September 2002

Cordon Line Highway Traffic Survey for the Delaware Valley Region

NJ 55 and NJ 77 Cordon Stations in Gloucester County

Report 5

Delaware Valley Regional Planning Commission

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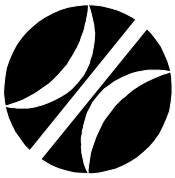
September 2002

Delaware Valley Regional Planning Commission
The Bourse Building
111 South Independence Mall East
Philadelphia, PA 19106-2582

Created in 1965, the Delaware Valley Regional Planning Commission (DVRPC) is an interstate, intercounty, and intercity agency which provides continuing, comprehensive, and coordinated planning to shape a vision for the future growth 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. DVRPC provides technical assistance and services, conducts high priority studies that respond to the request and demands of member state and local governments, fosters cooperation among various constituents to forge a consensus on diverse regional issues, determines and meets the needs of the private sector, and practices public outreach efforts to promote two-way communication and public awareness of regional issues and the commission.



Our logo is adapted from the official DVRPC seal, 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. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the Pennsylvania and New Jersey departments of transportation, as well as by DVRPC's state and local member governments. This report was primarily funded by the Pennsylvania Department of Transportation and the Federal Highway Administration (FHWA). The authors, however, are solely responsible for its findings and conclusions, which may not represent the official views or policies of the funding agencies.

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EXECUTIVE SUMMARY

The External and Through Traffic Survey collected current information on traffic entering and exiting the DVRPC region. The traffic surveys at NJ 55 and NJ 77 were two of fourteen stations surveyed around the region during the summer of 2001. Information was collected in both directions through a roadside interview, using the questionnaire shown on page 6. Questions were asked about trip origin and destination, purpose, highways used, vehicle type, occupancy, truck garage location and truck commodities. Detailed findings are available individually in Section III and in the Appendices in the back of the report. The survey was conducted with the cooperation of the New Jersey Department of Transportation, and police from New Jersey. Traffic was surveyed at each of the stations in both directions during the time period from 6:45 A.M. to 7:15 P.M.

The major findings for these two survey stations are as follows:

- The 24 hour counts for NJ 55 and NJ 77 were 41,438 and 4,122 AADT, respectively. NJ 55 has an AM peak with about 7 percent and a PM peak with about 8 percent of the 24 hour total. NJ 77 has an AM peak with about 6 percent and a PM peak with about 7 percent of the 24 hour total. The mode split between automobiles and trucks is about 66 percent and 32 percent respectively for NJ 55, and about 75 percent and 22 percent respectively for NJ 77.

- The completed survey samples for NJ 55 and NJ 77 were close to the desired goals. NJ 55 surveyed 1,487 of 1,800 for 83 percent of the desired sample goal, and NJ 77 surveyed 986 of 1,000 for about 99 percent of the desired sample goal.

- The NJ 55 automobile driver's reasons for traveling the facility were 75 percent saving time and 24 percent most direct, while truck drivers responded with 63 percent saving time and 34 percent most direct. Along NJ 77, automobile driver's reasons were 57 percent to save time and 36 percent most direct, while truck drivers responded 58 percent saving time and 33 percent most direct.

- The share of work trips on NJ 55 and NJ 77 are 45 percent and 52 percent respectively. Other major trip purposes on NJ 55 include 35 percent for social and 8 percent for tourist trips, and on NJ 77 a 22 percent share for social visits and 10 percent for shopping.

- The average total vehicle occupancy varied between survey stations, with NJ 55 and NJ 77 averaging 1.63 and 1.51 persons per vehicle respectively, while the average occupancy for work trips was less, with 1.22 and 1.20 persons per vehicle respectively.

- Commodities carried by the surveyed trucks at the NJ 55 station were 27 percent building materials, 22 percent empty, and 15 percent other. Trucks on NJ 77 were 28 percent empty, 18 percent agricultural products, and 17 percent building materials.

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I. INTRODUCTION

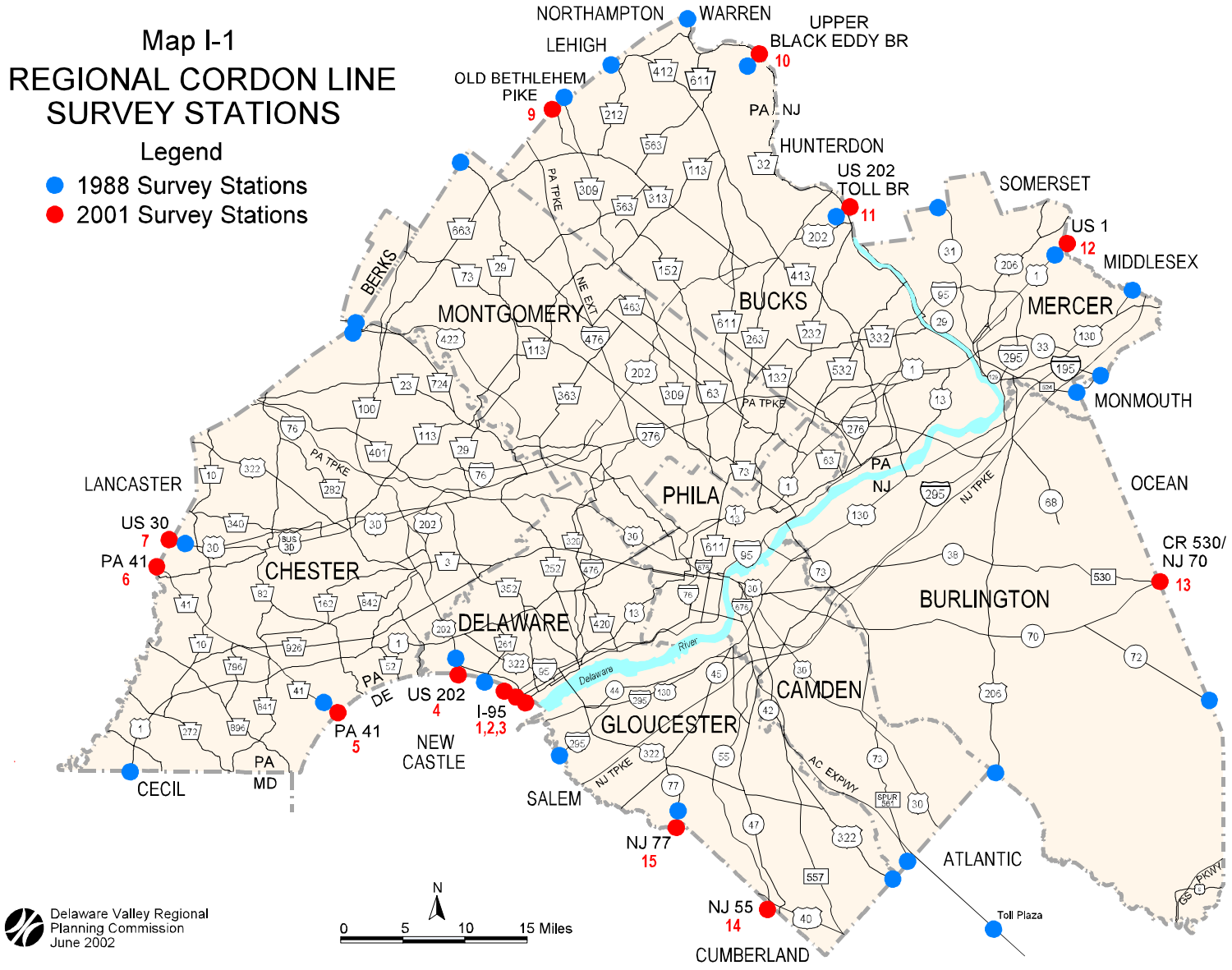
The DVRPC cordon line traffic survey was conducted to collect current information on traffic volumes and determine the origin-destination travel patterns, travel activity, and travel mode of vehicles crossing the nine-county DVRPC cordon line which forms the regional boundary. The external and through trip travel patterns are especially critical for transportation facilities located near the nine-county boundary, as this is an area where in recent years major new development has occurred. The survey, conducted in the spring and summer of 2001, updated trip characteristics and patterns that were last collected in the 1980s. The survey data will be used in the ongoing planning process, validation of travel simulation models, traffic forecasting, preliminary engineering, estimation of vehicle miles of travel (VMT), and monitoring of external and through travel. The toll authorities of the region, state transportation departments, neighboring metropolitan planning organizations, county planners, and interregional freight operators will benefit from this survey, which will provide useful data for the improvement of highway facilities in the next 20 years.

Map I-1 displays the highway facilities which were surveyed in 2001 as well as the locations of the 1988 survey. Traffic counts and a sample of interviews were collected at 14 locations crossing the boundary of the nine-county region representing a broad range of highway types, from local to interstate facilities. This information was supplemented with data from two recently conducted surveys, one on the Pennsylvania Turnpike and the other on the New Jersey Turnpike. In addition, traffic counts were taken on an additional 140 highway facilities crossing the regional boundary and bus and rail ridership was collected from carriers crossing the boundary. Survey results are presented in a series of reports. This report presents briefly the surveys conducted at the NJ 55 Freeway and NJ 77 in Gloucester County, New Jersey.

The survey consisted of roadside interviews at each location. Questions were asked about trip origin, destination, and purpose; highway use and vehicle type; and vehicle occupancy. The questionnaire also asked about the reasons for travel and how people make their travel decisions and plan their daily trips. Truck type, garaging and commodity information were also included in the survey questionnaire. Section II of the report describes the design and conduct of the survey. Included are a description of the survey questionnaire, the sample size, and the collection method. A map and description of the survey sites covered in this report are presented. A summary tabulation of traffic volumes at each site and vehicle classification information are also included. Also included is a review of the processes employed to enter the survey data, geocode origin/destination information, and tabulate the answers to survey questions.

The survey results are presented in Section III. The major findings of the survey and traffic characteristics are presented; the findings for each question are offered in graphic and written form.

Detailed survey information is provided in the Appendices, including traffic and vehicle classification counts. Simple and cross tabulations of survey responses are shown in a series of 15 tables for each survey station.


Map I-1
REGIONAL CORDON LINE SURVEY STATIONS
Legend
1988 Survey Stations
2001 Survey Stations
NORTHAMPTON
WARREN
LEHIGH
UPPER BLACK EDDY BR
10
OLD BETHLEHEM PIKE
9
PA
NJ
HUNTERDON
US 202 TOLL BR
11
SOMERSET
US 1
12
MIDDLESEX
BERKS
MONTGOMERY
BUCKS
MERCER
MONMOUTH
LANCASTER
PHILA
OCEAN
US 30
7
PA 41
6
CHESTER
DELAWARE
CR 530/ NJ 70
13
BURLINGTON
CAMDEN
US 202
4
I-95
1,2,3
PA 41
5
NEW CASTLE
GLOUCESTER
CECIL
PA
MD
PA
DE
SALEM
NJ 77
15
ATLANTIC
NJ 55
14
CUMBERLAND
Toll Plaza
Delaware River
PA TPKE
NE EXT
NJ TPKE
AC EXPWY
Delaware Valley Regional Planning Commission
June 2002
N
0 5 10 15 Miles

II. DESIGN AND CONDUCT OF THE SURVEY

The cordon line survey was designed to gather information from a sample of drivers crossing the boundary of the DVRPC region. At each station, two types of traffic information was collected; total number of passing vehicles and driver trip-making characteristics. The recording of all traffic, by vehicle type and by the hour, was collected using DVRPC's Automatic Traffic Recorder units. This information was used to establish the sample size necessary for roadside interviews to collect trip-making characteristics. As shown on the following page, the survey questionnaire consists of 13 questions; two of which need not be asked since the surveyor would be able to check the vehicle type and occupancy. The following information was collected in the interview: time of trip, origin and destination of the trip, major highways used, number of travelers (including the driver). For commercial vehicles additional questions ascertained county where the vehicle is garaged or parked when not in service and the type of commodity carried by trucks.

A. Survey Locations

The results of the survey for two locations are included in this report: NJ 55 Freeway in Vineland, Cumberland County, New Jersey; and NJ 77, Bridgeton Pike in Elk Township, Gloucester County. These facilities, one a freeway and the other a local road, were chosen due to their strategic importance for travel to and from the Delaware Valley region. Both carry traffic into and out of the DVRPC region from the south.

1. NJ 55 Freeway

The NJ 55 Freeway is a relatively new freeway facility connecting the Philadelphia and Camden area with Glassboro, Vineland and far southern New Jersey. It's connection with NJ 47 provides access to popular shore points, including Cape May and Wildwood. The access it provides has proven instrumental in the recent development of this part of South Jersey, as attested by the residential and commercial activity along its alignment as it winds south through Gloucester County. Although this segment of NJ 55 lies within the boundaries of Vineland, an incorporated area, the landscape is relatively undeveloped.

The survey site was located approximately ½ mile south of the regional boundary and 1 mile south of the US 40 interchange where a tangent section of roadway provides good sight distance (see Map II-1). At this point the travel lanes are separated by a grass median. Wide paved shoulders provided a safe location for the conduct of the survey while still allowing two lanes of through traffic by direction. Vineland police provided traffic control.

Figure II-1. External and Through Survey Field Form

Delaware Valley Regional Planning Commission **№** 10000
EXTERNAL AND THROUGH TRIP SURVEY **Time :** : 1[ ] AM 2[ ] PM

1. Where did you start this trip? (Origin) **2. Is this home?** 1[ ] Yes 2[ ] No

_____
Street address or nearest intersection

_____
Town or City County State Zip Code

3. Where will this trip end? (Destination) **4. Is this home?** 1[ ] Yes 2[ ] No

_____
Street address or nearest intersection

_____
Town or City County State Zip Code

5. Will you stop before arriving at your destination? **6. Is this home?** 1[ ] Yes 2[ ] No

1[ ] No 2[ ] Yes, If yes, where?

_____
Street address or nearest intersection

_____
Town or City County State Zip Code

7. Why do you use this road? (check one or more)
1[ ] Saves Time 3[ ] Less Congestion 5[ ] No Traffic Lights
2[ ] Saves Money 4[ ] Better Road Condition 6[ ] Other_____

8. What is/are the major road(s) that you will take to reach the destination after this road?

1st Highway_____ 2nd Highway _____

9. What type of vehicle is used for the trip?

Passenger Vehicles	**Light Trucks**	**Heavy Trucks (3 axles or more)**
1[ ] Auto	5[ ] Pickup	9[ ] Tractor-Trailer
2[ ] Van, Sta. Wagon	6[ ] Panel	10[ ] Double Trailer
3[ ] SUV	7[ ] Single Unit	11[ ] Other _____
4[ ] Other _____	8[ ] Other _____	

10. What is the purpose of this trip? (Passenger Vehicles Only)
1[ ] Work 3[ ] Eat Meal 5[ ] Social/Recreation 7[ ] Visitor/Tourist
2[ ] School 4[ ] Shopping 6[ ] Medical 8[ ] Other _____

11. How many people are in the vehicle? (Passenger Vehicles Only)
1[ ] One 2[ ] Two 3[ ] Three 4[ ] Four 5[ ] Five 6[ ] More than Five

12. Where is this truck garaged or parked when not in service? (Trucks Only)
1[ ] Bucks County 4[ ] Montgomery County 7[ ] Burlington County 10[ ] Mercer County
2[ ] Chester County 5[ ] Philadelphia County 8[ ] Camden County 11[ ] Other NJ County
3[ ] Delaware County 6[ ] Other PA County 9[ ] Gloucester County 12[ ] Other State

13. What type of commodities are you carrying? (Trucks Only)
1[ ] Empty 4[ ] Agricultural Products 7[ ] Retail Store Merchandise
2[ ] Manufactured Products 5[ ] Building Materials 8[ ] Parcels
3[ ] Petroleum Products 6[ ] Refrigerated Products 9[ ] Other _____

2. NJ 77, Bridgeton Pike

NJ 77 is a local facility providing access to the land uses along its alignment. Land use consists primarily of agriculture and some older residences. Newer residential development is occurring in Harrison Township to the north, but this part of Elk Township remains relatively untouched.

The survey was established about ½ mile north of the regional boundary, just north of the intersection of NJ 77 and CR 641, Ferrell Road (see Map II-2). The roadway consists of 1 lane by direction with paved shoulders which immediately yield to grass, providing extra width for the conduct of the survey. Due to the road profile, the survey was offset. New Jersey State Police were on site to assure the safety of the surveyors and the motoring public.

B. Sample Methodology

Traffic and vehicle classification counts were taken at each site. The hourly ATR counts and vehicle classification counts, by direction, are presented in the Appendices. Based on these volumes, standard statistical methods were applied and a sample size was established for each location. The sample was then disaggregated into an appropriate number of surveys for passenger and commercial vehicles for each survey period as discussed below.

1. Traffic Counts

Traffic volumes on this section of NJ 55 are approximately 41,000 vehicles per day. The morning peak hour factor is 6.5%, occurring between 7 and 8 a.m. The afternoon peak hour factor is higher, at 7.7% between 4 and 5 p.m. Approximately 55% of the traffic is headed inbound in the morning peak; however, in the afternoon peak only slightly more traffic is headed outbound (52%). This may be due to the prevalence of shore traffic. Commercial vehicles account for about 12.6 percent of the traffic mix.

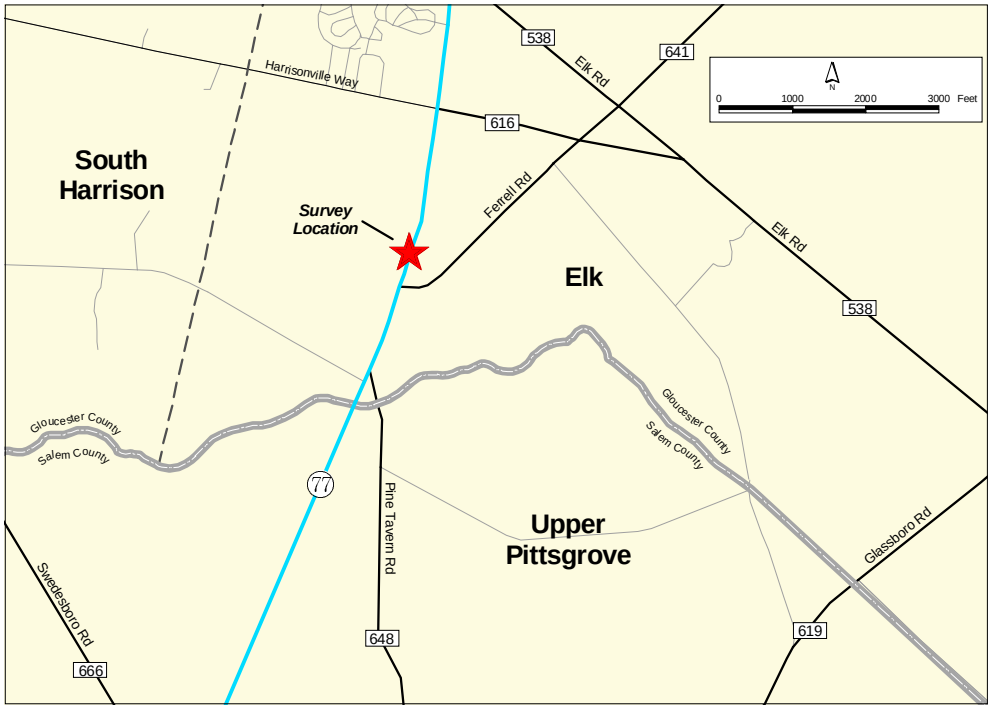
Traffic volumes on NJ 77 are approximately 4,100 vehicles per day. The peak hour factor is the same in the a.m. and p.m. at 6.0 percent. Trucks (commercial vehicles) account for almost 17 percent of the total traffic volume.

2. Sample Size

Based on the hourly traffic and vehicle classification counts, a sample size was determined for both passenger and commercial vehicles. This number of surveys by morning and afternoon period is presented in Section III. For the NJ 55 Freeway, a total of 1,800 surveys were scheduled for collection. This amounted to approximately 900 in each direction, representing inbound and outbound trips. Of this total, 734 forms were to be interviews of passenger vehicles, with the remaining 166 reserved for commercial vehicles.

Map II-1. NJ 55 Survey Location

Map II-2. NJ 77 Survey Location



At the NJ 77 cordon station, the total number of interviews was set at 1,000; 500 were to be filled out for traffic in each direction. Passenger vehicles accounted for about 416 surveys, with the balance of 84 surveys consisting of commercial vehicles.

C. Survey Conduct

A manual was prepared to guide the conduct of the survey. It contained information on the distribution of surveys by survey period; partnering agency information; number of police officers needed for traffic control and staffing requirements for each site; a preliminary schedule of survey sites and shifts, as well as a listing of equipment requirements and diagram of a hypothetical site as it would be set up for survey operations.

Before the survey work could be initiated, a crew of temporary workers was hired and trained. General orientation sessions were followed with role playing by the survey crew. In this manner, the surveyor became familiar with the questions and possible problematic situations. It also allowed the surveyors to become comfortable with the survey process, so that once in the field, traffic delay would be minimal and the survey process would be safe and efficient. As the surveyors became experienced with the process, per survey time dropped to the range of 35 to 45 seconds.

While in the office prior to initiating field work, surveyors allocated the proper number of forms for passenger and commercial vehicles by time period. Four different colored forms were used to designate the traffic direction (inbound or outbound) and interview time (morning or afternoon). Forms were allocated to the following survey times:

Morning Survey	Afternoon Survey
6:45 - 8:30 a.m.	1:00 - 2:30 p.m.
8:30 - 9:30 a.m.	2:30 - 3:30 p.m.
9:30 - 10:30 a.m. (meal break)	*3:30 - 4:30 p.m. (meal break)*
10:30 - 12:00 noon	4:30 - 6:00 p.m.
12:00 - 1:00 p.m.	6:00 - 7:15 p.m.

Although in general the conduct was the same for each survey station, the geography of the site dictated a measure of innovation. Safety, both of the survey crew and the driving public, was the primary operating directive. For a four lane facility, the right lane and shoulder were used for the survey. This provided the left lane for traffic to bypass the survey. Two lane facilities required the survey to be offset by direction. Multiple signs were placed in advance of the site in accordance with state guidelines and distance standards. These warned motorists of the traffic survey, to be prepared to stop, and that police control was in effect. Police vehicles were prominently displayed ahead of the site, with lights flashing, as this tended to slow traffic entering the vicinity of the survey. Police and traffic cones helped direct traffic through the site, and a sign announced the end of the survey site. All survey personnel were outfitted with safety

vests. Although each site was visited before the survey date and preliminary sketches of the setup were prepared, the input of the police officers on site was solicited and followed.

Since only a sample of the drivers were interviewed, the platooning method was used in selecting vehicles to be surveyed. A crew chief was designated for each direction and assumed the last position in the survey line. The crew chief was responsible for communicating with the other surveyors and with the police officer. The crew chief would signal the officer when the crew was ready for a platoon of vehicles. Interviews would be conducted, and the appropriate information recorded. The lead surveyor would then assure the safe re-entry of the surveyed vehicles to the traffic stream and the crew chief would signal the police officer for another platoon of vehicles.

Coordinating the survey was the responsibility of the survey chief. This person was responsible for scheduling the appropriate number of survey staff, coordinating with the police, and assuring that the survey site was properly prepared. During the survey the survey chief had the responsibility of distributing and collecting survey forms, resolving situations with the police, seeing to the physical needs of the survey crew, and speaking with motorist regarding survey questions and concerns. The survey chief would join the line of surveyors when an extra person was needed to fill the quota of surveys.

The execution of the survey at both the NJ 55 and NJ 77 sites was successful. The only problem encountered was when a particularly severe thunderstorm required that the afternoon survey at NJ 55 be terminated early.

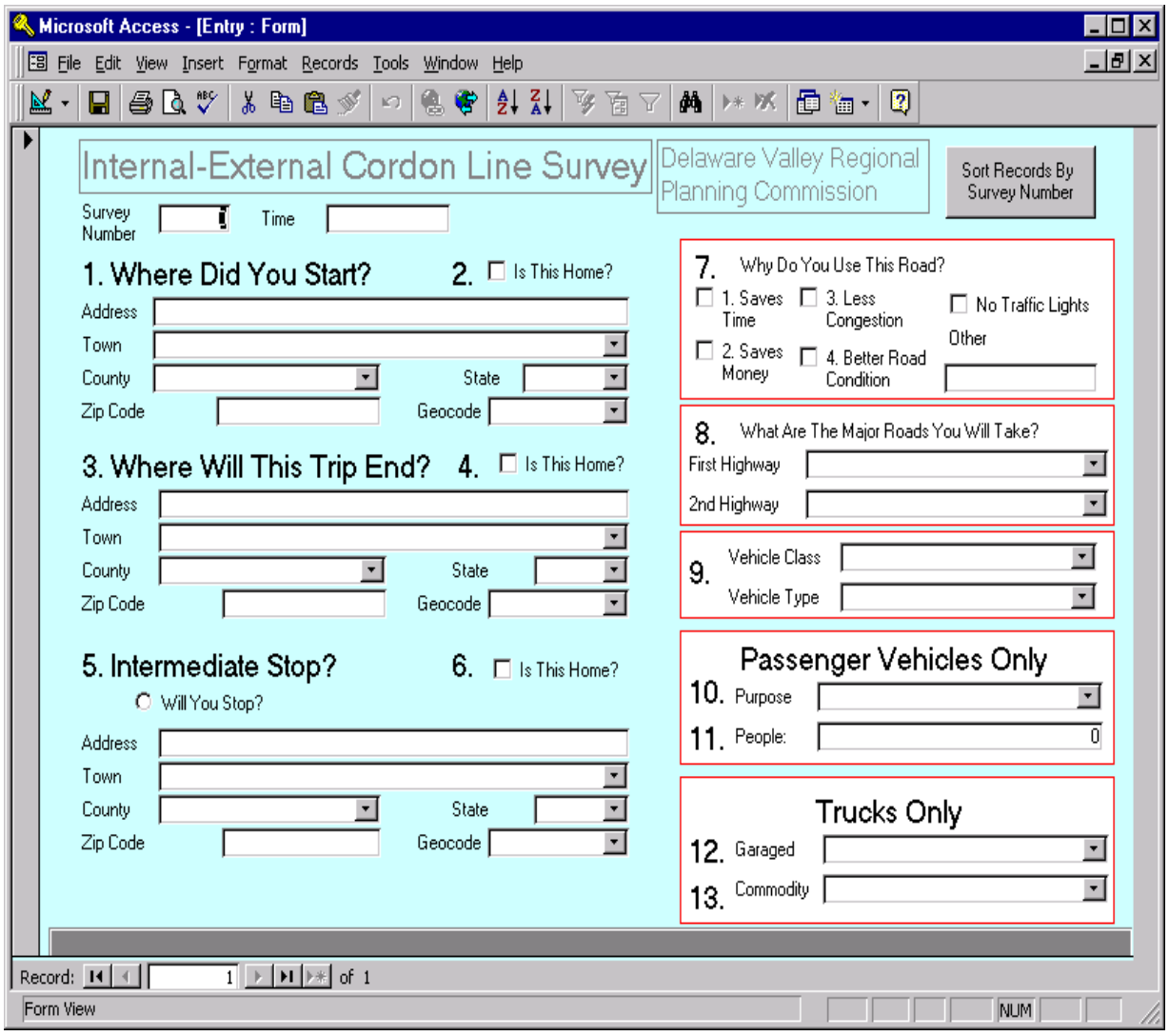
D. Data Entry, Geocoding and Processing

1. Data Entry

Paper field responses collected from survey station interviews were converted into an electronic form suitable for spatial and statistical analysis. A Microsoft Access database resembling the paper field survey form was used so the data entry approximated the entry of information in the field. Data entry goals included replicating the survey form to allow logical flow from paper to digital format; to standardize spelling of responses; to ensure that entries were within acceptable geographic bounds; and to avoid duplicate entries.

Several methods to this end were employed. First, extensive lists of common names for the key variables were built into the Access entry form. These include common names for places, municipalities, counties, and roads. Second, responses on the field survey form for purpose, vehicle class, vehicle type, and commodity were all made part of menu choices. Third, where possible, allowable entries were limited by either forcing a binary yes/no response or use of a validation rule to limit the range of acceptable numbers. To ease review of entries, the database remained flat with all responses recorded in one data table. An example of this screen is shown in Figure II-2 on the next page and can be compared with the survey form shown in Figure II-1.

Figure II-2. Survey Entry Form as Displayed on Computer Screen



Finally, the survey number was used as both a unique identifier and a means to prevent duplication of data entry. The survey number also served to identify cordon station and direction. The database and entries were designed to allow further analysis and processing. One example is the geocode field that was used to specify a likely method of assigning geographic data, such as via municipality, business address, personal address, or intersection.

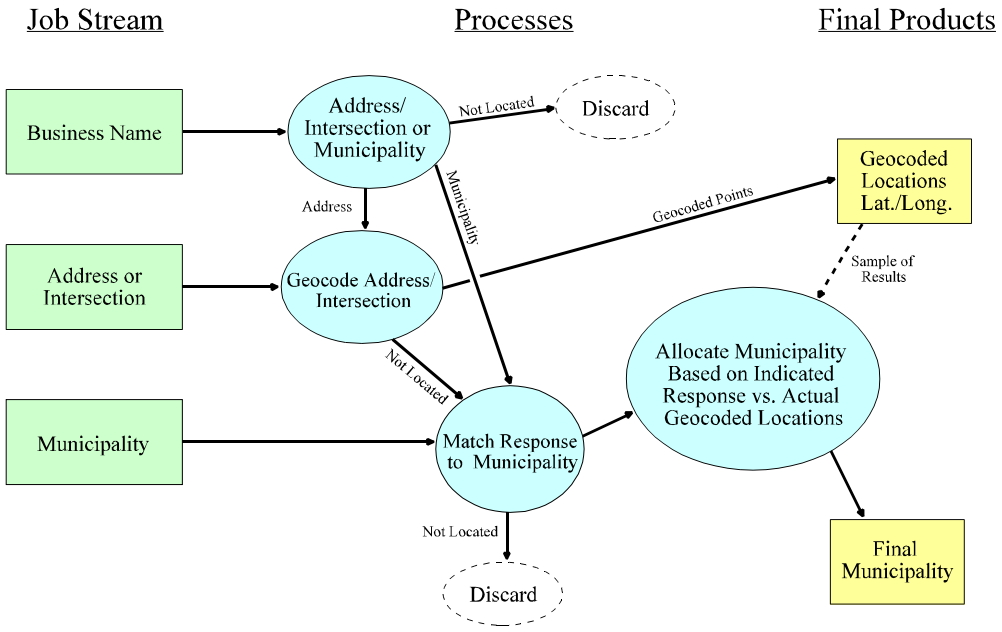
2. Geocoding

Geocoding refers to the assignment of geographic attributes based on entered survey data (See Figure II-3 for DVRPC Geocoding Process). Another term for this process is data conflation. The conflation process allows for spatial analysis of survey responses

and separates the data into several job streams based upon likely geocoding method,

and assigns unique identifiers to each address. To assign a unique identifier, full survey entries were separated into singular addresses using the survey ID number and either origin or destination. Note that stopover points were not assigned a geographic location. After separation of origin and destination, three categories were used to assign a method for data conflation: 1) where the address is a street address, intersection of named roads, or a partial combination of the two; 2) where the address is a business name with full or partial street and place information; and 3) where the address is a town, place, state, or other such designated area without a street address or road name. Those entries where the address was invalid, unreadable, or in any other way unable to be determined or placed into one of the three categories, were discarded.

Figure II-3. DVRPC Geocoding Process



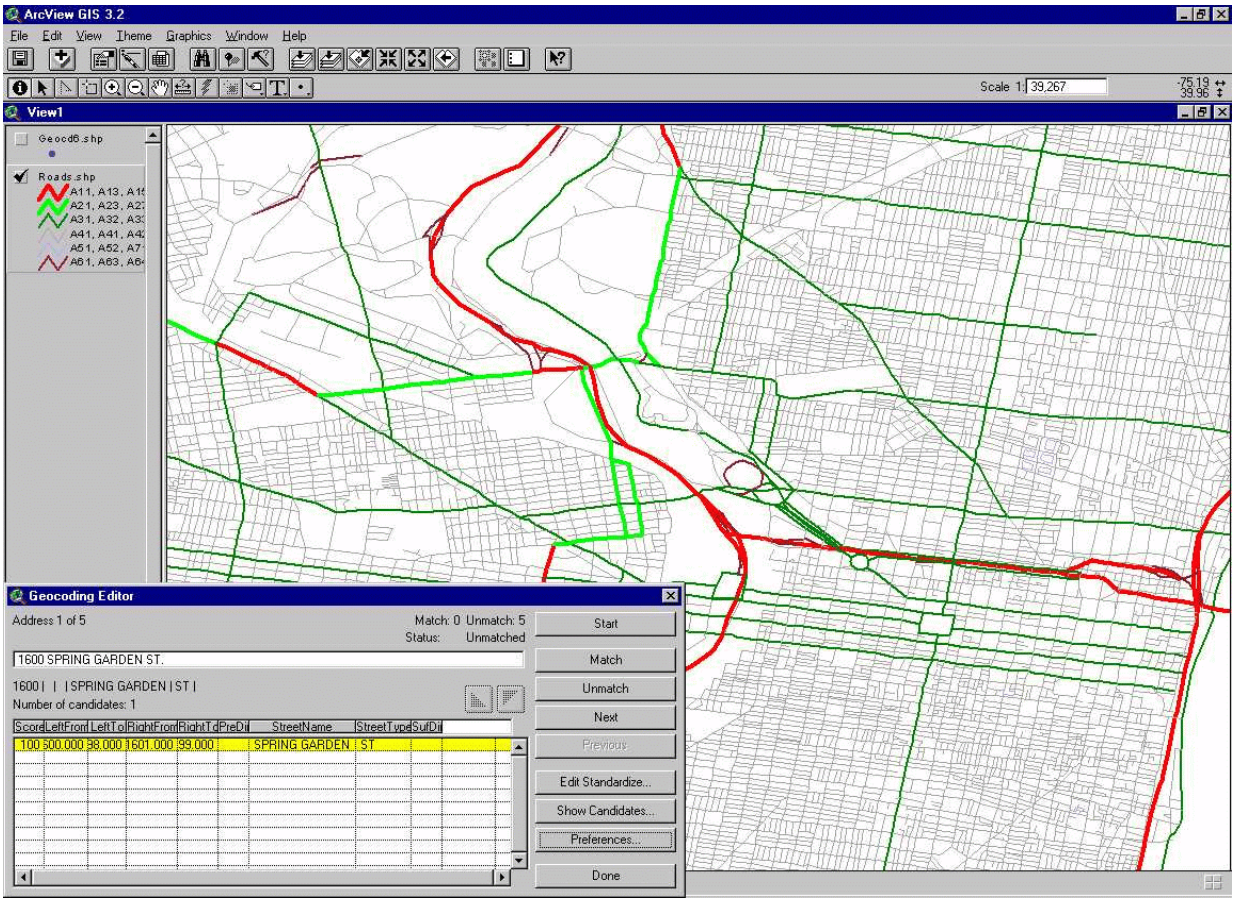
3. Street Addresses and Businesses

The first category of origins and destinations to be assigned geographic locations (latitude and longitude) was the group containing a street address, intersection, or road name. The ArcView 3.2 program was able to geocode many of the recognizable data entries. The underlying address and road name data to which it was matched was the U.S. Census TIGER files for the DVRPC region and adjacent counties. This group was first processed using the Geocoding interface in ArcView 3.2, automatically comparing entered address or intersection versus TIGER data. After the initial run, many of the addresses remained unmatched due to spelling errors in road names. To fix this, those addresses not found initially were again put through the geocoding program and

checked against atlases of streets and roads in the chosen areas. This second attempt was done manually, and while very time consuming, yielded the vast majority of the remaining entries thought likely to be geocoded. Those few entries that could not be geocoded were grouped with entries where only municipality was known, or discarded.

Figure II-4 shows the ArcView Geocoding interface used to process those data items not found automatically. Entries that had a business address or name were assigned to an address using either the internet yellow pages or local phone books. After assigning the addresses to be geocoded they were "run" through the Arcview geocoding process as above. Any entries that still had not been assigned a geographic location were placed into the town/place entry file.

Figure II-4. Interface for ArcView Geocoding



4. Town / Place Addresses

All entries not processed using the prior two techniques were assigned geographic location via town/place name. The first part of this process was to standardize spellings and ancillary data such as county for each response. A process was developed to assign geography using surveyed town/place response, and appropriate latitude and longitude measurements. The process began with place names. Entries corresponding to places completely inside an MCD (Minor Civil Division) were assigned to either the geographic center of the place as defined by the Census Bureau, or the focal intersection for the named place. This was most effective for small villages.

The entries consisting of MCD names were allocated by comparing reported MCDs versus actual MCDs based upon the geocoding process. This process corrects for the variation between respondents conception of geographic bounds and actual political borders. Respondents indicating a specific MCD as a destination were equally likely to be traveling to the adjacent townships based upon given intersection or address. The responses were scattered across several MCDs based upon the ratio established from geocoded results, rather than assign all trips to the centroid of the MCD.

This process ensures that the geographic location for the entries assigned to municipalities near the reported MCD are representative of the actual sample. A similar procedure allocates responses when boroughs are surrounded by townships with the same name. Finally, state centroids were used to assign geographic location to states and provinces beyond 200 miles. This allows for reasonable distance calculations for longer trips.

The geocoding process yielded results allowing a full range of spatial analysis. To allow for differing geographic resolutions, survey data was grouped by accuracy. Consequently, 65.3 percent of survey responses could be assigned using address or intersection data, and 28.9 percent of responses could be assigned by municipality. Only 5.9 percent of all surveyed points were not assigned a geographic location.

III. SUMMARY SURVEY RESULTS FOR NJ 55 AND NJ 77 SURVEY LOCATIONS PARTS 1 AND 2

The summary survey results for NJ 55 and NJ 77 are shown in this section. Part 1 of this section consists of NJ 55 survey results while Part 2 consists of NJ 77 survey results. Information was collected in both inbound and outbound directions on both facilities through a roadside interview, using the questionnaire shown on page 6. Questions were asked about trip origin and destination, purpose, highways used, vehicle type, occupancy, truck garage location and commodities transported. Simple and cross tabulations of survey responses for each of the two stations are summarized in Parts 1 and 2.

The major findings of the survey and traffic characteristics are presented with the findings for each question are offered in graphic and written form. Included with each table or figure is text summarizing the highlights of the survey responses. The text summarizes the findings and describes points of interest not shown in the graphics. Detailed survey information is provided in the Appendices.

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PART 1
NJ 55 Survey Summary Results

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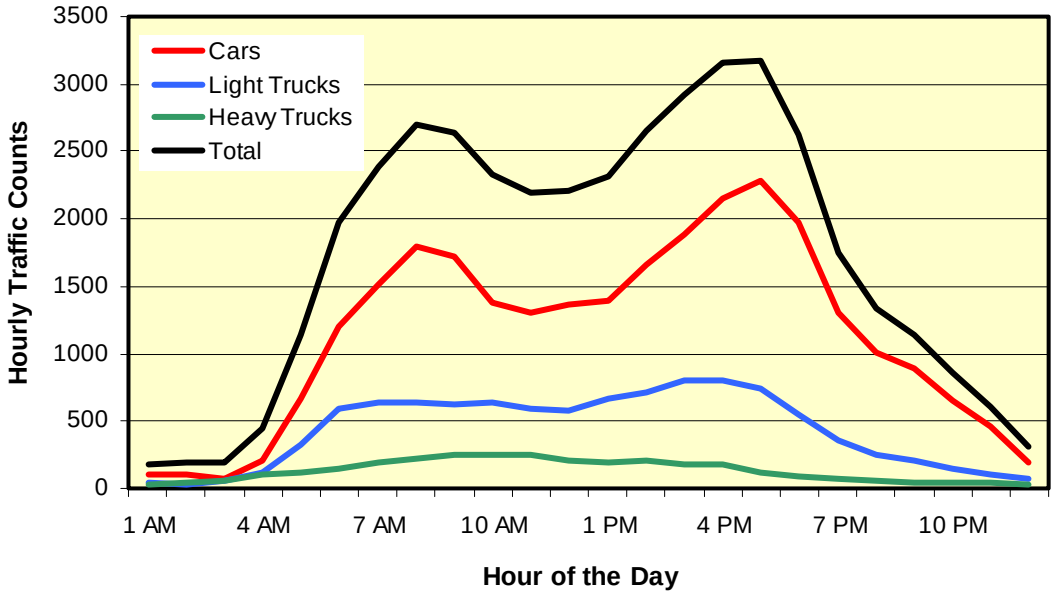
Daily Traffic Counts by Hour of the Day



- Vehicle classification traffic counts were collected during 24 hours preceding the survey. The NJ 55 traffic counts were taken near the Gloucester / Salem county boundary, near the location where the field survey was conducted. The traffic volume at that point was 41,438 vehicles classified by vehicle type. The full statistical portrait of the classification counts for NJ 55 is shown in Table A-1 in Appendix A in the back of the report.

- The AM peak hour traffic occurred between the hours of 7:00 a.m. and 8:00 a.m. The count for that hour was 2,696 vehicles. This count was 6.5 percent of the 24 hour traffic volume. The PM peak occurred between the hours of 4:00 p.m. and 5:00 p.m. The count for that hour was 3,177 vehicles which is 7.7 percent of the 24 hour traffic volume.

- The vehicular counts were dominated by 27,287 automobiles. This is about 66 percent of the 24 hour count. Light trucks were 25 percent of the vehicles.

- Heavy trucks, those with more than two axles, make up 11 percent of the vehicular traffic. Buses and motorcycles together were about 2 percent share of the vehicle mix.

Total Interviews by Survey Period

Survey Period	Total Surveys	Inbound Surveys	Inbound % of Total	Outbound Surveys	Outbound % of Total
Morning Shift					
6:30 a.m. - 10:30 a.m.	483	240	33%	243	32%
10:30 a.m. - 1:00 p.m.	409	185	25%	224	30%
Evening Shift					
1:00 p.m. - 4:30 p.m.	380	197	27%	183	24%
4:30 p.m. - 8:00 p.m.	215	107	15%	108	14%
TOTAL	**1,487**	**729**	**100%**	**758**	**100%**

- There were 1,487 drivers surveyed at this location. This sample is about 83 percent of the desired total of 1,800. The hourly shift totals have been added together to create the table above. The disaggregated numbers are shown in greater detail in Table A-2 in the Appendix.

- There was a relatively equal number of surveys in each direction with 729 inbound and 758 outbound vehicles surveyed at the cordon station. The 6:30 a.m. to 8:30 a.m. morning peak time had about 19 percent of the volume, while the 1:00 p.m. to 2:30 p.m. off-peak and 4:30 p.m. to 6:00 p.m. afternoon peak time both had about 15 percent of the total surveys.

- The morning inbound direction had the highest share of traffic with about 18 percent, occurring between 6:30 a.m. and 8:30 a.m. The evening outbound survey volumes have the lowest share of survey responses. The smallest percentage recorded were the surveys between 2:30 p.m. and 4:30 p.m. with about 11 percent of the traffic volume surveyed. Both the inbound and outbound 6:00 p.m. to 8:00 p.m. survey period did not provide a sufficient survey due to weather conditions.

Place of Trip Origin by Municipality

Inbound Trip Origins		Outbound Trip Origins	
Municipality	**% of Total**	**Municipality**	**% of Total**
1. Vineland	39%	1. Philadelphia	14%
2. Millville	13%	2. Franklin	5%
3. Wildwood	6%	3. Deptford	5%
4. Cape May	5%	4. Harrison	5%
5. Avalon	3%	5. Washington	3%
6. Sea Isle City	3%	6. Camden	3%
7. Ocean City	3%	7. Glassboro	3%
8. Middle	3%	8. Woodbury	2%
9. Dennis	3%	9. Mantua	2%
10. Bridgeton	2%	10. Pittsgrove	2%

- There were 1,433 drivers responding to the question, "Where did you start this trip?" The numbers in the table above show only the trips originating in the top ten municipalities. The disaggregated numbers are shown in detail in Table A-3 in the Appendix.

- About 39 percent of the inbound trips originate in Vineland and about 13 percent originate in Millville with the remaining nine trip origin locations equaling about 41 percent. The smallest share was Downe (not shown) with less than 2 percent. All "other" municipalities represented about a 13 percent share of the total. In the outbound table, Philadelphia has a 14 percent share of the originating trips. The above remaining municipalities combine for about a 30 percent share with miscellaneous "other" origins adding up to about 52 percent of the responses.

- About 58 percent of the surveyed trips have home-based trip origins. Vineland and Philadelphia both have the largest share of inbound and outbound home-based trip origins with 35 and 12 percent, respectively.

- Truck trips constitute about 17 percent of the drivers surveyed. About 59 percent of the inbound trucks may be attributed to two origins: Vineland (46%), and Millville (13%). The remaining truck origins have a small 22 percent share, with the "other" category (not shown in the table and composed of miscellaneous responses) having an equally small 19 percent share. Similarly, the top outbound truck origin, Philadelphia, equals about 13 percent with "other" having a dominant 58 percent share.

Place of Trip Destination by Municipality

Inbound Trip Destination		Outbound Trip Destination	
Municipality	**% of Total**	**Municipality**	**% of Total**
1. Philadelphia	13%	1. Vineland	37%
2. Franklin	7%	2. Millville	9%
3. Deptford	6%	3. Lower	6%
4. Glassboro	3%	4. Wildwood	5%
5. Camden	2%	5. Middle	4%
6. Cherry Hill	2%	6. Ocean City	4%
7. Washington	2%	7. Sea Isle City	3%
8. Pittsgrove	2%	8. North Wildwood	3%
9. Mantua	2%	9. Avalon	3%
10. Gloucester	1%	10. Wildwood Crest	3%

- There were 1,440 drivers responding to the question, "Where will this trip end?" The numbers in the table above show only the trip destinations aggregated for the top ten municipalities in each direction. The disaggregated numbers appear in detail in Table A-4 in the Appendix.

- The largest share of inbound trip destinations are to Philadelphia with a 13 percent share. Vineland has a dominant share of the outbound trips with 37 percent while the next highest is Millville with 9 percent. The "other" category dominates the inbound trips with 56 percent but commands only a 14 percent share in the outbound direction.

- Home-based trip destinations constitute about 58 percent of all trips. About 14 percent of home-based inbound trips have Philadelphia as their destination. Again Vineland dominates the outbound trips with a home-based share of 30 percent followed by "other" with a 14 percent share.

- Truck trips constitute 18 percent of the surveyed vehicles, with an equal number of inbound and outbound responses (126). About 11 percent of inbound truck destinations are to Philadelphia. Vineland is the majority of the outbound truck destinations with 50 percent. The "other" destination category accounts for 68 percent of inbound truck responses while in the outbound direction "other" is reduced to 13 percent.

Trip Stops by Vehicle Type

Survey Period	Passenger Vehicle Stopping	Commercial Vehicle Stopping	Total Stopping
Inbound Trips			
6:30 a.m. - 10:30 a.m.	0.5%	2.7%	0.9%
10:30 a.m. - 1:00 p.m.	3.3%	5.0%	3.6%
1:00 p.m. - 4:30 p.m.	3.8%	0.0%	3.2%
4:30 p.m. - 8:00 p.m.	1.1%	4.5%	1.7%
Outbound			
6:30 a.m. - 10:30 a.m.	4.4%	0.0%	3.8%
10:30 a.m. - 1:00 p.m.	3.3%	2.0%	3.0%
1:00 p.m. - 4:30 p.m.	3.5%	0.0%	3.0%
4:30 p.m. - 8:00 p.m.	1.0%	6.7%	1.7%
TOTAL	**2.8%**	**2.4%**	**2.7%**

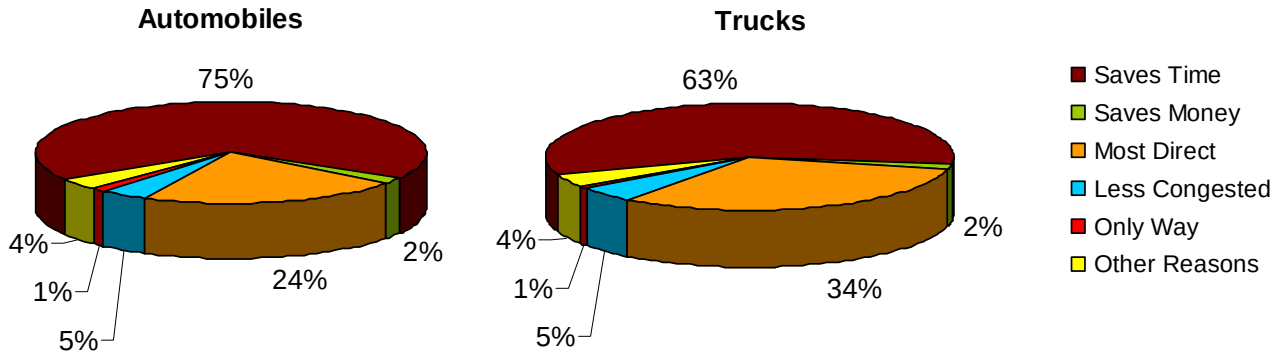
- There were 1,474 drivers responding to the question: "Will you stop before arriving at your destination?" The numbers in the table above were aggregated from the complete data set shown in Table A-5 in the Appendix.

- Only 34 automobiles and 6 trucks responded affirmatively, meaning only about 3 percent of total drivers planned to stop before arriving at their destination. The greatest total share of positive answers occured inbound between 1:00 p.m. and 2:30 p.m. with about 15 percent, and outbound between 6:30 a.m. and 8:30 a.m. with about 23 percent.

- In most categories outbound drivers responded that they were more likely to stop than inbound drivers. About 85 percent of the total "stop" responses were from passenger vehicles with 13 (33%) heading inbound and 21 (53%) vehicles heading outbound.

- About 2 percent of trucks responded that they were stopping prior to their final destination, with 50 percent coming from the 10:30 a.m. to 12:00 p.m. time period.

Reason for Using NJ 55 by Automobile and Truck Drivers



*Totals may exceed 100% due to multiple answers

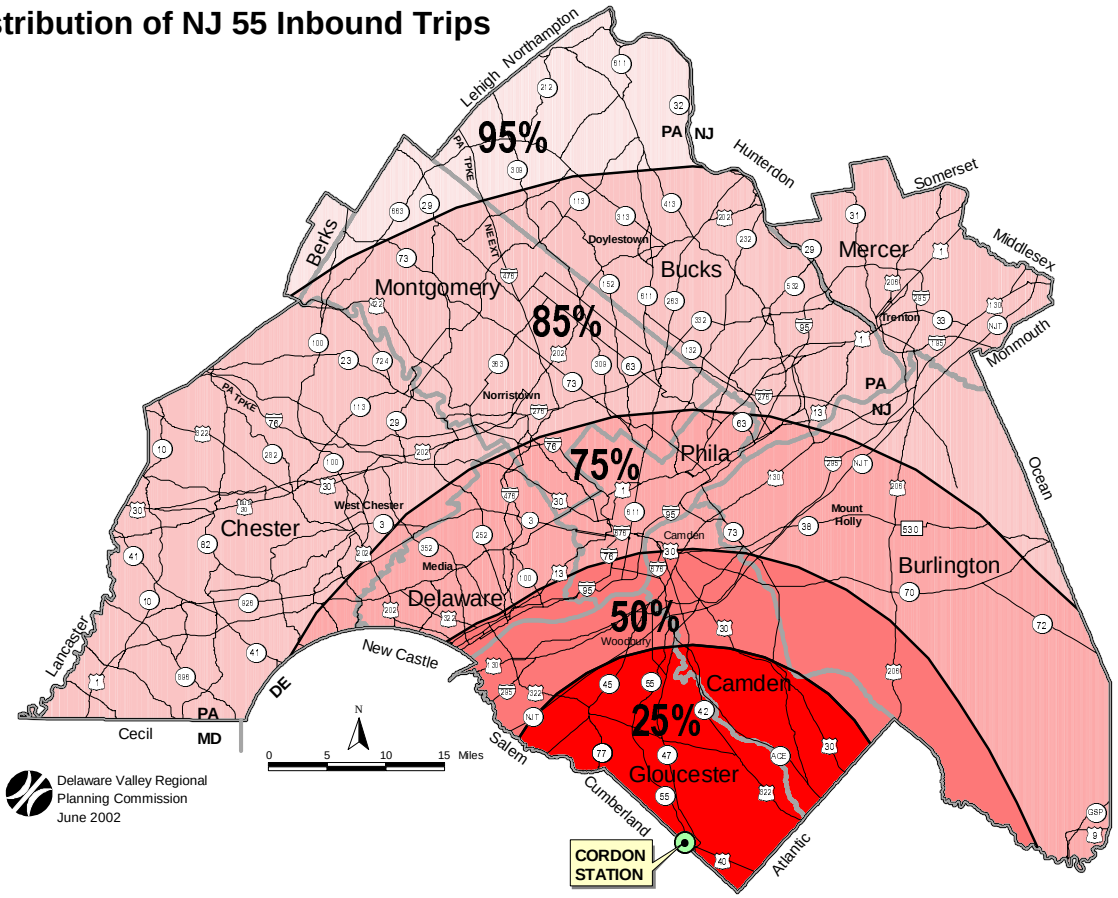
- There were 1,213 passenger and 263 commercial vehicles responding to the question, "Why do you use this road?" The drivers were permitted to provide more than one answer, which means that totals in the Appendix tables can add to more than 100 percent. The complete data sets are in Tables A-6 and A-7 in the Appendix.

- "Saves time" was the dominant response for both vehicle types with 75 percent of the responses for automobiles and 63 percent for trucks. At the low end, a combined total of 8 percent for both automobile and truck drivers responded with "saves money", "only way" and "less congested".

- The response of "most direct" for automobile and truck drivers (24% and 34% respectively) acknowledges that a driver may take a road because it is the only way to reach their destination.

- Between 10:30 a.m. and 1:00 p.m. 80 percent of inbound passenger vehicles responded with "saves time", while the largest inbound truck response share for "saves time" came between 1:00 p.m. and 4:30 p.m. with 85 percent. The greatest outbound totals for "saves time" were 66 percent (10:30 a.m. to 1:00 p.m.) for passenger vehicles and 94 percent (1:00 p.m. to 4:30 p.m.) for truck responses.

Distribution of NJ 55 Inbound Trips



- The map shows the distribution of inbound trips within the DVRPC region, though the percentages also include values outside the region but within the isochrone lines. About 77 percent of the trips end within the region; the through trips are described below.

- About 23 percent of the surveyed vehicles were through trips with destinations outside the region. Of these trips about 3.7 percent of all trips were headed west out of the region into Pennsylvania towards Lancaster County, while about 1.6 percent were headed north of Pennsylvania up the PA Turnpike Northeast Extension (I-476) and beyond.

- About 4.6 percent of the trips had destinations outside the region in north New Jersey and another 1.4 percent north towards New York City. Only about 0.3 percent were headed east towards New Jersey shore points while about 2.8 percent were heading to southern New Jersey destinations.

- Another 3.7 percent were going south into Delaware and beyond. Miscellaneous other destinations outside the region constitute the largest single grouping with 5.3 percent of the trips.

Major Roads Taken by all Vehicles

Inbound Traffic		Outbound Traffic	
Roads Used	**% of Total**	**Roads Used**	**% of Total**
1. NJ 42	19%	1. NJ 47	43%
2. I-95	13%	2. NJ 49	14%
3. US 322	11%	3. CR 347	5%
4. I-295	11%	4. NJ 9	4%
5. US 40	10%	5. NJ 50	7%
6. I-76	8%	6. NJ 56	3%

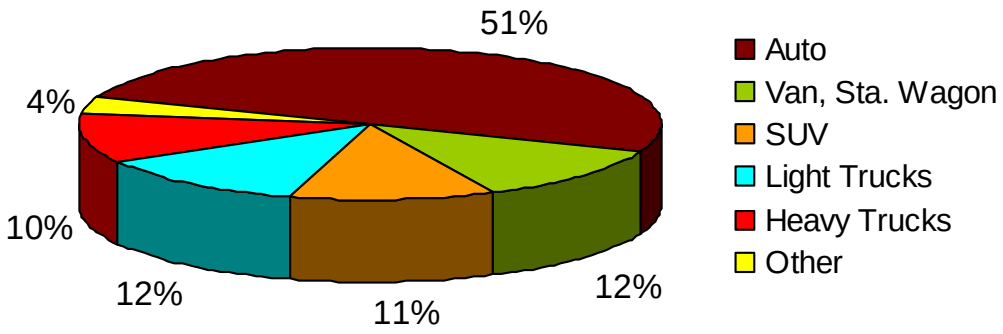
- There were 1,090 driver responses, other than "NJ 55", to the question "What is/are the major roads that you will take to reach your destination after this road?" The complete data set is in Table A-8 in the Appendix.

- About 19 percent of the total inbound drivers responded that NJ 42 would be the road they would use to reach their destination. Outbound traffic had a dominant response with NJ 47 at 43 percent and NJ 49 at 14 percent for a combined 57 percent of the total. The "other" category had a 24 percent share inbound and 25 percent outbound. The remaining facilities had small shares of the total outbound volume.

- Inbound passenger vehicle responses were largely indistinguishable from the total responses with NJ 42 (18%), and "other" (23%) nearly the same in both. Outbound passenger vehicles were again largely indistinguishable from the total responses; NJ 47 at 45 percent and NJ 49 at 14 percent for about two-thirds of the total. "Other", a catch-all for miscellaneous responses, was the favored response in the inbound direction with 23 percent of the responses, but was a far second in the outbound direction with 22 percent.

- Inbound truck responses were mainly the same as passenger vehicles and total driver responses with all road categories recorded. Outbound truck responses were dominated by NJ 47 and "other" with 30 percent and 40 percent respectfully.

Type of Vehicles Surveyed



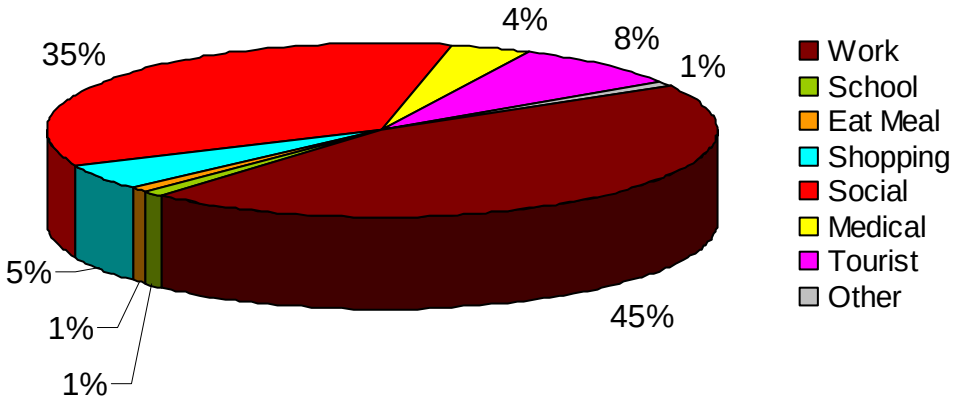
- The response to this question was obtained from observation rather than questioning the 1,487 drivers in the survey sample. The grouped categories are not aggregated the same as the 24 hour vehicle classification count, with some categories broken out and some combined in order to help with the analysis. The complete data set is in Table A-9 in the Appendix.

- The composition of the surveyed vehicles differs slightly from the one-way 24 hour vehicle classification counts. Surveyed passenger vehicles (autos, vans, SUVs) were a larger share than the 24 hour count (74% versus 66%). The opposite was true for light truck traffic (pickup, panel, and single unit) where the surveyed count and the 24-hour count was 13 percent and 25 percent respectively.

- Automobiles make up about 51 percent of the surveyed vehicle mix, while vans with 12 percent and SUVs with about 11 percent constitute the rest of the passenger vehicles.

- Light trucks, including pick-up trucks, are only about a 12 percent share, while surveyed heavy trucks had a 10 percent share, which is slightly more than the 24-hour count of 11 percent.

Trip Purpose of Passenger Vehicles



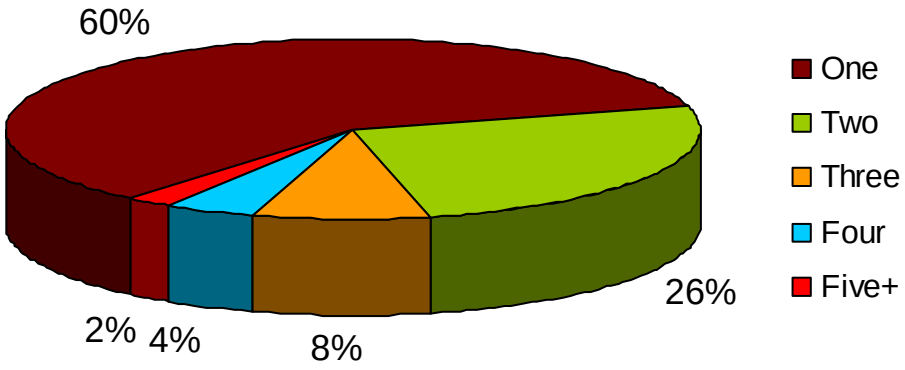
- Drivers in passenger vehicles were asked "What is the purpose of this trip?" Truck and commercial vehicle drivers were not asked this question as their purpose was evident. The complete data set is in Table A-10 in the Appendix.

- The work trip is the greatest trip purpose with about 45 percent of the total trips. Work trips dominate the morning peak hours between 6:30 a.m. and 8:30 a.m. with inbound and outbound shares both being 71 percent. The corresponding return work PM peak, between 4:30 p.m. and 6:00 p.m., have inbound and outbound shares (52% and 59%), which are less than the AM peaks.

- The social trip is the secondary reasons for making a trip, with about 35 percent of total trips. Social trips have their greatest concentration inbound and outbound between 10:30 a.m. and 1:00 p.m. (47% and 61% respectively). Tourism provides only about 8 percent of the trip purposes with the greatest concentration inbound between 4:30 p.m. and 8:00 p.m. (10%) and outbound between 1:00 p.m. and 4:30 p.m. (17%).

- The remaining five categories are split among the remaining 11 percent of trip purposes. Meal, medical and shopping trips together have about 10 percent total. School and other each offer small shares (1% for both). None of these have notable shares in any survey period.

Vehicle Occupancy



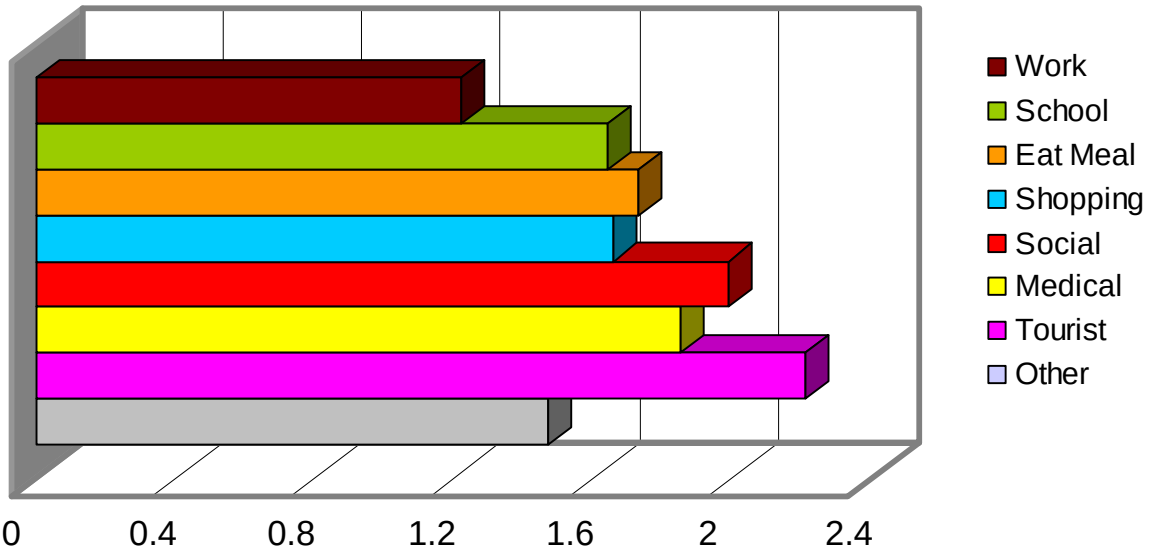
- This question, "How many people are in the vehicle?" was obtained by observation rather than questioning the 1,219 drivers in the survey sample. This question was used for passenger vehicles only. The complete data set is in Table A-11 in the Appendix.

- Single occupant vehicles were 60 percent of total vehicles surveyed. The greatest share of these was distributed inbound and outbound between 6:30 a.m. and 8:30 a.m. (76% for both).

- Two occupant vehicles are a 26 percent share of the vehicles surveyed and they have a double digit share in every survey period. The greatest inbound share is 30 percent during the12:00 p.m. to 1:00 p.m. period, while the greatest outbound share is 37 percent during the 10:30 a.m. to 12:00 p.m. time period.

- Three and four occupant vehicles have much smaller shares than the less occupied vehicles (8% and 4% respectively). Only twenty-six vehicles had 5+ occupants, giving it the smallest share with about 2 percent of the total.

Average Vehicle Occupancy by Trip Purpose



- Average vehicle occupancy by trip purpose was obtained by cross tabulating the observed vehicle occupancy with the survey question regarding trip purpose. The complete data set is in Table A-12 in the Appendix.

- Average occupancy for the van/station wagons is the greatest (2.05), and exceeds both the SUV (1.61) and auto (1.57) occupancy averages. The SUV and auto occupancy average are both less than the total occupancy average of 1.63 persons per vehicle.

- Total work trips have the lowest vehicle occupancy rates for any trip purpose (1.22). The work trip occupancy rate for automobiles (1.17) and SUVs (1.14) is distinctly exceeded by van/station wagons (1.49).

- The trip purposes with the greatest total occupancy rate are the tourist, social and medical categories with 2.21, 1.99 and 1.85 persons per vehicle respectively. The greatest occupancy rate overall is 3.00 persons per vehicle in the tourist and “other” categories for van/station wagons and in the school category for SUVs.

- The lowest occupancy rates, besides work trips, occur for automobiles in the “other” and school categories (1.27 and 1.43 respectively), and for van/station wagons in the shopping category (1.50).

Vehicle Trip Length Distribution within the DVRPC Region

Trip Length	Work Trips	Auto Trips	Truck Trips
0-5 miles	6%	6%	6%
5-10 miles	6%	4%	4%
10-20 miles	35%	29%	22%
20-50 miles	51%	58%	63%
>50 miles	2%	2%	5%
Average Trip Length	**21.2**	**23.8**	**25.5**

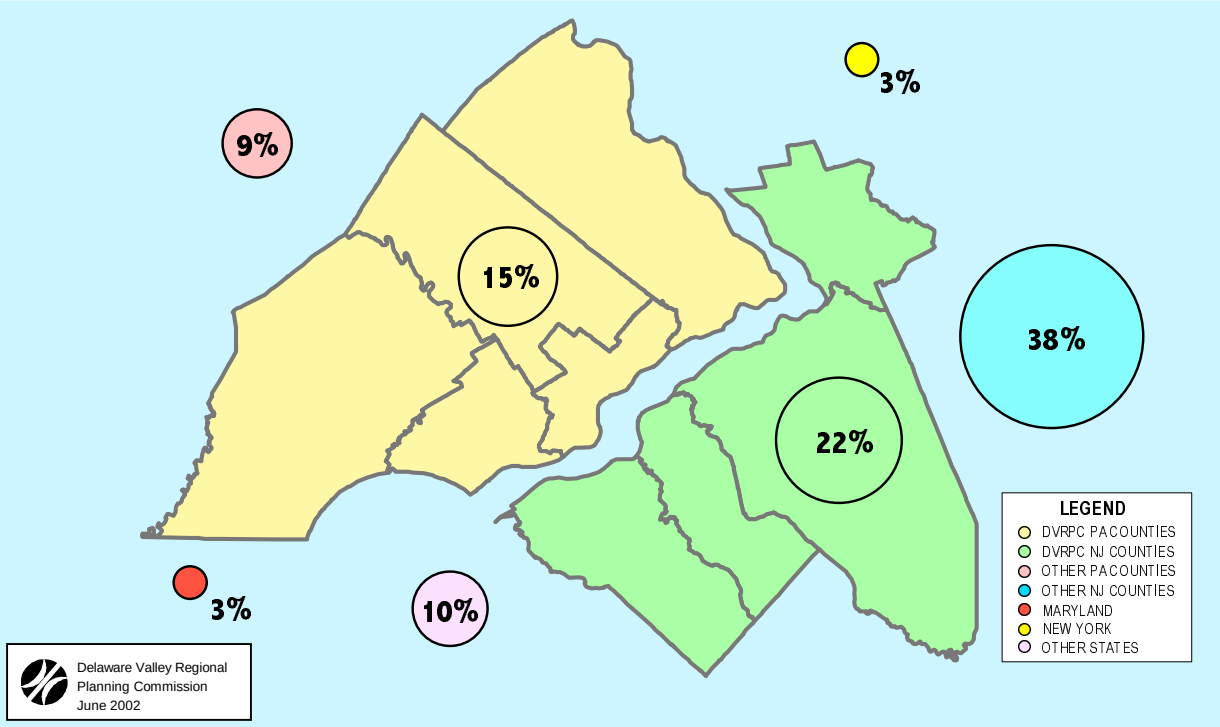
- The results for this query were obtained by using the GIS to compute distances between the cordon station and origins/destinations within the region gathered with the first two questions in the survey. This data is broken out by home-based work trips, passenger vehicle trips and truck trips. The data has been put into five general groupings by the distance traveled: 0-5 miles, 5-10 miles, 10-20 miles, 20-50 miles and above 50 miles. The complete data set is in Table A-13 in the Appendix.

- The average trip lengths vary from about 21 to 26 miles, with truck trips possessing the longest trip length (26 miles) and automobile trips possessing about the same (about 24 miles). There were 3 trips recorded beyond 60 miles.

- The trip lengths for trucks are similar to automobile trips. The 10-50 mile trip length contains 85 percent of the commercial vehicle trips with 10 percent of the trips 10 miles and under. The work trips and passenger vehicle trips each have about 86 percent of their values in the 10-50 mile range. These two trip categories have values of 10 percent and 12 percent respectfully for trips of 10 miles and under.

- Work and automobile trips both have 6 percent shares respectively in the 0 to 5 mile range, and 6 and 4 percent shares in the 5 to 10 mile range. Work and automobile trips both have trips in the greater than 50 mile range. There were 4 and 21 trips respectively in this distance category.

Trucks Garaged by State and County



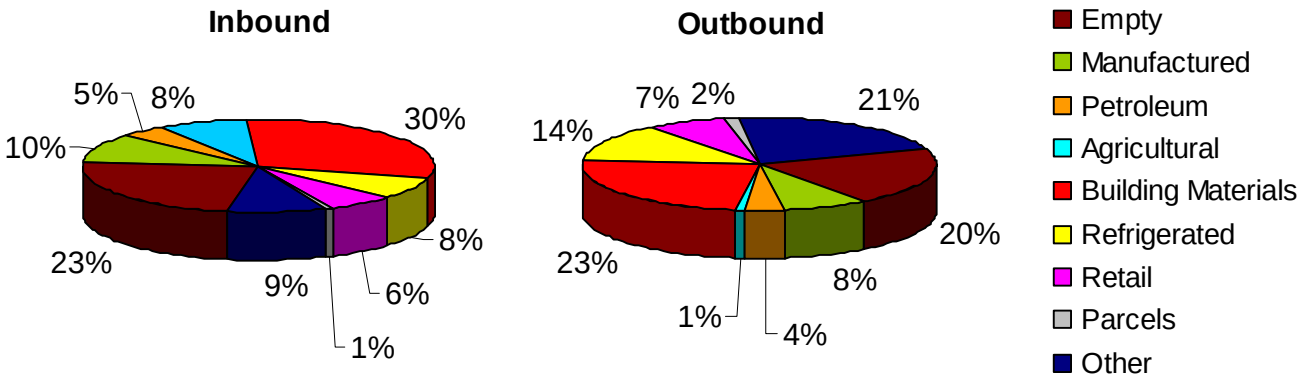
- There were 265 truck drivers asked "In what county is your truck garaged or parked when not in service?" Passenger vehicles were not asked this question. The complete data set is in Table A-14 in the Appendix.

- About one-third of the surveyed trucks are garaged within the DVRPC region (22% in New Jersey and 15% in Pennsylvania) while a few truck drivers house their trucks outside the DVRPC region in New Jersey or Pennsylvania (38% and 9% respectively).

- Maryland and New York each make up 3 percent of the garage locations. The remaining 10 percent of the responses are singular locations distributed throughout the United States.

- About 25 percent of the inbound traffic is garaged in Pennsylvania, while 58 percent of inbound traffic is garaged in New Jersey, with the rest miscellaneous. This distribution is similar with about 24 percent of the outbound traffic garaged in Pennsylvania, while 61 percent did likewise in New Jersey, with the rest miscellaneous.

Type of Commodities Carried by Trucks



- Truck drivers were asked, "What type of commodities are you carrying?" Passenger vehicles were not asked this question. The complete data set is in Table A-15 in the Appendix.

- The number of inbound and outbound trucks surveyed was nearly equal (134 versus 131 surveyed trucks) though there were disparities in the responses by direction.

- The largest total response is building materials (27% total) with 31 percent and 24 percent shares inbound and outbound respectively. "Empty" (22%), "other" (15%), refrigerated products (11%), and manufactured products (9%) constitute the middle range of total values. Retail products (6%), agricultural products (5%), petroleum products (4%), and parcels (1%) bring up the least common commodities carried by trucks.

- Trucks are just as likely to be traveling empty inbound than outbound (23% versus 21%). Agricultural products made up about 8 percent of the inbound traffic, but only 1 percent of the outbound flow. While "other" shows the opposite results, constituting 9 percent of the inbound and 21 percent of the outbound flow.

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PART 2
NJ 77 Survey Summary Results

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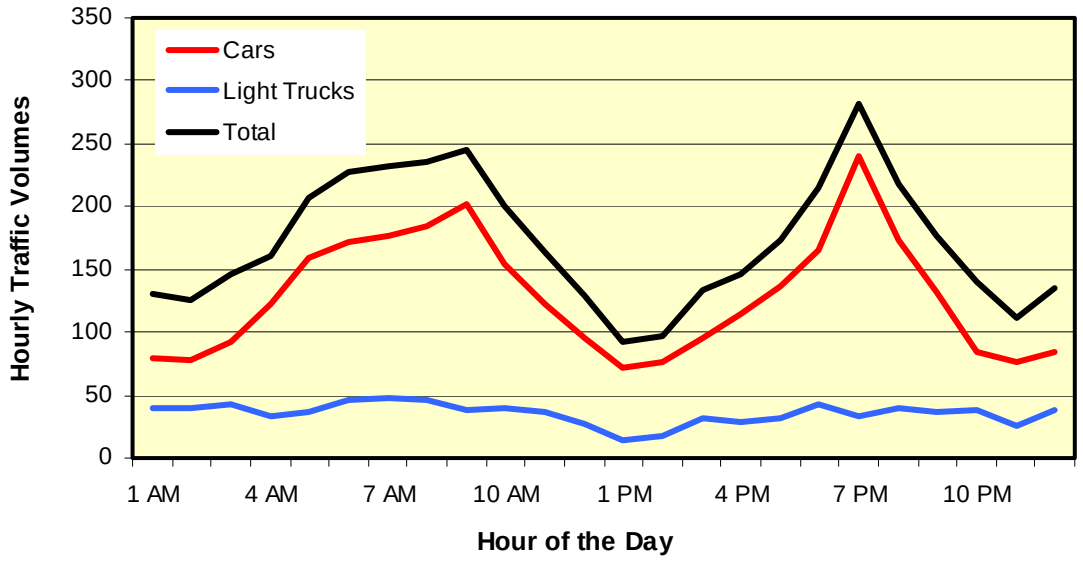
Daily Traffic Counts by Hour of the Day



- Vehicle classification traffic counts were collected during 24 hours preceding the survey. The NJ 77 traffic counts were taken near the Gloucester / Salem county boundary, where the field survey was conducted. The traffic volume at that location was 4,122 vehicles classified by vehicle type. The statistical portrait of the classification counts for NJ 77 is shown in Table B-1 in Appendix B in the back of the report.

- The AM peak hour traffic occurred between the hours of 8:00 a.m. and 9:00 a.m. The count for that hour was 245 vehicles. This count was 5.9 percent of the 24 hour traffic volume. The PM peak occurred between the hours of 6:00 p.m. and 7:00 p.m. The count for that hour was slightly higher at 281 vehicles. This constitutes 6.8 percent of the 24 hour traffic volume.

- The vehicular counts were dominated by 3,090 automobiles. This is about 75 percent of the 24 hour vehicular count. Light trucks were about 21 percent of the vehicles.

- Heavy trucks, those with more than two axles, make up the smallest group with only about 1 percent of the total vehicular traffic. Buses and Motorcycles together, were about 3 percent share of the vehicle counts.

Total Interviews by Survey Period

Survey Period	Total Surveys	Inbound Surveys	Inbound % of Total	Outbound Surveys	Outbound % of Total
Morning Shift					
6:30 a.m. - 10:30 a.m.	249	143	28%	106	22%
10:30 a.m. - 1:00 p.m.	238	118	23%	120	25%
Evening Shift					
1:00 p.m. - 4:30 p.m.	235	117	23%	118	25%
4:30 p.m. - 8:00 p.m.	264	129	25%	135	28%
TOTAL	**986**	**507**	**100%**	**479**	**100%**

- There were 986 drivers responding to survey at this location. This sample is about 99 percent of the desired total of 1,000. The hourly shift totals have been added together to create the table above. The disaggregated numbers are shown in greater detail in Table B-2 in the Appendix.

- There were more responses in the inbound direction than the outbound direction with 507 inbound and 479 outbound vehicles surveyed at the cordon station. The 6:30 a.m. to 8:30 a.m. morning peak time had about 16 percent of the volume, while the 4:30 p.m. to 6:00 p.m. afternoon peak time had an equal share with about 16 percent the total surveys.

- The inbound and outbound traffic flows are roughly equivalent. The inbound morning peak (6:30 a.m. to 10:30 a.m.) volume and the outbound morning peak volume had the greatest share difference (28% versus 22% respectively).

- The smallest shares in each direction occurred during off-peak times. Inbound only 49 responses for about 10 percent were between 2:30 p.m. and 4:30 p.m., while outbound responses were smallest between 8:30 a.m. and 10:30 a.m. with 27 responses for about 6 percent.

Place of Trip Origin by Municipality

Inbound Trip Origins		Outbound Trip Origins	
Municipality	**% of Total**	**Municipality**	**% of Total**
1. Upper Pittsgrove	27%	1. Harrison	25%
2. Bridgeton	16%	2. Woodbury	5%
3. Upper Deerfield	15%	3. Mantua	5%
4. Pittsgrove	7%	4. Deptford	5%
5. Vineland	6%	5. South Harrison	4%
6. Elmer	3%	6. Elk	4%
7. Deerfield	3%	7. West Deptford	4%
8. Alloway	3%	8. East Greenwich	3%
9. Fairfield	3%	9. Paulsboro	3%
10. Franklin	2%	10. Logan	2%

- There were 957 drivers responding to the question, "Where did you start this trip?" The numbers in the table above show only the trips originating in the top ten municipalities. The disaggregated numbers are shown in detail in Table B-3 in the Appendix.

- About 58 percent of the inbound trips originate in Upper Pittsgrove (27%), Bridgeton (16%), and Upper Deerfield (15%). The smallest shares (not shown above) are Millville, Pilesgrove, Shiloh, and Elk each with about 1 percent. Only about 9 percent of the total origins were described as "other". Roughly 25 percent of the outbound trips originate in Harrison with three municipalities (Woodbury, Mantua, and Deptford) weighing in with about a 5 percent share each. "Other" origins made up the majority of outbound responses with a 34 percent share of the total.

- About 55 percent of the surveyed trips have home-based trip origins. The distribution of trip origins differ little from the total trips. Again, Upper Pittsgrove (24%), Bridgeton (18%), and Upper Deerfield (17%) make up a combined 59 percent share inbound, while Harrison and "other" (29% and 27% respectively) have the majority of the outbound home-based trip origins.

- Truck trips constitute about 18 percent of the drivers surveyed. About 49 percent of the inbound trucks may be attributed to origins in Upper Pittsgrove (33%) and Upper Deerfield (16%). The outbound truck origins are dominated by "other" responses with a 61 percent share. Harrison and Deptford have the next largest shares with 7 percent and 6 percent respectively.

Place of Trip Destination by Municipality

Inbound Trip Destination		Outbound Trip Destination	
Municipality	**% of Total**	**Municipality**	**% of Total**
1. Harrison	18%	1. Upper Pittsgrove	30%
2. Woodbury	8%	2. Bridgeton	13%
3. Philadelphia	6%	3. Upper Deerfield	11%
4. Mantua	5%	4. Millville	7%
5. West Deptford	5%	5. Hopewell	5%
6. Elk	4%	6. Pittsgrove	4%
7. East Greenwich	3%	7. Alloway	3%
8. Deptford	3%	8. Fairfield	3%
9. Greenwich	3%	9. Shiloh	2%
10. South Harrison	3%	10. Elk	2%

- There were 916 drivers responding to the question, "Where will this trip end?" The numbers in the table above show only the trip destinations aggregated for the top ten municipalities in each direction. The disaggregated numbers appear in detail in Table B-4 in the Appendix.

- The largest share of inbound trip destinations are to Harrison and Woodbury with 18 percent and 8 percent shares respectively. Upper Pittsgrove (30%), Bridgeton (13%), and Upper Deerfield (11%) combine for a 54 percent share of the outbound destinations. The remaining inbound and outbound municipalities have smaller trip shares, while "other" destinations account for 35 and 14 percent shares respectively.

- Home-based trip destinations constitute about 55 percent of all trips. About 33 percent of home-based inbound trips have Harrison, Woodbury, and Philadelphia as their destinations, while "other" commands a dominant 35 percent share. About 40 percent of the home-based outbound trips are destined for Upper Pittsgrove and Bridgeton.

- Truck trips are an 18 percent share of the surveyed vehicles with a combined 21 percent of the inbound trucks going to Harrison and Philadelphia. "Other" inbound responses hold a majority with 44 percent of the total surveyed. About 52 percent of the outbound truck destinations are destined for Upper Pittsgrove and Upper Deerfield.

Trip Stops by Vehicle Type

Survey Period	Passenger Vehicle Stopping	Commercial Vehicle Stopping	Total Stopping
Inbound Trips			
6:30 a.m. - 10:30 a.m.	0.0%	0.0%	0.0%
10:30 a.m. - 1:00 p.m.	2.1%	0.0%	1.7%
1:00 p.m. - 4:30 p.m.	0.0%	5.3%	0.9%
4:30 p.m. - 8:00 p.m.	0.0%	0.0%	0.0%
Outbound			
6:30 a.m. - 10:30 a.m.	0.0%	3.2%	0.9%
10:30 a.m. - 1:00 p.m.	1.0%	0.0%	0.9%
1:00 p.m. - 4:30 p.m.	2.0%	11.1%	3.4%
4:30 p.m. - 8:00 p.m.	0.9%	0.0%	0.8%
TOTAL	**0.7%**	**2.3%**	**1.0%**

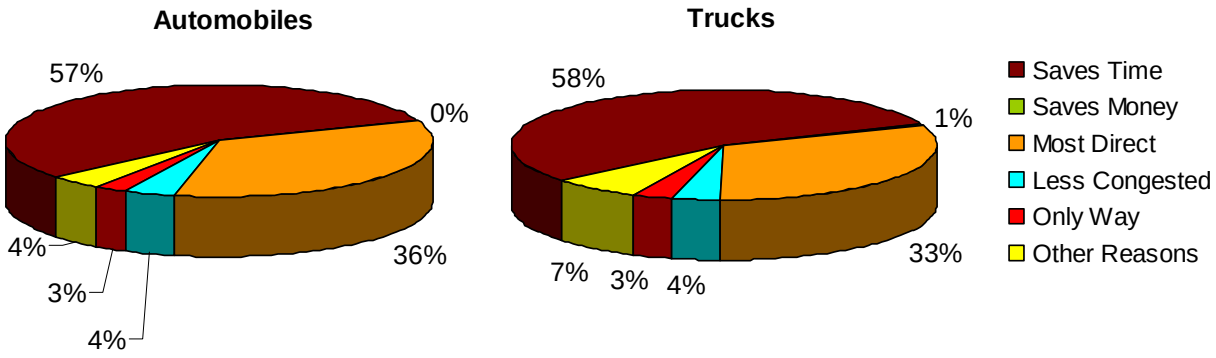
- There were 978 drivers responding to the question: "Will you stop before arriving at your destination?" The numbers in the table above were aggregated from the complete data set shown in Table B-5 in the Appendix.

- Only 10 drivers responded that they were going to stop before arriving at their destination. This consisted of 6 automobiles and 4 trucks responding affirmatively, meaning about 1 percent of responding drivers planned to stop before arriving at their destination.

- Only 3 drivers traveling inbound had "stop" responses, while 7 outbound drivers had the same response. The greatest share of positive responses occurred during the hours between 1:00 p.m. and 4:30 p.m., with 3 percent of outbound drivers answering that they planned on stopping.

- Trucks responses are similar to total response values with the largest share (11%) occurring between the hours of 1:00 p.m. and 4:30 p.m. of the outbound traffic, though this represents only 2 truck responses.

Reason for Using NJ 77 by Automobile and Truck Drivers



*Totals may exceed 100% due to multiple answers

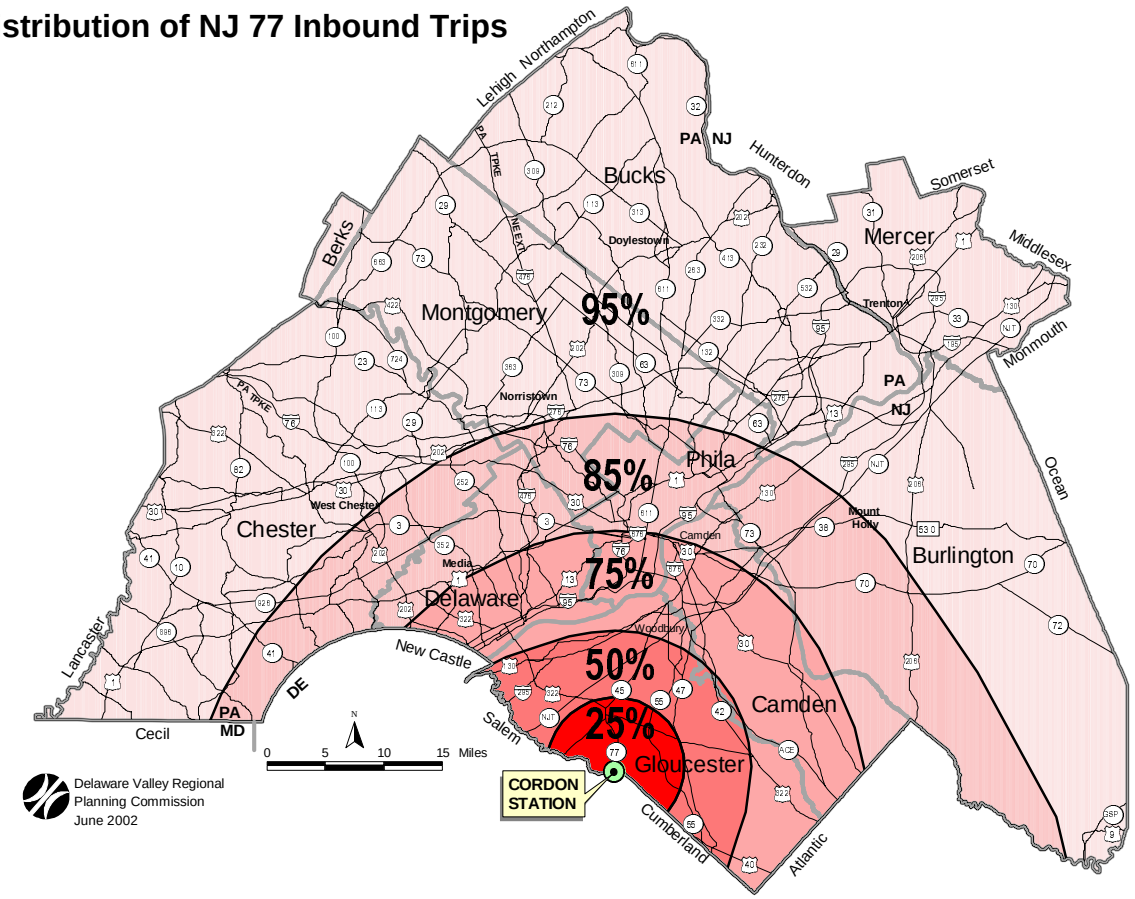
- There were 796 passenger and 178 commercial vehicles responding to the question, "Why do you use this road?" The drivers were permitted to provide more than one answer meaning that totals in the Appendix can add to more than 100 percent. The complete data sets are in Tables B-6 and B-7 in the Appendix.

- "Saves time" was the largest response for both vehicle types with 57 percent of the responses for automobiles and 58 percent for trucks. Both automobile and truck drivers responded with "only way" 3 percent of the time. Only about 1 percent of truck drivers responded with "saves money".

- There are very few differences between automobile and truck driver responses with "other" (4% and 7% respectively) being the category with the largest difference.

- Between 1:00 p.m. and 4:30 p.m. more passenger vehicles responded with "saves time" both inbound and outbound (76% and 78% respectively). Inbound trucks between 6:30 a.m. and 10:30 a.m. showed "saves time", with 63 percent, as the dominant answer while, during the same time period, "most direct" was the majority in the outbound responses with a 72 percent share.

Distribution of NJ 77 Inbound Trips



- The map shows the distribution of inbound trips within the DVRPC region, though the percentages also include values outside the region but within the isochrone lines. About 90 percent of the trips end within the region; the through trips are described below.

- Only 9.9 percent of the surveyed vehicles were through trips with a destination outside the region. Of these trips about 1.7 percent of all trips were headed west out of the region into Pennsylvania towards Lancaster County.

- About 1.2 percent of the through trips went north of Pennsylvania up the PA Turnpike Northeast Extension (I-476) and beyond.

- About 4.2 percent of the trips had destinations outside the region in north New Jersey towards New York City and only 1.4 percent of the of the trips were headed east towards shore points.

- The other 1.4 percent of through trips are to other, singular, and miscellaneous destinations, though many of them may be characterized as north of the region.

Major Roads Taken by all Vehicles

Inbound Traffic		Outbound Traffic	
Roads Used	**% of Total**	**Roads Used**	**% of Total**
1. US 322	20%	1. NJ 40	21%
2. I-295	17%	2. NJ 55	15%
3. NJ 45	13%	3. NJ 49	10%
4. NJ 55	12%	4. NJ 45	6%
5. I-95	10%	5. US 322	6%
6. NJ Turnpike	5%	6. CR 606	6%

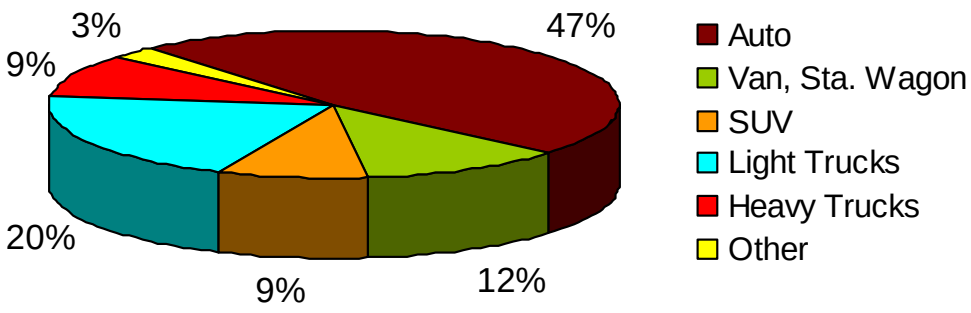
- There were 393 driver responses to the question "What is/are the major roads that you will take to reach your destination after this road?" The complete data set is in Table B-8 in the Appendix.

- US 322 (20%), I-295 (17%), and NJ 45 (13%) were the major roads with the greatest inbound responses. NJ 55 and I-95 followed up with about 12 percent and 10 percent, respectively. Inbound drivers also responded with the New Jersey Turnpike as a major road of choice for a 5 percent share. The "other" category, a catch-all for miscellaneous responses, had a 19 percent share.

- NJ 40 and NJ 55 combined for 36 percent of outbound traffic responses (21% and 15% respectively). NJ 49 also garnered 10 percent of the responses. The "other" category had a 32 percent share, with the remaining facilities having small shares of the total outbound volume.

- Inbound truck responses were largely indistinguishable from the passenger or total responses except for NJ 45 (4% versus 16%) and the New Jersey Turnpike (10% versus 3%). In the outbound direction, again, NJ 55 (21%) and NJ 40 (18%) are the favored major roads, with "other" having a dominant 41 percent share of the responses.

Type of Vehicles Surveyed



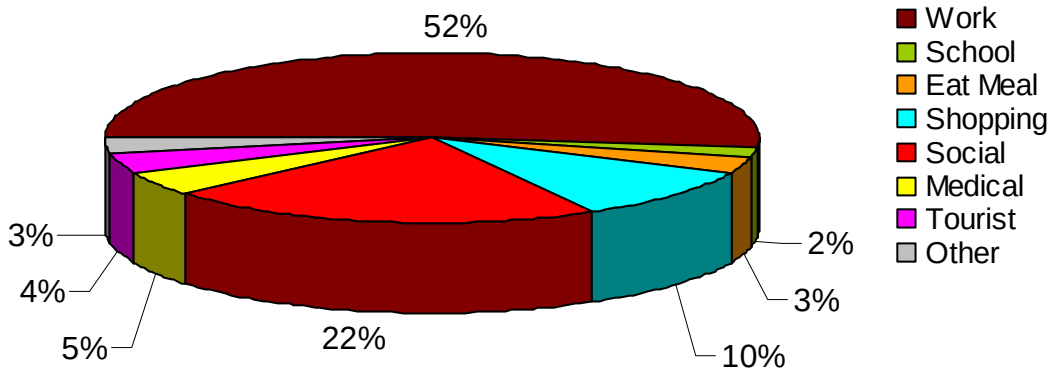
- The response to this question was obtained from observation rather than questioning the 986 drivers in the survey sample. The grouped categories are not aggregated the same as the 24 hour vehicle classification count, with some categories broken out and some combined in order to help with the analysis. The complete data set is in Table B-9 in the Appendix.

- The composition of the surveyed vehicles differ from the one-way 24 hour vehicle classification counts. Surveyed passenger vehicles (autos, vans, SUVs) had a lesser share than the 24 hour count (68% versus 75%). Light truck traffic (pickup, panel, and single unit) had an equal share during the survey and the 24 hour class count with 20 percent.

- Automobiles make up about 47 percent of the surveyed vehicle mix, while vans with 12 percent and SUVs with about 9 percent, constitute the rest of the passenger vehicles. Light trucks have the second largest share with 20 percent of the total.

- Surveyed heavy trucks had about 11 percent share, which is greater than the 24 hour class count of about 1 percent.

Trip Purpose of Passenger Vehicles



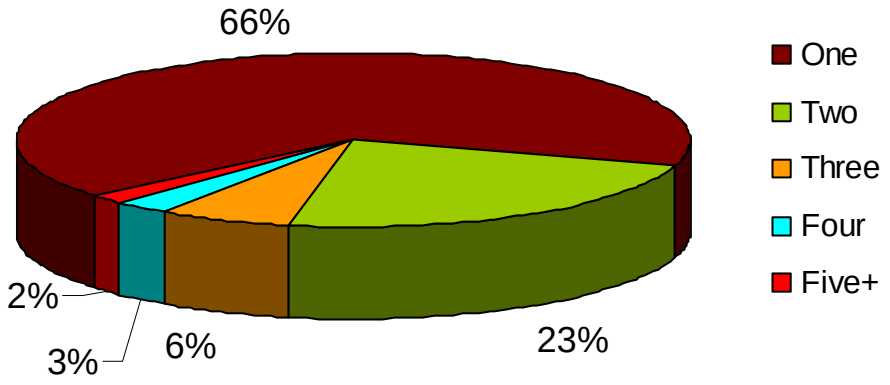
- Drivers in passenger vehicles were asked "What is the purpose of this trip?" Truck and commercial vehicle drivers were not asked this question as their purpose was evident. The complete data set is in Table B-10 in the Appendix.

- The work trip was the most common trip purpose with about 52 percent of the total trips. Work trips dominate the morning peak hours between 6:30 a.m. and 8:30 a.m. with inbound and outbound shares of 83 percent for both. The afternoon inbound and outbound peak hours between 4:30 p.m. and 6:00 p.m. have lesser shares than the AM peaks with 60 percent and 46 percent, respectively.

- The social trip is the secondary reasons for making a trip, with about 22 percent of total trips. Inbound social trips are greatest between 10:30 a.m. and 1:00 p.m. with a 26 percent share, with outbound responses making up about 33 percent of the total during the same time period. The greatest outbound response share is from 8:30 a.m. to 10:30 a.m. with 60 percent.

- The remaining six categories are divided among the remaining 26 percent of trip purposes. Shopping had the largest share of the remaining purposes with 10 percent. Medical, tourist, "other", and eat meal, each have shares of 5, 4, 3, and 3 percent, respectively.

Vehicle Occupancy



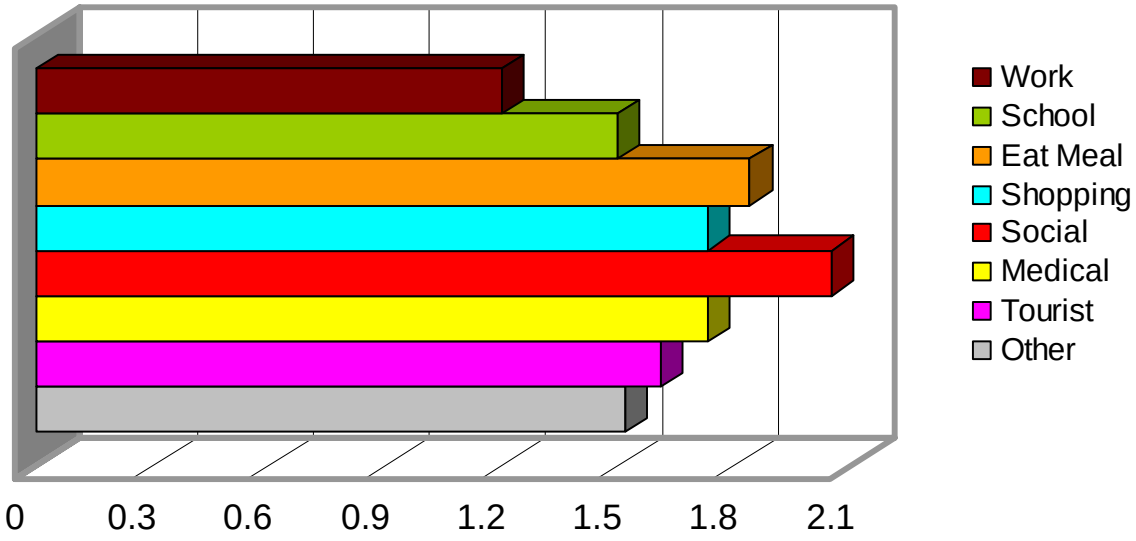
- The answer to the question, "How many people are in the vehicle?" was obtained by observation, rather than questioning the 801 drivers in the survey sample. This question was used for passenger vehicles only. The complete data set is in Table B-11 in the Appendix.

- Single occupant vehicles were 66 percent of total vehicles surveyed. The greatest share of these occurred inbound and outbound, between 6:30 a.m. and 8:30 a.m. (79% and 86% respectively).

- Two occupant vehicles hold a 23 percent share of the vehicles surveyed and they have a double digit share in every survey period. The greatest inbound share is 31 percent during the 10:30 a.m. to 12:00 p.m. period, while the greatest outbound share is 38 percent during the same time period.

- Three and four occupant vehicles combine for about a 9 percent share of the total (6% and 3% respectively). Only thirteen vehicles had 5+ occupants, giving it the smallest share with about 2 percent of the total.

Average Vehicle Occupancy by Trip Purpose



- Average vehicle occupancy by trip purpose was obtained by cross tabulating the observed vehicle occupancy with the survey question regarding trip purpose. The complete data set is in Table B-12 in the Appendix.

- The total average for all vehicles is 1.51 persons per vehicle. Average occupancy for the van/station wagons is the greatest (2.06), exceeding the average SUV occupancy (1.50) and average automobile occupancy (1.45). The mode with the greatest occupancy rate is the van/station wagon on “other” and social trips with 3.00 and 2.83 persons per van/station wagon respectively

- Total work trips have the lowest vehicle occupancy rates for any trip purpose (1.20). Individually, by vehicle type, both the SUV and van/station wagon had the low of 1.00 persons per vehicle for school category while the automobile had a 1.50 rate in the tourist category.

- The total trip purposes with the greatest total occupancy rate are the social and eat meal trip categories with 2.05 and 1.84 persons per vehicle respectively.

Vehicle Trip Length Distribution within the DVRPC Region

Trip Length	Work Trips	Auto Trips	Truck Trip
0-5 miles	28%	31%	18%
5-10 miles	21%	22%	18%
10-20 miles	39%	35%	35%
20-50 miles	11%	12%	28%
>50 miles	1%	0%	1%
Average Trip Length	**11.7**	**11.2**	**15.3**

- The results for this query were obtained by using the GIS to compute distances between the cordon station and origins/destinations within the region gathered with the first two questions in the survey. This data is broken out by home-based work trips, passenger vehicle trips and truck trips. The data has been put into five general groupings by the distance traveled: 0-5 miles, 5-10 miles, 10-20 miles, 20-50 miles and above 50 miles. The complete data set is in Table B-13 in the Appendix.

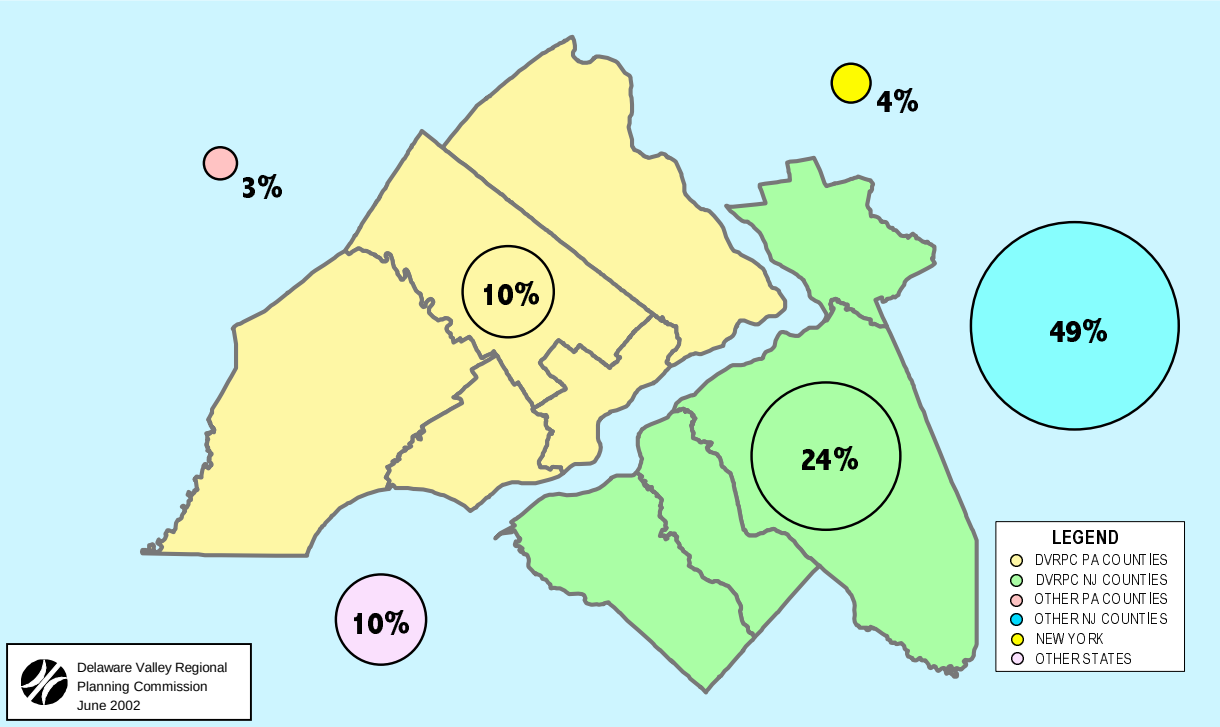
- The average trip lengths vary from about 11 to 15 miles, with truck trips possessing the longest average trip length (15 miles) and automobile and work trips roughly the same (about 11 miles). Auto and work trips generally mimic one another, while the truck trips show a greater clustering above 20 miles.

- Work and automobile trips have similar shares in the 0 to 5 mile range (28% and 31% respectively) and in the 5 to 10 mile range (21% and 22% respectively).

- As might be expected, trip lengths for trucks are greater than automobile trips. The trips 10 miles and under have a 36 percent share, while the work and passenger vehicle trips have shares of 49 percent and 53 percent, respectively. The 10-50 mile trip distance contains 63 percent of the truck trips, while the work and passenger vehicle trips have shares of 50 percent and 47 percent, respectively.

- Work, automobile and truck trips all have between zero and 1 percent of their trips traveling farther than 50 miles.

Trucks Garaged by State and County



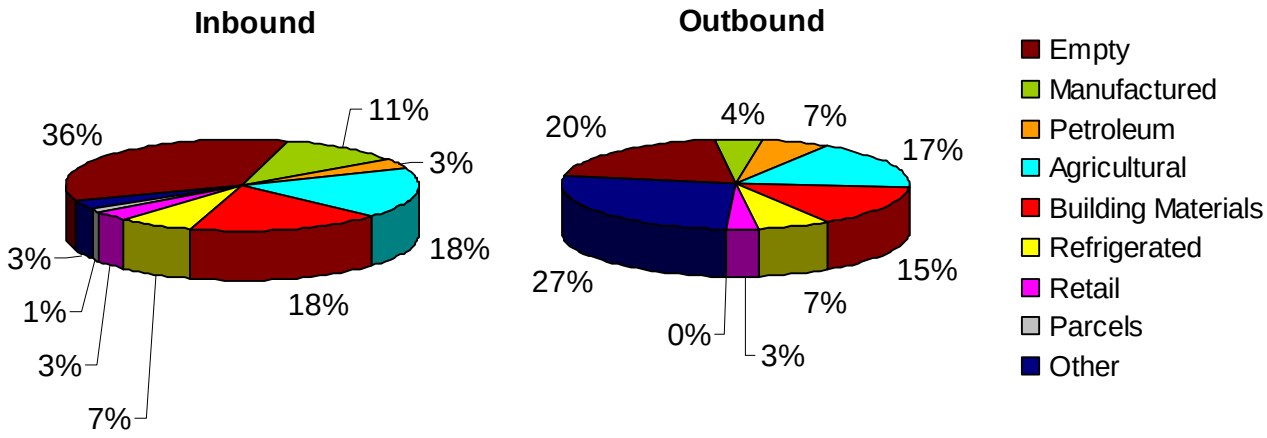
- There were 179 truck drivers responded to the question "In what county is your truck garaged or parked when not in service?" Passenger vehicles were not asked this question. The complete data set is in Table B-14 in the Appendix.

- About one-third of the surveyed trucks are garaged within the DVRPC region (10% in Pennsylvania and 24% in New Jersey) A large portion of truck drivers house their trucks outside the DVRPC region in New Jersey (49%) and a small portion do likewise in Pennsylvania (3%).

- About 74 percent of the inbound traffic is garaged in New Jersey, while 16 percent did likewise in Pennsylvania, with the remaining 10 percent in other states. This distribution is slightly different in that the outbound garaged total is again dominant with about 72 percent in New Jersey but other states make up 18 percent, while 10 percent are garaged in Pennsylvania.

- New York has only about 4 percent of the truck garage locations. The remaining 10 percent of the responses are singular locations distributed throughout the United States.

Type of Commodities Carried by Trucks



- Truck drivers were asked the question "What type of commodities are you carrying?" Passenger vehicles were not asked this question. The complete data set is in Table B-15 in the Appendix.

- The number of inbound and outbound trucks surveyed was nearly equal (89 versus 93 surveyed trucks).

- The largest total response is "empty" (28% total) with inbound and outbound shares at 35 percent and 20 percent. Agricultural products (18%), building materials (17%), and "other" (15%) constitute the middle values. Manufactured products (8%), refrigerated products (7%), petroleum products (5%), retail merchandise (3%), and parcels (1%) bring up the least common commodities carried by trucks.

- Besides being "empty", trucks are more likely to be traveling evenly with agricultural products inbound and outbound (18% versus 17%). Manufactured products are more likely to be inbound than outbound (11% versus 4%). While "other" is dominantly an outbound rather than an inbound response (27% versus 3%).

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APPENDIX A

Survey Responses for PA 41, Gap Newport Pike Cordon Station North of Zook Road, West Sadsbury Township, Chester County, Pennsylvania

Table A-1: Daily Vehicle Classification Traffic Counts
(NJ 55 Cordon Station South of US 40, Vineland)

Hour of Day	Vehicle Type 1	2	3	4	5	6	7	8	9	10	11	12	13	Hourly Counts	% of Total
12 am - 1 am	1	110	27	4	12	2	1	5	18	1	2	0	0	**183**	**0.4%**
1 am - 2 am	2	108	22	3	14	4	3	11	20	1	3	0	0	**191**	**0.5%**
2 am - 3 am	1	70	43	9	16	7	9	14	26	2	1	0	0	**198**	**0.5%**
3 am - 4 am	5	215	83	11	32	13	12	26	42	2	3	0	0	**444**	**1.1%**
4 am - 5 am	8	664	270	16	61	21	25	21	46	1	4	0	0	**1137**	**2.7%**
5 am - 6 am	10	1198	472	22	118	25	31	39	47	1	6	0	0	**1969**	**4.8%**
6 am - 7 am	9	1507	505	43	126	34	41	38	77	3	4	0	0	**2387**	**5.8%**
7 am - 8 am	19	1793	492	30	145	45	26	48	92	3	3	0	0	**2696**	**6.5%**
8 am - 9 am	17	1713	510	32	120	32	42	53	115	6	0	0	1	**2641**	**6.4%**
9 am -10 am	19	1374	513	39	126	30	29	60	132	1	1	0	0	**2324**	**5.6%**
10 am -11 am	14	1307	460	32	137	34	47	57	104	4	1	0	0	**2197**	**5.3%**
11 am -12 pm	35	1358	475	30	106	43	24	48	92	6	0	0	0	**2217**	**5.4%**
12 pm - 1 pm	21	1400	523	36	147	38	24	43	81	1	1	0	0	**2315**	**5.6%**
1 pm - 2 pm	23	1665	562	39	152	44	26	41	95	3	1	0	0	**2651**	**6.4%**
2 pm - 3 pm	15	1883	647	43	161	32	14	48	80	1	3	0	0	**2927**	**7.1%**
3 pm - 4 pm	13	2147	656	20	150	32	16	52	71	2	0	0	0	**3159**	**7.6%**
4 pm - 5 pm	8	2288	606	21	132	32	10	28	50	1	0	0	1	**3177**	**7.7%**
5 pm - 6 pm	4	1967	421	14	121	16	8	20	45	0	2	0	0	**2618**	**6.3%**
6 pm - 7 pm	2	1311	262	11	89	5	3	29	37	0	3	0	0	**1752**	**4.2%**
7 pm - 8 pm	2	1009	194	10	58	4	4	11	35	0	4	0	0	**1331**	**3.2%**
8 pm - 9 pm	1	884	169	8	37	0	6	18	14	0	1	0	0	**1138**	**2.7%**
9 pm -10 pm	0	659	129	8	23	1	4	11	28	0	1	0	0	**864**	**2.1%**
10 pm -11 pm	3	457	92	3	13	1	2	10	24	0	1	0	0	**606**	**1.5%**
11 pm -12 am	5	200	54	6	16	1	0	12	22	0	0	0	0	**316**	**0.8%**
TOTAL	**237**	**27287**	**8187**	**490**	**2112**	**496**	**407**	**743**	**1393**	**39**	**45**	**0**	**2**	**41438**	**100%**
% Of Total	**0.6%**	**65.9%**	**19.8%**	**1.2%**	**5.1%**	**1.2%**	**1.0%**	**1.8%**	**3.4%**	**0.1%**	**0.1%**	**0.0%**	**0.0%**	**100%**	

Legend

1. Motorcycle, Bicycle
2. Cars Trailers
3. Two Axle Long
4. Buses
5. Two Axle, Six Tire
6. Three Axle Single
7. Four Axle Single
8. Less Than Five Axle Double
9. Five Axle Double
10. Greater Than Five Axle Double
11. Less Than Six Axle Multi
12. Six Axle Multi
13. Greater Than Six Axle Multi

Table A-2. Survey Interviews at NJ 55 by Survey Period
(NJ 55 Cordon Station South of US 40, Vineland)

Survey Period	Inbound Traffic		Outbound Traffic		Total Traffic	
	No. of Surveys	% of Total	No. of Surveys	% of Total	No. of Surveys	% of Total
Morning Shift						
6:30 a.m. - 8:30 a.m.	134	18.4%	142	18.7%	276	18.6%
8:30 a.m. - 10:30 a.m.	106	14.5%	101	13.3%	207	13.9%
Subtotal	**240**	**32.9%**	**243**	**32.1%**	**483**	**32.5%**
10:30 a.m. - 12:00 p.m.	96	13.2%	113	14.9%	209	14.1%
12:00 p.m. - 1:00 p.m.	89	12.2%	111	14.6%	200	13.4%
Subtotal	**185**	**25.4%**	**224**	**29.6%**	**409**	**27.5%**
Evening Shift						
1:00 p.m. - 2:30 p.m.	115	15.8%	103	13.6%	218	14.7%
2:30 p.m. - 4:30 p.m.	82	11.2%	80	10.6%	162	10.9%
Subtotal	**197**	**27.0%**	**183**	**24.1%**	**380**	**25.6%**
4:30 p.m. - 6:00 p.m.	107	14.7%	108	14.2%	215	14.5%
6:00 p.m. - 8:00 p.m.	0	0.0%	0	0.0%	0	0.0%
Subtotal	**107**	**14.7%**	**108**	**14.2%**	**215**	**14.5%**
TOTAL	**729**	**100%**	**758**	**100%**	**1487**	**100%**

Table A-3. Place of Vehicle Trip Origin by Municipality
(NJ 55 Cordon Station South of US 40, Vineland)

Municipality of Trip Origin	Home-Based Trips		Total Trips		Truck Trips	
	No. of Trips	% of Total	No. of Trips	% of Total	No. of Trips	% of Total
Inbound Trips						
1. Vineland	144	35.1%	274	38.6%	57	46.3%
2. Millville	63	15.4%	90	12.7%	16	13.0%
3. Wildwood	31	7.6%	44	6.2%	2	1.6%
4. Cape May	24	5.9%	37	5.2%	3	2.4%
5. Avalon	16	3.9%	24	3.4%	1	0.8%
6. Sea Isle City	14	3.4%	21	3.0%	1	0.8%
7. Ocean City	9	2.2%	21	3.0%	3	2.4%
8. Middle	11	2.7%	20	2.8%	6	4.9%
9. Dennis	12	2.9%	18	2.5%	2	1.6%
10. Bridgeton	6	1.5%	16	2.3%	5	4.1%
11. Stone Harbor	9	2.2%	15	2.1%	0	0.0%
12. Lower	7	1.7%	13	1.8%	1	0.8%
13. North Wildwood	10	2.4%	13	1.8%	0	0.0%
14. Downe	7	1.7%	12	1.7%	3	2.4%
15. Other	47	11.5%	92	13.0%	23	18.7%
TOTAL	**410**	**100%**	**710**	**100%**	**123**	**100%**
Outbound Trips						
1. Philadelphia	53	12.4%	98	13.6%	16	13.3%
2. Franklin	20	4.7%	36	5.0%	5	4.2%
3. Deptford	21	4.9%	33	4.6%	5	4.2%
4. Harrison	18	4.2%	33	4.6%	5	4.2%
5. Washington	16	3.7%	23	3.2%	2	1.7%
6. Camden	11	2.6%	21	2.9%	4	3.3%
7. Glassboro	10	2.3%	18	2.5%	3	2.5%
8. Woodbury	8	1.9%	15	2.1%	3	2.5%
9. Mantua	9	2.1%	14	1.9%	1	0.8%
10. Pittsgrove	9	2.1%	13	1.8%	0	0.0%
11. Cherry Hill	10	2.3%	13	1.8%	0	0.0%
12. Brandywine	5	1.2%	11	1.5%	0	0.0%
13. West Deptford	6	1.4%	11	1.5%	3	2.5%
14. Pennsauken	4	0.9%	10	1.4%	3	2.5%
15. Other	227	53.2%	374	51.7%	70	58.3%
TOTAL	**427**	**100%**	**723**	**100%**	**120**	**100%**

Table A-4. Place of Vehicle Trip Destination by Municipality
(NJ 55 Cordon Station South of US 40, Vineland)

Municipality of Trip Destination	Home-Based Trips		Total Trips		Truck Trips	
	No. of Trips	% of Total	No. of Trips	% of Total	No. of Trips	% of Total
Inbound Trips						
1. Philadelphia	57	14.1%	89	12.7%	14	11.1%
2. Franklin	34	8.4%	51	7.3%	8	6.3%
3. Deptford	24	5.9%	39	5.5%	5	4.0%
4. Glassboro	16	4.0%	21	3.0%	2	1.6%
5. Camden	9	2.2%	16	2.3%	1	0.8%
6. Cherry Hill	8	2.0%	15	2.1%	1	0.8%
7. Washington	9	2.2%	15	2.1%	0	0.0%
8. Pittsgrove	10	2.5%	12	1.7%	1	0.8%
9. Mantua	6	1.5%	11	1.6%	2	1.6%
10. Gloucester	4	1.0%	10	1.4%	0	0.0%
11. Woodbury	1	0.2%	10	1.4%	3	2.4%
12. Harrison	7	1.7%	9	1.3%	2	1.6%
13. Upper Pittsgrove	4	1.0%	8	1.1%	1	0.8%
14. Moorestown	4	1.0%	7	1.0%	0	0.0%
15. Other	212	52.3%	390	55.5%	86	68.3%
TOTAL	**405**	**100%**	**703**	**100%**	**126**	**100%**
Outbound Trips						
1. Vineland	128	29.7%	273	37.0%	63	50.0%
2. Millville	31	7.2%	63	8.5%	14	11.1%
3. Lower	39	9.0%	44	6.0%	4	3.2%
4. Wildwood	27	6.3%	36	4.9%	2	1.6%
5. Middle	15	3.5%	29	3.9%	5	4.0%
6. Ocean City	21	4.9%	27	3.7%	2	1.6%
7. Sea Isle City	16	3.7%	25	3.4%	2	1.6%
8. North Wildwood	18	4.2%	24	3.3%	3	2.4%
9. Avalon	18	4.2%	22	3.0%	0	0.0%
10. Wildwood Crest	20	4.6%	21	2.8%	0	0.0%
11. Deerfield	10	2.3%	18	2.4%	6	4.8%
12. Maurice River	7	1.6%	18	2.4%	5	4.0%
13. Stone Harbor	11	2.6%	17	2.3%	0	0.0%
14. Bridgeton	10	2.3%	16	2.2%	4	3.2%
15. Other	60	13.9%	104	14.1%	16	12.7%
TOTAL	**431**	**100%**	**737**	**100%**	**126**	**100%**

Table A-5. Stopping Before Arriving at Final Destination
(NJ 55 Cordon Station South of US 40, Vineland)

	Passenger Vehicles			Trucks			Total Vehicles		
Survey Period	No. of Surveyed	Vehicles Stopping	% Stopping	No. of Surveyed	Vehicles Stopping	% Stopping	No. of Surveyed	Vehicles Stopping	% Stopping
Inbound									
6:30 a.m. - 8:30 a.m.	106	0	0.0%	21	1	4.8%	127	1	0.8%
8:30 a.m. - 10:30 a.m.	85	1	1.2%	16	0	0.0%	101	1	1.0%
Subtotal	**191**	**1**	**0.5%**	**37**	**1**	**2.7%**	**228**	**2**	**0.9%**
10:30 a.m. - 12:00 p.m.	80	1	1.3%	16	1	6.3%	96	2	2.1%
12:00 p.m. - 1:00 p.m.	73	4	5.5%	24	1	4.2%	97	5	5.2%
Subtotal	**153**	**5**	**3.3%**	**40**	**2**	**5.0%**	**193**	**7**	**3.6%**
1:00 p.m. - 2:30 p.m.	91	6	6.6%	17	0	0.0%	108	6	5.6%
2:30 p.m. - 4:30 p.m.	65	0	0.0%	12	0	0.0%	77	0	0.0%
Subtotal	**156**	**6**	**3.8%**	**29**	**0**	**0.0%**	**185**	**6**	**3.2%**
4:30 p.m. - 6:00 p.m.	95	1	1.1%	22	1	4.5%	117	2	1.7%
6:00 p.m. - 8:00 p.m.									
Subtotal	**95**	**1**	**1.1%**	**22**	**1**	**4.5%**	**117**	**2**	**1.7%**
Outbound									
6:30 a.m. - 8:30 a.m.	120	9	7.5%	18	0	0.0%	138	9	6.5%
8:30 a.m. - 10:30 a.m.	83	0	0.0%	18	0	0.0%	101	0	0.0%
Subtotal	**203**	**9**	**4.4%**	**36**	**0**	**0.0%**	**239**	**9**	**3.8%**
10:30 a.m. - 12:00 p.m.	95	4	4.2%	24	1	4.2%	119	5	4.2%
12:00 p.m. - 1:00 p.m.	87	2	2.3%	25	0	0.0%	112	2	1.8%
Subtotal	**182**	**6**	**3.3%**	**49**	**1**	**2.0%**	**231**	**7**	**3.0%**
1:00 p.m. - 2:30 p.m.	78	4	5.1%	17	0	0.0%	95	4	4.2%
2:30 p.m. - 4:30 p.m.	63	1	1.6%	7	0	0.0%	70	1	1.4%
Subtotal	**141**	**5**	**3.5%**	**24**	**0**	**0.0%**	**165**	**5**	**3.0%**
4:30 p.m. - 6:00 p.m.	101	1	1.0%	15	1	6.7%	116	2	1.7%
6:00 p.m. - 8:00 p.m.	0	0	0	0	0	0	0	0	0
Subtotal	**101**	**1**	**1.0%**	**15**	**1**	**6.7%**	**116**	**2**	**1.7%**
TOTAL	**1222**	**34**	**2.8%**	**252**	**6**	**2.4%**	**1474**	**40**	**2.7%**

Table A-6. Reasons for Using NJ 55 by Drivers of Passenger Vehicles
(NJ 55 Cordon Station South of US 40, Vineland)

Survey Period	Total Drivers	Saves Time		Saves Money		Most Direct		Less Congested		Only Way		Other Reasons	
		No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total
Inbound													
6:30 a.m. - 8:30 a.m.	106	75	70.8%	0	0.0%	25	23.6%	3	2.8%	3	2.8%	9	8.5%
8:30 a.m. - 10:30 a.m.	84	62	73.8%	2	2.4%	21	25.0%	8	9.5%	0	0.0%	6	7.1%
Subtotal	**190**	**137**	**72.1%**	**2**	**1.1%**	**46**	**24.2%**	**11**	**5.8%**	**3**	**1.6%**	**15**	**7.9%**
10:30 a.m. - 12:00 p.m.	76	51	67.1%	4	5.3%	19	25.0%	6	7.9%	1	1.3%	4	5.3%
12:00 p.m. - 1:00 p.m.	73	68	93.2%	2	2.7%	21	28.8%	1	1.4%	0	0.0%	7	9.6%
Subtotal	**149**	**119**	**79.9%**	**6**	**4.0%**	**40**	**26.8%**	**7**	**4.7%**	**1**	**0.7%**	**11**	**7.4%**
1:00 p.m. - 2:30 p.m.	90	72	80.0%	2	2.2%	17	18.9%	2	2.2%	1	1.1%	1	1.1%
2:30 p.m. - 4:30 p.m.	64	50	78.1%	0	0.0%	14	21.9%	0	0.0%	0	0.0%	0	0.0%
Subtotal	**154**	**122**	**79.2%**	**2**	**1.3%**	**31**	**20.1%**	**2**	**1.3%**	**1**	**0.6%**	**1**	**0.6%**
4:30 p.m. - 6:00 p.m.	94	61	64.9%	1	1.1%	29	30.9%	4	4.3%	3	3.2%	2	2.1%
6:00 p.m. - 8:00 p.m.	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Subtotal	**94**	**61**	**64.9%**	**1**	**1.1%**	**29**	**30.9%**	**4**	**4.3%**	**3**	**3.2%**	**2**	**2.1%**
Outbound													
6:30 a.m. - 8:30 a.m.	120	89	74.2%	1	0.8%	36	30.0%	5	4.2%	0	0.0%	1	0.8%
8:30 a.m. - 10:30 a.m.	82	60	73.2%	1	1.2%	19	23.2%	4	4.9%	1	1.2%	3	3.7%
Subtotal	**202**	**149**	**73.8%**	**2**	**1.0%**	**55**	**27.2%**	**9**	**4.5%**	**1**	**0.5%**	**4**	**2.0%**
10:30 a.m. - 12:00 p.m.	95	51	53.7%	4	4.2%	36	37.9%	5	5.3%	3	3.2%	5	5.3%
12:00 p.m. - 1:00 p.m.	87	56	64.4%	4	4.6%	29	33.3%	1	1.1%	1	1.1%	5	5.7%
Subtotal	**182**	**107**	**58.8%**	**8**	**4.4%**	**65**	**35.7%**	**6**	**3.3%**	**4**	**2.2%**	**10**	**5.5%**
1:00 p.m. - 2:30 p.m.	78	66	84.6%	1	1.3%	25	32.1%	8	10.3%	0	0.0%	2	2.6%
2:30 p.m. - 4:30 p.m.	63	56	88.9%	4	6.3%	0	0.0%	3	4.8%	0	0.0%	3	4.8%
Subtotal	**141**	**122**	**86.5%**	**5**	**3.5%**	**25**	**17.7%**	**11**	**7.8%**	**0**	**0.0%**	**5**	**3.5%**
4:30 p.m. - 6:00 p.m.	101	95	94.1%	3	3.0%	1	1.0%	4	4.0%	0	0.0%	4	4.0%
6:00 p.m. - 8:00 p.m.	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	**101**	**95**	**94.1%**	**3**	**3.0%**	**1**	**1.0%**	**4**	**4.0%**	**0**	**0.0%**	**4**	**4.0%**
TOTAL	**1213**	**912**	**75.2%**	**29**	**2.4%**	**292**	**24.1%**	**54**	**4.5%**	**13**	**1.1%**	**52**	**4.3%**

Table A-7. Reasons for Using NJ 55 by Truck Drivers
(NJ 55 Cordon Station South of US 40, Vineland)

Survey Period	Total Drivers	Saves Time		Saves Money		Most Direct		Less Congested		Only Way		Other Reasons	
		No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total
Inbound													
6:30 a.m. - 8:30 a.m.	27	14	51.9%	1	3.7%	13	48.1%	3	11.1%	0	0.0%	0	0.0%
8:30 a.m. - 10:30 a.m.	21	11	52.4%	1	4.8%	9	42.9%	0	0.0%	1	4.8%	2	9.5%
Subtotal	**48**	**25**	**52.1%**	**2**	**4.2%**	**22**	**45.8%**	**3**	**6.3%**	**1**	**2.1%**	**2**	**4.2%**
10:30 a.m. - 12:00 p.m.	16	9	56.3%	2	12.5%	6	37.5%	0	0.0%	1	6.3%	0	0.0%
12:00 p.m. - 1:00 p.m.	16	10	62.5%	0	0.0%	6	37.5%	0	0.0%	0	0.0%	0	0.0%
Subtotal	**32**	**19**	**59.4%**	**2**	**6.3%**	**12**	**37.5%**	**0**	**0.0%**	**1**	**3.1%**	**0**	**0.0%**
1:00 p.m. - 2:30 p.m.	24	23	95.8%	1	4.2%	0	0.0%	2	8.3%	0	0.0%	1	4.2%
2:30 p.m. - 4:30 p.m.	17	12	70.6%	1	5.9%	5	29.4%	1	5.9%	0	0.0%	1	5.9%
Subtotal	**41**	**35**	**85.4%**	**2**	**4.9%**	**5**	**12.2%**	**3**	**7.3%**	**0**	**0.0%**	**2**	**4.9%**
4:30 p.m. - 6:00 p.m.	12	5	41.7%	0	0.0%	6	50.0%	1	8.3%	0	0.0%	1	8.3%
6:00 p.m. - 8:00 p.m.	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	**12**	**5**	**41.7%**	**0**	**0.0%**	**6**	**50.0%**	**1**	**8.3%**	**0**	**0.0%**	**1**	**8.3%**
Outbound													
6:30 a.m. - 8:30 a.m.	22	13	59.1%	0	0.0%	9	40.9%	1	4.5%	0	0.0%	1	4.5%
8:30 a.m. - 10:30 a.m.	18	12	66.7%	0	0.0%	6	33.3%	0	0.0%	0	0.0%	0	0.0%
Subtotal	**40**	**25**	**62.5%**	**0**	**0.0%**	**15**	**37.5%**	**1**	**2.5%**	**0**	**0.0%**	**1**	**2.5%**
10:30 a.m. - 12:00 p.m.	18	10	55.6%	0	0.0%	6	33.3%	1	5.6%	0	0.0%	1	5.6%
12:00 p.m. - 1:00 p.m.	23	17	73.9%	0	0.0%	7	30.4%	1	4.3%	0	0.0%	0	0.0%
Subtotal	**41**	**27**	**65.9%**	**0**	**0.0%**	**13**	**31.7%**	**2**	**4.9%**	**0**	**0.0%**	**1**	**2.4%**
1:00 p.m. - 2:30 p.m.	25	14	56.0%	0	0.0%	10	40.0%	3	12.0%	0	0.0%	3	12.0%
2:30 p.m. - 4:30 p.m.	17	12	70.6%	0	0.0%	5	29.4%	0	0.0%	0	0.0%	1	5.9%
Subtotal	**42**	**26**	**61.9%**	**0**	**0.0%**	**15**	**35.7%**	**3**	**7.1%**	**0**	**0.0%**	**4**	**9.5%**
4:30 p.m. - 6:00 p.m.	7	4	57.1%	0	0.0%	2	28.6%	0	0.0%	1	14.3%	0	0.0%
6:00 p.m. - 8:00 p.m.	0	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	**7**	**4**	**57.1%**	**0**	**0.0%**	**2**	**28.6%**	**0**	**0.0%**	**1**	**14.3%**	**0**	**0.0%**
TOTAL	**263**	**166**	**63.1%**	**6**	**2.3%**	**90**	**34.2%**	**13**	**4.9%**	**3**	**1.1%**	**11**	**4.2%**

Table A-8. Major Roads Taken by Drivers to Reach Their Destinations
(NJ 55 Cordon Station South of US 40, Vineland)

Roads Used	Passenger Vehicles		Trucks		All Vehicles	
	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total
Inbound Traffic						
1. NJ 42	92	18.4%	29	20.4%	121	18.8%
2. I-95	68	13.6%	15	10.6%	83	12.9%
3. US 322	58	11.6%	13	9.2%	71	11.1%
4, I-295	51	10.2%	18	12.7%	69	10.7%
5. US 40	55	11.0%	12	8.5%	67	10.4%
6. I-76	41	8.2%	12	8.5%	53	8.3%
7. NJ 47	22	4.4%	5	3.5%	27	4.2%
8. Other	113	22.6%	38	26.8%	151	23.5%
TOTAL	**500**	**100%**	**142**	**100%**	**642**	**100%**
Outbound Traffic						
1. NJ 47	169	45.4%	23	30.3%	192	42.9%
2. NJ 49	51	13.7%	10	13.2%	61	13.6%
3. CR 347	20	5.4%	0	0.0%	20	4.5%
4. NJ 9	18	4.8%	0	0.0%	18	4.0%
5. NJ 50	22	5.9%	7	9.2%	29	6.5%
6. NJ 56	9	2.4%	4	5.3%	13	2.9%
7. CR 552	2	0.5%	2	2.6%	4	0.9%
8. Other	81	21.8%	30	39.5%	111	24.8%
TOTAL	**372**	**100%**	**76**	**100%**	**448**	**100%**

Table A-9. Type of Vehicles Used for the Trip
(NJ 55 Cordon Station South of US 40, Vineland)

	Inbound Traffic					Outbound Traffic					
Vehicle Type	AM Peak (% of Total)	AM Off-Peak (%. of Total)	PM Off-Peak (% of Total)	PM Peak (% of Total)	Inbound Traffic (% of Total)	AM Peak (% of Total)	AM Off-Peak (% of Total)	PM Off-Peak (% of Total)	PM Peak (% of Total)	Outbound Traffic (% of Total)	TOTAL Traffic (% of Total)
Passenger Vehicles											
Auto	50.6%	49.5%	45.9%	57.5%	50.1%	48.2%	52.7%	48.1%	59.4%	51.1%	50.6%
Van, Sta. Wagon	9.1%	15.8%	15.3%	12.3%	12.9%	11.4%	10.7%	11.5%	12.3%	11.3%	12.1%
SUV	10.0%	10.3%	8.2%	12.3%	9.9%	13.9%	11.6%	11.5%	12.3%	12.4%	11.2%
Other	0.4%	0.5%	0.0%	0.0%	0.3%	0.8%	0.0%	0.0%	1.9%	0.5%	0.4%
Subtotal	**70.1%**	**76.1%**	**69.4%**	**82.1%**	**73.2%**	**74.3%**	**75.0%**	**71.0%**	**85.8%**	**75.3%**	**74.3%**
Light Trucks											
Pickup	0.4%	6.5%	11.2%	6.6%	5.8%	12.2%	7.6%	7.7%	6.6%	9.0%	7.4%
Panel	2.9%	1.1%	0.5%	0.9%	1.5%	2.9%	1.3%	1.6%	2.8%	2.1%	1.8%
Single Unit	12.9%	2.2%	0.0%	1.9%	5.1%	0.8%	0.4%	1.6%	0.9%	0.9%	3.0%
Other	1.7%	0.5%	5.6%	0.0%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%
Subtotal	**17.8%**	**10.3%**	**17.3%**	**9.4%**	**14.6%**	**15.9%**	**9.4%**	**10.9%**	**10.4%**	**12.0%**	**13.3%**
Heavy Trucks											
Tractor-Trailer	9.5%	12.5%	11.7%	7.5%	10.6%	7.3%	12.1%	15.8%	2.8%	10.2%	10.4%
Double-Trailer	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other	2.5%	1.1%	1.5%	0.9%	1.7%	2.4%	3.6%	2.2%	0.9%	2.5%	2.1%
Subtotal	**12.0%**	**13.6%**	**13.3%**	**8.5%**	**12.2%**	**9.8%**	**15.6%**	**18.0%**	**3.8%**	**12.7%**	**12.5%**
TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table A-10. Trip Purpose by Direction
(NJ 55 Cordon Station South of US 40, Vineland)

Survey Period	Work (% of Total)	School (% of Total)	Eat Meal (% of Total	Shopping (% of Total)	Social Recreation (% of Total)	Medical (% of Total)	Visitor/ Tourist (% of Total)	Other (% of Total)	All Purposes
Inbound									
6:30 a.m. - 8:30 a.m.	71.4%	1.0%	0.0%	1.9%	11.4%	4.8%	4.8%	4.8%	100%
8:30 a.m. - 10:30 a.m.	41.2%	1.2%	0.0%	3.5%	34.1%	9.4%	8.2%	2.4%	100%
Subtotal	**57.9%**	**1.1%**	**0.0%**	**2.6%**	**21.6%**	**6.8%**	**6.3%**	**3.7%**	**100%**
10:30 a.m. - 12:00 p.m.	24.7%	1.3%	2.6%	10.4%	50.6%	2.6%	6.5%	1.3%	100%
12:00 p.m. - 1:00 p.m.	21.9%	0.0%	2.7%	13.7%	43.8%	6.8%	11.0%	0.0%	100%
Subtotal	**23.3%**	**0.7%**	**2.7%**	**12.0%**	**47.3%**	**4.7%**	**8.7%**	**0.7%**	**100%**
1:00 p.m. - 2:30 p.m.	37.4%	0.0%	4.4%	4.4%	45.1%	5.5%	3.3%	0.0%	100%
2:30 p.m. - 4:30 p.m.	56.9%	1.5%	0.0%	3.1%	33.8%	3.1%	1.5%	0.0%	100%
Subtotal	**45.5%**	**0.6%**	**2.6%**	**3.8%**	**40.4%**	**4.5%**	**2.6%**	**0.0%**	**100%**
4:30 p.m. - 6:00 p.m.	51.6%	1.1%	1.1%	4.2%	31.6%	1.1%	9.5%	0.0%	100%
6:00 p.m. - 8:00 p.m.	0	0	0	0	0	0	0	0	100%
Subtotal	**51.6%**	**1.1%**	**1.1%**	**4.2%**	**31.6%**	**1.1%**	**9.5%**	**0.0%**	**100%**
Outbound									
6:30 a.m. - 8:30 a.m.	71.4%	1.7%	0.0%	0.8%	20.2%	0.8%	4.2%	0.8%	100%
8:30 a.m. - 10:30 a.m.	43.9%	1.2%	0.0%	2.4%	35.4%	0.0%	17.1%	0.0%	100%
Subtotal	**60.2%**	**1.5%**	**0.0%**	**1.5%**	**26.4%**	**0.5%**	**9.5%**	**0.5%**	**100%**
10:30 a.m. - 12:00 p.m.	21.1%	0.0%	0.0%	4.2%	57.9%	4.2%	12.6%	0.0%	100%
12:00 p.m. - 1:00 p.m.	19.5%	0.0%	0.0%	1.1%	64.4%	8.0%	4.6%	2.3%	100%
Subtotal	**20.3%**	**0.0%**	**0.0%**	**2.7%**	**61.0%**	**6.0%**	**8.8%**	**1.1%**	**100%**
1:00 p.m. - 2:30 p.m.	35.9%	0.0%	0.0%	12.8%	23.1%	5.1%	23.1%	0.0%	100%
2:30 p.m. - 4:30 p.m.	50.0%	1.6%	0.0%	4.8%	32.3%	0.0%	9.7%	1.6%	100%
Subtotal	**42.1%**	**0.7%**	**0.0%**	**9.3%**	**27.1%**	**2.9%**	**17.1%**	**0.7%**	**100%**
4:30 p.m. - 6:00 p.m.	59.0%	2.0%	2.0%	7.0%	17.0%	3.0%	9.0%	1.0%	100%
6:00 p.m. - 8:00 p.m.	0	0	0	0	0	0	0	0	100%
Subtotal	**59.0%**	**2.0%**	**2.0%**	**7.0%**	**17.0%**	**3.0%**	**9.0%**	**1.0%**	**100%**
TOTAL	**44.6%**	**0.9%**	**0.9%**	**5.0%**	**34.9%**	**3.9%**	**8.7%**	**1.1%**	**100%**

Table A-11. Vehicle Occupancy by Traffic Direction and Time Period
(NJ 55 Cordon Station South of US 40, Vineland)

Survey Period	One Occupant	% of Total	Two Occupants	% of Total	Three Occupants	% of Total	Four Occupants	% of Total	Five+ Occupants	% of Total	Total Passenger Vehicles	Average Vehicle Occupancy
Inbound												
6:30 a.m. - 8:30 a.m.	80	75.5%	17	16.0%	7	6.6%	2	1.9%	0	0.0%	106	1.35
8:30 a.m. - 10:30 a.m.	52	61.2%	20	23.5%	9	10.6%	2	2.4%	2	2.4%	85	1.61
Subtotal	**132**	**69.1%**	**37**	**19.4%**	**16**	**8.4%**	**4**	**2.1%**	**2**	**1.0%**	**191**	**1.41**
10:30 a.m. - 12:00 p.m.	41	51.9%	23	29.1%	10	12.7%	5	6.3%	0	0.0%	79	1.73
12:00 p.m. - 1:00 p.m.	39	53.4%	22	30.1%	3	4.1%	5	6.8%	4	5.5%	73	1.81
Subtotal	**80**	**52.6%**	**45**	**29.6%**	**13**	**8.6%**	**10**	**6.6%**	**4**	**2.6%**	**152**	**1.64**
1:00 p.m. - 2:30 p.m.	55	60.4%	25	27.5%	6	6.6%	4	4.4%	1	1.1%	91	1.58
2:30 p.m. - 4:30 p.m.	41	63.1%	19	29.2%	5	7.7%	0	0.0%	0	0.0%	65	1.45
Subtotal	**96**	**61.5%**	**44**	**28.2%**	**11**	**7.1%**	**4**	**2.6%**	**1**	**0.6%**	**156**	**1.49**
4:30 p.m. - 6:00 p.m.	59	62.1%	19	20.0%	9	9.5%	5	5.3%	3	3.2%	95	1.67
6:00 p.m. - 8:00 p.m.	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	**59**	**62.1%**	**19**	**20.0%**	**9**	**9.5%**	**5**	**5.3%**	**3**	**3.2%**	**95**	**1.52**
Outbound									6		6	0.00
6:30 a.m. - 8:30 a.m.	90	75.6%	25	21.0%	2	1.7%	1	0.8%	1	0.8%	119	1.30
8:30 a.m. - 10:30 a.m.	38	46.3%	25	30.5%	8	9.8%	5	6.1%	6	7.3%	82	2.03
Subtotal	**128**	**63.7%**	**50**	**24.9%**	**10**	**5.0%**	**6**	**3.0%**	**7**	**3.5%**	**201**	**1.40**
10:30 a.m. - 12:00 p.m.	36	37.9%	35	36.8%	14	14.7%	6	6.3%	4	4.2%	95	2.02
12:00 p.m. - 1:00 p.m.	39	44.8%	27	31.0%	13	14.9%	6	6.9%	2	2.3%	87	1.91
Subtotal	**75**	**41.2%**	**62**	**34.1%**	**27**	**14.8%**	**12**	**6.6%**	**6**	**3.3%**	**182**	**1.80**
1:00 p.m. - 2:30 p.m.	46	59.0%	21	26.9%	5	6.4%	6	7.7%	0	0.0%	78	1.63
2:30 p.m. - 4:30 p.m.	40	65.6%	14	23.0%	6	9.8%	1	1.6%	0	0.0%	61	1.48
Subtotal	**86**	**61.9%**	**35**	**25.2%**	**11**	**7.9%**	**7**	**5.0%**	**0**	**0.0%**	**139**	**1.56**
4:30 p.m. - 6:00 p.m.	72	72.0%	19	19.0%	4	4.0%	5	5.0%	0	0.0%	100	1.42
6:00 p.m. - 8:00 p.m.	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal	**72**	**72.0%**	**19**	**19.0%**	**4**	**4.0%**	**5**	**5.0%**	**0**	**0.0%**	**100**	**1.42**
TOTAL	**728**	**59.7%**	**311**	**25.5%**	**101**	**8.3%**	**53**	**4.3%**	**26**	**2.1%**	**1219**	**1.63**

Table A-12. Average Vehicle Occupancy by Trip Purpose
(NJ 55 Cordon Station South of US 40, Vineland)

Trip Purpose	Auto (Persons Per Vehicle)	Van/ Station Wagon (Persons Per Vehicle)	SUV (Persons Per Vehicle)	Total (Persons Per Vehicle)
Work	1.17	1.49	1.14	1.22
School	1.43	2.00	3.00	1.64
Eat Meal	1.67	2.00	2.00	1.73
Shopping	1.68	1.50	1.88	1.66
Social/Recreation	1.92	2.51	1.85	1.99
Medical	1.79	2.09	2.00	1.85
Visitor/Tourist	2.07	3.00	2.33	2.21
Other	1.27	3.00	--	1.47
All Purposes	**1.57**	**2.05**	**1.61**	**1.63**

Table A-13. External-Internal and Internal-External Trip Length Frequency Distribution Within The DVRPC Region
(NJ 55 Cordon Station South of US 40, Vineland)

Trip Length (Miles)	Home-Based Work Trips		Passenger Vehicle Trips		Truck Trips	
	No. of Trips	% of Total	No. of Trips	% of Total	No. of Trips	% of Total
<1	2	0.7%	3	0.3%	1	0.6%
1-2	10	3.5%	22	2.3%	7	4.0%
2-3	3	1.1%	19	2.0%	3	1.7%
3-4	2	0.7%	8	0.8%	0	0.0%
4-5	1	0.4%	7	0.7%	0	0.0%
5-6	4	1.4%	12	1.3%	2	1.1%
6-7	5	1.8%	10	1.0%	0	0.0%
7-8	0	0.0%	5	0.5%	1	0.6%
8-10	7	2.5%	15	1.6%	4	2.3%
10-12	16	5.7%	40	4.2%	4	2.3%
12-14	19	6.7%	38	4.0%	9	5.2%
14-16	15	5.3%	51	5.3%	6	3.4%
16-18	16	5.7%	47	4.9%	6	3.4%
18-20	34	12.0%	100	10.4%	14	8.0%
20-23	30	10.6%	82	8.6%	27	15.5%
23-26	30	10.6%	102	10.6%	17	9.8%
26-29	41	14.5%	130	13.6%	12	6.9%
29-32	20	7.1%	90	9.4%	18	10.3%
32-36	10	3.5%	52	5.4%	6	3.4%
36-40	2	0.7%	29	3.0%	7	4.0%
40-45	7	2.5%	47	4.9%	14	8.0%
45-50	4	1.4%	27	2.8%	8	4.6%
50-60	5	1.8%	21	2.2%	7	4.0%
60-70	0	0.0%	2	0.2%	1	0.6%
70-80	0	0.0%	0	0.0%	0	0.0%
> 80	0	0.0%	0	0.0%	0	0.0%
Average Trip Length	**21.23**	**100%**	**23.76**	**100%**	**25.48**	**100%**

Table A-14. County Where Trucks Are Garaged or Parked When Not in Service
(NJ 55 Cordon Station South of US 40, Vineland)

County	Inbound Traffic		Outbound Traffic		Total Traffic	
	No. of Trucks	% of Total	No. of Trucks	% of Total	No. of Trucks	% of Total
Bucks	5	3.7%	3	2.3%	8	3.0%
Chester	4	3.0%	0	0.0%	4	1.5%
Delaware	2	1.5%	0	0.0%	2	0.8%
Montgomery	3	2.2%	2	1.5%	5	1.9%
Philadelphia	7	5.2%	15	11.5%	22	8.3%
Other PA	13	9.7%	12	9.2%	25	9.4%
Subtotal	**34**	**25.4%**	**32**	**24.4%**	**66**	**24.9%**
Burlington	3	2.2%	1	0.8%	4	1.5%
Camden	7	5.2%	10	7.6%	17	6.4%
Gloucester	16	11.9%	16	12.2%	32	12.1%
Mercer	3	2.2%	1	0.8%	4	1.5%
Other NJ	48	35.8%	52	39.7%	100	37.7%
Subtotal	**77**	**57.5%**	**80**	**61.1%**	**157**	**59.2%**
New York	7	5.2%	1	0.8%	8	3.0%
Maryland	4	3.0%	4	3.1%	8	3.0%
Other State	12	9.0%	14	10.7%	26	9.8%
Subtotal	**23**	**17.2%**	**19**	**14.5%**	**42**	**15.8%**
TOTAL	**134**	**100%**	**131**	**100%**	**265**	**100%**

Table A-15. Type of Commodities Carried by Trucks
(NJ 55 Cordon Station South of US 40, Vineland)

Commodity Carried	Inbound Traffic		Outbound Traffic		Total Traffic	
	No. of Trucks	% of Total	No. of Trucks	% of Total	No. of Trucks	% of Total
Empty	31	23.1%	27	20.6%	58	21.9%
Manufactured Products	14	10.4%	10	7.6%	24	9.1%
Petroleum Products	6	4.5%	5	3.8%	11	4.2%
Agricultural Products	11	8.2%	1	0.8%	12	4.5%
Building Materials	41	30.6%	31	23.7%	72	27.2%
Refrigerated Products	10	7.5%	18	13.7%	28	10.6%
Retail Store Merchandise	8	6.0%	9	6.9%	17	6.4%
Parcels	1	0.7%	2	1.5%	3	1.1%
Other	12	9.0%	28	21.4%	40	15.1%
TOTAL	**134**	**100%**	**131**	**100%**	**265**	**100%**

APPENDIX B

Survey Responses for NJ 77 Cordon Station North of Ferrell Road, Elk Township, Gloucester County, New Jersey

Table B-1. Daily Vehicle Classification Traffic Counts
(NJ 77 North of Ferrell Road, Elk Township)

Hour of Day	Vehicle Type 1	2	3	4	5	6	7	8	9	10	11	12	13	Hourly Counts	% of Total
12 am - 1 am	3	80	6	6	33	1	0	0	1	0	0	0	0	**130**	**3.2%**
1 am - 2 am	3	78	10	3	29	2	0	0	0	1	0	0	0	**126**	**3.1%**
2 am - 3 am	3	92	10	5	33	1	0	1	1	0	0	0	0	**146**	**3.5%**
3 am - 4 am	2	122	11	2	23	0	0	0	1	0	0	0	0	**161**	**3.9%**
4 am - 5 am	3	159	6	7	30	1	0	1	0	0	0	0	0	**207**	**5.0%**
5 am - 6 am	3	172	5	3	41	2	0	0	1	0	0	0	0	**227**	**5.5%**
6 am - 7 am	4	176	10	2	38	0	0	0	2	0	0	0	0	**232**	**5.6%**
7 am - 8 am	1	185	12	2	34	0	0	1	1	0	0	0	0	**236**	**5.7%**
8 am - 9 am	2	202	6	2	32	0	0	0	1	0	0	0	0	**245**	**5.9%**
9 am -10 am	1	155	13	1	27	1	1	1	1	0	0	0	0	**201**	**4.9%**
10 am -11 am	1	122	4	3	33	0	0	1	0	0	0	0	0	**164**	**4.0%**
11 am -12 pm	4	95	5	1	22	0	0	0	2	0	0	0	0	**129**	**3.1%**
12 pm - 1 pm	3	72	4	0	10	2	0	0	1	0	0	0	0	**92**	**2.2%**
1 pm - 2 pm	1	76	6	1	12	1	0	0	0	0	0	0	0	**97**	**2.4%**
2 pm - 3 pm	3	95	9	2	23	0	0	0	2	0	0	0	0	**134**	**3.3%**
3 pm - 4 pm	2	115	7	1	21	0	0	0	0	0	0	0	0	**146**	**3.5%**
4 pm - 5 pm	1	137	10	1	22	2	0	0	0	0	0	0	0	**173**	**4.2%**
5 pm - 6 pm	2	165	17	2	26	0	0	0	2	0	0	0	0	**214**	**5.2%**
6 pm - 7 pm	2	241	11	1	22	2	0	1	1	0	0	0	0	**281**	**6.8%**
7 pm - 8 pm	4	174	13	1	26	0	0	0	0	0	0	0	0	**218**	**5.3%**
8 pm - 9 pm	1	132	9	5	28	0	0	1	0	0	0	0	0	**176**	**4.3%**
9 pm -10 pm	5	85	16	7	22	2	0	2	1	0	0	0	0	**140**	**3.4%**
10 pm -11 pm	2	76	7	6	18	0	0	0	2	0	0	0	0	**111**	**2.7%**
11 pm -12 am	4	84	6	8	32	0	0	0	2	0	0	0	0	**136**	**3.3%**
TOTAL	**60**	**3090**	**213**	**72**	**637**	**17**	**1**	**9**	**22**	**1**	**0**	**0**	**0**	**4122**	**100%**
% Of Total	**1.5%**	**75.0%**	**5.2%**	**1.7%**	**15.5%**	**0.4%**	**0.0%**	**0.2%**	**0.5%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**100%**	

Legend

1. Motorcycle, Bicycle
2. Cars Trailers
3. Two Axle Long
4. Buses
5. Two Axle, Six Tire
6. Three Axle Single
7. Four Axle Single
8. Less Than Five Axle Double
9. Five Axle Double
10. Greater Than Five Axle Double
11. Less Than Six Axle Multi
12. Six Axle Multi
13. Greater Than Six Axle Multi

Table B-2. Survey Interviews at NJ 77 by Survey Period
(NJ 77 North of Ferrell Road, Elk Township)

Survey Period	Inbound Traffic		Outbound Traffic		Total Traffic	
	No. of Surveys	% of Total	No. of Surveys	% of Total	No. of Surveys	% of Total
Morning Shift						
6:30 a.m. - 8:30 a.m.	83	16.4%	79	16.5%	162	16.4%
8:30 a.m. - 10:30 a.m.	60	11.8%	27	5.6%	87	8.8%
Subtotal	**143**	**28.2%**	**106**	**22.1%**	**249**	**25.3%**
10:30 a.m. - 12:00 p.m.	65	12.8%	68	14.2%	133	13.5%
12:00 p.m. - 1:00 p.m.	53	10.5%	52	10.9%	105	10.6%
Subtotal	**118**	**23.3%**	**120**	**25.1%**	**238**	**24.1%**
Evening Shift						
1:00 p.m. - 2:30 p.m.	68	13.4%	69	14.4%	137	13.9%
2:30 p.m. - 4:30 p.m.	49	9.7%	49	10.2%	98	9.9%
Subtotal	**117**	**23.1%**	**118**	**24.6%**	**235**	**23.8%**
4:30 p.m. - 6:00 p.m.	77	15.2%	77	16.1%	154	15.6%
6:00 p.m. - 8:00 p.m.	52	10.3%	58	12.1%	110	11.2%
Subtotal	**129**	**25.4%**	**135**	**28.2%**	**264**	**26.8%**
TOTAL	**507**	**100%**	**479**	**100%**	**986**	**100%**

Table B-3. Place of Vehicle Trip Origin by Municipality
(NJ 77 North of Ferrell Road, Elk Township)

Municipality of Trip Origin	Home-Based Trips		Total Trips		Truck Trips	
	No. of Trips	% of Total	No. of Trips	% of Total	No. of Trips	% of Total
Inbound Trips						
1. Upper Pittsgrove	70	24.1%	134	27.4%	28	33.3%
2. Bridgeton	51	17.5%	78	16.0%	7	8.3%
3. Upper Deerfield	50	17.2%	75	15.3%	13	15.5%
4. Pittsgrove	23	7.9%	36	7.4%	5	6.0%
5. Vineland	11	3.8%	27	5.5%	6	7.1%
6. Elmer	5	1.7%	16	3.3%	5	6.0%
7. Deerfield	10	3.4%	14	2.9%	6	7.1%
8. Alloway	9	3.1%	14	2.9%	3	3.6%
9. Fairfield	6	2.1%	13	2.7%	0	0.0%
10. Franklin	8	2.7%	11	2.2%	1	1.2%
11. Millville	5	1.7%	7	1.4%	2	2.4%
12. Pilesgrove	4	1.4%	7	1.4%	2	2.4%
13. Shiloh	5	1.7%	6	1.2%	1	1.2%
14. Elk	5	1.7%	6	1.2%	0	0.0%
15. Other	29	10.0%	45	9.2%	5	6.0%
TOTAL	**291**	**100%**	**489**	**100%**	**84**	**100%**
Outbound Trips						
1. Harrison	67	28.8%	116	24.8%	6	6.7%
2. Woodbury	12	5.2%	25	5.3%	3	3.4%
3. Mantua	12	5.2%	24	5.1%	2	2.2%
4. Deptford	11	4.7%	23	4.9%	5	5.6%
5. South Harrison	11	4.7%	19	4.1%	1	1.1%
6. Elk	12	5.2%	19	4.1%	3	3.4%
7. West Deptford	7	3.0%	17	3.6%	3	3.4%
8. East Greenwich	8	3.4%	14	3.0%	3	3.4%
9. Paulsboro	4	1.7%	12	2.6%	2	2.2%
10. Logan	6	2.6%	10	2.1%	3	3.4%
11. Glassboro	6	2.6%	9	1.9%	2	2.2%
12. Philadelphia	4	1.7%	8	1.7%	2	2.2%
13. Wenonah	5	2.1%	7	1.5%	0	0.0%
14. Gloucester	5	2.1%	7	1.5%	0	0.0%
15. Other	63	27.0%	158	33.8%	54	60.7%
TOTAL	**233**	**100%**	**468**	**100%**	**89**	**100%**

Table B-4. Place of Vehicle Trip Destination by Municipality
(NJ 77 North of Ferrell Road, Elk Township)

Municipality of Trip Destination	Home-Based Trips		Total Trips		Truck Trips	
	No. of Trips	% of Total	No. of Trips	% of Total	No. of Trips	% of Total
Inbound Trips						
1. Harrison	48	16.6%	87	18.0%	11	13.6%
2. Woodbury	26	9.0%	38	7.9%	4	4.9%
3. Philadelphia	20	6.9%	28	5.8%	6	7.4%
4. Mantua	15	5.2%	26	5.4%	4	4.9%
5. West Deptford	17	5.9%	23	4.8%	4	4.9%
6. Elk	10	3.4%	17	3.5%	2	2.5%
7. East Greenwich	11	3.8%	15	3.1%	1	1.2%
8. Deptford	8	2.8%	14	2.9%	3	3.7%
9. Greenwich	4	1.4%	12	2.5%	3	3.7%
10. South Harrison	8	2.8%	12	2.5%	2	2.5%
11. Washington	4	1.4%	10	2.1%	1	1.2%
12. Glassboro	4	1.4%	10	2.1%	2	2.5%
13. Cherry Hill	7	2.4%	10	2.1%	1	1.2%
14. Logan	6	2.1%	10	2.1%	1	1.2%
15. Other	102	35.2%	171	35.4%	36	44.4%
TOTAL	**290**	**100%**	**483**	**100%**	**81**	**100%**
Outbound Trips						
1. Upper Pittsgrove	57	26.9%	128	29.6%	26	31.3%
2. Bridgeton	27	12.7%	56	12.9%	8	9.6%
3. Upper Deerfield	21	9.9%	49	11.3%	17	20.5%
4. Millville	17	8.0%	31	7.2%	6	7.2%
5. Hopewell	14	6.6%	20	4.6%	3	3.6%
6. Pittsgrove	6	2.8%	16	3.7%	1	1.2%
7. Alloway	9	4.2%	14	3.2%	1	1.2%
8. Fairfield	6	2.8%	12	2.8%	1	1.2%
9. Shiloh	3	1.4%	10	2.3%	3	3.6%
10. Elk	5	2.4%	10	2.3%	2	2.4%
11. Salem	6	2.8%	8	1.8%	0	0.0%
12. Vineland	4	1.9%	8	1.8%	2	2.4%
13. Elmer	5	2.4%	7	1.6%	1	1.2%
14. Franklin	2	0.9%	5	1.2%	0	0.0%
15. Other	30	14.2%	59	13.6%	12	14.5%
TOTAL	**212**	**100%**	**433**	**100%**	**83**	**100%**

Table B-5. Stopping Before Arriving at Final Destination
(NJ 77 North of Ferrell Road, Elk Township)

	Passenger Vehicles			Trucks			Total Vehicles		
Survey Period	No. of Vehicles Surveyed	Stopping	% Stopping	No. of Vehicles Surveyed	Stopping	% Stopping	No. of Vehicles Surveyed	Stopping	% Stopping
Inbound									
6:30 a.m. - 8:30 a.m.	71	0	0.0%	18	0	0.0%	89	0	0.0%
8:30 a.m. - 10:30 a.m.	42	0	0.0%	13	0	0.0%	55	0	0.0%
Subtotal	**113**	**0**	**0.0%**	**31**	**0**	**0.0%**	**144**	**0**	**0.0%**
10:30 a.m. - 12:00 p.m.	52	1	1.9%	9	0	0.0%	61	1	1.6%
12:00 p.m. - 1:00 p.m.	44	1	2.3%	11	0	0.0%	55	1	1.8%
Subtotal	**96**	**2**	**2.1%**	**20**	**0**	**0.0%**	**116**	**2**	**1.7%**
1:00 p.m. - 2:30 p.m.	57	0	0.0%	8	0	0.0%	65	0	0.0%
2:30 p.m. - 4:30 p.m.	41	0	0.0%	11	1	9.1%	52	1	1.9%
Subtotal	**98**	**0**	**0.0%**	**19**	**1**	**5.3%**	**117**	**1**	**0.9%**
4:30 p.m. - 6:00 p.m.	66	0	0.0%	7	0	0.0%	73	0	0.0%
6:00 p.m. - 8:00 p.m.	45	0	0.0%	13	0	0.0%	58	0	0.0%
Subtotal	**111**	**0**	**0.0%**	**20**	**0**	**0.0%**	**131**	**0**	**0.0%**
Outbound									
6:30 a.m. - 8:30 a.m.	66	0	0.0%	17	0	0.0%	83	0	0.0%
8:30 a.m. - 10:30 a.m.	10	0	0.0%	14	1	7.1%	24	1	4.2%
Subtotal	**76**	**0**	**0.0%**	**31**	**1**	**3.2%**	**107**	**1**	**0.9%**
10:30 a.m. - 12:00 p.m.	54	1	1.9%	10	0	0.0%	64	1	1.6%
12:00 p.m. - 1:00 p.m.	42	0	0.0%	11	0	0.0%	53	0	0.0%
Subtotal	**96**	**1**	**1.0%**	**21**	**0**	**0.0%**	**117**	**1**	**0.9%**
1:00 p.m. - 2:30 p.m.	58	0	0.0%	7	1	14.3%	65	1	1.5%
2:30 p.m. - 4:30 p.m.	42	2	4.8%	11	1	9.1%	53	3	5.7%
Subtotal	**100**	**2**	**2.0%**	**18**	**2**	**11.1%**	**118**	**4**	**3.4%**
4:30 p.m. - 6:00 p.m.	66	0	0.0%	10	0	0.0%	76	0	0.0%
6:00 p.m. - 8:00 p.m.	48	1	2.1%	4	0	0.0%	52	1	1.9%
Subtotal	**114**	**1**	**0.9%**	**14**	**0**	**0.0%**	**128**	**1**	**0.8%**
TOTAL	**804**	**6**	**0.7%**	**174**	**4**	**2.3%**	**978**	**10**	**1.0%**

Table B-6. Reasons for Using NJ 77 by Drivers of Passenger Vehicles
(NJ 77 North of Ferrell Road, Elk Township)

Survey Period	Total Drivers	Saves Time		Saves Money		Most Direct		Less Congested		Only Way		Other Reasons	
		No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total
Inbound													
6:30 a.m. - 8:30 a.m.	71	40	56.3%	0	0.0%	22	31.0%	10	14.1%	3	4.2%	4	5.6%
8:30 a.m. - 10:30 a.m.	42	24	57.1%	0	0.0%	17	40.5%	2	4.8%	0	0.0%	1	2.4%
Subtotal	**113**	**64**	**56.6%**	**0**	**0.0%**	**39**	**34.5%**	**12**	**10.6%**	**3**	**2.7%**	**5**	**4.4%**
10:30 a.m. - 12:00 p.m.	52	26	50.0%	0	0.0%	25	48.1%	1	1.9%	2	3.8%	2	3.8%
12:00 p.m. - 1:00 p.m.	44	23	52.3%	1	2.3%	20	45.5%	3	6.8%	1	2.3%	2	4.5%
Subtotal	**96**	**49**	**51.0%**	**1**	**1.0%**	**45**	**46.9%**	**4**	**4.2%**	**3**	**3.1%**	**4**	**4.2%**
1:00 p.m. - 2:30 p.m.	55	47	85.5%	0	0.0%	5	9.1%	3	5.5%	0	0.0%	0	0.0%
2:30 p.m. - 4:30 p.m.	39	24	61.5%	0	0.0%	12	30.8%	2	5.1%	1	2.6%	1	2.6%
Subtotal	**94**	**71**	**75.5%**	**0**	**0.0%**	**17**	**18.1%**	**5**	**5.3%**	**1**	**1.1%**	**1**	**1.1%**
4:30 p.m. - 6:00 p.m.	66	39	59.1%	0	0.0%	16	24.2%	4	6.1%	5	7.6%	4	6.1%
6:00 p.m. - 8:00 p.m.	45	32	71.1%	0	0.0%	9	20.0%	4	8.9%	2	4.4%	1	2.2%
Subtotal	**111**	**71**	**64.0%**	**0**	**0.0%**	**25**	**22.5%**	**8**	**7.2%**	**7**	**6.3%**	**5**	**4.5%**
Outbound													
6:30 a.m. - 8:30 a.m.	65	22	33.8%	0	0.0%	37	56.9%	1	1.5%	2	3.1%	3	4.6%
8:30 a.m. - 10:30 a.m.	10	1	10.0%	0	0.0%	8	80.0%	0	0.0%	1	10.0%	0	0.0%
Subtotal	**75**	**23**	**30.7%**	**0**	**0.0%**	**45**	**60.0%**	**1**	**1.3%**	**3**	**4.0%**	**3**	**4.0%**
10:30 a.m. - 12:00 p.m.	54	15	27.8%	1	1.9%	31	57.4%	1	1.9%	3	5.6%	7	13.0%
12:00 p.m. - 1:00 p.m.	41	29	70.7%	0	0.0%	11	26.8%	0	0.0%	1	2.4%	0	0.0%
Subtotal	**95**	**44**	**46.3%**	**1**	**1.1%**	**42**	**44.2%**	**1**	**1.1%**	**4**	**4.2%**	**7**	**7.4%**
1:00 p.m. - 2:30 p.m.	58	57	98.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1.7%
2:30 p.m. - 4:30 p.m.	42	21	50.0%	1	2.4%	20	47.6%	1	2.4%	1	2.4%	0	0.0%
Subtotal	**100**	**78**	**78.0%**	**1**	**1.0%**	**20**	**20.0%**	**1**	**1.0%**	**1**	**1.0%**	**1**	**1.0%**
4:30 p.m. - 6:00 p.m.	64	28	43.8%	0	0.0%	32	50.0%	0	0.0%	0	0.0%	6	9.4%
6:00 p.m. - 8:00 p.m.	48	29	60.4%	0	0.0%	18	37.5%	0	0.0%	0	0.0%	2	4.2%
Subtotal	**112**	**57**	**50.9%**	**0**	**0.0%**	**50**	**44.6%**	**0**	**0.0%**	**0**	**0.0%**	**8**	**7.1%**
TOTAL	**796**	**457**	**57.4%**	**3**	**0.4%**	**283**	**35.6%**	**32**	**4.0%**	**22**	**2.8%**	**34**	**4.3%**

Table B-7. Reasons for Using NJ 77 by Truck Drivers
(NJ 77 North of Ferrell Road, Elk Township)

Survey Period	Total Drivers	Saves Time		Saves Money		Most Direct		Less Congested		Only Way		Other Reasons	
		No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total
Inbound													
6:30 a.m. - 8:30 a.m.	12	6	50.0%	0	0.0%	5	41.7%	3	25.0%	1	8.3%	0	0.0%
8:30 a.m. - 10:30 a.m.	18	13	72.2%	0	0.0%	4	22.2%	0	0.0%	0	0.0%	1	5.6%
Subtotal	**30**	**19**	**63.3%**	**0**	**0.0%**	**9**	**30.0%**	**3**	**10.0%**	**1**	**3.3%**	**1**	**3.3%**
10:30 a.m. - 12:00 p.m.	10	6	60.0%	0	0.0%	4	40.0%	0	0.0%	0	0.0%	3	30.0%
12:00 p.m. - 1:00 p.m.	9	4	44.4%	0	0.0%	3	33.3%	2	22.2%	1	11.1%	0	0.0%
Subtotal	**19**	**10**	**52.6%**	**0**	**0.0%**	**7**	**36.8%**	**2**	**10.5%**	**1**	**5.3%**	**3**	**15.8%**
1:00 p.m. - 2:30 p.m.	11	10	90.9%	0	0.0%	0	0.0%	1	9.1%	0	0.0%	0	0.0%
2:30 p.m. - 4:30 p.m.	8	5	62.5%	0	0.0%	2	25.0%	0	0.0%	1	12.5%	1	12.5%
Subtotal	**19**	**15**	**78.9%**	**0**	**0.0%**	**2**	**10.5%**	**1**	**5.3%**	**1**	**5.3%**	**1**	**5.3%**
4:30 p.m. - 6:00 p.m.	11	9	81.8%	1	9.1%	0	0.0%	0	0.0%	0	0.0%	1	9.1%
6:00 p.m. - 8:00 p.m.	7	3	42.9%	0	0.0%	3	42.9%	0	0.0%	0	0.0%	2	28.6%
Subtotal	**18**	**12**	**66.7%**	**1**	**5.6%**	**3**	**16.7%**	**0**	**0.0%**	**0**	**0.0%**	**3**	**16.7%**
Outbound													
6:30 a.m. - 8:30 a.m.	12	3	25.0%	0	0.0%	8	66.7%	0	0.0%	1	8.3%	0	0.0%
8:30 a.m. - 10:30 a.m.	17	2	11.8%	0	0.0%	13	76.5%	1	5.9%	1	5.9%	1	5.9%
Subtotal	**29**	**5**	**17.2%**	**0**	**0.0%**	**21**	**72.4%**	**1**	**3.4%**	**2**	**6.9%**	**1**	**3.4%**
10:30 a.m. - 12:00 p.m.	14	5	35.7%	0	0.0%	7	50.0%	0	0.0%	0	0.0%	2	14.3%
12:00 p.m. - 1:00 p.m.	10	3	30.0%	0	0.0%	4	40.0%	0	0.0%	1	10.0%	2	20.0%
Subtotal	**24**	**8**	**33.3%**	**0**	**0.0%**	**11**	**45.8%**	**0**	**0.0%**	**1**	**4.2%**	**4**	**16.7%**
1:00 p.m. - 2:30 p.m.	11	11	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
2:30 p.m. - 4:30 p.m.	7	4	57.1%	0	0.0%	3	42.9%	0	0.0%	0	0.0%	0	0.0%
Subtotal	**18**	**15**	**83.3%**	**0**	**0.0%**	**3**	**16.7%**	**0**	**0.0%**	**0**	**0.0%**	**0**	**0.0%**
4:30 p.m. - 6:00 p.m.	11	11	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
6:00 p.m. - 8:00 p.m.	10	9	90.0%	0	0.0%	2	20.0%	0	0.0%	0	0.0%	0	0.0%
Subtotal	**21**	**20**	**95.2%**	**0**	**0.0%**	**2**	**9.5%**	**0**	**0.0%**	**0**	**0.0%**	**0**	**0.0%**
TOTAL	**178**	**104**	**58.4%**	**1**	**0.6%**	**58**	**32.6%**	**7**	**3.9%**	**6**	**3.4%**	**13**	**7.3%**

Table B-8. Major Roads Taken by Drivers to Reach Their Destinations
(NJ 77 North of Ferrell Road, Elk Township)

Roads Used	Passenger Vehicles		Trucks		All Vehicles	
	No. of Drivers	% of Total	No. of Drivers	% of Total	No. of Drivers	% of Total
Inbound Traffic						
1. US 322	35	19.3%	15	20.8%	50	19.8%
2. I-295	31	17.1%	11	15.3%	42	16.6%
3. NJ 45	29	16.0%	3	4.2%	32	12.6%
4. NJ 55	20	11.0%	10	13.9%	30	11.9%
5. I-95	17	9.4%	9	12.5%	26	10.3%
6. NJ T'pike	6	3.3%	7	9.7%	13	5.1%
7. CR 538	9	5.0%	2	2.8%	11	4.3%
8. Other	34	18.8%	15	20.8%	49	19.4%
TOTAL	**181**	**100%**	**72**	**100%**	**253**	**100%**
Outbound Traffic						
1. NJ 40	24	22.6%	6	17.6%	30	21.4%
2. NJ 55	14	13.2%	7	20.6%	21	15.0%
3. NJ 49	12	11.3%	2	5.9%	14	10.0%
4. NJ 45	7	6.6%	2	5.9%	9	6.4%
5. US 322	5	4.7%	3	8.8%	8	5.7%
6. CR 606	8	7.5%	0	0.0%	8	5.7%
7. CR 47	5	4.7%	0	0.0%	5	3.6%
8. Other	31	29.2%	14	41.2%	45	32.1%
TOTAL	**106**	**100%**	**34**	**100%**	**140**	**100%**

Table B-9. Type of Vehicles Used for the Trip
(NJ 77 North of Ferrell Road, Elk Township)

	Inbound Traffic					Outbound Traffic					
Vehicle Type	AM Peak (% of Total)	AM Off-Peak (%. of Total)	PM Off-Peak (% of Total)	PM Peak (% of Total)	Inbound Traffic (% of Total)	AM Peak (% of Total)	AM Off-Peak (% of Total)	PM Off-Peak (% of Total)	PM Peak (% of Total)	Outbound Traffic (% of Total)	TOTAL Traffic (% of Total)
Passenger Vehicles											
Auto	54.9%	46.2%	48.7%	48.1%	49.7%	46.2%	47.5%	44.9%	41.4%	44.9%	47.4%
Van, Sta. Wagon	6.9%	12.0%	14.5%	10.9%	10.8%	10.4%	11.7%	10.2%	16.5%	12.4%	11.6%
SUV	5.6%	12.0%	6.0%	10.9%	8.5%	4.7%	9.2%	7.6%	13.5%	9.0%	8.7%
Other	0.0%	0.0%	0.9%	2.3%	0.8%	0.0%	0.8%	0.0%	1.5%	0.6%	0.7%
Subtotal	**67.4%**	**70.1%**	**70.1%**	**72.1%**	**69.8%**	**61.3%**	**69.2%**	**62.7%**	**72.9%**	**66.9%**	**68.4%**
Light Trucks											
Pickup	13.9%	14.5%	16.2%	14.7%	14.8%	12.3%	13.3%	22.0%	13.5%	15.3%	15.0%
Panel	2.1%	3.4%	1.7%	0.0%	1.8%	2.8%	0.8%	0.8%	1.5%	1.5%	1.6%
Single Unit	4.2%	3.4%	2.6%	2.3%	3.2%	1.9%	6.7%	1.7%	3.8%	3.6%	3.4%
Other	0.0%	0.0%	0.9%	0.8%	0.4%	2.8%	0.8%	0.0%	0.8%	1.0%	0.7%
Subtotal	**20.1%**	**21.4%**	**21.4%**	**17.8%**	**20.1%**	**19.8%**	**21.7%**	**24.6%**	**19.5%**	**21.4%**	**20.7%**
Heavy Trucks											
Tractor-Trailer	10.4%	7.7%	8.5%	10.1%	9.3%	17.0%	9.2%	8.5%	4.5%	9.4%	9.3%
Double-Trailer	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other	2.1%	0.9%	0.0%	0.0%	0.8%	1.9%	0.0%	4.2%	3.0%	2.3%	1.5%
Subtotal	**12.5%**	**8.5%**	**8.5%**	**10.1%**	**10.1%**	**18.9%**	**9.2%**	**12.7%**	**7.5%**	**11.7%**	**10.9%**
TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Table B-10. Trip Purpose by Direction
(NJ 77 North of Ferrell Road, Elk Township)

Survey Period	Work (% of Total)	School (% of Total)	Eat Meal (% of Total	Shopping (% of Total)	Social Recreation (% of Total)	Medical (% of Total)	Visitor/ Tourist (% of Total)	Other (% of Total)	All Purposes
Inbound									
6:30 a.m. - 8:30 a.m.	83.1%	0.0%	0.0%	0.0%	8.5%	5.6%	2.8%	0.0%	100%
8:30 a.m. - 10:30 a.m.	57.1%	7.1%	0.0%	4.8%	14.3%	7.1%	9.5%	0.0%	100%
Subtotal	**73.5%**	**2.7%**	**0.0%**	**1.8%**	**10.6%**	**6.2%**	**5.3%**	**0.0%**	**100%**
10:30 a.m. - 12:00 p.m.	40.4%	0.0%	1.9%	13.5%	23.1%	5.8%	9.6%	5.8%	100%
12:00 p.m. - 1:00 p.m.	40.9%	2.3%	6.8%	11.4%	29.5%	0.0%	6.8%	2.3%	100%
Subtotal	**40.6%**	**1.0%**	**4.2%**	**12.5%**	**26.0%**	**3.1%**	**8.3%**	**4.2%**	**100%**
1:00 p.m. - 2:30 p.m.	58.9%	0.0%	7.1%	10.7%	12.5%	7.1%	3.6%	0.0%	100%
2:30 p.m. - 4:30 p.m.	43.9%	2.4%	0.0%	14.6%	22.0%	4.9%	12.2%	0.0%	100%
Subtotal	**52.6%**	**1.0%**	**4.1%**	**12.4%**	**16.5%**	**6.2%**	**7.2%**	**0.0%**	**100%**
4:30 p.m. - 6:00 p.m.	60.0%	4.6%	6.2%	13.8%	7.7%	3.1%	3.1%	1.5%	100%
6:00 p.m. - 8:00 p.m.	35.6%	0.0%	13.3%	4.4%	31.1%	6.7%	6.7%	2.2%	100%
Subtotal	**50.0%**	**2.7%**	**9.1%**	**10.0%**	**17.3%**	**4.5%**	**4.5%**	**1.8%**	**100%**
Outbound									
6:30 a.m. - 8:30 a.m.	82.8%	1.6%	0.0%	3.1%	9.4%	1.6%	0.0%	1.6%	100%
8:30 a.m. - 10:30 a.m.	30.0%	0.0%	0.0%	0.0%	60.0%	0.0%	0.0%	10.0%	100%
Subtotal	**75.7%**	**1.4%**	**0.0%**	**2.7%**	**16.2%**	**1.4%**	**0.0%**	**2.7%**	**100%**
10:30 a.m. - 12:00 p.m.	26.4%	0.0%	3.8%	15.1%	34.0%	9.4%	1.9%	9.4%	100%
12:00 p.m. - 1:00 p.m.	42.9%	4.8%	0.0%	16.7%	31.0%	2.4%	2.4%	0.0%	100%
Subtotal	**33.7%**	**2.1%**	**2.1%**	**15.8%**	**32.6%**	**6.3%**	**2.1%**	**5.3%**	**100%**
1:00 p.m. - 2:30 p.m.	43.1%	1.7%	1.7%	25.9%	15.5%	1.7%	0.0%	10.3%	100%
2:30 p.m. - 4:30 p.m.	46.3%	2.4%	0.0%	14.6%	22.0%	7.3%	4.9%	2.4%	100%
Subtotal	**44.4%**	**2.0%**	**1.0%**	**21.2%**	**18.2%**	**4.0%**	**2.0%**	**7.1%**	**100%**
4:30 p.m. - 6:00 p.m.	46.2%	0.0%	3.1%	7.7%	38.5%	3.1%	1.5%	0.0%	100%
6:00 p.m. - 8:00 p.m.	48.9%	0.0%	4.3%	4.3%	31.9%	6.4%	0.0%	4.3%	100%
Subtotal	**47.3%**	**0.0%**	**3.6%**	**6.3%**	**35.7%**	**4.5%**	**0.9%**	**1.8%**	**100%**
TOTAL	**51.9%**	**1.6%**	**3.1%**	**10.3%**	**21.7%**	**4.6%**	**3.9%**	**2.8%**	**100%**

Table B-11. Vehicle Occupancy by Traffic Direction and Time Period
(NJ 77 North of Ferrell Road, Elk Township)

Survey Period	One Occupant	% of Total	Two Occupants	% of Total	Three Occupants	% of Total	Four Occupants	% of Total	Five+ Occupants	% of Total	Total Passenger Vehicles	Average Vehicle Occupancy
Inbound												
6:30 a.m. - 8:30 a.m.	56	78.9%	10	14.1%	4	5.6%	1	1.4%	0	0.0%	71	1.30
8:30 a.m. - 10:30 a.m.	29	69.0%	9	21.4%	4	9.5%	0	0.0%	0	0.0%	42	1.40
Subtotal	**85**	**75.2%**	**19**	**16.8%**	**8**	**7.1%**	**1**	**0.9%**	**0**	**0.0%**	**113**	**1.34**
10:30 a.m. - 12:00 p.m.	27	51.9%	16	30.8%	6	11.5%	1	1.9%	2	3.8%	52	1.75
12:00 p.m. - 1:00 p.m.	31	70.5%	9	20.5%	2	4.5%	2	4.5%	0	0.0%	44	1.43
Subtotal	**58**	**60.4%**	**25**	**26.0%**	**8**	**8.3%**	**3**	**3.1%**	**2**	**2.1%**	**96**	**1.50**
1:00 p.m. - 2:30 p.m.	37	64.9%	15	26.3%	4	7.0%	1	1.8%	0	0.0%	57	1.46
2:30 p.m. - 4:30 p.m.	30	73.2%	9	22.0%	1	2.4%	1	2.4%	0	0.0%	41	1.34
Subtotal	**67**	**68.4%**	**24**	**24.5%**	**5**	**5.1%**	**2**	**2.0%**	**0**	**0.0%**	**98**	**1.41**
4:30 p.m. - 6:00 p.m.	49	74.2%	13	19.7%	1	1.5%	2	3.0%	1	1.5%	66	1.38
6:00 p.m. - 8:00 p.m.	26	57.8%	13	28.9%	2	4.4%	3	6.7%	1	2.2%	45	1.67
Subtotal	**75**	**67.6%**	**26**	**23.4%**	**3**	**2.7%**	**5**	**4.5%**	**2**	**1.8%**	**111**	**1.41**
Outbound												
6:30 a.m. - 8:30 a.m.	57	86.4%	7	10.6%	0	0.0%	2	3.0%	0	0.0%	66	1.20
8:30 a.m. - 10:30 a.m.	6	60.0%	2	20.0%	1	10.0%	0	0.0%	1	10.0%	10	1.80
Subtotal	**63**	**82.9%**	**9**	**11.8%**	**1**	**1.3%**	**2**	**2.6%**	**1**	**1.3%**	**76**	**1.21**
10:30 a.m. - 12:00 p.m.	26	49.1%	20	37.7%	6	11.3%	0	0.0%	1	1.9%	53	1.68
12:00 p.m. - 1:00 p.m.	24	57.1%	14	33.3%	1	2.4%	3	7.1%	0	0.0%	42	1.60
Subtotal	**50**	**52.6%**	**34**	**35.8%**	**7**	**7.4%**	**3**	**3.2%**	**1**	**1.1%**	**95**	**1.59**
1:00 p.m. - 2:30 p.m.	41	70.7%	14	24.1%	2	3.4%	1	1.7%	0	0.0%	58	1.36
2:30 p.m. - 4:30 p.m.	25	61.0%	9	22.0%	4	9.8%	2	4.9%	1	2.4%	41	1.66
Subtotal	**66**	**66.7%**	**23**	**23.2%**	**6**	**6.1%**	**3**	**3.0%**	**1**	**1.0%**	**99**	**1.43**
4:30 p.m. - 6:00 p.m.	36	55.4%	11	16.9%	10	15.4%	4	6.2%	4	6.2%	65	1.93
6:00 p.m. - 8:00 p.m.	28	58.3%	15	31.3%	3	6.3%	0	0.0%	2	4.2%	48	1.60
Subtotal	**64**	**56.6%**	**26**	**23.0%**	**13**	**11.5%**	**4**	**3.5%**	**6**	**5.3%**	**113**	**1.51**
TOTAL	**528**	**65.9%**	**186**	**23.2%**	**51**	**6.4%**	**23**	**2.9%**	**13**	**1.6%**	**801**	**1.51**

Table B-12. Average Vehicle Occupancy by Trip Purpose
(NJ 77 North of Ferrell Road, Elk Township)

Trip Purpose	Auto (Persons Per Vehicle)	Van/ Station Wagon (Persons Per Vehicle)	SUV (Persons Per Vehicle)	Total (Persons Per Vehicle)
Work	1.21	1.41	1.05	1.20
School	1.50	1.00	1.00	1.50
Eat Meal	1.75	2.20	2.00	1.84
Shopping	1.62	2.50	2.00	1.73
Social/Recreation	1.87	2.83	2.00	2.05
Medical	1.67	2.00	--	1.73
Visitor/Tourist	1.47	2.67	1.50	1.61
Other	1.47	3.00	2.00	1.52
All Purposes	**1.45**	**2.06**	**1.50**	**1.51**

Table B-13. External-Internal and Internal-External Trip Length Frequency Distribution Within The DVRPC Region
(NJ 77 North of Ferrell Road, Elk Township)

Trip Length (Miles)	Home-Based Work Trips		Passenger Vehicle Trips		Truck Trips	
	No. of Trips	% of Total	No. of Trips	% of Total	No. of Trips	% of Total
<1	4	1.7%	22	3.1%	2	1.6%
1-2	0	0.0%	1	0.1%	2	1.6%
2-3	7	2.9%	22	3.1%	3	2.4%
3-4	6	2.5%	33	4.6%	2	1.6%
4-5	49	20.5%	146	20.4%	14	11.0%
5-6	8	3.3%	38	5.3%	7	5.5%
6-7	6	2.5%	23	3.2%	2	1.6%
7-8	12	5.0%	27	3.8%	4	3.1%
8-10	25	10.5%	67	9.4%	10	7.9%
10-12	57	23.8%	120	16.8%	20	15.7%
12-14	20	8.4%	59	8.3%	11	8.7%
14-16	3	1.3%	18	2.5%	5	3.9%
16-18	5	2.1%	22	3.1%	6	4.7%
18-20	8	3.3%	27	3.8%	2	1.6%
20-23	9	3.8%	25	3.5%	11	8.7%
23-26	8	3.3%	19	2.7%	6	4.7%
26-29	0	0.0%	7	1.0%	3	2.4%
29-32	0	0.0%	5	0.7%	5	3.9%
32-36	0	0.0%	6	0.8%	2	1.6%
36-40	1	0.4%	5	0.7%	4	3.1%
40-45	1	0.4%	3	0.4%	4	3.1%
45-50	8	3.3%	16	2.2%	1	0.8%
50-60	1	0.4%	2	0.3%	1	0.8%
60-70	1	0.4%	1	0.1%	0	0.0%
70-80	0	0.0%	0	0.0%	0	0.0%
> 80	0	0.0%	0	0.0%	0	0.0%
Average Trip Length	**11.71**	**100%**	**11.24**	**100%**	**15.31**	**100%**

Table B-14. County Where Trucks Are Garaged or Parked When Not in Service
(NJ 77 North of Ferrell Road, Elk Township)

County	Inbound Traffic		Outbound Traffic		Total Traffic	
	No. of Trucks	% of Total	No. of Trucks	% of Total	No. of Trucks	% of Total
Bucks	1	1.2%	2	2.2%	3	1.7%
Chester	1	1.2%	1	1.1%	2	1.1%
Delaware	4	4.7%	1	1.1%	5	2.8%
Montgomery	0	0.0%	2	2.2%	2	1.1%
Philadelphia	6	7.0%	0	0.0%	6	3.4%
Other PA	2	2.3%	3	3.2%	5	2.8%
Subtotal	**14**	**16.3%**	**9**	**9.7%**	**23**	**12.8%**
Burlington	1	1.2%	0	0.0%	1	0.6%
Camden	2	2.3%	6	6.5%	8	4.5%
Gloucester	15	17.4%	17	18.3%	32	17.9%
Mercer	0	0.0%	3	3.2%	3	1.7%
Other NJ	46	53.5%	41	44.1%	87	48.6%
Subtotal	**64**	**74.4%**	**67**	**72.0%**	**131**	**73.2%**
New York	3	3.5%	4	4.3%	7	3.9%
Other State	5	5.8%	13	14.0%	18	10.1%
Subtotal	**8**	**9.3%**	**17**	**18.3%**	**25**	**14.0%**
TOTAL	**86**	**100%**	**93**	**100%**	**179**	**100%**

Table B-15. Type of Commodities Carried by Trucks
(NJ 77 North of Ferrell Road, Elk Township)

Commodity Carried	Inbound Traffic		Outbound Traffic		Total Traffic	
	No. of Trucks	% of Total	No. of Trucks	% of Total	No. of Trucks	% of Total
Empty	31	34.8%	19	20.4%	50	27.5%
Manufactured Products	10	11.2%	4	4.3%	14	7.7%
Petroleum Products	3	3.4%	6	6.5%	9	4.9%
Agricultural Products	16	18.0%	16	17.2%	32	17.6%
Building Materials	16	18.0%	14	15.1%	30	16.5%
Refrigerated Products	6	6.7%	6	6.5%	12	6.6%
Retail Store Merchandise	3	3.4%	3	3.2%	6	3.3%
Parcels	1	1.1%	0	0.0%	1	0.5%
Other	3	3.4%	25	26.9%	28	15.4%
TOTAL	**89**	**100%**	**93**	**100%**	**182**	**100%**

Cordon Line Highway Survey for the Delaware Valley Region - Report No. 5
NJ 55 and NJ 77 Cordon Stations in Gloucester County

Publication No. : 02040

Date Published: September 2002

Geographic Area Covered: Delaware Valley metropolitan region comprised of five counties in Pennsylvania (Bucks, Chester, Delaware, Montgomery, and Philadelphia); and four counties in New Jersey (Burlington, Camden, Gloucester and Mercer) and includes some counties adjoining the region: (Lancaster, Berks, and Lehigh in PA; Hunterdon, Middlesex, Ocean, Cumberland and Salem in NJ; and New Castle County in Delaware).

Key Words: Traffic count, geocoding, cordon line, survey station, travel trends, vehicle trips, person trips, AM and PM peak hour, origin and destination, average vehicular occupancy, commodities.

ABSTRACT
A cordon line survey of traffic entering and leaving the Delaware Valley region was conducted during the summer of 2001. This is a summary report describing the characteristics of traffic crossing the regional cordon line at 2 locations in New Jersey: NJ 55 and NJ 77. This includes information regarding the data collection, data summaries, and complete data tables in the Appendices.

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