19	1.17	1.27	1.23	1.11	1.03	7.63	1.27
1:30 pm - 2:00 pm	1.23	1.15	1.23	1.24	1.26	1.23	1.11	1.04	8.06	1.29
2:00 pm - 2:30 pm	1.23	1.22	1.21	1.23	1.29	1.23	1.12	1.05	7.18	1.31
2:30 pm - 3:00 pm	1.24	1.16	1.20	1.26	1.26	1.23	1.14	1.02	7.71	1.32
3:00 pm - 3:30 pm	1.23	1.13	1.21	1.24	1.22	1.22	1.12	1.04	7.76	1.33
3:30 pm - 4:00 pm	-	-	-	-	-	-	-	-	-	-
1:00 pm - 4:00 pm	1.23	1.17	1.21	1.23	1.26	1.23	1.12	1.04	7.65	1.31
4:00 pm - 4:30 pm	1.22	1.16	1.20	1.30	1.15	1.22	1.14	1.03	7.57	1.29
4:30 pm - 5:00 pm	1.21	1.19	1.21	1.22	1.20	1.21	1.17	1.01	7.08	1.25
5:00 pm - 5:30 pm	1.22	1.14	1.20	1.19	1.20	1.21	1.17	1.04	7.37	1.25
5:30 pm - 6:00 pm	1.22	1.25	1.24	1.22	1.20	1.22	1.17	1.04	7.32	1.26
6:00 pm - 6:30 pm	1.21	1.23	1.26	1.19	1.21	1.21	1.18	1.05	8.23	1.26
6:30 pm - 7:00 pm	1.21	1.24	1.27	1.21	1.28	1.22	1.16	1.08	8.06	1.26
4:00 pm - 7:00 pm	1.22	1.20	1.23	1.22	1.21	1.22	1.16	1.04	7.58	1.26
All Day	1.22	1.19	1.21	1.24	1.23	1.22	1.10	1.05	8.10	1.28

TABLE 4
VEHICLE OCCUPANCY CHANGES IN THE NEW JERSEY COUNTIES

County	Vehicle Occupancy			Change
	1987 Household Survey	1995 & 1997 Combined Roadside Surveys		
Burlington	1.29	1.21	-6.2%	
Camden	1.35	1.26	-6.7%	
Gloucester	1.34	1.21	-9.7%	
Mercer	1.40	1.20	-14.3%	
Total	1.33	1.22	-8.3%	

V. PENNSYLVANIA SURVEY RESULTS

1. Survey Locations

The survey locations for Pennsylvania are shown in Map 2 following, and listed in Table A-4 (Appendix II). The latter also provides information on highway functional class and area type. The 48 locations are distributed evenly among the five counties, with about 67 percent of the locations classified as urban. Care was taken to see that all highway functional classes and area types were represented in each county's selection, with the exception of Philadelphia where all locations are classified as urban.

2. Analysis by Vehicle Type and by County

A summary of overall AVO rates for the five Pennsylvania counties is reported in Table 5. The average for all vehicles in the five counties is 1.20 persons per vehicle, ranging from 1.18 persons recorded in Montgomery County to 1.23 in Philadelphia County. Bucks, Chester and Delaware counties contributed 1.20, 1.19, and 1.20 persons per vehicle, respectively.

The combined auto, pickup and van occupancy rate is 1.18 and was consistent among the five counties. For the five counties as a group, the occupancy rates by individual vehicle type at the state level were 1.18 for autos, 1.16 for pickups, 1.19 for vans, 1.07 for trucks, and 8.46 persons for buses. As expected, trucks produced the lowest average rate and buses the highest. Buses also showed the greatest variability between counties, with Chester County at the low end (7.76) and Philadelphia at the high (8.80).

3. Analysis by Functional Class and Area Type

Average vehicle occupancy rates for the Pennsylvania counties are shown in Table 6. In general, occupancy rates varied inversely with functional class, i.e., the higher the class, the lower the rate. Occupancy rates for all vehicles on expressways were 1.19 persons per vehicle or lower, whereas the rates on other roads were generally higher than 1.22.

The functional class analysis indirectly provides an insight into the average occupancy rate for rural and urban areas. In the Pennsylvania portion of the region, no consistent difference was observed between rural and urban highways.

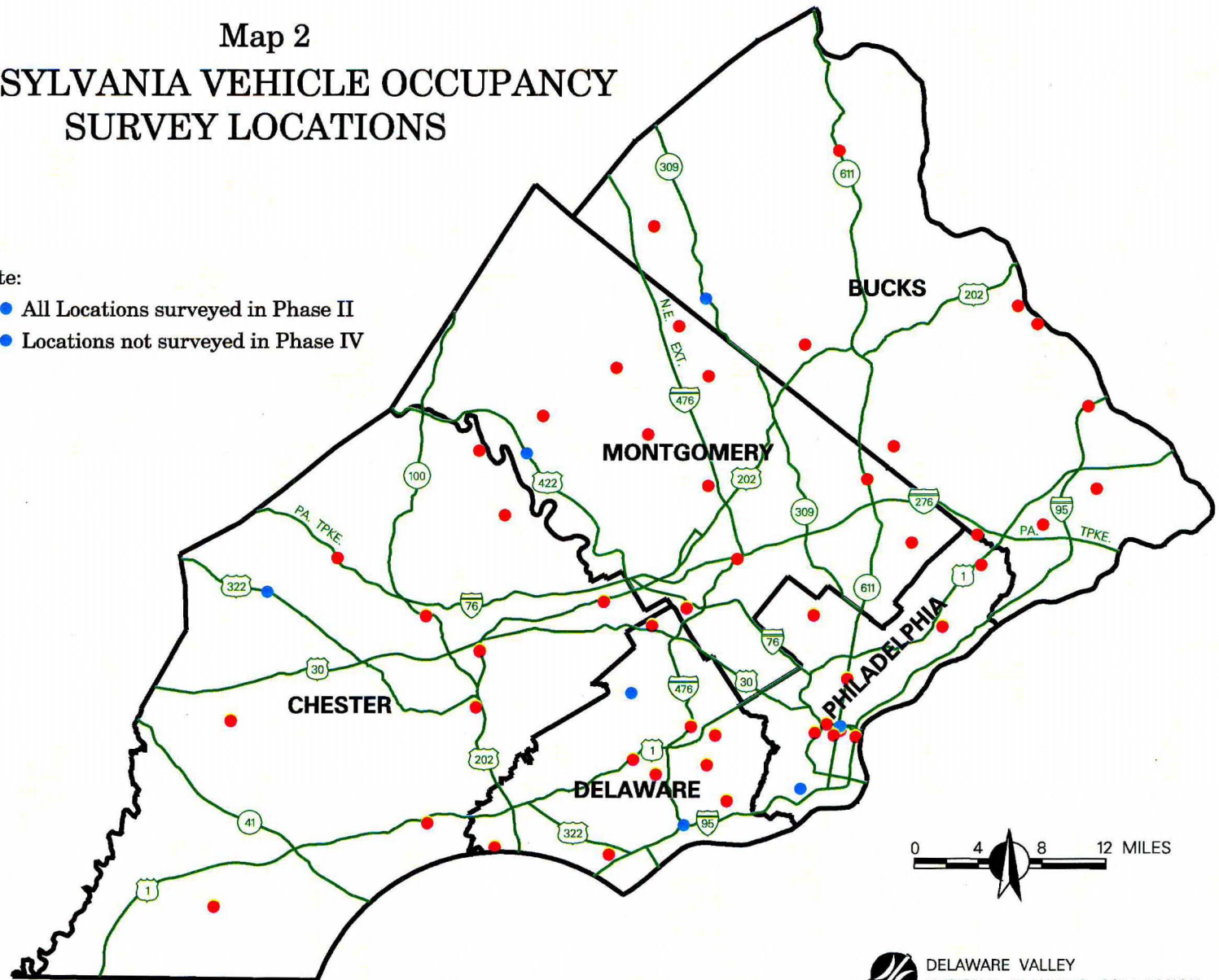
TABLE 5
PHASE IV - FOLLOW UP SURVEY
VEHICLE OCCUPANCY BY COUNTY AND VEHICLE TYPE
FOR THE NEW JERSEY COUNTIES

County	Auto	Pickup	Van	Auto, Pickup and Van	Truck	Bus	All Vehicles
Bucks	1.18	1.11	1.15	1.17	1.06	8.65	1.20
Chester	1.18	1.16	1.19	1.18	1.07	8.02	1.19
Delaware	1.17	1.21	1.23	1.18	1.07	7.76	1.20
Montgomery	1.18	1.13	1.17	1.17	1.06	8.73	1.18
Philadelphia	1.18	1.18	1.21	1.18	1.07	8.80	1.23
Avg. NJ Counties	1.18	1.16	1.19	1.18	1.07	8.46	1.20

Map 2 PENNSYLVANIA VEHICLE OCCUPANCY SURVEY LOCATIONS

Note:

- ● All Locations surveyed in Phase II
- Locations not surveyed in Phase IV



4. Analysis by Hour of the Day

The variation over the course of the survey day in 30-minute increments is shown in Table 7, and follows a pattern similar to that seen for New Jersey. The lowest rate for autos occurs during the morning rush hours (1.16). The rate climbs to a peak in late morning (1.20), and then falls back to 1.17 for the evening rush hours.

However, unlike New Jersey, buses carried heavier loads in the late morning (9.29), than during the peak periods (a.m., 8.19; p.m., 8.13). This may be the result of heavy transit dependency in Philadelphia, senior citizen patronage (free carriage at off-peak times), and reduced midday service.

Occupancy rates for autos, pickups, and vans are similar to autos with a lower a.m. occupancy, midday increase, and reduced p.m. peak occupancy.

5. Vehicle Occupancy Rates Trend

Vehicle occupancy declined by an average of 16 percent from The 1988 Household Survey, conducted by phone by PENNDOT, with Chester County recording the biggest drop (22%) and Philadelphia the least (15%). The decline in vehicle occupancy within the PA counties is larger than that of NJ. Table 8 compares surveys of vehicle occupancy for the Pennsylvania counties obtained from the 1988 household survey and 1996 and 1998 combined roadside surveys.

TABLE 6
PHASE III - FOLLOW UP SURVEY
VEHICLE OCCUPANCY BY HIGHWAY FUNCTIONAL CLASS AND VEHICLE TYPE
FOR THE PENNSYLVANIA COUNTIES

	Auto	Passenger Pickup	Work Pickup	Passenger Van	Work Van	Auto, Pickup and Van	Light Truck	Heavy Truck	Bus	All Vehicles
Interstate	1.16	1.15	1.17	1.18	1.16	1.16	1.09	1.02	9.07	1.18
Rural	1.18	1.23	1.24	1.23	1.12	1.19	1.10	1.02	9.62	1.19
Urban	1.16	1.14	1.16	1.17	1.17	1.16	1.09	1.03	9.01	1.18
Freeway/Expwy	1.17	1.22	1.13	1.20	1.14	1.17	1.14	1.03	6.74	1.19
Urban	1.17	1.22	1.13	1.20	1.14	1.17	1.14	1.03	6.74	1.19
Principal Arterial	1.18	1.14	1.15	1.21	1.14	1.18	1.12	1.04	9.00	1.22
Rural	1.19	1.09	1.16	1.14	1.12	1.17	1.12	1.04	8.89	1.17
Urban	1.18	1.18	1.15	1.25	1.14	1.19	1.12	1.05	9.01	1.23
Minor Arterial	1.20	1.15	1.19	1.26	1.17	1.20	1.19	1.07	7.93	1.24
Rural	1.19	1.10	1.16	1.24	1.18	1.19	1.15	1.10	7.88	1.21
Urban	1.20	1.17	1.20	1.26	1.17	1.20	1.22	1.05	7.95	1.24
Collector	1.21	1.16	1.25	1.33	1.18	1.21	1.22	1.17	7.75	1.24
Rural	1.20	1.17	1.21	1.30	1.26	1.20	1.14	1.22	8.19	1.24
Urban	1.21	1.15	1.28	1.35	1.15	1.21	1.26	1.11	7.45	1.24
Local	1.21	1.18	1.28	1.35	1.23	1.22	1.20	1.17	6.93	1.27
Rural	1.21	1.19	1.37	1.30	1.19	1.22	1.08	1.10	5.00	1.23
Urban	1.21	1.18	1.27	1.35	1.24	1.22	1.26	1.18	7.08	1.28
All Highways	1.18	1.16	1.17	1.21	1.16	1.18	1.12	1.03	8.46	1.20
Rural	1.22	1.17	1.19	1.20	1.21	1.21	1.07	1.04	8.39	1.27
Urban	1.22	1.20	1.23	1.26	1.23	1.22	1.17	1.06	7.95	1.29

TABLE 7
PHASE III - FOLLOW UP SURVEY
VEHICLE OCCUPANCY BY HOUR OF DAY AND VEHICLE TYPE
FOR THE PENNSYLVANIA COUNTIES

Hour of Day	Auto	Passenger Pickup	Work Pickup	Passenger Van	Work Van	Auto, Pickup and Van	Light Truck	Heavy Truck	Bus	All Vehicles
7:00 am - 7:30 am	1.16	1.10	1.22	1.18	1.19	1.16	1.17	1.03	9.23	1.19
7:30 am - 8:00 am	1.15	1.10	1.20	1.15	1.16	1.15	1.14	1.05	6.83	1.17
8:00 am - 8:30 am	1.16	1.10	1.17	1.13	1.16	1.15	1.15	1.03	7.05	1.18
8:30 am - 9:00 am	1.17	1.10	1.13	1.17	1.17	1.16	1.13	1.04	8.65	1.20
9:00 am - 9:30 am	1.17	1.11	1.17	1.14	1.13	1.17	1.15	1.03	9.18	1.20
9:30 am - 10:00 am	-	-	-	-	-	-	-	-	-	-
7:00 am - 10:00 am	1.16	1.10	1.18	1.15	1.16	1.16	1.15	1.03	8.19	1.19
10:00 am - 10:30 am	-	-	-	-	-	-	-	-	-	-
10:30 am - 11:00 am	1.18	1.14	1.13	1.24	1.15	1.18	1.17	1.02	13.19	1.23
11:00 am - 11:30 am	1.22	1.15	1.17	1.23	1.21	1.22	1.13	1.03	9.00	1.24
11:30 am - 12:00 am	1.19	1.15	1.17	1.23	1.19	1.19	1.16	1.04	8.04	1.23
12:00 am - 12:30 pm	1.19	1.17	1.22	1.24	1.15	1.20	1.11	1.03	7.64	1.21
12:30 pm - 1:00 pm	1.19	1.18	1.15	1.23	1.17	1.20	1.14	1.03	8.57	1.21
10:00 am - 1:00 pm	1.20	1.16	1.17	1.23	1.18	1.20	1.14	1.03	9.29	1.22
1:00 pm - 1:30 pm	1.18	1.10	1.14	1.27	1.16	1.18	1.10	1.03	7.84	1.20
1:30 pm - 2:00 pm	1.19	1.16	1.17	1.24	1.11	1.18	1.13	1.02	7.86	1.21
2:00 pm - 2:30 pm	1.18	1.56	1.14	1.19	1.13	1.20	1.09	1.04	7.79	1.22
2:30 pm - 3:00 pm	1.18	1.16	1.14	1.23	1.13	1.18	1.06	1.03	8.43	1.21
3:00 pm - 3:30 pm	1.18	1.14	1.15	1.19	1.11	1.18	1.08	1.04	10.06	1.21
3:30 pm - 4:00 pm	-	-	-	-	-	-	-	-	-	-
1:00 pm - 4:00 pm	1.18	1.22	1.15	1.22	1.13	1.18	1.09	1.03	8.46	1.21
4:00 pm - 4:30 pm	1.18	1.13	1.18	1.22	1.17	1.18	1.07	1.05	7.72	1.22
4:30 pm - 5:00 pm	1.18	1.16	1.18	1.22	1.13	1.18	1.07	1.03	8.02	1.19
5:00 pm - 5:30 pm	1.17	1.16	1.17	1.23	1.13	1.17	1.08	1.04	7.06	1.18
5:30 pm - 6:00 pm	1.17	1.16	1.21	1.25	1.16	1.17	1.08	1.04	8.64	1.19
6:00 pm - 6:30 pm	1.17	1.16	1.14	1.28	1.19	1.17	1.10	1.03	9.55	1.20
6:30 pm - 7:00 pm	1.17	1.19	1.22	1.24	1.22	1.18	1.14	1.03	8.36	1.20
4:00 pm - 7:00 pm	1.17	1.16	1.18	1.24	1.16	1.17	1.09	1.04	8.13	1.20
All Day	1.18	1.16	1.17	1.21	1.16	1.18	1.12	1.03	8.46	1.20

TABLE 8
VEHICLE OCCUPANCY CHANGES IN THE PENNSYLVANIA COUNTIES

County	Vehicle Occupancy			Change
	1988 Household Survey	1996 & 1998 Combined Roadside Surveys		
Bucks	1.40	1.18	-15.7%	
Chester	1.51	1.17	-22.5%	
Delaware	1.39	1.16	-16.5%	
Montgomery	1.37	1.16	-15.3%	
Philadelphia	1.39	1.18	-15.1%	
Total	1.40	1.17	-16.4%	

VI. PHASE III AND IV FOLLOW-UP SURVEY FINDINGS

The following findings are derived from the data collected in Phase III and IV of the survey at 76 locations through the DVRPC Region. These findings reflect the analysis of the 1997 New Jersey and 1998 Pennsylvania Follow-Up Surveys only.

- At the state level the average occupancy rate for all vehicles was 1.28 persons per vehicle in New Jersey and 1.20 in Pennsylvania. At the county level, the range varied from a low of 1.18 in Montgomery County to a high of 1.30 in Mercer County. The values for the remaining counties all fell between 1.19 and 1.29.
- In New Jersey, the rate for autos, pickups, and vans was 1.22, for trucks 1.08, and for buses 8.15 occupants per vehicle. In Pennsylvania the corresponding rates were 1.18, 1.07, and 8.40, respectively. At the county level, the auto, pickup and van rates varied from 1.17 in Bucks and Montgomery Counties to 1.22 in Camden, Gloucester, and Mercer Counties.
- As found in Phases I and II, the lower the functional class of the highway facility, the higher the occupancy rate for all vehicles combined. Local, Collector and Minor Arterials averaged 1.30 persons for all vehicles, while Interstate and Freeway/Expressway had a 1.21 occupancy rate for all vehicles.
- Peak and off-peak rates are derived from a detailed analysis of the results by hour of the day. In New Jersey, the average vehicle rate during the morning peak was 1.29, and during the evening peak, 1.26. The highest rates were observed during the early afternoon period, when they averaged 1.31 persons per vehicle. In Pennsylvania, the morning peak was 1.19, and the evening peak 1.20, and the midday periods about 1.22.

These results as presented are consistent with the findings from the Phase I and Phase II surveys presented in the previous report "Vehicle Occupancy for the Delaware Valley Region", published in April 1998. However, it was also observed with a more limited survey in terms of facilities surveyed and observations collected in Phases III and IV that facility selection can influence vehicle occupancy rates on some facilities.

VII. OVERALL SURVEY FINDINGS

Overall survey findings were developed to allow comparison of original surveys with follow-up surveys and to combine results of all four phases of the Vehicle Occupancy Survey.

1. Comparison of Original Survey and Follow-Up Survey

The results of the initial surveys in Phase I and Phase II were compared with the follow-up surveys of Phase III and Phase IV. This comparison was done at the county and state level and compared occupancy rates for the various vehicle types.

- The vehicle occupancy rate for all vehicles in New Jersey decreased 1.5%, from 1.30 for the original survey to 1.28 for the follow-up survey. The individual counties generally decreased, with Camden County showing an 8.5% decrease, which reflected the Atlantic City Expressway not being surveyed in the follow-up survey. See Table 9.
- The Pennsylvania vehicle occupancy rate for all vehicles decreased from 1.21 to 1.20, a decrease of less than 1%. The individual counties ranged from no change in Philadelphia County to a 3.2% decrease in Bucks County. See Table 10.
- The combined rate for autos, pickups and vans was very consistent for both states when the original and follow-up surveys were compared. In New Jersey, there was no difference, and in Pennsylvania, the rate increased less than 1%, from 1.17 to 1.18.
- Truck occupancy increased less than 1% in New Jersey, from 1.07 to 1.08, and in Pennsylvania, less than 2%, from 1.05 to 1.07.
- Bus occupancy showed the greatest variability with a decrease of over 11% in New Jersey, but only a 1% decrease in Pennsylvania.

It can be concluded that there was a very close correlation between original and follow-up surveys as it relates to vehicle occupancy rates. The variability that does exist is due in large part to inclusion or exclusion of specific traffic facilities surveyed.

2. Combined Results for all Four Phases of The Vehicle Occupancy Survey

The results of all four phases of the Vehicle Occupancy Survey were combined to develop a comprehensive vehicle occupancy rate at the county, state and regional level. The summary was done by vehicle type and summarized for auto, pickup, and van and all vehicles.

- The vehicle occupancy rate for all vehicles was 1.29 for New Jersey, 1.21 for Pennsylvania and 1.24 for the DVRPC Region. The occupancy rate for autos, pickups and vans combined was 1.22 for New Jersey, 1.17 for Pennsylvania, and 1.19 for the DVRPC Region. See Table 11.
- The occupancy rate for all vehicles ranged from 1.18 for Delaware County to 1.38 for Camden County. The occupancy rates for autos, pickups and vans combined varied from 1.16 for Delaware and Montgomery Counties to 1.26 for Camden County.

TABLE 9
COMPARISON OF ORIGINAL AND FOLLOW UP SURVEYS
VEHICLE OCCUPANCY BY COUNTY AND VEHICLE TYPE
FOR THE NEW JERSEY COUNTIES

County	Year	Auto	Pickup	Van	APV	Truck	Bus	All
Burlington	97	1.21	1.19	1.22	1.21	1.07	8.17	1.27
	95	1.21	1.15	1.23	1.21	1.04	9.44	1.28
	Difference 97-95 % Change	0.00 0.00%	0.04 3.48%	-0.01 -0.81%	0.00 0.00%	0.03 2.88%	-1.27 -13.45%	-0.01 -0.78%
Camden	97	1.22	1.21	1.27	1.22	1.13	7.89	1.29
	95	1.29	1.20	1.31	1.28	1.12	10.08	1.41
	Difference 97-95 % Change	-0.07 -5.43%	0.01 0.83%	-0.04 -3.05%	-0.06 -4.69%	0.01 0.89%	-2.19 -21.73%	-0.12 -8.51%
Gloucester	97	1.22	1.20	1.23	1.22	1.07	9.07	1.27
	95	1.20	1.17	1.25	1.21	1.08	8.84	1.28
	Difference 97-95 % Change	0.02 1.67%	0.03 2.56%	-0.02 -1.60%	0.01 0.83%	-0.01 -0.93%	0.23 2.60%	-0.01 -0.78%
Mercer	97	1.23	1.19	1.21	1.22	1.06	7.45	1.30
	95	1.19	1.16	1.23	1.19	1.05	8.51	1.24
	Difference 97-95 % Change	0.04 3.36%	0.03 2.59%	-0.02 -1.63%	0.03 2.52%	0.01 0.95%	-1.06 -12.46%	0.06 4.84%
All Counties	97	1.22	1.20	1.23	1.22	1.08	8.15	1.28
	95	1.22	1.17	1.26	1.22	1.07	9.22	1.30
	Difference 97-95 % Change	0.00 0.00%	0.03 2.56%	-0.03 -2.38%	0.00 0.00%	0.01 0.93%	-1.07 -11.61%	-0.02 -1.54%

TABLE 10
COMPARISON OF ORIGINAL AND FOLLOW UP SURVEYS
VEHICLE OCCUPANCY BY COUNTY AND VEHICLE TYPE
FOR THE PENNSYLVANIA COUNTIES

County	Year	Auto	Pickup	Van	APV	Truck	Bus	All
Bucks	98	1.18	1.11	1.15	1.17	1.06	8.65	1.20
	96	1.18	1.16	1.20	1.18	1.07	8.52	1.24
	Difference 98-96 % Change	0.00 0.00%	-0.05 -4.31%	-0.05 -4.17%	-0.01 -0.85%	-0.01 -0.93%	0.13 1.53%	-0.04 -3.23%
Chester	98	1.18	1.16	1.19	1.18	1.07	8.02	1.19
	96	1.17	1.12	1.18	1.17	1.03	8.05	1.21
	Difference 98-96 % Change	0.01 0.85%	0.04 3.57%	0.01 0.85%	0.01 0.85%	0.04 3.88%	-0.03 -0.37%	-0.02 -1.65%
Delaware	98	1.17	1.21	1.23	1.18	1.07	7.76	1.20
	96	1.14	1.12	1.19	1.15	1.04	8.13	1.17
	Difference 98-96 % Change	0.03 2.63%	0.09 8.04%	0.04 3.36%	0.03 2.61%	0.03 2.88%	-0.37 -4.55%	0.03 2.56%
Montgomery	98	1.18	1.13	1.17	1.17	1.06	8.73	1.18
	96	1.16	1.14	1.16	1.16	1.06	8.75	1.20
	Difference 98-96 % Change	0.02 1.72%	-0.01 -0.88%	0.01 0.86%	0.01 0.86%	0.00 0.00%	-0.02 -0.23%	-0.02 -1.67%
Philadelphia	98	1.18	1.18	1.21	1.18	1.07	8.80	1.23
	96	1.18	1.16	1.21	1.18	1.05	8.69	1.23
	Difference 98-96 % Change	0.00 0.00%	0.02 1.72%	0.00 0.00%	0.00 0.00%	0.02 1.90%	0.11 1.27%	0.00 0.00%
All Counties	98	1.18	1.16	1.19	1.18	1.07	8.40	1.20
	96	1.17	1.14	1.19	1.17	1.05	8.43	1.21
	Difference 98-96 % Change	0.01 0.85%	0.02 1.75%	0.00 0.00%	0.01 0.85%	0.02 1.90%	-0.03 -0.36%	-0.01 -0.83%

- Occupancy rates for trucks were almost identical with 1.06 for New Jersey, 1.05 for Pennsylvania, and 1.06 for the DVRPC Region.
- Bus occupancy rates were 8.94 for New Jersey, 8.49 for Pennsylvania, and 8.73 for the DVRPC Region.

In conclusion, vehicle occupancy rates were slightly higher in New Jersey. This was attributable, in part, to a larger Interstate and Freeway/Expressway sampling in Pennsylvania, since these facilities exhibited a lower occupancy rate than other functional classes. The occupancy rate for autos, pickups and vans combined was very consistent, 1.19 for the DVRPC Region, 1.17 for Pennsylvania, and 1.22 for New Jersey. When compared to the DVRPC Region averages, both states were within the design criteria of $\pm 3\%$ margin of error.

TABLE 11
COMBINED SURVEY
VEHICLE OCCUPANCY BY COUNTY AND VEHICLE TYPE
FOR THE DVRPC REGION

	Auto	Pickup	Van	Auto, Pickup and Van	Truck	Bus	All Vehicles
New Jersey							
Burlington County	1.21	1.16	1.23	1.21	1.05	9.06	1.27
Camden County	1.27	1.20	1.30	1.26	1.12	9.60	1.38
Gloucester County	1.21	1.18	1.25	1.21	1.07	8.90	1.27
Mercer County	1.20	1.17	1.22	1.20	1.05	8.09	1.26
Total for NJ Counties	1.22	1.18	1.25	1.22	1.06	8.94	1.29
Pennsylvania							
Bucks County	1.18	1.14	1.17	1.18	1.07	8.56	1.22
Chester County	1.18	1.14	1.19	1.17	1.05	8.04	1.20
Delaware County	1.15	1.16	1.20	1.16	1.04	8.00	1.18
Montgomery County	1.17	1.13	1.17	1.16	1.06	8.75	1.20
Philadelphia County	1.18	1.17	1.21	1.18	1.06	8.73	1.23
Total for PA Counties	1.17	1.15	1.19	1.17	1.05	8.49	1.21
Total for DVRPC Region	1.19	1.16	1.21	1.19	1.06	8.73	1.24

APPENDICES

Appendix I	Sample Size
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APPENDIX I - Sample Size

SAMPLE SIZE

The sample size is usually estimated based on assumed values for the composite standard deviation of vehicle occupancy, sampling error allowance, and confidence level desired. Generally, large variation in observed vehicle occupancy rates would require a larger sample size for a given sampling error allowance and confidence level. Since the sampling error allowance and confidence level are chosen based on budget and desirable accuracy, the composite standard deviation is the only parameter that needs to be determined before estimating the sample size. According to the method described in the federal guidelines¹, the composite standard deviation is estimated as shown in the following formula.

$$SO = \sqrt{SOL^2 + SOS^2 + SOW^2}$$

where:

- SO = composite standard deviation of vehicle occupancy,
- SOL = standard deviation of average occupancy across link-days within a season,
- SOS = standard deviation of average occupancy across seasons,
- SOW = standard deviation of average occupancy across time periods during the day.

A link-day represents a count taken for a full day at one location.

The sample size of link-days (N) needed to estimate average occupancy within a desired tolerance is computed as:

$$N = \left(\frac{Z \times SO}{DOCC} \right)^2$$

where:

- Z = standard score under normal distribution, which is 1.96 at 95% confidence level,
- DOCC = acceptable sampling error allowance between the estimated average occupancy and the true value,
- SO = composite standard deviation of average occupancy.

Using the values of standard deviations of vehicle occupancy obtained from a DVRPC survey, SOL, SOS, and SOW are chosen as 0.043, 0.015, and 0.039, respectively. The composite standard deviation is:

¹Guide for Estimating Urban Vehicle Classification and Occupancy, USDOT, Federal Highway Administration, September 1980.

$$SO = \sqrt{0.043^2 + 0.015^2 + 0.039^2} = 0.060$$

Therefore, at 95% confidence interval, given ± 0.03 persons/vehicle as the sampling error allowance the sample size for estimating annual average vehicle occupancy is computed as follows:

$$N = \left(\frac{1.96 \times 0.060}{0.03} \right)^2 = 16 \text{ Link-Days}$$

Thus, a minimum of 16 randomly chosen link-days should be sampled at the regional level to achieve the defined survey objective. However, the survey also requires that the results be tabulated by federal functional classification and area type. In this case, the total of 16 link-days of sample size will not be sufficient to maintain the sampling error allowance for each stratum. In order to maintain the ± 0.03 sampling error at 95% confidence level for each highway stratum, the sample size should be the product of the number of strata by the 16 link-days, which is 112 link-days (7 Functional Classes $\times$ 16 = 112 Link-Days). Practically, this sample size would make the survey very expensive.

On the other hand, the proportion of truck travel will also be tallied from this survey. A similar methodology is used to estimate the sample size for this purpose. In this case, the composite standard deviation consists of three components, which are variation of the truck proportion across link-days within a season, variation across seasons, and variation across time periods during the day. The composite standard deviation for the proportion of trucks can be expressed as:

$$ST = \sqrt{STL^2 + STS^2 + STW^2}$$

where:

- ST = composite standard deviation of the proportion of trucks,
- STL = standard deviation of the proportion of trucks across link-days within a season,
- STS = standard deviation of the proportion of trucks across season,
- STW = standard deviation of the proportion of trucks across time periods during the day.

Using the recommended values for STL, STS, and STW (0.040, 0.014, and 0.009, respectively), the composite standard deviation is estimated as follows:

$$ST = \sqrt{0.040^2 + 0.014^2 + 0.009^2} = 0.043$$

At a 95 percent confidence level and a sampling error allowance of $\pm 1\%$ trucks (expressed as 0.01), the sample size can be computed as follows:

$$N = \left(\frac{Z \times ST}{DTR} \right)^2$$

$$= \left(\frac{1.96 \times 0.043}{0.01} \right)^2 = 72 \text{ link-days}$$

where:

- DTR = acceptable difference between the estimated truck proportion and the true value (sampling error allowance),
- Z = standard score under normal distribution for the specified confidence level; two-tailed test,
- N = number of link-days of data collection required.

Thus, a minimum of 72 randomly chosen link-days should be sampled in the DVRPC region, which is larger than that estimated for vehicle occupancy surveys. In practice, the sample size for proportion of truck survey will dictate the scale of the project.

APPENDIX II - Tables

APPENDIX II - Tables

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**TABLE A-1 PHASE III- FOLLOW UP SURVEY
VEHICLE OCCUPANCY SURVEY LOCATIONS IN NEW JERSEY BY HIGHWAY FUNCTIONAL CLASS AND COUNTY**

Sample No.	Route	Survey Location	FHWA Functional Class	Code Number	Area Type	Average Daily Traffic (ADT)	Total Sample	Percent of ADT
BURLINGTON COUNTY								
1	PA-NJ Tpk Conn	Bet US 130 & NJ Tpk	Other Expressway	2	Rural	26,500	16,978	64.1%
2	CR 626	Bet I-295 & Tr 637	Principal Arterial	14	Urban	16,300	11,758	72.1%
3	CR 669	Bet Pointville Rd & Tr 530	Minor Arterial	6	Rural	3,200	1,402	43.8%
4	CR 600	Bet NJ 70 & Cropwell Rd	Minor Arterial	16	Urban	17,600	10,732	61.0%
5	CR 668	Bet Tr 669 & Tr 630	Minor Collector	8	Rural	2,500	339	13.6%
6	CR 624	Bet Tr 543 & Bridgeboro Rd.	Collector	17	Urban	3,500	2,690	76.9%
7	Mansfield-G'town Rd	Bet US 206 & NJ 68	Local	9	Rural	1,700	793	46.6%
CAMDEN COUNTY								
8	New Jersey Tpk	at Interchange #3	Freeway/Expressway	12	Urban	8,600	6,221	72.3%
9	US 30	Bet Walker Rd & Atlantic Co Line	Principal Arterial	2	Rural	11,100	3,220	29.0%
10	NJ 154	Bet Evans Mill Rd & NJ 70	Principal Arterial	14	Urban	16,400	6,964	42.5%
11	CR 534	Bet Tr 683 & Tr 673	Minor Arterial	16	Urban	13,200	9,982	75.6%
12	CR 536	Bet Tr 716 & Church Av	Major Collector	7	Rural	3,500	2,621	74.9%
13	CR 727	Bet Columbia & Cornell Aves.	Collector	17	Urban	4,800	1,288	26.8%
14	4th Av	Bet Evergreen & Elm Aves	Local	19	Urban	900	393	43.7%
GLOUCESTER COUNTY								
15	I-295	Bet Salem Co Line & Tr 620	Interstate	1	Rural	29,000	10,855	37.4%
16	US 322	Bet Tr 635 & Tr 609	Principal Arterial	2	Rural	14,400	11,926	82.8%
17	CR 534	Bet Tr 553 & NJ Tpk	Principal Arterial	14	Urban	15,700	14,081	89.7%
18	US 130	Bet Salem Co Line & Center Square Rd	Minor Arterial	6	Rural	5,400	2,773	51.4%
19	CR 655	Bet NJ 42 & Tr 654	Minor Arterial	16	Urban	10,200	3,430	33.6%
20	Mantua Av	Bet NJ 44 & 2nd St	Collector	17	Urban	2,700	890	33.0%
21	Walters Rd	Bet Tr 667 & US 322	Local	9	Rural	1,100	965	87.7%
MERCER COUNTY								
22	US 1 Toll Booth	Bet NJ & PA	Freeway/Expressway	12	Urban	35,000	16,062	45.9%
23	US 206	Bet Fairfield Av & Eggert Crossing Rd	Principal Arterial	14	Urban	16,700	12,423	74.4%
24	Nottingham Way	Bet Tr 535 & Berkley St	Minor Arterial	16	Urban	7,900	1,707	21.6%
25	Pennington Rd	Bet Moore's Mill Rd & Tr 569	Major Collector	7	Rural	3,200	1,355	42.3%
26	Perrineville Rd	Bet Tr 641 & Voelbel Rd	Minor Collector	8	Rural	1,500	466	31.1%
27	Village Rd	Bet Tr 533 & N Post Rd	Collector	17	Urban	6,600	1,712	25.9%
28	Hibben Rd	Bet US 206 & Tr 583	Local	19	Urban	1,300	769	59.2%

**TABLE A-2 PHASE III - FOLLOW UP SURVEY
VEHICLE OCCUPANCY COUNTS BY VEHICLE TYPE FOR SURVEY LOCATIONS IN NEW JERSEY**

Sample No.	Route	Auto	% of Total	Passenger Pickup	Work Pickup	Total Pickup	% of Total	Passenger Van	Work Van	Total Van	% of Total	Auto Pickup and Van	% of Total	Light Truck	Heavy Truck	Total Truck	% of Total	Bus	% of Total	Total
Burlington County																				
1	PA-NJ TPKE CONN	12,064	71.1%	528	425	953	5.6%	473	569	1,042	6.1%	14,059	82.8%	1,186	1,657	2,843	16.7%	76	0.4%	16,978
2	CR 626	9,231	78.5%	582	312	894	7.6%	785	253	1,038	8.8%	11,163	94.9%	228	204	432	3.7%	163	1.4%	11,758
3	CR 669	1,093	78.0%	136	16	152	10.8%	31	22	53	3.8%	1,298	92.6%	23	1	24	1.7%	80	5.7%	1,402
4	CR 600	9,099	84.8%	357	272	629	5.9%	137	589	726	6.8%	10,454	97.4%	114	82	196	1.8%	82	0.8%	10,732
5	CR 668	255	75.2%	29	7	36	10.6%	12	5	17	5.0%	308	90.9%	12	14	26	7.7%	5	1.5%	339
6	CR 624	2,071	77.0%	233	92	325	12.1%	69	44	113	4.2%	2,509	93.3%	89	72	161	6.0%	20	0.7%	2,690
7	MANSFIELD-GTOWN RD	621	78.3%	48	20	68	8.6%	27	22	49	6.2%	738	93.1%	14	0	14	1.8%	41	5.2%	793
		34,434	77.0%	1,913	1,144	3,057	6.8%	1,534	1,504	3,038	6.8%	40,529	90.7%	1,666	1,657	3,696	8.3%	467	1.0%	44,692
Camden County																				
8	NEW JERSEY TPKE	4,626	74.4%	315	186	501	8.1%	295	221	516	8.3%	5,843	90.7%	219	319	538	8.6%	40	0.6%	6,221
9	US 30	2,456	76.3%	172	143	315	9.8%	167	81	248	7.7%	3,019	93.8%	101	74	175	5.4%	26	0.8%	3,220
10	NJ 154	6,154	88.4%	175	163	338	4.9%	131	143	274	3.9%	6,766	97.2%	74	36	110	1.6%	88	1.3%	6,964
11	CR 534	7,597	76.1%	671	358	1,029	10.3%	630	231	861	8.6%	9,487	95.0%	295	120	415	4.2%	80	0.8%	9,982
12	CR 536	1,699	64.8%	171	225	396	15.1%	200	113	313	11.9%	2,408	91.9%	87	62	149	5.7%	64	2.4%	2,621
13	CR 727	1,020	79.2%	86	28	114	8.9%	26	58	84	6.5%	1,218	94.6%	28	10	38	3.0%	32	2.5%	1,288
14	4TH ST	318	80.9%	12	7	19	4.8%	30	10	40	10.2%	377	95.9%	10	5	15	3.8%	1	0.3%	393
		23,870	77.8%	1,602	1,110	2,712	8.8%	1,479	857	2,336	7.6%	28,918	94.2%	814	319	1,440	4.7%	331	1.1%	30,689
Gloucester County																				
15	I-295	6,388	58.8%	417	642	1,059	9.8%	258	676	934	8.6%	8,381	77.2%	1,478	909	2,387	22.0%	87	0.8%	10,855
16	US 322	7,616	63.9%	858	751	1,609	13.5%	506	918	1,424	11.9%	10,649	89.3%	699	430	1,129	9.5%	148	1.2%	11,926
17	CR 534	10,171	72.2%	444	1,124	1,568	11.1%	354	1,387	1,741	12.4%	13,480	95.7%	271	241	512	3.6%	89	0.6%	14,081
18	US 130	2,064	74.4%	273	76	349	12.6%	78	60	138	5.0%	2,551	92.0%	50	144	194	7.0%	28	1.0%	2,773
19	CR 655	2,590	75.5%	254	86	340	9.9%	252	111	363	10.6%	3,293	96.0%	65	42	107	3.1%	30	0.9%	3,430
20	MANTUA AVE	668	75.1%	99	24	123	13.8%	22	17	39	4.4%	830	93.3%	19	40	59	6.6%	1	0.1%	890
21	WALTERS RD	763	79.1%	102	28	130	13.5%	23	14	37	3.8%	930	96.4%	21	11	32	3.3%	3	0.3%	965
		30,260	67.4%	2,447	2,731	5,178	11.5%	1,493	3,183	4,676	10.4%	40,114	89.3%	2,603	909	4,420	9.8%	386	0.9%	44,920
Mercer County																				
22	US 1 TOLL BOOTH	11,079	69.0%	410	839	1,249	7.8%	257	1,610	1,867	11.6%	14,195	88.4%	386	1,423	1,809	11.3%	58	0.4%	16,062
23	US 206	10,292	82.8%	451	335	786	6.3%	243	318	561	4.5%	11,639	93.7%	225	306	531	4.3%	253	2.0%	12,423
24	NOTTINGHAM WAY	1,281	75.0%	54	34	88	5.2%	108	75	183	10.7%	1,552	90.9%	43	2	45	2.6%	110	6.4%	1,707
25	PENNINGTON RD	1,172	86.5%	44	37	81	6.0%	19	24	43	3.2%	1,296	95.6%	21	18	39	2.9%	20	1.5%	1,355
26	PERRINEVILLE RD	357	76.6%	38	13	51	10.9%	15	13	28	6.0%	436	93.6%	12	15	27	5.8%	3	0.6%	466
27	VILLAGE RD	1,502	87.7%	79	33	112	6.5%	14	29	43	2.5%	1,657	96.8%	22	9	31	1.8%	24	1.4%	1,712
28	HIBBEN RD	618	80.4%	54	15	69	9.0%	11	8	19	2.5%	706	91.8%	12	1	13	1.7%	50	6.5%	769
		26,301	76.2%	1,130	1,306	2,436	7.1%	667	2,077	2,744	8.0%	31,481	91.3%	721	1,423	2,495	7.2%	518	1.5%	34,494

**TABLE A-3 PHASE III - FOLLOW UP SURVEY
VEHICLE OCCUPANCY BY VEHICLE TYPE FOR SURVEY LOCATIONS IN NEW JERSEY**

Sample No.	Route	Auto	Passenger Pickup	Work Pickup	Passenger Van	Work Van	Auto, Pickup and Van	Light Truck	Heavy Truck	Bus	All Vehicles
Burlington County											
1	PA-NJ TPKE CONN	1.21	1.16	1.20	1.20	1.21	1.21	1.09	1.01	10.99	1.22
2	CR 626	1.22	1.24	1.35	1.24	1.37	1.23	1.17	1.16	7.55	1.31
3	CR 669	1.23	1.18	1.13	1.26	1.36	1.22	1.17	1.00	7.56	1.58
4	CR 600	1.19	1.09	1.18	1.25	1.16	1.19	1.15	1.46	7.99	1.24
5	CR 668	1.25	1.14	1.14	1.25	1.60	1.25	1.08	1.07	7.00	1.32
6	CR 624	1.23	1.12	1.14	1.33	1.11	1.22	1.08	1.01	6.75	1.25
7	MANSFIELD-G'TOWN R	1.21	1.19	1.30	1.19	1.18	1.21	1.29	-	7.80	1.55
		1.21	1.17	1.23	1.23	1.22	1.21	1.11	1.04	8.17	1.27
Camden County											
8	NEW JERSEY TPKE	1.20	1.18	1.12	1.18	1.20	1.19	1.17	1.01	9.88	1.24
9	US 30	1.23	1.16	1.18	1.30	1.10	1.22	1.13	1.12	7.12	1.26
10	NJ 154	1.22	1.18	1.17	1.37	1.24	1.22	1.22	1.06	5.80	1.28
11	CR 534	1.23	1.27	1.28	1.32	1.32	1.24	1.22	1.15	8.63	1.30
12	CR 536	1.23	1.20	1.20	1.30	1.19	1.23	1.20	1.02	8.98	1.41
13	CR 727	1.24	1.12	1.07	1.35	1.12	1.22	1.18	1.20	7.19	1.37
14	4TH ST	1.28	1.50	1.29	1.40	1.20	1.29	1.30	1.20	25.00	1.35
		1.22	1.22	1.20	1.29	1.22	1.22	1.19	1.06	7.89	1.29
Gloucester County											
15	I-295	1.20	1.14	1.17	1.17	1.22	1.20	1.03	1.05	10.92	1.24
16	US 322	1.23	1.18	1.17	1.13	1.23	1.22	1.07	1.12	6.79	1.27
17	CR 534	1.23	1.22	1.24	1.14	1.27	1.23	1.07	1.15	11.07	1.29
18	US 130	1.22	1.19	1.21	1.22	1.18	1.22	1.12	1.06	6.25	1.26
19	CR 655	1.22	1.27	1.34	1.35	1.35	1.24	1.51	1.10	11.83	1.34
20	MANTUA AVE	1.24	1.22	1.25	1.41	1.12	1.24	1.26	1.00	5.00	1.23
21	WALTERS RD	1.24	1.20	1.50	1.39	1.29	1.25	1.19	1.18	8.33	1.27
		1.22	1.19	1.21	1.19	1.25	1.22	1.06	1.08	9.07	1.27
Mercer County											
22	US 1 TOLL BOOTH	1.22	1.20	1.21	1.14	1.21	1.22	1.15	1.02	7.93	1.22
23	US 206	1.23	1.16	1.18	1.33	1.15	1.22	1.14	1.02	7.81	1.35
24	NOTTINGHAM WAY	1.22	1.17	1.15	1.25	1.25	1.22	1.21	1.00	6.91	1.59
25	PENNINGTON RD	1.23	1.16	1.35	1.32	1.08	1.23	1.10	1.06	7.25	1.31
26	PERRINEVILLE RD	1.29	1.29	1.15	1.13	1.31	1.28	1.08	1.13	6.67	1.30
27	VILLAGE RD	1.23	1.16	1.24	1.21	1.41	1.23	1.23	1.22	6.88	1.31
28	HIBBEN RD	1.23	1.13	1.33	1.27	1.13	1.23	1.33	1.00	6.70	1.58
		1.23	1.18	1.20	1.23	1.21	1.22	1.15	1.02	7.45	1.30

TABLE A-4
PHASE IV - FOLLOW UP SURVEY
VEHICLE OCCUPANCY SURVEY LOCATIONS IN PENNSYLVANIA
BY HIGHWAY FUNCTIONAL CLASS AND COUNTY

Sample No.	Route	Survey Location	FHWA Functional Class	Code Number	Area Type	Average Daily Traffic (ADT)	Total Sample	Percent of ADT
BUCKS COUNTY								
1	I-95	Bet PA 332 & Taylorsville Rd	Interstate	11	Urban	51,567	21,935	42.5%
2	PA 263	Bet PA 132 & Roberts Rd	Principal Arterial	14	Urban	27,284	11,648	42.7%
3	Levittown Pkwy	Bet Trenton Rd & Hood Blvd	Minor Arterial	16	Urban	20,428	6,038	29.6%
4	Trevoise Rd	Bet County Line Rd & Lukens St	Collector	17	Urban	6,450	2,326	36.1%
5	Mayflower Av	Bet Donallen & Declaration Drs	Local	19	Urban	1,956	332	17.0%
6	PA 309	Bet State Rd & PA 152	Other Expressway	2	Rural	34,312	12,793	37.3%
7	PA 32, River Rd	Bet Brownsburg & Lurgan Rds	Minor Arterial	6	Rural	6,280	2,424	38.6%
8	Aquetong Rd	Bet Covered Brgd & Old Windy Bush Rds	Major Collector	7	Rural	1,637	966	59.0%
9	Callowhill Rd	Bet Ferry & Creek Rds	Minor Collector	8	Rural	2,363	1,967	83.2%
10	Creamery Rd	Bet Kumry & Trumbauersville Rd	Local	9	Rural	2,567	813	31.7%
CHESTER COUNTY								
11	US 202	Bet King Rd & RR Overpass	Other Expressway	12	Urban	38,035	17,637	46.4%
12	PA 100	Bet Gordon Dr & PA 113	Principal Arterial	14	Urban	24,208	9,397	38.8%
13	PA 252	Bet Contention Ln & Valley Forge Rd	Minor Arterial	16	Urban	11,219	5,833	52.0%
14	Hares Hill Rd	Bet Miller Rd & PA 23	Collector	17	Urban	2,876	1,146	39.8%
15	Lincoln Av	Bet Point Rd & Garfield St	Local	19	Urban	2,218	1,227	55.3%
16	I-76, PA Tpk	Bet Interchanges 22 & 23	Interstate	1	Rural	31,564	12,553	39.8%
17	PA 724	Bet Anderson & Wells Rds	Minor Arterial	6	Rural	11,602	3,928	33.9%
18	Strasburg Rd	Bet PA 372 & Wagner Lyons Rd	Major Collector	7	Rural	3,881	970	25.0%
19	Oxford Rd	Bet PA 896 & Hutchinson Rd	Minor Collector	8	Rural	2,045	961	47.0%
20	Woodchuck Way	Bet US 1 & Turkey Hollow Rd	Local	9	Rural	915	205	22.4%

TABLE A-4 (cont.)
PHASE IV - FOLLOW UP SURVEY
VEHICLE OCCUPANCY SURVEY LOCATIONS IN PENNSYLVANIA
BY HIGHWAY FUNCTIONAL CLASS AND COUNTY

Sample No. Route	Survey Location	FHWA Functional Class	Code Number	Area Type	Average Daily Traffic (ADT)	Total Sample	Percent of ADT
DELAWARE COUNTY							
21 I-476	Bet US 1 & PA 3	Interstate	11	Urban	69,200	33,101	47.8%
22 US 1	Bet Baltimore Pike & PA 252	Other Expressway	12	Urban	37,242	16,740	44.9%
23 Baltimore Pike	Bet North Av & Norwinden Dr	Principal Arterial	14	Urban	29,608	11,792	39.8%
24 Burmont Rd	Bet State Rd & Woodland Av	Minor Arterial	16	Urban	11,590	2,611	22.5%
25 Meetinghouse Rd	Bet Rogers Av & Locust St	Minor Arterial	16	Urban	6,916	2,977	43.0%
26 Beatty Rd	Bet PA 252 & Baltimore Pike	Collector	17	Urban	4,500	1,636	36.4%
27 Cleveland Av	Bet Printz & Elmwood Avs	Local	19	Urban	2,280	493	21.6%
28 Walnut Av	Bet Oak Ln & Radnor Rd	Local	19	Urban	1,536	762	49.6%
29 Smith Bridge Rd	Bet Ridge Rd & Wildness Way	Major Collector	7	Rural	947	532	56.2%
MONTGOMERY COUNTY							
30 I-476	Bet Germantown Pike EB & WB Ramps	Interstate	11	Urban	75,000	33,365	44.5%
31 PA 611	Bet Meetinghouse Rd & PA 463	Principal Arterial	14	Urban	23,458	7,868	33.5%
32 Montgomery Av	Bet I-76 & Upper Gulph Rd	Minor Arterial	16	Urban	18,643	7,187	38.6%
33 Terwood Rd	Bet PA 63 & Fetter's Mill Rd	Collector	17	Urban	5,982	4,541	75.9%
34 Fairground Rd	Bet Funks & Elroy Rds	Local	19	Urban	2,837	919	32.4%
35 PA 73	Bet Store & Evansburg Rds	Principal Arterial	2	Rural	15,929	6,802	42.7%
36 Whitehall Rd	Bet PA 73 & Bean Rd	Minor Arterial	6	Rural	5,995	1,790	29.9%
37 Old Skippack Pike	Bet Shelley & Freeman School Rds	Major Collector	7	Rural	2,148	1,013	47.2%
38 Limerick Rd	Bet Ridge Pike & Graterford Rd	Minor Collector	8	Rural	1,322	405	30.6%
39 Bergey Rd	Bet Morwood & Indian Creek Rds	Local	9	Rural	542	181	33.4%

TABLE A-4 (cont.)
PHASE IV - FOLLOW UP SURVEY
VEHICLE OCCUPANCY SURVEY LOCATIONS IN PENNSYLVANIA
BY HIGHWAY FUNCTIONAL CLASS AND COUNTY

Sample No.	Route	Survey Location	FHWA Functional Class	Code Number	Area Type	Average Daily Traffic (ADT)	Total Sample	Percent of ADT
PHILADELPHIA COUNTY								
40	I-676 WB	Bet 22nd & 23rd St Ramps	Interstate	11	Urban	125,000	16,906	13.5%
41	I-95 SB	Bet Center City Off Ramps & Penns Lndg	Interstate	11	Urban	41,900	17,671	42.2%
42	PA 63	Bet US 1 & Thornton Rd	Other Expressway	12	Urban	58,575	19,440	33.2%
43	Broad St NB	Bet Erie Av & Venango St	Principal Arterial	14	Urban	21,840	7,186	32.9%
44	Chestnut St	Bet 34th & 36th Sts	Principal Arterial	14	Urban	21,781	5,782	26.5%
45	Race St	Bet 11th & 12th Sts	Minor Arterial	16	Urban	12,330	3,198	25.9%
46	Allens Ln	Bet Germantown Av & Bryan St	Collector	17	Urban	6,257	1,990	31.8%
47	Cresco Av	Bet Rhawn St & Welsh Rd	Local	19	Urban	2,335	1,405	60.2%
48	Sansom St	Bet 16th & 17th Sts	Local	19	Urban	4,410	1,260	28.6%

**TABLE A-5 PHASE IV - FOLLOW UP SURVEY
VEHICLE OCCUPANCY COUNTS BY VEHICLE TYPE FOR SURVEY LOCATIONS IN PENNSYLVANIA**

Sample No.	Route	Auto	% of Total	Passenger Pickup	Work Pickup	Total Pickup	% of Total	Passenger Van	Work Van	Total Van	% of Total	Auto Pickup and Van	% of Total	Light Truck	Heavy Truck	Total Truck	% of Total	Bus	% of Total	Total
Bucks County																				
1	I-95	19,048	86.8%	539	294	833	3.8%	443	342	785	3.6%	20,666	94.2%	389	831	1,220	5.6%	49	0.2%	21,935
2	PA 263	9,676	83.1%	419	283	702	6.0%	535	236	771	6.6%	11,149	95.7%	216	207	423	3.6%	76	0.7%	11,648
3	LEVITTOWN PKWY	4,696	77.8%	407	99	506	8.4%	483	147	630	10.4%	5,832	96.6%	106	48	154	2.6%	52	0.9%	6,038
4	TREVOSE RD	2,034	87.4%	86	36	122	5.2%	33	38	71	3.1%	2,227	95.7%	47	35	82	3.5%	17	0.7%	2,326
5	MAYFLOWER AVE	293	88.3%	8	5	13	3.9%	5	9	14	4.2%	320	96.4%	4	0	4	1.2%	8	2.4%	332
6	PA 309	8,622	67.4%	1,352	206	1,558	12.2%	1,563	257	1,820	14.2%	12,000	93.8%	308	466	774	6.1%	19	0.1%	12,793
7	PA 32 RIVER RD	2,135	88.1%	102	41	143	5.9%	24	29	53	2.2%	2,331	96.2%	44	29	73	3.0%	20	0.8%	2,424
8	AQUETONG RD	861	89.1%	20	25	45	4.7%	7	15	22	2.3%	928	96.1%	16	15	31	3.2%	7	0.7%	966
9	CALLOWHILL RD	1,744	88.7%	93	28	121	6.2%	31	19	50	2.5%	1,915	97.4%	33	0	33	1.7%	19	1.0%	1,967
10	CREAMERY RD	593	72.9%	117	14	131	16.1%	18	33	51	6.3%	775	95.3%	31	4	35	4.3%	3	0.4%	813
		49,702	81.2%	3,143	1,031	4,174	6.8%	3,142	1,125	4,267	7.0%	58,143	94.9%	1,194	831	2,829	4.6%	270	0.4%	61,242
Chester County																				
11	US 202	13,466	76.4%	880	270	1,150	6.5%	1,519	403	1,922	10.9%	16,538	93.8%	581	483	1,064	6.0%	35	0.2%	17,637
12	PA 100	6,041	64.3%	552	221	773	8.2%	1,406	311	1,717	18.3%	8,531	90.8%	230	616	846	9.0%	20	0.2%	9,397
13	PA 252	4,660	79.9%	197	54	251	4.3%	636	110	746	12.8%	5,657	97.0%	126	31	157	2.7%	19	0.3%	5,833
14	HARES HILL RD	966	84.3%	80	44	124	10.8%	23	15	38	3.3%	1,128	98.4%	16	0	16	1.4%	2	0.2%	1,146
15	LINCOLN AVE	788	64.2%	52	65	117	9.5%	71	46	117	9.5%	1,022	83.3%	13	191	204	16.6%	1	0.1%	1,227
16	PA TPKE	7,468	59.5%	563	143	706	5.6%	1,492	224	1,716	13.7%	9,890	78.8%	541	2,069	2,610	20.8%	53	0.4%	12,553
17	PA 724	2,972	75.7%	422	106	528	13.4%	78	85	163	4.1%	3,663	93.3%	171	83	254	6.5%	11	0.3%	3,928
18	STRASBURG RD	772	79.6%	99	22	121	12.5%	6	12	18	1.9%	911	93.9%	34	22	56	5.8%	3	0.3%	970
19	OXFORD RD	711	74.0%	149	39	188	19.6%	13	21	34	3.5%	933	97.1%	28	0	28	2.9%	0	0.0%	961
20	WOODCHUCK WAY	175	85.4%	2	4	6	2.9%	6	6	12	5.9%	193	94.1%	5	6	11	5.4%	1	0.5%	205
		38,019	70.6%	2,996	968	3,964	7.4%	5,250	1,233	6,483	12.0%	48,466	90.0%	1,745	483	5,246	9.7%	145	0.3%	53,857

**TABLE A-5 (cont.) PHASE IV - FOLLOW UP SURVEY
VEHICLE OCCUPANCY COUNTS BY VEHICLE TYPE FOR SURVEY LOCATIONS IN PENNSYLVANIA**

Sample No.	Route	Auto	% of Total	Passenger Pickup	Work Pickup	Total Pickup	% of Total	Passenger Van	Work Van	Total Van	% of Total	Auto Pickup and Van	% of Total	Light Truck	Heavy Truck	Total Truck	% of Total	Bus	% of Total	Total
Delaware County																				
21	I-476	26,824	81.0%	1,649	619	2,268	6.9%	592	758	1,350	4.1%	30,442	92.0%	952	1,620	2,572	7.8%	87	0.3%	33,101
22	US 1	12,395	74.0%	1,575	454	2,029	12.1%	1,146	515	1,661	9.9%	16,085	96.1%	281	271	552	3.3%	103	0.6%	16,740
23	BALTIMORE PK	8,833	74.9%	1,002	266	1,268	10.8%	1,015	339	1,354	11.5%	11,455	97.1%	103	172	275	2.3%	62	0.5%	11,792
24	BURMONT AVE	2,320	88.9%	76	37	113	4.3%	18	49	67	2.6%	2,500	95.7%	77	11	88	3.4%	23	0.9%	2,611
25	MEETINGHOUSE RD	2,559	86.0%	242	36	278	9.3%	35	34	69	2.3%	2,906	97.6%	36	2	38	1.3%	33	1.1%	2,977
26	BEATTY RD	1,421	86.9%	60	37	97	5.9%	33	38	71	4.3%	1,589	97.1%	38	0	38	2.3%	9	0.6%	1,636
27	CLEVELAND AVE	341	69.2%	37	17	54	11.0%	66	15	81	16.4%	476	96.6%	13	4	17	3.4%	0	0.0%	493
28	WALNUT AVE	533	69.9%	132	23	155	20.3%	55	11	66	8.7%	754	99.0%	8	0	8	1.0%	0	0.0%	762
29	SMITH BRIDGE RD	444	83.5%	45	14	59	11.1%	12	4	16	3.0%	519	97.6%	8	0	8	1.5%	5	0.9%	532
		55,670	78.8%	4,818	1,503	6,321	8.9%	2,972	1,763	4,735	6.7%	66,726	94.5%	1,516	1,620	3,596	5.1%	322	0.5%	70,644
Montgomery County																				
30	I-476	27,575	82.6%	983	540	1,523	4.6%	883	493	1,376	4.1%	30,474	91.3%	705	2,128	2,833	8.5%	58	0.2%	33,365
31	PA 611	5,318	67.6%	489	247	736	9.4%	832	234	1,066	13.5%	7,120	90.5%	335	374	709	9.0%	39	0.5%	7,868
32	MONTGOMERY AVE	6,185	86.1%	225	156	381	5.3%	205	193	398	5.5%	6,964	96.9%	102	90	192	2.7%	31	0.4%	7,187
33	TERWOOD RD	3,973	87.5%	221	90	311	6.8%	63	112	175	3.9%	4,459	98.2%	67	9	76	1.7%	6	0.1%	4,541
34	FAIRGROUND RD	738	80.3%	86	8	94	10.2%	29	21	50	5.4%	882	96.0%	14	23	37	4.0%	0	0.0%	919
35	PA 73	4,296	63.2%	1,366	279	1,665	24.5%	481	175	656	9.6%	6,617	97.3%	119	58	177	2.6%	8	0.1%	6,802
36	WHITEHALL RD	1,192	66.6%	108	28	136	7.6%	362	40	402	22.5%	1,730	96.5%	38	20	58	3.2%	2	0.1%	1,790
37	OLD SKIPPACK PK	864	85.3%	73	28	101	10.0%	14	12	26	2.6%	991	97.8%	9	12	21	2.1%	1	0.1%	1,013
38	LIMERICK RD	308	76.0%	30	22	52	12.8%	20	9	29	7.2%	389	96.0%	15	0	15	3.7%	1	0.2%	405
39	BERGEY RD	113	62.4%	22	12	34	18.8%	26	8	34	18.8%	181	100.0%	0	0	0	0.0%	0	0.0%	181
		50,562	78.9%	3,623	1,410	5,033	7.9%	2,915	1,297	4,212	6.6%	59,807	93.3%	1,404	2,128	4,118	6.4%	146	0.2%	64,071
Philadelphia County																				
40	I-676 WB	12,283	72.7%	549	218	767	4.5%	1,866	594	2,460	14.6%	15,510	91.7%	620	678	1,298	7.7%	98	0.6%	16,906
41	I-95 SB	13,084	74.0%	606	484	1,090	6.2%	654	676	1,330	7.5%	15,504	87.7%	786	1,270	2,056	11.6%	111	0.6%	17,671
42	PA 63	14,046	72.3%	990	443	1,433	7.4%	1,909	620	2,529	13.0%	18,008	92.6%	639	725	1,364	7.0%	68	0.3%	19,440
43	BROAD ST NB	5,965	83.0%	405	79	484	6.7%	288	177	465	6.5%	6,914	96.2%	86	30	116	1.6%	156	2.2%	7,186
44	CHESTNUT ST	4,730	81.8%	297	82	379	6.6%	245	198	443	7.7%	5,552	96.0%	116	28	144	2.5%	86	1.5%	5,782
45	RACE ST	2,322	72.6%	409	72	481	15.0%	207	138	345	10.8%	3,148	98.4%	39	5	44	1.4%	6	0.2%	3,198
46	ALLENS LA	1,787	89.8%	38	18	56	2.8%	26	36	62	3.1%	1,905	95.7%	56	10	66	3.3%	19	1.0%	1,990
47	CRESO AVE	1,072	76.3%	67	73	140	10.0%	90	48	138	9.8%	1,350	96.1%	16	7	23	1.6%	32	2.3%	1,405
48	SANSOM ST	1,127	89.4%	25	9	34	2.7%	35	28	63	5.0%	1,224	97.1%	24	0	24	1.9%	12	1.0%	1,260
		56,416	75.4%	3,386	1,478	4,864	6.5%	5,320	2,515	7,835	10.5%	69,115	92.4%	2,382	678	5,135	6.9%	588	0.8%	74,838

**TABLE A-6 PHASE IV - FOLLOW UP SURVEY
VEHICLE OCCUPANCY BY VEHICLE TYPE FOR SURVEY LOCATIONS IN PENNSYLVANIA**

Sample No.	Route	Auto	Passenger Pickup	Work Pickup	Passenger Van	Work Van	Auto, Pickup and Van	Light Truck	Heavy Truck	Bus	All Vehicles
Bucks County											
1	I-95	1.16	1.10	1.11	1.24	1.10	1.15	1.06	1.01	10.00	1.17
2	PA 263	1.19	1.17	1.13	1.20	1.12	1.19	1.06	1.11	7.57	1.22
3	LEVITTOWN PKWY	1.21	1.12	1.12	1.15	1.12	1.19	1.12	1.06	9.33	1.26
4	TREVOSE RD	1.24	1.14	1.39	1.15	1.21	1.24	1.26	1.11	8.24	1.29
5	MAYFLOWER AVE	1.20	1.00	1.60	1.00	1.11	1.20	1.50	-	11.88	1.46
6	PA 309	1.19	1.07	1.12	1.12	1.09	1.17	1.12	1.03	8.68	1.17
7	PA 32 RIVER RD	1.20	1.12	1.24	1.33	1.28	1.20	1.09	1.21	7.25	1.24
8	AQUETONG RD	1.20	1.20	1.00	1.14	1.40	1.20	1.25	1.40	8.57	1.26
9	CALLOWHILL RD	1.18	1.09	1.11	1.16	1.16	1.17	1.15	-	8.68	1.24
10	CREAMERY RD	1.20	1.18	1.36	1.33	1.15	1.20	1.10	1.00	5.00	1.21
		1.18	1.10	1.14	1.16	1.12	1.17	1.10	1.04	8.65	1.20
Chester County											
11	US 202	1.16	1.14	1.17	1.08	1.21	1.16	1.14	1.08	8.14	1.17
12	PA 100	1.16	1.11	1.14	1.24	1.10	1.17	1.15	1.02	6.25	1.17
13	PA 252	1.20	1.14	1.19	1.31	1.23	1.21	1.34	1.06	6.21	1.23
14	HARES HILL RD	1.24	1.34	1.50	1.52	1.13	1.26	1.13	-	5.00	1.26
15	LINCOLN AVE	1.20	1.10	1.20	1.30	1.22	1.20	1.00	1.16	5.00	1.19
16	PA TPKE	1.18	1.23	1.24	1.23	1.12	1.19	1.10	1.02	9.62	1.19
17	PA 724	1.18	1.09	1.09	1.24	1.08	1.17	1.12	1.07	7.27	1.18
18	STRASBURG RD	1.19	1.15	1.23	1.00	1.50	1.19	1.06	1.00	8.33	1.20
19	OXFORD RD	1.23	1.19	1.33	1.38	1.24	1.23	1.18	-	-	1.23
20	WOODCHUCK WAY	1.25	1.00	1.50	1.50	1.33	1.26	1.00	1.17	5.00	1.27
		1.18	1.15	1.19	1.20	1.16	1.18	1.14	1.04	8.02	1.19
Delaware County											
21	I-476	1.15	1.16	1.15	1.28	1.14	1.15	1.09	1.02	7.82	1.16
22	US 1	1.17	1.31	1.13	1.26	1.15	1.18	1.10	1.01	7.48	1.22
23	BALTIMORE PK	1.21	1.26	1.17	1.27	1.17	1.22	1.14	1.17	8.87	1.26
24	BURMONT AVE	1.20	1.09	1.43	1.28	1.24	1.20	1.17	1.36	7.61	1.26
25	MEETINGHOUSE RD	1.21	1.13	1.25	1.20	1.18	1.21	1.22	1.00	7.27	1.27
26	BEATTY RD	1.23	1.15	1.16	1.48	1.08	1.22	1.24	-	6.11	1.25
27	CLEVELAND AVE	1.21	1.14	1.59	1.38	1.40	1.25	1.69	1.75	-	1.26
28	WALNUT AVE	1.22	1.17	1.13	1.35	1.18	1.22	1.13	-	-	1.22
29	SMITH BRIDGE RD	1.23	1.29	1.29	1.25	1.00	1.24	1.38	-	6.00	1.28
		1.17	1.23	1.16	1.28	1.15	1.18	1.11	1.04	7.76	1.20

**TABLE A-6 (cont.) PHASE IV - FOLLOW UP SURVEY
VEHICLE OCCUPANCY BY VEHICLE TYPE FOR SURVEY LOCATIONS IN PENNSYLVANIA**

Sample No.	Route	Auto	Passenger Pickup	Work Pickup	Passenger Van	Work Van	Auto, Pickup and Van	Light Truck	Heavy Truck	Bus	All Vehicles
Montgomery County											
30	I-476	1.16	1.10	1.12	1.11	1.10	1.15	1.05	1.01	7.24	1.15
31	PA 611	1.25	1.11	1.20	1.21	1.23	1.23	1.21	1.05	11.15	1.27
32	MONTGOMERY AVE	1.19	1.14	1.20	1.15	1.13	1.18	1.22	1.01	8.06	1.21
33	TERWOOD RD	1.20	1.10	1.14	1.33	1.07	1.19	1.25	1.00	7.50	1.20
34	FAIRGROUND RD	1.20	1.10	1.63	1.17	1.33	1.20	1.00	1.17	-	1.19
35	PA 73	1.18	1.12	1.17	1.22	1.14	1.17	1.13	1.07	9.38	1.18
36	WHITEHALL RD	1.21	1.13	1.29	1.23	1.33	1.21	1.34	1.05	17.50	1.23
37	OLD SKIPPACK PK	1.20	1.14	1.25	1.14	1.25	1.20	1.00	1.42	10.00	1.21
38	LIMERICK RD	1.23	1.17	1.27	1.75	1.11	1.25	1.07	-	5.00	1.25
39	BERGEY RD	1.23	1.27	1.33	1.23	1.25	1.24	-	-	-	1.24
		1.18	1.11	1.17	1.19	1.14	1.17	1.13	1.02	8.73	1.18
Philadelphia County											
40	I-676 WB	1.15	1.11	1.16	1.17	1.23	1.16	1.08	1.02	10.46	1.20
41	I-95 SB	1.16	1.24	1.21	1.34	1.13	1.18	1.01	1.02	9.10	1.21
42	PA 63	1.17	1.09	1.13	1.16	1.14	1.16	1.16	1.04	5.62	1.17
43	BROAD ST NB	1.23	1.28	1.35	1.42	1.28	1.25	1.40	1.23	9.23	1.42
44	CHESTNUT ST	1.18	1.11	1.20	1.17	1.15	1.18	1.18	1.25	10.06	1.31
45	RACE ST	1.22	1.31	1.18	1.47	1.20	1.25	1.18	1.00	5.83	1.26
46	ALLENS LA	1.17	1.08	1.44	1.35	1.42	1.18	1.34	1.20	7.63	1.25
47	CRESO AVE	1.21	1.27	1.29	1.42	1.21	1.23	1.25	1.29	5.00	1.31
48	SANSOM ST	1.24	1.28	1.22	1.31	1.29	1.24	1.17	-	9.58	1.32
		1.18	1.18	1.19	1.22	1.18	1.18	1.11	1.03	8.80	1.23

TABLE A-7
COMBINED SURVEY
VEHICLE OCCUPANCY SURVEY LOCATIONS IN NEW JERSEY
BY HIGHWAY FUNCTIONAL CLASS AND COUNTY

Sample No.	Route	Survey Location	FHWA Functional Class	Code Number	Area Type	Average Daily Traffic (ADT)	Total Sample	Percent of ADT
BURLINGTON COUNTY								
1	I-295	Bet Tr 541 & Tr 656	Interstate	11	Urban	50,600	24,529	48.5%
2	PA-NJ Tpk Conn	Bet US 130 & NJ Tpk	Other Expressway	2	Rural	26,500	30,712	115.9%
3	US 206	Bet Tr 642 & NJ 70	Principal Arterial	2	Rural	15,400	8,559	55.6%
4	CR 541	Bet I-295 & NJ Tpk	Principal Arterial	14	Urban	30,000	22,677	75.6%
5	CR 626	Bet I-295 & Tr 637	Principal Arterial	14	Urban	16,300	22,000	135.0%
6	CR 669	Bet Pointville Rd & Tr 530	Minor Arterial	6	Rural	3,200	4,385	137.0%
7	CR 636	Bet Tr 613 & I-295	Minor Arterial	16	Urban	6,300	3,695	58.7%
8	CR 600	Bet NJ 70 & Cropwell Rd	Minor Arterial	16	Urban	17,600	19,044	108.2%
9	CR 677	Bet Tr 660 & Tr 528	Major Collector	7	Rural	3,100	1,695	54.7%
10	CR 668	Bet Tr 669 & Tr 630	Minor Collector	8	Rural	2,500	2,388	95.5%
11	CR 624	Bet Tr 543 & Bridgeboro Rd.	Collector	17	Urban	3,500	4,603	131.5%
12	CR 678	Bet NJ Tpk & US 206	Local	9	Rural	500	389	77.8%
13	Mansfield-G'town Rd	Bet US 206 & NJ 68	Local	9	Rural	1,700	1,353	79.6%
14	Collins Ln	Bet Fork Landing Rd & N Coles Av	Local	19	Urban	1,600	875	54.7%
CAMDEN COUNTY								
15	New Jersey Tpk	at Interchange #3	Freeway/Expressway	12	Urban	8,600	11,799	137.2%
16	Atlantic City Expwy	Bet Freedom & Malaga Rds.	Freeway/Expressway	12	Urban	38,800	10,832	27.9%
17	US 30	Bet Walker Rd & Atlantic Co Line	Principal Arterial	2	Rural	11,100	10,933	98.5%
18	NJ 168	Bet I-295 & Tr 659	Principal Arterial	14	Urban	25,400	18,474	72.7%
19	NJ 154	Bet Evans Mill Rd & NJ 70	Principal Arterial	14	Urban	16,400	17,946	109.4%
20	CR 561	Bet NJ 73 & Tr 710	Minor Arterial	6	Rural	4,100	2,716	66.2%
21	CR 534	Bet Tr 683 & Tr 673	Minor Arterial	16	Urban	13,200	19,396	146.9%
22	CR 536	Bet Tr 716 & Church Av	Major Collector	7	Rural	3,500	4,367	124.8%
23	CR 723	Bet Tr 726 & Tr 561	Minor Collector	8	Rural	2,100	1,387	66.0%
24	CR 715	Bet Tr 534 & Raritan Av	Collector	17	Urban	1,600	1,117	69.8%
25	CR 727	Bet Columbia & Cornell Aves.	Collector	17	Urban	4,800	4,199	87.5%
26	Pestleton Rd	Bet Tr 536 & Wharton Av	Local	9	Rural	1,000	652	65.2%
27	4th Av	Bet Evergreen & Elm Aves	Local	19	Urban	900	845	93.9%

TABLE A-7 (cont.)
COMBINED SURVEY
VEHICLE OCCUPANCY SURVEY LOCATIONS IN NEW JERSEY
BY HIGHWAY FUNCTIONAL CLASS AND COUNTY

Sample No.	Route	Survey Location	FHWA Functional Class	Code Number	Area Type	Average Daily Traffic (ADT)	Total Sample	Percent of ADT
GLOUCESTER COUNTY								
28	I-295	Bet Salem Co Line & Tr 620	Interstate	1	Rural	29,000	24,067	83.0%
29	NJ 55	Bet Tr 553 & NJ 47	Freeway/Expressway	12	Urban	43,500	21,870	50.3%
30	US 322	Bet Tr 635 & Tr 609	Principal Arterial	2	Rural	14,400	20,592	143.0%
31	CR 553	Bet Cooper St & Barber Rd	Principal Arterial	14	Urban	20,700	7,078	34.2%
32	CR 534	Bet Tr 553 & NJ Tpk	Principal Arterial	14	Urban	15,700	26,035	165.8%
33	US 130	Bet Salem Co Line & Center Square Rd	Minor Arterial	6	Rural	5,400	5,557	102.9%
34	NJ 45	Bet Tr 678 & Tr 632	Minor Arterial	16	Urban	13,100	9,563	73.0%
35	CR 655	Bet NJ 42 & Tr 654	Minor Arterial	16	Urban	10,200	11,251	110.3%
36	CR 555	Bet Tr 538 & Tr 659	Major Collector	7	Rural	5,100	2,822	55.3%
37	CR 667	Bet Tr 619 & Tr 553	Minor Collector	8	Rural	1,600	619	38.7%
38	Mantua Av	Bet NJ 44 & 2nd St	Collector	17	Urban	2,700	2,288	84.7%
39	Walters Rd	Bet Tr 667 & US 322	Local	9	Rural	1,100	1,527	138.8%
40	Crafton Av	Bet Oak Crest Av & Highland Ter	Local	19	Urban	700	444	63.4%
MERCER COUNTY								
41	I-195	Bet Interchanges 3 & 4	Interstate	11	Urban	30,400	17,622	58.0%
42	US 1 Toll Booth	Bet NJ & PA	Freeway/Expressway	12	Urban	35,000	29,614	84.6%
43	NJ 31	Bet Tr 612 & Yard Rd	Principal Arterial	2	Rural	14,500	8,008	55.2%
44	US 130	Bet Burlington Co Line & Arlington Av	Principal Arterial	14	Urban	28,400	15,169	53.4%
45	US 206	Bet Fairfield Av & Eggert Crossing Rd	Principal Arterial	14	Urban	16,700	21,410	128.2%
46	CR 526	Bet I-195 & Spring Garden Rd	Minor Arterial	6	Rural	6,400	3,482	54.4%
47	CR 539	Bet Airport & Conover Rds	Minor Arterial	16	Urban	4,800	2,896	60.3%
48	Nottingham Way	Bet Tr 535 & Berkley St	Minor Arterial	16	Urban	7,900	8,276	104.8%
49	Pennington Rd	Bet Moore's Mill Rd & Tr 569	Major Collector	7	Rural	3,200	3,521	110.0%
50	Perrineville Rd	Bet Tr 641 & Voelbel Rd	Minor Collector	8	Rural	1,500	967	64.5%
51	Cranbury Rd	Bet Rabbit Hill Rd & Middlesex C. Line	Collector	17	Urban	4,500	3,369	74.9%
52	Village Rd	Bet Tr 533 & N Post Rd	Collector	17	Urban	6,600	6,820	103.3%
53	Park Av	Bet Nottingham Way & Maple Shade Av	Local	19	Urban	800	423	52.9%
54	Hibben Rd	Bet US 206 & Tr 583	Local	19	Urban	1,300	1,625	125.0%

TABLE A-8
COMBINED SURVEY
VEHICLE OCCUPANCY SURVEY LOCATIONS IN PENNSYLVANIA
BY HIGHWAY FUNCTIONAL CLASS AND COUNTY

Sample No.	Route	Survey Location	FHWA Functional Class	Code Number	Area Type	Average Daily Traffic (ADT)	Total Sample	Percent of ADT
BUCKS COUNTY								
1	I-95	Bet PA 332 & Taylorsville Rd	Interstate	11	Urban	51,567	36,086	70.0%
2	PA 263	Bet PA 132 & Roberts Rd	Principal Arterial	14	Urban	27,284	29,127	106.8%
3	Levittown Pkwy	Bet Trenton Rd & Hood Blvd	Minor Arterial	16	Urban	20,428	19,584	95.9%
4	Trevoise Rd	Bet County Line Rd & Lukens St	Collector	17	Urban	6,450	3,295	51.1%
5	Mayflower Av	Bet Donnallen & Declaration Drs	Local	19	Urban	1,956	1,348	68.9%
6	PA 309	Bet State Rd & PA 152	Other Expressway	2	Rural	34,312	23,143	67.4%
7	PA 611	Bet Durham & Farm School Rds	Principal Arterial	2	Rural	11,135	4,362	39.2%
8	PA 32, River Rd	Bet Brownsburg & Lurgan Rds	Minor Arterial	6	Rural	6,280	3,753	59.8%
9	Aquetong Rd	Bet Covered Brdg & Old Windy Bush Rds	Major Collector	7	Rural	1,637	1,764	107.8%
10	Callowhill Rd	Bet Ferry & Creek Rds	Minor Collector	8	Rural	2,363	3,759	159.1%
11	Creamery Rd	Bet Kurny & Trumbauersville Rd	Local	9	Rural	2,567	1,178	45.9%
CHESTER COUNTY								
12	US 202	Bet King Rd & RR Overpass	Other Expressway	12	Urban	38,035	34,134	89.7%
13	PA 100	Bet Gordon Dr & PA 113	Principal Arterial	14	Urban	24,208	30,371	125.5%
14	PA 252	Bet Contention Ln & Valley Forge Rd	Minor Arterial	16	Urban	11,219	15,152	135.1%
15	Hares Hill Rd	Bet Miller Rd & PA 23	Collector	17	Urban	2,876	2,034	70.7%
16	Lincoln Av	Bet Point Rd & Garfield St	Local	19	Urban	2,218	2,456	110.7%
17	I-76, PA Tpke	Bet Interchanges 22 & 23	Interstate	1	Rural	31,564	21,378	67.7%
18	US 322	Bet Chestnut Tree & Cupola Rds	Principal Arterial	2	Rural	10,600	4,178	39.4%
19	PA 724	Bet Anderson & Wells Rds	Minor Arterial	6	Rural	11,602	7,756	66.9%
20	Strasburg Rd	Bet PA 372 & Wagner Lyons Rd	Major Collector	7	Rural	3,881	1,474	38.0%
21	Oxford Rd	Bet PA 896 & Hutchinson Rd	Minor Collector	8	Rural	2,045	2,114	103.4%
22	Woodchuck Way	Bet US 1 & Turkey Hollow Rd	Local	9	Rural	915	344	37.6%

TABLE A-8 (cont.)
COMBINED SURVEY
VEHICLE OCCUPANCY SURVEY LOCATIONS IN PENNSYLVANIA
BY HIGHWAY FUNCTIONAL CLASS AND COUNTY

Sample No.	Survey Location	FHWA Functional Class	Code Number	Area Type	Average Daily Traffic (ADT)	Total Sample	Percent of ADT
DELAWARE COUNTY							
23	I-476	Bet US 1 & PA 3	11	Urban	69,200	94,815	137.0%
24	I-95 NB	Bet I-476 Ramps	11	Urban	40,500	29,982	74.0%
25	US 1	Bet Baltimore Pike & PA 252	12	Urban	37,242	29,965	80.5%
26	PA 3	Bet Boot Rd & PA 252	14	Urban	26,966	8,570	31.8%
27	Baltimore Pike	Bet North Av & Norwinden Dr	14	Urban	29,608	22,768	76.9%
28	Burmout Rd	Bet State Rd & Woodland Av	16	Urban	11,590	5,618	48.5%
29	Meetinghouse Rd	Bet Rogers Av & Locust St	16	Urban	6,916	5,537	80.1%
30	Beatty Rd	Bet PA 252 & Baltimore Pike	17	Urban	4,500	5,108	113.5%
31	Cleveland Av	Bet Printz & Elmwood Avs	19	Urban	2,280	1,391	61.0%
32	Walnut Av	Bet Oak Ln & Radnor Rd	19	Urban	1,536	1,704	110.9%
33	Smith Bridge Rd	Bet Ridge Rd & Wildness Way	7	Rural	947	1,261	133.2%
MONTGOMERY COUNTY							
34	I-476	Bet Germantown Pike EB & WB Ramps	11	Urban	75,000	66,385	88.5%
35	PA 611	Bet Meetinghouse Rd & PA 463	14	Urban	23,458	25,310	107.9%
36	Montgomery Av	Bet I-76 & Upper Gulph Rd	16	Urban	18,643	23,585	126.5%
37	Terwood Rd	Bet PA 63 & Fetter's Mill Rd	17	Urban	5,982	8,150	136.2%
38	Fairground Rd	Bet Funks & Elroy Rds	19	Urban	2,837	2,511	88.5%
39	US 422	Bet Township Line & Lewis Rd	2	Rural	41,099	13,310	32.4%
40	PA 73	Bet Store & Evansburg Rds	2	Rural	15,929	13,139	82.5%
41	Whitehall Rd	Bet PA 73 & Bean Rd	6	Rural	5,995	3,996	66.7%
42	Old Skipack Pike	Bet Shelley & Freeman School Rds	7	Rural	2,148	1,749	81.4%
43	Limerick Rd	Bet Ridge Pike & Graterford Rd	8	Rural	1,322	783	59.2%
44	Bergey Rd	Bet Morwood & Indian Creek Rds	9	Rural	542	377	69.6%

TABLE A-8 (cont.)
COMBINED SURVEY
VEHICLE OCCUPANCY SURVEY LOCATIONS IN PENNSYLVANIA
BY HIGHWAY FUNCTIONAL CLASS AND COUNTY

Sample No.	Route	Survey Location	FHWA Functional Class	Code Number	Area Type	Average Daily Traffic (ADT)	Total Sample	Percent of ADT
PHILADELPHIA COUNTY								
45	I-676 WB	Bet 22nd & 23rd St Ramps	Interstate	11	Urban	125,000	49,401	39.5%
46	I-95 SB	Bet Center City Off Ramps & Penns Lndg	Interstate	11	Urban	41,900	44,475	106.1%
47	PA 63	Bet US 1 & Thornton Rd	Other Expressway	12	Urban	58,575	56,386	96.3%
48	Broad St NB	Bet Erie Av & Venango St	Principal Arterial	14	Urban	21,840	15,291	70.0%
49	Chestnut St	Bet 34th & 36th Sts	Principal Arterial	14	Urban	21,781	11,225	51.5%
50	PA 291	Bet Lanier Av & Platt Bridge	Principal Arterial	14	Urban	42,973	30,336	70.6%
51	Arch St	Bet 11th & 12th Sts	Minor Arterial	16	Urban	10,977	3,817	34.8%
52	Race St	Bet 11th & 12th Sts	Minor Arterial	16	Urban	12,330	7,074	57.4%
53	Allens Ln	Bet Germantown Av & Bryan St	Collector	17	Urban	6,257	6,025	96.3%
54	Cresco Av	Bet Rhawn St & Welsh Rd	Local	19	Urban	2,335	2,940	125.9%
55	Sansom St	Bet 16th & 17th Sts	Local	19	Urban	4,410	3,925	89.0%

TABLE A-9
COMBINED SURVEY
VEHICLE OCCUPANCY COUNTS BY VEHICLE TYPE
FOR THE DVRPC REGION

Sample No. Route	Auto	% of Total	Passenger Pickup	Work Pickup	Total Pickup	% of Total	Passenger Van	Work Van	Total Van	% of Total	Auto Pickup and Van	% of Total	Light Truck	Heavy Truck	Total Truck	% of Total	Bus	% of Total	Total
New Jersey																			
Burlington County																			
1 I-295	6,238	66.2%	1,100	779	1,879	7.7%	1,226	591	1,817	7.4%	19,934	81.3%	950	3,530	4,480	18.3%	115	0.5%	24,529
2 PA-NJ Tpke Conn	0,696	67.4%	1,120	847	1,967	6.4%	1,246	983	2,229	7.3%	24,892	81.0%	1,906	3,760	5,666	18.4%	154	0.5%	30,712
3 US 206	5,353	62.5%	702	451	1,153	13.5%	638	279	917	10.7%	7,423	86.7%	423	593	1,016	11.9%	120	1.4%	8,559
4 CR 541	6,184	71.4%	1,207	615	1,822	8.0%	2,109	643	2,752	12.1%	20,758	91.5%	714	946	1,660	7.3%	259	1.1%	22,677
5 CR 626	7,237	78.3%	1,119	470	1,589	7.2%	1,492	468	1,960	8.9%	20,786	94.5%	408	430	838	3.8%	376	1.7%	22,000
6 CR 669	3,182	72.6%	456	76	532	12.1%	273	66	339	7.7%	4,053	92.4%	106	11	117	2.7%	215	4.9%	4,385
7 CR 636	2,657	71.9%	558	72	630	17.1%	180	96	276	7.5%	3,563	96.4%	6	125	131	3.5%	1	0.0%	3,695
8 CR 600	6,406	86.1%	530	392	922	4.8%	495	832	1,327	7.0%	18,655	98.0%	162	105	267	1.4%	122	0.6%	19,044
9 CR 677	1,091	64.4%	262	92	354	20.9%	114	63	177	10.4%	1,622	95.7%	46	6	52	3.1%	21	1.2%	1,695
10 CR 668	1,826	76.5%	195	37	232	9.7%	163	42	205	8.6%	2,263	94.8%	28	18	46	1.9%	79	3.3%	2,388
11 CR 624	3,557	77.3%	392	113	505	11.0%	121	83	204	4.4%	4,266	92.7%	152	145	297	6.5%	40	0.9%	4,603
12 CR 678	232	59.6%	70	8	78	20.1%	38	4	42	10.8%	352	90.5%	1	30	31	8.0%	6	1.5%	389
13 Mansfield Rd	996	73.6%	105	32	137	10.1%	58	34	92	6.8%	1,225	90.5%	24	53	77	5.7%	51	3.8%	1,353
14 Collins Ln	757	86.5%	15	6	21	2.4%	64	19	83	9.5%	861	98.4%	11	1	12	1.4%	2	0.2%	875
Total	106,412	72.4%	7,831	3,990	11,821	8.0%	8,217	4,203	12,420	8.5%	130,653	88.9%	4,937	3,530	14,890	10.0%	1,561	1.1%	146,904
Camden County																			
15 NJ Tpke	8,489	71.9%	562	411	973	8.2%	769	424	1,193	10.1%	10,655	90.3%	418	665	1,083	9.2%	61	0.5%	11,799
16 AC Expwy	8,113	74.9%	514	325	839	7.7%	731	312	1,043	9.6%	9,995	92.3%	274	278	552	5.1%	285	2.6%	10,832
17 US 30	8,110	74.2%	800	422	1,222	11.2%	652	312	964	8.8%	10,296	94.2%	368	189	557	5.1%	80	0.7%	10,933
18 NJ 168	3,066	70.8%	1,075	642	1,717	9.3%	1,370	875	2,245	12.2%	17,048	92.3%	671	580	1,251	6.8%	175	0.9%	18,474
19 NJ 154	4,353	80.0%	782	440	1,222	6.8%	1,209	396	1,605	8.9%	17,180	95.7%	336	118	454	2.5%	312	1.7%	17,946
20 CR 561	1,982	73.0%	181	82	263	9.7%	178	60	238	8.8%	2,483	91.4%	68	55	123	4.5%	110	4.1%	2,716
21 CR 534	4,710	75.8%	1,157	807	1,964	10.1%	1,274	474	1,748	9.0%	18,422	95.0%	531	198	729	3.8%	245	1.3%	19,396
22 CR 536	2,852	65.3%	433	291	724	16.6%	295	164	459	10.5%	4,035	92.4%	159	87	246	5.6%	86	2.0%	4,367
23 CR 723	942	67.9%	217	55	272	19.6%	64	28	92	6.6%	1,306	94.2%	28	28	56	4.0%	25	1.8%	1,387
24 CR 715	865	77.4%	107	33	140	12.5%	52	15	67	6.0%	1,072	96.0%	18	4	22	2.0%	23	2.1%	1,117
25 CR 727	3,452	82.2%	270	82	352	8.4%	136	100	236	5.6%	4,040	96.2%	74	22	96	2.3%	63	1.5%	4,199
26 Pestleton Rd	410	62.9%	79	40	119	18.3%	31	17	48	7.4%	577	88.5%	25	9	34	5.2%	41	6.3%	652
27 4th St	636	75.3%	57	24	81	9.6%	86	15	101	12.0%	818	96.8%	14	6	20	2.4%	7	0.8%	845
Total	78,000	74.5%	6,234	3,654	9,888	9.4%	6,847	3,192	10,039	9.6%	97,927	93.6%	2,984	665	5,223	5.0%	1,513	1.4%	104,663

TABLE A-9 (cont.)
COMBINED SURVEY
VEHICLE OCCUPANCY COUNTS BY VEHICLE TYPE
FOR THE DVRPC REGION

Sample No. Route	Auto	% of Total	Passenger Pickup	Work Pickup	Total Pickup	% of Total	Passenger Van	Work Van	Total Van	% of Total	Auto Pickup and Van	% of Total	Light Truck	Heavy Truck	Total Truck	% of Total	Bus	% of Total	Total
Gloucester County																			
28 I-295	3,641	56.7%	1,171	1,154	2,325	9.7%	1,235	1,036	2,271	9.4%	18,237	75.8%	2,053	3,603	5,656	23.5%	174	0.7%	24,067
29 NJ 55	4,525	66.4%	1,327	1,096	2,423	11.1%	2,004	738	2,742	12.5%	19,690	90.0%	672	1,387	2,059	9.4%	121	0.6%	21,870
30 US 322	3,233	64.3%	1,786	1,092	2,878	14.0%	1,198	1,143	2,341	11.4%	18,452	89.6%	987	928	1,915	9.3%	225	1.1%	20,592
31 CR 553	5,229	73.9%	454	294	748	10.6%	659	169	828	11.7%	6,805	96.1%	113	65	178	2.5%	95	1.3%	7,078
32 CR 534	9,030	73.1%	1,222	1,587	2,809	10.8%	1,395	1,646	3,041	11.7%	24,880	95.6%	525	367	892	3.4%	263	1.0%	26,035
33 US 130	3,769	67.8%	567	160	727	13.1%	212	100	312	5.6%	4,808	86.5%	167	514	681	12.3%	68	1.2%	5,557
34 NJ 45	6,841	71.5%	598	344	942	9.9%	1,018	252	1,270	13.3%	9,053	94.7%	294	95	389	4.1%	121	1.3%	9,563
35 CR 655	8,117	72.1%	888	367	1,255	11.2%	979	319	1,298	11.5%	10,670	94.8%	292	158	450	4.0%	131	1.2%	11,251
36 CR 555	1,903	67.4%	347	97	444	15.7%	174	68	242	8.6%	2,589	91.7%	85	65	150	5.3%	83	2.9%	2,822
37 CR 667	401	64.8%	107	16	123	19.9%	43	11	54	8.7%	578	93.4%	21	3	24	3.9%	17	2.7%	619
38 Mantua Ave	1,824	71.0%	233	28	261	11.4%	66	35	101	4.4%	1,986	86.8%	83	170	253	11.1%	49	2.1%	2,288
39 Walters Rd	1,189	77.9%	174	34	208	13.6%	57	22	79	5.2%	1,476	96.7%	27	15	42	2.8%	9	0.6%	1,527
40 Crafton Av	358	80.6%	26	6	32	7.2%	36	5	41	9.2%	431	97.1%	11	1	12	2.7%	1	0.2%	444
Total	89,860	67.2%	8,900	6,275	15,175	11.3%	9,076	5,544	14,620	10.9%	119,655	89.5%	5,330	3,603	12,701	9.5%	1,357	1.0%	133,713
Mercer County																			
41 I-195	1,207	63.6%	1,019	383	1,402	8.0%	1,208	639	1,847	10.5%	14,456	82.0%	648	2,414	3,062	17.4%	104	0.6%	17,622
42 US 1 Toll Booth	1,341	72.1%	1,176	1,000	2,176	7.3%	948	1,876	2,824	9.5%	26,341	88.9%	987	2,190	3,177	10.7%	96	0.3%	29,614
43 NJ 31	4,722	59.0%	653	357	1,010	12.6%	665	289	954	11.9%	6,886	83.5%	577	627	1,204	15.0%	118	1.5%	8,008
44 US 130	0,587	69.8%	925	295	1,220	8.0%	985	314	1,299	8.6%	13,106	86.4%	566	1,469	2,035	13.4%	28	0.2%	15,169
45 US 206	7,301	80.8%	813	532	1,345	6.3%	776	585	1,361	6.4%	20,007	93.4%	421	518	939	4.4%	464	2.2%	21,410
46 CR 526	2,402	69.0%	259	104	363	10.4%	292	86	378	10.9%	3,143	90.3%	115	202	317	9.1%	22	0.6%	3,482
47 CR 539	2,092	72.2%	264	110	374	12.9%	189	107	276	9.5%	2,742	94.7%	88	53	141	4.9%	13	0.4%	2,896
48 Nottingham Way	6,165	74.5%	530	166	696	8.4%	671	222	893	10.8%	7,754	93.7%	206	79	285	3.4%	237	2.9%	8,276
49 Pennington Rd	2,925	83.1%	119	83	202	5.7%	157	74	231	6.6%	3,358	95.4%	70	55	125	3.6%	38	1.1%	3,521
50 Perineville Rd	700	72.4%	82	51	133	13.8%	77	15	92	9.5%	925	95.7%	16	20	36	3.7%	6	0.6%	967
51 Cranbury Rd	2,871	85.2%	135	34	169	5.0%	234	40	274	8.1%	3,314	98.4%	4	1	5	0.1%	50	1.5%	3,369
52 Village Rd	5,439	79.8%	368	104	472	6.9%	518	144	662	9.7%	6,573	96.4%	117	35	152	2.2%	95	1.4%	6,820
53 Park Av	329	77.8%	55	1	56	13.2%	34	1	35	8.3%	420	99.3%	1	1	2	0.5%	1	0.2%	423
54 Hibben Rd	1,238	76.2%	114	76	190	11.7%	89	21	110	6.8%	1,538	94.6%	29	4	33	2.0%	54	3.3%	1,625
Total	89,319	72.5%	6,512	3,296	9,808	8.0%	6,823	4,413	11,236	9.1%	110,363	89.6%	3,845	2,414	11,513	9.3%	1,326	1.1%	123,202
Total for NJ	363,691	71.5%	29,477	17,215	46,692	9.2%	30,963	17,352	48,315	9.5%	458,598	90.2%	17,096	3,530	44,127	8.7%	5,757	1.1%	508,482

TABLE A-9 (cont.)
COMBINED SURVEY
VEHICLE OCCUPANCY COUNTS BY VEHICLE TYPE
FOR THE DVRPC REGION

Sample No.	Route	Auto	% of Total	Passenger Pickup	Work Pickup	Total Pickup	% of Total	Passenger Van	Work Van	Total Van	% of Total	Auto Pickup and Van	% of Total	Light Truck	Heavy Truck	Total Truck	% of Total	Bus	% of Total	Total
Pennsylvania																				
Bucks County																				
1	I-95	1,239	86.6%	883	357	1,240	3.4%	685	417	1,102	3.1%	33,581	93.1%	710	1,611	2,321	6.4%	184	0.5%	36,086
2	PA 263	3,428	80.4%	1,293	554	1,847	6.3%	2,021	560	2,581	8.9%	27,856	95.6%	568	406	974	3.3%	297	1.0%	29,127
3	Levittown Pkwy	6,076	82.1%	1,196	240	1,436	7.3%	1,240	338	1,578	8.1%	19,090	97.5%	248	109	357	1.8%	137	0.7%	19,584
4	Trevoise Rd	2,821	85.6%	185	55	240	7.3%	47	48	95	2.9%	3,156	95.8%	70	48	118	3.6%	21	0.6%	3,295
5	Mayflower Ave	1,107	82.1%	29	37	66	4.9%	95	37	132	9.8%	1,305	96.8%	23	1	24	1.8%	19	1.4%	1,348
6	PA 309	5,869	68.6%	2,434	357	2,791	12.1%	2,468	542	3,010	13.0%	21,670	93.6%	642	765	1,407	6.1%	66	0.3%	23,143
7	PA 611	3,004	68.9%	662	108	770	17.7%	233	54	287	6.6%	4,061	93.1%	136	123	259	5.9%	42	1.0%	4,362
8	PA 32	3,274	87.2%	157	80	237	6.3%	45	39	84	2.2%	3,595	95.8%	74	48	122	3.3%	36	1.0%	3,753
9	Aquetlong Rd	1,519	86.1%	56	45	101	5.7%	61	31	92	5.2%	1,712	97.1%	27	16	43	2.4%	9	0.5%	1,764
10	Callowhill Rd	3,197	85.0%	288	59	347	9.2%	53	48	101	2.7%	3,645	97.0%	52	8	60	1.6%	54	1.4%	3,759
11	Creamery Rd	871	73.9%	154	24	178	15.1%	30	41	71	6.0%	1,120	95.1%	44	7	51	4.3%	7	0.6%	1,178
Total		102,405	80.4%	7,337	1,916	9,253	7.3%	6,978	2,155	9,133	7.2%	120,791	94.8%	2,594	1,611	5,736	4.5%	872	0.7%	127,399
Chester County																				
12	US 202	6,897	78.8%	1,491	479	1,970	5.8%	2,107	759	2,866	8.4%	31,733	93.0%	1,180	1,063	2,243	6.6%	158	0.5%	34,134
13	PA 100	4,071	79.3%	1,204	500	1,704	5.6%	1,929	691	2,620	8.6%	28,395	93.5%	695	1,167	1,862	6.1%	114	0.4%	30,371
14	PA 252	2,720	83.9%	488	169	657	4.3%	1,106	222	1,328	8.8%	14,705	97.0%	292	102	394	2.6%	53	0.3%	15,152
15	Hares Hill Rd	1,685	82.8%	182	58	240	11.8%	46	30	76	3.7%	2,001	98.4%	27	1	28	1.4%	5	0.2%	2,034
16	Lincoln Ave	1,567	63.8%	222	124	346	14.1%	116	75	191	7.8%	2,104	85.7%	91	256	347	14.1%	5	0.2%	2,456
17	PA Tpk	3,543	63.4%	942	232	1,174	5.5%	1,688	308	1,996	9.3%	16,713	78.2%	926	3,620	4,546	21.3%	119	0.6%	21,378
18	US 322	2,754	65.9%	602	116	718	17.2%	244	35	279	6.7%	3,751	89.8%	129	206	335	8.0%	92	2.2%	4,178
19	PA 724	5,840	75.3%	669	222	891	11.5%	253	180	433	5.6%	7,164	92.4%	313	247	560	7.2%	32	0.4%	7,756
20	Strasburg Rd	1,108	75.2%	174	47	221	15.0%	31	34	65	4.4%	1,394	94.6%	48	28	76	5.2%	4	0.3%	1,474
21	Oxford Rd	1,497	70.8%	280	68	348	16.5%	140	52	192	9.1%	2,037	96.4%	50	14	64	3.0%	13	0.6%	2,114
22	Woodchuck Way	302	87.8%	7	5	12	3.5%	8	7	15	4.4%	329	95.6%	6	7	13	3.8%	2	0.6%	344
Total		91,984	75.8%	6,261	2,020	8,281	6.8%	7,668	2,393	10,061	8.3%	110,326	90.9%	3,757	1,063	10,468	8.6%	597	0.5%	121,391

**TABLE A-9 (cont.)
COMBINED SURVEY
VEHICLE OCCUPANCY COUNTS BY VEHICLE TYPE
FOR THE DVRPC REGION**

Sample No.	Route	Auto	% of Total	Passenger Pickup	Work Pickup	Total Pickup	% of Total	Passenger Van	Work Van	Total Van	% of Total	Auto Pickup and Van	% of Total	Light Truck	Heavy Truck	Total Truck	% of Total	Bus	% of Total	Total
Delaware County																				
23	I-476	3,072	77.1%	4,402	1,803	6,205	6.5%	5,529	2,215	7,744	8.2%	87,021	91.8%	2,458	5,051	7,509	7.9%	285	0.3%	94,815
24	I-95	4,235	80.8%	817	455	1,272	4.2%	1,208	580	1,788	6.0%	27,295	91.0%	832	1,745	2,577	8.6%	110	0.4%	29,982
25	US 1	3,346	77.9%	2,311	612	2,923	9.8%	1,799	764	2,563	8.6%	28,832	96.2%	525	404	929	3.1%	204	0.7%	29,965
26	PA 3	6,299	73.5%	463	236	699	8.2%	879	282	1,161	13.5%	8,159	95.2%	232	137	369	4.3%	42	0.5%	8,570
27	Baltimore Pk	8,255	80.2%	1,483	382	1,865	8.2%	1,520	564	2,084	9.2%	22,204	97.5%	227	220	447	2.0%	117	0.5%	22,768
28	Burnmont Rd	4,753	84.6%	264	90	354	6.3%	108	113	221	3.9%	5,328	94.8%	198	34	232	4.1%	58	1.0%	5,618
29	Meetinghouse Rd	4,497	81.2%	507	101	608	11.0%	244	90	334	6.0%	5,439	98.2%	57	4	61	1.1%	37	0.7%	5,537
30	Beatty Rd	4,342	85.0%	209	117	326	6.4%	206	136	342	6.7%	5,010	98.1%	76	5	81	1.6%	17	0.3%	5,108
31	Cleveland Rd	982	70.6%	80	69	149	10.7%	174	58	232	16.7%	1,363	98.0%	21	6	27	1.9%	1	0.1%	1,391
32	Walnut Ave	1,345	78.9%	154	41	195	11.4%	119	29	148	8.7%	1,688	99.1%	14	1	15	0.9%	1	0.1%	1,704
33	Smith Bridge Rd	1,025	81.3%	115	37	152	12.1%	30	19	49	3.9%	1,226	97.2%	18	11	29	2.3%	6	0.5%	1,261
Total		162,151	78.4%	10,805	3,943	14,748	7.1%	11,816	4,850	16,666	8.1%	193,565	93.6%	4,658	5,051	12,276	5.9%	878	0.4%	206,719
Montgomery County																				
34	I-476	2,354	78.9%	2,701	924	3,625	5.5%	3,847	941	4,788	7.2%	60,767	91.5%	1,631	3,797	5,428	8.2%	190	0.3%	66,385
35	PA 611	8,190	71.9%	1,382	733	2,115	8.4%	2,143	790	2,933	11.6%	23,238	91.8%	904	1,002	1,906	7.5%	166	0.7%	25,310
36	Montgomery Ave	0,722	87.9%	660	365	1,025	4.3%	631	393	1,024	4.3%	22,771	96.5%	394	172	566	2.4%	248	1.1%	23,585
37	Terwood Rd	6,759	82.9%	414	152	566	6.9%	377	203	580	7.1%	7,905	97.0%	154	67	221	2.7%	24	0.3%	8,150
38	Fairground Rd	1,885	75.1%	196	40	236	9.4%	199	65	264	10.5%	2,385	95.0%	41	69	110	4.4%	16	0.6%	2,511
39	US 422	9,982	75.0%	860	145	1,005	7.6%	897	157	1,054	7.9%	12,041	90.5%	407	776	1,183	8.9%	86	0.6%	13,310
40	PA 73	9,057	68.9%	2,076	397	2,473	18.8%	875	267	1,142	8.7%	12,672	96.4%	286	120	406	3.1%	61	0.5%	13,139
41	Whitehall Rd	3,131	78.4%	215	51	266	6.7%	387	81	468	11.7%	3,865	96.7%	55	52	107	2.7%	24	0.6%	3,996
42	Old Skippack Pk	1,418	81.1%	179	41	220	12.6%	34	22	56	3.2%	1,694	96.9%	27	20	47	2.7%	8	0.5%	1,749
43	Limerick Rd	595	76.0%	65	34	99	12.6%	27	19	46	5.9%	740	94.5%	30	11	41	5.2%	2	0.3%	783
44	Bergey Rd	262	69.5%	37	21	58	15.4%	34	9	43	11.4%	363	96.3%	2	1	3	0.8%	11	2.9%	377
Total		124,355	78.1%	8,785	2,903	11,688	7.3%	9,451	2,947	12,398	7.8%	148,441	93.2%	3,931	3,797	10,018	6.3%	836	0.5%	159,295

**TABLE A-9 (cont.)
COMBINED SURVEY
VEHICLE OCCUPANCY COUNTS BY VEHICLE TYPE
FOR THE DVRPC REGION**

Sample No. Route	Auto	% of Total	Passenger Pickup	Work Pickup	Total Pickup	% of Total	Passenger Van	Work Van	Total Van	% of Total	Auto Pickup and Van	% of Total	Light Truck	Heavy Truck	Total Truck	% of Total	Bus	% of Total	Total
Philadelphia County																			
45 I-676	9,000	78.9%	1,393	734	2,127	4.3%	3,508	1,311	4,819	9.8%	45,946	93.0%	1,530	1,590	3,120	6.3%	335	0.7%	49,401
46 I-95	1,088	69.9%	1,694	829	2,523	5.7%	3,413	1,209	4,622	10.4%	38,233	86.0%	1,353	4,533	5,886	13.2%	356	0.8%	44,475
47 PA 63	2,758	75.8%	2,759	977	3,736	6.6%	4,713	1,556	6,269	11.1%	52,763	93.6%	1,469	1,931	3,400	6.0%	223	0.4%	56,386
48 Broad St	2,827	83.9%	589	193	782	5.1%	904	329	1,233	8.1%	14,842	97.1%	191	56	247	1.6%	202	1.3%	15,291
49 Chestnut St	9,527	84.9%	395	123	518	4.6%	336	322	658	5.9%	10,703	95.3%	227	50	277	2.5%	245	2.2%	11,225
50 PA 291	4,884	82.0%	842	262	1,104	3.6%	1,978	592	2,570	8.5%	28,558	94.1%	552	959	1,511	5.0%	267	0.9%	30,336
51 Arch St	3,397	89.0%	50	29	79	2.1%	83	59	142	3.7%	3,618	94.8%	99	23	122	3.2%	77	2.0%	3,817
52 Race St	5,524	78.1%	506	119	625	8.8%	454	274	728	10.3%	6,877	97.2%	129	16	145	2.0%	52	0.7%	7,074
53 Allens La	5,202	86.3%	185	127	312	5.2%	138	128	266	4.4%	5,780	95.9%	157	27	184	3.1%	61	1.0%	6,025
54 Cresco Ave	2,391	81.3%	121	115	236	8.0%	125	91	216	7.3%	2,843	96.7%	30	13	43	1.5%	54	1.8%	2,940
55 Sansom St	3,349	85.3%	73	50	123	3.1%	212	122	334	8.5%	3,806	97.0%	100	3	103	2.6%	16	0.4%	3,925
Total	179,947	77.9%	8,607	3,558	12,165	5.3%	15,864	5,993	21,857	9.5%	213,969	92.7%	5,837	1,590	15,038	6.5%	1,888	0.8%	230,895
Total for PA	660,842	78.1%	41,795	14,340	56,135	6.6%	51,777	18,338	70,115	8.3%	787,092	93.1%	20,777	1,611	53,536	6.3%	5,071	0.6%	845,699
Total for DVRPC Region	1,024,433	75.6%	71,272	31,555	102,827	7.6%	82,740	35,690	118,430	8.7%	1,245,690	92.0%	37,873	3,530	97,663	7.2%	10,828	0.8%	1,354,181

TABLE A-10
COMBINED SURVEY
VEHICLE OCCUPANCY BY VEHICLE TYPE
FOR THE DVRPC REGION

Sample No.	Route	Auto	Passenger Pickup	Work Pickup	Passenger Van	Work Van	Auto, Pickup and Van	Light Truck	Heavy Truck	Bus	All Vehicles
New Jersey											
Burlington County											
1	I-295	1.20	1.10	1.09	1.29	1.10	1.19	1.06	1.01	7.26	1.19
2	PA-NJ Tpke Conn	1.19	1.11	1.16	1.18	1.17	1.19	1.09	1.01	9.90	1.20
3	US 206	1.23	1.16	1.29	1.30	1.14	1.23	1.17	1.04	9.83	1.33
4	CR 541	1.23	1.15	1.24	1.23	1.32	1.23	1.14	1.03	9.21	1.31
5	CR 626	1.21	1.19	1.27	1.25	1.27	1.22	1.13	1.10	7.93	1.33
6	CR 669	1.24	1.22	1.25	1.31	1.18	1.24	1.26	1.00	11.70	1.76
7	CR 636	1.25	1.14	1.22	1.16	1.14	1.22	1.33	1.00	15.00	1.22
8	CR 600	1.19	1.10	1.20	1.21	1.22	1.19	1.17	1.38	8.28	1.24
9	CR 677	1.21	1.13	1.24	1.26	1.19	1.20	1.09	1.17	11.19	1.32
10	CR 668	1.22	1.11	1.11	1.18	1.14	1.21	1.07	1.11	9.17	1.47
11	CR 624	1.23	1.11	1.13	1.31	1.12	1.21	1.06	1.02	6.63	1.25
12	CR 678	1.23	1.19	1.00	1.32	1.25	1.23	2.00	1.00	9.17	1.33
13	Mansfield Rd	1.22	1.22	1.19	1.19	1.12	1.21	1.17	1.02	7.84	1.45
14	Collins Ln	1.24	1.33	1.17	1.39	1.47	1.26	1.00	1.00	7.50	1.27
Total		1.21	1.14	1.19	1.24	1.20	1.21	1.11	1.02	9.06	1.27
Camden County											
15	NJ Tpke	1.23	1.18	1.20	1.38	1.23	1.24	1.21	1.03	12.87	1.29
16	AC Expwy	1.41	1.19	1.21	1.33	1.20	1.38	1.12	1.05	15.25	1.73
17	US 30	1.29	1.14	1.17	1.35	1.17	1.28	1.12	1.07	8.62	1.32
18	NJ 168	1.27	1.18	1.20	1.31	1.17	1.26	1.13	1.05	8.43	1.32
19	NJ 154	1.21	1.20	1.19	1.36	1.31	1.23	1.23	1.20	7.97	1.34
20	CR 561	1.28	1.25	1.24	1.35	1.18	1.28	1.09	1.05	6.41	1.48
21	CR 534	1.26	1.22	1.23	1.32	1.25	1.26	1.20	1.11	8.31	1.34
22	CR 536	1.24	1.30	1.24	1.31	1.18	1.25	1.18	1.01	9.36	1.40
23	CR 723	1.28	1.24	1.22	1.53	1.21	1.28	1.04	1.04	8.00	1.39
24	CR 715	1.25	1.13	1.24	1.37	1.33	1.24	1.22	1.75	6.96	1.36
25	CR 727	1.25	1.24	1.15	1.33	1.21	1.25	1.27	1.36	7.46	1.35
26	Pestleton Rd	1.16	1.14	1.10	1.26	1.00	1.15	1.08	1.33	7.07	1.53
27	4th St	1.28	1.19	1.25	1.58	1.20	1.30	1.57	1.17	11.43	1.39
Total		1.27	1.20	1.21	1.34	1.21	1.26	1.17	1.06	9.60	1.38

**TABLE A-10 (cont.)
COMBINED SURVEY
VEHICLE OCCUPANCY BY VEHICLE TYPE
FOR THE DVRPC REGION**

Sample No.	Route	Auto	Passenger Pickup	Work Pickup	Passenger Van	Work Van	Auto, Pickup and Van	Light Truck	Heavy Truck	Bus	All Vehicles
Gloucester County											
28	I-295	1.21	1.17	1.19	1.25	1.19	1.20	1.07	1.04	9.65	1.23
29	NJ 55	1.15	1.10	1.11	1.17	1.11	1.14	1.09	1.01	11.12	1.19
30	US 322	1.25	1.19	1.19	1.28	1.23	1.24	1.12	1.09	7.16	1.29
31	CR 553	1.24	1.21	1.19	1.34	1.30	1.25	1.28	1.02	7.63	1.33
32	CR 534	1.23	1.18	1.21	1.27	1.26	1.23	1.11	1.14	9.87	1.31
33	US 130	1.21	1.18	1.19	1.24	1.14	1.21	1.12	1.05	5.66	1.24
34	NJ 45	1.18	1.14	1.25	1.26	1.21	1.19	1.18	1.20	9.30	1.29
35	CR 655	1.22	1.22	1.31	1.39	1.32	1.24	1.35	1.10	9.85	1.34
36	CR 555	1.19	1.16	1.21	1.17	1.15	1.18	1.11	1.03	9.04	1.41
37	CR 667	1.18	1.15	1.44	1.30	1.00	1.19	1.19	0.67	11.18	1.46
38	Mantua Ave	1.21	1.15	1.29	1.50	1.17	1.21	1.13	0.24	5.21	1.22
39	Walters Rd	1.23	1.22	1.94	1.49	1.32	1.26	1.22	1.13	11.11	1.31
40	Crafton Av	1.25	1.12	1.33	1.39	1.40	1.26	1.36	2.00	30.00	1.33
Total		1.21	1.17	1.20	1.27	1.22	1.21	1.11	1.03	8.90	1.27
Mercer County											
41	I-195	1.19	1.16	1.16	1.21	1.14	1.19	1.06	1.01	9.42	1.21
42	US 1 Toll Booth	1.18	1.16	1.21	1.24	1.21	1.19	1.09	1.02	9.32	1.20
43	NJ 31	1.22	1.13	1.12	1.13	1.24	1.20	1.07	1.07	7.20	1.27
44	US 130	1.19	1.13	1.19	1.25	1.22	1.19	1.05	1.01	7.50	1.18
45	US 206	1.23	1.18	1.19	1.27	1.17	1.23	1.13	1.03	8.63	1.38
46	CR 526	1.23	1.17	1.09	1.29	1.12	1.22	1.07	1.03	7.05	1.24
47	CR 539	1.25	1.19	1.20	1.33	1.16	1.24	1.19	1.02	10.38	1.28
48	Nottingham Way	1.18	1.16	1.21	1.22	1.18	1.18	1.21	1.06	7.47	1.36
49	Pennington Rd	1.20	1.19	1.36	1.37	1.24	1.21	1.25	1.15	8.95	1.30
50	Perrineville Rd	1.23	1.30	1.28	1.26	1.47	1.25	1.13	1.15	5.83	1.27
51	Cranbury Rd	1.16	1.10	1.03	1.42	1.10	1.17	1.00	1.00	8.60	1.28
52	Village Rd	1.19	1.15	1.31	1.23	1.25	1.20	1.25	1.23	6.00	1.27
53	Park Av	1.11	1.16	1.00	1.24	1.00	1.13	1.00	1.00	5.00	1.14
54	Hibben Rd	1.22	1.26	1.23	1.24	1.33	1.23	1.24	1.00	6.57	1.40
Total		1.20	1.16	1.19	1.24	1.19	1.20	1.10	1.02	8.09	1.26
Total for NJ Counties		1.22	1.17	1.20	1.27	1.21	1.22	1.12	1.03	8.94	1.29

**TABLE A-10 (cont.)
COMBINED SURVEY
VEHICLE OCCUPANCY BY VEHICLE TYPE
FOR THE DVRPC REGION**

Sample No.	Route	Auto	Passenger Pickup	Work Pickup	Passenger Van	Work Van	Auto, Pickup and Van	Light Truck	Heavy Truck	Bus	All Vehicles
Pennsylvania											
Bucks County											
1	I-95	1.15	1.09	1.10	1.21	1.09	1.15	1.05	1.01	10.95	1.19
2	PA 263	1.18	1.16	1.16	1.21	1.15	1.18	1.09	1.08	8.50	1.25
3	Levittown Pkwy	1.22	1.18	1.18	1.18	1.16	1.21	1.15	1.10	7.70	1.25
4	Trevoise Rd	1.24	1.18	1.31	1.17	1.21	1.24	1.24	1.08	7.62	1.28
5	Mayflower Ave	1.19	1.10	1.16	1.30	1.19	1.19	1.30	1.00	10.00	1.32
6	PA 309	1.21	1.10	1.15	1.14	1.13	1.18	1.10	1.04	6.59	1.19
7	PA 611	1.19	1.13	1.16	1.19	1.13	1.18	1.13	1.11	7.98	1.24
8	PA 32	1.19	1.16	1.24	1.20	1.26	1.19	1.07	1.17	6.81	1.24
9	Aquetong Rd	1.19	1.09	1.07	1.54	1.32	1.20	1.18	1.38	9.44	1.24
10	Callowhill Rd	1.16	1.12	1.23	1.34	1.25	1.17	1.15	1.13	7.13	1.25
11	Creamery Rd	1.20	1.23	1.25	1.33	1.12	1.20	1.14	1.14	5.00	1.22
Total		1.18	1.13	1.16	1.18	1.14	1.18	1.10	1.04	8.56	1.22
Chester County											
12	US 202	1.16	1.11	1.14	1.08	1.16	1.15	1.10	1.04	7.60	1.18
13	PA 100	1.17	1.12	1.10	1.23	1.12	1.17	1.07	1.02	8.55	1.19
14	PA 252	1.19	1.15	1.18	1.28	1.19	1.19	1.24	1.06	8.64	1.22
15	Hares Hill Rd	1.22	1.23	1.47	1.44	1.23	1.23	1.15	1.00	5.00	1.24
16	Lincoln Ave	1.18	1.13	1.20	1.29	1.20	1.19	1.15	1.16	7.00	1.19
17	PA Tpke	1.18	1.18	1.20	1.24	1.09	1.18	1.06	1.01	8.57	1.19
18	US 322	1.25	1.15	1.30	1.39	1.17	1.24	1.19	1.01	5.87	1.33
19	PA 724	1.18	1.08	1.08	1.17	1.04	1.16	1.07	1.03	13.28	1.21
20	Strasburg Rd	1.18	1.14	1.23	1.29	1.29	1.18	1.15	1.07	7.50	1.19
21	Oxford Rd	1.23	1.19	1.26	1.32	1.17	1.23	1.10	1.21	6.54	1.26
22	Woodchuck Way	1.26	1.14	1.40	1.38	1.43	1.27	1.00	1.14	3.00	1.27
Total		1.18	1.13	1.16	1.20	1.14	1.17	1.10	1.02	8.04	1.20

**TABLE A-10 (cont.)
COMBINED SURVEY
VEHICLE OCCUPANCY BY VEHICLE TYPE
FOR THE DVRPC REGION**

Sample No.	Route	Auto	Passenger Pickup	Work Pickup	Passenger Van	Work Van	Auto, Pickup and Van	Light Truck	Heavy Truck	Bus	All Vehicles
Delaware County											
23	I-476	1.13	1.10	1.08	1.15	1.13	1.13	1.06	1.01	8.09	1.14
24	I-95	1.13	1.12	1.15	1.15	1.14	1.13	1.05	1.01	7.95	1.15
25	US 1	1.16	1.26	1.15	1.24	1.16	1.18	1.10	1.04	6.74	1.21
26	PA 3	1.15	1.13	1.34	1.27	1.22	1.17	1.08	1.08	11.55	1.22
27	Baltimore Pk	1.21	1.25	1.23	1.35	1.22	1.22	1.24	1.16	9.96	1.27
28	Burmout Rd	1.19	1.13	1.22	1.12	1.13	1.18	1.08	1.21	7.07	1.24
29	Meetinghouse Rd	1.22	1.18	1.25	1.49	1.20	1.23	1.19	1.25	7.03	1.27
30	Beatty Rd	1.24	1.14	1.31	1.58	1.19	1.25	1.28	1.40	5.88	1.26
31	Cleveland Rd	1.18	1.09	1.14	1.20	1.21	1.17	1.43	1.50	5.00	1.18
32	Walnut Ave	1.23	1.17	1.22	1.31	1.24	1.23	1.07	1.00	5.00	1.23
33	Smith Bridge Rd	1.21	1.25	1.29	1.33	1.16	1.22	1.33	1.45	5.83	1.25
Total		1.15	1.16	1.15	1.21	1.16	1.16	1.08	1.02	8.00	1.18
Montgomery County											
34	I-476	1.15	1.12	1.11	1.12	1.14	1.14	1.06	1.01	7.03	1.15
35	PA 611	1.19	1.12	1.19	1.18	1.22	1.18	1.17	1.04	10.30	1.24
36	Montgomery Ave	1.18	1.12	1.14	1.23	1.11	1.18	1.16	1.02	10.00	1.27
37	Terwood Rd	1.18	1.11	1.20	1.19	1.15	1.18	1.21	1.14	6.04	1.19
38	Fairground Rd	1.20	1.12	1.20	1.24	1.24	1.20	1.10	1.29	10.63	1.26
39	US 422	1.15	1.11	1.23	1.16	1.15	1.15	1.08	1.03	7.97	1.18
40	PA 73	1.17	1.12	1.18	1.25	1.15	1.17	1.12	1.13	6.96	1.19
41	Whitehall Rd	1.20	1.19	1.33	1.25	1.32	1.21	1.31	1.15	7.92	1.25
42	Old Skipack Pk	1.19	1.13	1.27	1.15	1.23	1.19	1.11	1.25	8.75	1.22
43	Limerick Rd	1.22	1.15	1.26	1.59	1.16	1.23	1.10	1.55	5.00	1.24
44	Bergey Rd	1.24	1.24	1.24	1.24	1.22	1.24	1.50	2.00	8.18	1.44
Total		1.17	1.12	1.16	1.17	1.17	1.16	1.11	1.03	8.75	1.20

**TABLE A-10 (cont.)
COMBINED SURVEY
VEHICLE OCCUPANCY BY VEHICLE TYPE
FOR THE DVRPC REGION**

Sample No.	Route	Auto	Passenger Pickup	Work Pickup	Passenger Van	Work Van	Auto, Pickup and Van	Light Truck	Heavy Truck	Bus	All Vehicles
Philadelphia County											
45	I-676	1.16	1.17	1.15	1.21	1.22	1.17	1.11	1.06	9.81	1.22
46	I-95	1.16	1.14	1.16	1.14	1.18	1.15	1.02	1.01	8.29	1.19
47	PA 63	1.18	1.16	1.12	1.17	1.13	1.17	1.09	1.03	8.06	1.19
48	Broad St	1.25	1.27	1.37	1.43	1.28	1.27	1.29	1.32	10.37	1.39
49	Chestnut St	1.16	1.12	1.24	1.21	1.17	1.16	1.16	1.20	8.79	1.32
50	PA 291	1.17	1.11	1.13	1.21	1.39	1.18	1.05	1.03	8.13	1.23
51	Arch St	1.22	1.20	1.34	1.30	1.27	1.22	1.19	1.48	8.64	1.37
52	Race St	1.23	1.31	1.19	1.40	1.22	1.24	1.25	1.12	7.79	1.29
53	Allens La	1.16	1.25	1.21	1.44	1.38	1.18	1.27	1.26	8.03	1.25
54	Cresco Ave	1.25	1.36	1.36	1.53	1.35	1.27	1.43	1.46	5.65	1.35
55	Sansom St	1.26	1.30	1.20	1.35	1.29	1.27	1.17	1.67	10.00	1.30
Total		1.18	1.17	1.17	1.21	1.21	1.18	1.10	1.03	8.73	1.23
Total for PA Counties		1.17	1.15	1.16	1.20	1.17	1.17	1.10	1.03	8.49	1.21
Total for DVRPC Region		1.19	1.15	1.18	1.23	1.19	1.19	1.11	1.03	8.73	1.24

TABLE A-11
COMBINED SURVEY
VEHICLE OCCUPANCY BY COUNTY AND VEHICLE TYPE
FOR THE DVRPC REGION

	Auto	Pickup	Van	Auto, Pickup and Van	Truck	Bus	All Vehicles
New Jersey							
Burlington County	1.21	1.16	1.23	1.21	1.05	9.06	1.27
Camden County	1.27	1.20	1.30	1.26	1.12	9.60	1.38
Gloucester County	1.21	1.18	1.25	1.21	1.07	8.90	1.27
Mercer County	1.20	1.17	1.22	1.20	1.05	8.09	1.26
Total for NJ Counties	1.22	1.18	1.25	1.22	1.06	8.94	1.29
Pennsylvania							
Bucks County	1.18	1.14	1.17	1.18	1.07	8.56	1.22
Chester County	1.18	1.14	1.19	1.17	1.05	8.04	1.20
Delaware County	1.15	1.16	1.20	1.16	1.04	8.00	1.18
Montgomery County	1.17	1.13	1.17	1.16	1.06	8.75	1.20
Philadelphia County	1.18	1.17	1.21	1.18	1.06	8.73	1.23
Total for PA Counties	1.17	1.15	1.19	1.17	1.05	8.49	1.21
Total for DVRPC Region	1.19	1.16	1.21	1.19	1.06	8.73	1.24

